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RELIABILITY GROWTH STUDY

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<u>EVALUATION</u>

1. This effort had as its objective the investigation and quantification of electronic equipment reliability growth of two types:

a. Growth in reliability due to operation of the equipment in an environment where failures are reported, analyzed, cause pinpointed and corrective action to the design, production process, or material taken.

b. Growth in reliability due to operation and the ensuing natural weeding out of bad parts and defective workmanship by failures/repairs. Type (a) growth corresponds to in-house testing and type (b) growth to field operation.

2. The objective of the study was met. Six models were extracted from the dozens that were encountered in the literature search and were studied in detail. These were the Duane model, IBM model, exponential model, Lloyd-Lipow model, Aroef model, and the simple exponential.

3. Each of the six models was fitted to data sets (186 data sets for ground equipment and 84 for airborne equipment) which included equipments of different types (communications, radar, data processing, etc.). In addition to including reliability growth information, the data set for each equipment also included information relative to the scope of the reliability program associated with that equipment.

4. In order to determine the degree of fit of the models to the data, two goodness of fit parameters were calculated $\underline{R}$ and R.E. $\underline{R}$ is defined as the average absolute percentage error in the predicted versus the observed values. R.E. measures the fraction of the unexplained variation to the total variation. The smaller the values of $\underline{R}$ & R.E. the better the fit (ideally $\underline{R}$ = R.E. = 0).

5. The results indicate that although the Duane model seldom was the best fitting model it almost always fit the data.

6. The IBM model fit airborne data the best. This particular model is very useful because by using it you can estimate the number of non-random failures that are present in an equipment before testing is begun on it. The model also allows you to estimate the fraction of non-random failures that have been removed by some time T which means that if you want to remove a certain fraction of the non-random failures in an equipment you can estimate the amount of test time required to do so.

7. Each of the remaining models was found to be the best fit to the data for specific combinations of environment, equipment type, and aggressiveness of reliability program. Each is discussed in detail in the final report.

8. The reliability gains encountered on the average turned out to be around 5 to 1 which is interesting when compared to the RPM (G.E. growth model) gain of about 10 to 1. This discrepancy could be due to the fact that instead of calculating the limiting MTBF from the models (the Duane model was used for all the reliability gain analysis) the RPM method used the predicted value of MTBF for the limiting MTBF (prediction according to MIL-HDBK-217B).

9. The whole concept of the reliability gain analysis can be somewhat misleading if it is not carefully analyzed. It may and probably is certainly true that the more money that is spent on reliability the higher the MTBF will be. However, there seems to be a point of diminishing returns where the programs with larger expenditures of dollars (usually concentrated in the design phase as opposed to the testing phase) seem to start out with a greater initial MTBF and therefore the potential gain in reliability is less no matter how much money is spent in testing.

10. As expected it was found that a higher reliability gain occurred for ground equipment than for airborne and for in-house testing than for field operation. This might be partially explained by airborne equipment going through more environmental and screening type tests than the ground equipment therefore attaining a greater gain.

11. For each type of equipment in a certain environment and a particular reliability program, the best fitting model can be chosen by comparing the $\underline{R}$ and R.E. for each which are given in tables in the final report.

12. With this information and a brief look at the examples given, a project engineer, SPO, or anyone else who has a requirement (specified MTBF) to be met can find out how long it will take to reach this goal, how much testing it will take, and aggressiveness of the reliability program required, and the initial MTBF that can be expected from the equipment. By the same token, if someone has an equipment which possesses a certain initial reliability, he can estimate what limiting achievable MTBF he can expect to reach and how long it will take to achieve it.

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SECTION 0.0 – SUMMARY

The data collection and evaluation effort resulted in a data base of two-hundred seventy (270) data sets: one-hundred eighty six (186) data sets on ground based systems/equipments and eighty four (84) on airborne systems. The data were classified further by equipment type, in-house and field, and level of reliability expenditures on the program. The data collection and evaluation effort is discussed in Section 2.0.

A literature search led to the selection of six (6) feasible growth models: Duane, IBM, exponential, Lloyd-Lipow, Aroef and simple exponential. It is interesting to note that the phenomenon of reliability growth was observed on virtually every data set. The models are described in Section 3.0. The popular Duane model, while rarely fitting "best" was seen to fit in almost all cases. The fact that the simple exponential model was far and away most frequently the best fit points out the extreme physical complexity of the growth process since certain properties of the simple exponential model preclude it from being a growth descriptor.

Overall, the reliability gain (final cumulative MTBF divided by initial cumulative MTBF) was on the order of 5 to 1. The reliability gain was greater, generally, for ground than airborne and greater for in-house data than field data.

As expected the reliability gain was greater for moderate to high reliability expenditures than for low reliability expenditures.

An analysis of the Duane model growth rate parameter yielded a growth rate (logarithmic) of 0.45 at a high level of reliability expenditures.

This is very close to the commonly talked about 0.50 figure. While many of the six models fit in a variety of data sets certain conclusions were obvious. For example, the exponential model is vastly superior to the other models for laser systems/equipments. The Duane model seems to do best in-house for radar systems/equipments. The results of the data analyses and comparisons between models and data class factors are given in Section 4.0 and 5.0.

One important inclusion is that growth curve analysis should be approached from the standpoint of stochastic process analysis. This and other conclusions are discussed in more detail in Section 6.0.

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SECTION 1.0 – INTRODUCTION

1.1 Purpose of the Study

The purpose of this study is the investigation of the phenomenon of Reliability Growth for both ground based and airborne systems and equipments in two basic environments:

i) "in-house" where failure reporting and analysis is closely controlled and corrective actions are taken, and

ii) "in-field" where the equipment or system operates in its intended use environment and where failures are reported.

Generally, the "in-house" phase above is called the developmental testing phase. The investigation was conducted for both ground-based and airborne electronics equipment and systems.

The specific objectives were: 1) test several (six were used) plausible growth models to determine which models fit growth data well, 2) estimate the limits of reliability gain possible, 3) classify the reliability programs associated with the various data classes with respect to "aggressiveness/control" of the growth process to determine the relationship between this aggressiveness and reliability gain, and 4) establish general guidelines for using reliability growth as a development tool. A more detailed description of both the airborne and ground systems/equipment may be found in Section 2.0.

1.2 Introduction to Growth Curves

In this study when we speak of reliability we will mean, as is usual, the mean time between failure* and designate it MTBF. The phenomenon of reliability growth over time has long been recognized. What has happened to spur the relatively recent (roughly the last three years, see [7], [11], [18]) increased interest in reliability growth as a development tool? The answer is fairly simple

1) Due to increased "cost" squeezes it has been realized that the standard reliability demonstration test occurs relatively late in the program to really drive design and to make fixes efficiently.

2) It is now recognized that MTBF is not a constant, even for a short time, throughout the development and use cycle and that by monitoring the equipment carefully, making fixes, and analyzing failures valuable reliability information can be obtained in time to do some good.

It should be clear that reliability growth occurs by the finding and removing of design defects, misapplied parts and workmanship defects. The rate at which this is done determines the rate of reliability growth. The reliability growth curve (actually a mathematical function fitted to the observed growth data) is a powerful tool in

*One might also consider growth in the reliability function R(t). However, this latter quantity is not often studied in developmental testing programs.

maintaining the growth process and making decisions during the growth process: if the form of the growth curve (function) can be discovered then the parameters of the curve can be estimated early on and present and future (expected) growth can be assessed and fixes made in time to actually improve reliability.

Unfortunately, the growth process is extremely complex and hence difficult to model mathematically. The problems are similar to, in degree of severity at least, those commonly encountered in projecting the results of accelerated tests to normal operating conditions. The situation is complicated further by the fact that almost any mathematical function which is positive and monotone increasing in t (time > o) is a candidate. If one is not careful the problem reduces to the empirical fitting of ad-hoc models with no physical interpretation in terms of the process being observed. In the next section we discuss the approach taken in this study to avoid some of these problems. Before proceeding to the next section a final remark: growth curves are useful in practically all areas of endeavor, e.g., economics, industrial job learning, biological processes and others. Thus the really deeply interested reader may want to search the literature in these fields. In this report we have searched only the reliability related literature.

1.3 The Study Approach

The basic approach to achieving the objectives mentioned in Section 1.1 can best be described in terms of the study tasks.

Study Tasks

1. Conduct a literature search to identify possible growth models.

   The useful results of the literature search are given in the references and bibliography. Actually many more articles and papers were turned up but were not used in this study. It was clear from the literature search that at the present time the overwhelmingly most popular growth model was the Duane model; in fact quite possibly more popular than all the other models combined. The other models were selected on the basis of their intuitive plausibility, the fact that their parameters are interpretable in terms of the growth process, because their forms are tractable enough to allow reasonably straightforward methods of estimating their parameters and finally, because they contained no more than three parameters. The six models selected are described in Section 3.0.

2. Identify data sources; collect and evaluate the data.

   The results of this task are described in Section 2.0.

3. Develop computational methods.

   This task involved the selection and/or development of methods for estimating the unknown parameters in the six models. The resulting methods are described in Section 8.0.

4. Selection of data analyses to be performed.

This task involved the decision as to what analyses were to be performed on the available data. As a first step system equipment data classes were formed.

Actually the establishment of data classes formed the foundation for all the data analyses. The factors defining the classes are four:

Type of system/equipment Environment:	Airborne and ground.
Type of data:	In-house and field.
Aggressiveness of Reliability Program:	R1 – 0% of total program acquisition costs expended on Reliability.
	R2 – less than 1% but more than 0% of total program acquisition costs expended on Reliability.
	R3 – more than 1% of the total program acquisition costs expended on Reliability.
Equipment Category	Antennas, radars, etc. for a total of fifteen (over ground and airborne).

In each data class there may be more than one data set and some data classes may be empty. Since the data was gathered after the fact rather than from a statistically designed experiment the "holes" (e.g. no R2 data on ground based radars) are to be expected. Table 2.5 gives a complete picture of the data sets. It is enough to say here that there are a total of 186 data sets for the ground based systems/equipment and 84 data sets for the airborne systems/equipment. Data with less than three failures was not used because it was insufficient to enable fitting of the models.

It was mentioned in Section 1.1 that the amount of reliability gain was also of interest. Thus the following data analyses are required:

a) Estimate the unknown parameters of the six growth models by data set.

b) Compute the goodness of fit criteria for each of the six models for each data set.

c) Decide on the best model for each data set.

d) Analyze data for generalizations applicable to the data classes: airborne vs. ground, in-house vs. field and R1 vs. R2 vs. R3.

e) Evaluate reliability gain for each data set.

f) Analyze reliability gain for possible generalizations in terms of data classes.

These analyses and the conclusions based upon them are discussed in Sections 4.0 and 5.0 respectively.

5. Develop guidelines for applications.

The purpose of this task is to develop guidelines for the general application of growth models, i.e., what type works well, the gain expected and the goodness of fit expected with respect to the type of data (in-house vs. field), type of environment (airborne vs. ground) and R1, R2, R3. These guidelines are given in Section 6.0.

The models developed herein can be used for two basic purposes. First, during the development phase the model(s) can be used to monitor, control, and predict reliability growth. The data required are the n (= no. of failures) pairs cumulative MTBF and time at failure. The model(s) may then be fit according to the methods given in section 8.0; in particular section 8.4.9. By far the most important uce is before the development program begins. A model can be used to predict development time required to achieve a certain MTBF and to estimate initial MTBF. The data required to use the model in this way is the model type, environment, type of equipment, and preliminary parameter estimates from this report. Examples of this important use are given in section 6.1.

SECTION 2.0 – DATA SOURCES, COLLECTION AND EVALUATION

2.1 Data Search

2.1.1 Internal. Data collection began with an internal source survey of electronic systems that might yield usable data. The Systems Effectiveness Department of Hughes Aircraft Company, Ground Systems Group, has personnel with first hand knowledge of most systems built at Hughes Aircraft. In addition Hughes has internal reports such as the Contract Assignment Report and the Closed Contract Register for both Ground Systems and Airborne Systems. Through these reports and the suggestions given by the Systems Effectiveness Department personnel, a list of systems, project heads, managers, reliability engineers, and other information were compiled. Personal and telephone contact was made with the responsible people for each system or project. From each of these a request was made for a description of the reports and the data available, the period of data collection and the names of the reports and people who could supply the reports.

A literature search by the Hughes-Fullerton Library brought forth several useful systems, final reports and acceptance reports.

2.1.2 External. A literature search by the National Aeronautics and Space Administration and by the Defense Documentation Center yielded no useful failure histories. Such reports gave final MTBF and total failures, but none gave a history of cumulative failures versus cumulative time.

Personal contacts with the personnel at the Naval Ship Weapon Systems Engineering Station Port Hueneme, California, led to a large data base for ground systems computers and displays.

2.2 Data Collection

2.2.1 Data Requests. Requests were sent to both internal and external agencies for the various reports. Reports received were of the following types: Monthly reports, final reports, Interdepartmental Correspondence (IDC), Operations and Maintenance Reports (OMR), computer failure listings and Reliability and Maintainability (R/M) Reports. In some cases the reports were so large (several years of monthly reports) it was necessary to sort through boxes of reports and make copies of only the summary data tables and graphs of interest.

2.2.2 Data Center search. The Systems Effectiveness Department maintains a R/M Data Center which contains information gathered during in-house testing and field operations on most of Hughes built systems. A search of the Data Center files gave a large part of the useful data for Ground Systems and some data on Airborne Systems. The data found was of the following types: Field logs, field engineering reports, proposals, failure reports, customer requests, IDC's, OMR's, R/M reports, monthly and final reports.

2.2.3 Special file. As these reports were received, they were evaluated for useful information. If they were found to be useful, a copy was placed in a special growth study file in the Data Center to be used as source material for this study. Tables 2.1 and 2.2 give a description of the systems on which data were collected.

TABLE 2.1

System/Equipment Description - Ground

System/Equipment Number*	Description	Period of Data Collection
1	Shipboard Radar	Aug 1973 to Jun 1974
2	Ground Based Radar	Apr 1969 to Apr 1971
4	Satellite Microwave Link	Mar 1968 to Aug 1974
5	Shipboard Satellite Microwave Communication	Feb 1967 to Sep 1968
7	Weapon Control	Oct 1971 to Aug 1972
8	Radar Display	Apr 1966 to Jul 1972
9	Computer	Nov 1967 to May 1968
11	Ground Based Radar	Jun 1967 to Apr 1970
12	Shipboard Radar	Sep 1965 to May 1973
13	Computer	Apr 1969 to Oct 1969
14	Computer	Jun 1968 to Jun 1970
15	Computer	Oct 1971 to Jul 1974
16	Shipboard Radar	Aug 1968 to Aug 1969
17	Radar Display and Computer	Jun 1971 to Aug 1972
18	Ground Based Radar	Mar 1973 to Dec 1973

*Numbers 3, 6 and 10 were eliminated after subsequent analysis showed them to be unsuitable.

TABLE 2.2

System/Equipment Description - Airborne

System/Equipment Number	Description	Period of Data Collection
20	Laser Range Finder	Sep 1971 to Apr 1972
21	Laser Bombing System	Feb 1969 to Jun 1969
22	Visual Scan System	Sep 1970 to Nov 1970
23	Infrared System	May 1963 to Jul 1963
24	Infrared System	Jan 1974 to Feb 1975
25	Radar System	Jan 1972 to Aug 1972
26	Airborne Computer	Jul 1962 to May 1968
27	Radar System	May 1972 to May 1974

2.3 Data evaluation. The final evaluation of the data was based upon three criteria.

2.3.1 Time. First, was the time period long enough to establish some historical growth at normal operations? More than just a few short hours are required. In most cases a continuous history, with a starting time at zero, was maintained for in-house operations. There was a break in time when most systems went into the field. The reason for this, in large systems, is the modular nature of construction. Several systems and their spares would be sent to the field and reassembled in a different (from the original) modular serial number configuration. Also, there would frequently be long gaps of time in the failure reporting or none at all from the field operations.

2.3.2 Failure definition.

2.3.2.1 Relevant failure. The second criterion is: Was the failure relevent? Non-relevant failures were secondary failures, human caused failures and failures of known bad parts. Sometimes, after installation, parts were found to have manufacturing defects, to be below standards or were overstressed, but would be left in the system and replaced upon failure. This would be with customer's agreement. Such failure of parts after this determination were considered non-relevant. All other primary failures were accepted as relevant. If no determination could be made, the failure was considered relevant.

2.3.2.2 Primary failure. Third, was the failure primary? If the failure was relevant, caused the equipment or the system to operate in an unacceptable manner and was not caused by another relevant failure, the failure was primary. Sometimes failures would be caused by a primary failure; such failures were called secondary and were not recorded as a failure. If it could not be determined that a failure was secondary, the failure was then considered primary. Most of the reports used in this study had already filtered out non-relevant and secondary failures.

2.3.3 Useful data. In finding and selecting the useful data within these reports, the form most useful was the table or graph of failures versus cumulative time. In some cases, the failures were taken from a table or graph of MTBF versus cumulative time. In most cases, many tables and graphs had to be merged to give a useful failure history.

Each equipment category, with its corresponding failure history for each serial numbered system and/or equipment, was called a data set. There were many data sets that had to be discarded because of too few failures. Even though the equipment may have operated thousands of hours, the data sets with two or less failures were rejected. A reliability growth evaluation is meaningless for two or less data points. A description of each equipment category is given in table 2.3.

2.4 Construction of data categories.

After evaluation, the data was recorded in tables with such information as: system name, serial number, period of data collection, in-house or field data, description of equipment categories, cumulative failures and hours. Table 2.4 is a sample of the data collected on a system.

2.4.1 Ground and airborne. Ground systems/equipments are those electronic systems/equipments (Radar and microwave systems) installed at a fixed site or those

TABLE 2.3

Equipment Categories

Equipment	Description
1. Antenna	Pedestal, dish, driver gears, motor, hydraulics
2. Radar	Receiver, exciter, signal processor, transmitter, power supplies
3. Microwave	Receiver, exciter, klystron, transmitter, power supplies
4. Display	CRT, data input console, display controls, power supplies
5. Computer	Computer circuits, CPU, memory, power supplies
6. Communication	Radio receiver, teletype, etc.
7. System-Radar	Complete radar system
8. System-Microwave	Complete microwave system
9. System-Laser	Complete laser system
10. System-Infrared	Complete infrared system
11. System-Visual Scan	Complete system for night time sighting
12. Laser Transmitter	Laser transmitter and optics, control electronics, power supplies
13. Laser Receiver	Photo diode detector and optics
14. Laser Xmtr/Rcvr	Laser transmitter and receiver, control electronics, power supplies
15. Infrared Receiver	IR receiver and amplifier, power supplies

TABLE 2.4

Sample Page of Data

SYSTEM: MK-1B (AN/MSC-46)
DATA: FIELD (B)
PERIOD: AUG 1966 - AUG 1974

TYPE OF TEST: OPERATION AV. 20 HRS/DAY

EQUIPMENT SUBSYSTEMS:

ANTENNA

1. Servo
2. Drive
3. Radome
4. Antenna 40' Dia.

MICROWAVE

1. Transmitter
2. Exciter
3. Receiver
4. Heat Exchanger
5. Klystron
6. Pwr. Amp.
7. Tracking
8. Power

COMMUNICATION

1. Receiver
2. Terminal Equipment

Ref: Report in R/M Data Center Files

TABLE 2.4

Sample Page of Data* (Continued)

LOCATION TDYR - TURKEY		ANTENNA	MICROWAVE	COMMUNICATION	SYSTEM
DATE	CUMULATIVE OPER. HOURS	CUMULATIVE FAILURES			
10/1/69					
	620		3		3
	1220		4		4
	1840		8		8
	3120		9		9
	4340	1	13		14
	4940		20	1	22
	5560	2	23		26
	6180		25	2	29
	6780		28		32
	7400	3	31	5	39
	8000		39	6	48
	8620		45	7	55
	9240		48		58
	9800		51		61
	10420	4	52		63
	11020		54	8	66
	11640	5	59		72
	12240		61		74
	12860	7	65	9	81
	13480	9	70		88
	14080	10	80	10	100
	14700	11	86		107
	15300		90		111
	15920	13	92		115
	16540	14			116
	17120		101		125
	17740	15	104		129
	18340		109		134
	18960		110		135
	19560		114		139
	20180		116		141
8/31/72	20800		118		143

*The "gaps" that occur in the cumulative failures are due to the failure to record failures continuously in time which are mobile (truck or ship). They have good engineering operation and maintenance, and adequate cooling. They are sometimes subjected to high levels of shock and/or vibration. Hughes Aircraft Company at Fullerton is the Ground Systems Group where most of the ground systems/equipments were built and tested. These tests generated most of the in-house data used in this report. Airborne systems are those electronic systems (radar, laser, IR systems) used in airplane cockpits, bomb-bays, and/or tail or wing installations. The airborne environment generally has extremes of pressure, temperature, shock and vibration. Hughes Aircraft Company at Culver City has the main offices of the Aerospace Group from which the airborne systems data was gathered.

2.4.2 Equipment type. Equipment categories were established for logical subdivisions of the more complex systems. For example, displays, radars, computers, etc. The system itself was assigned to one category. This gave a total of fifteen equipment categories. The use of reference designators for equipment categories (such as E1, E2, etc.) were found to be too confusing and was discontinued. A description of each equipment category is given in table 2.3.

2.4.3 In-house versus field. The in-house data came from good documentation on Hughes built systems during the developmental phase. Whenever the system was under Hughes control, operated and repaired by Hughes personnel, the system was considered to be in-house. The field data came from systems under customer control. In some cases Hughes representatives would make field failure logs for a period of time for a system just received by the customer. Most field data was taken from customer reports to Hughes Aircraft Co. Such reports were at times sketchy as to the nature of the failure, but were taken at face value. In-house data was considered more accurate, but field data generally had more hours of operation.

2.4.4 Quality of parts. A review of the quality of parts for the various systems, the type quality purchased, their in-house testing and screening was made. It was found, that regardless of whether the part was commercial or had high reliability standards, the average of all parts in a system was a minimum military grade. This was true for both ground and airborne systems and equipments. The commercial parts came mostly from purchased assemblies such as a television monitor or a power supply. The high reliability parts were used in some critical areas such as computer memory circuits. The upgrading of the part quality was established by severe burn-in and testing of units or long hours of in-house equipment operation. This was usually a contractual procedure that varied from contract to contract. Therefore a one grade level of part quality had to be established at minimum military standard.

2.4.5 Reliability effort. Most current contracts call for a reliability program plan to insure a system with an acceptable mean time between failure (MTBF). To establish some concept of this reliability effort between different systems, the money spent by a project on reliability was divided by the total contract money to derive a reliability effort percentage.

$$R = \frac{\text{Reliability \$}}{\text{Total Contract \$}} \times 100$$

Three divisions of reliability effort were established. For those projects where the reliability engineering was not set forth separately, and the money spent on reliability could not be separated from the other costs, a low (R1) reliability effort was assumed. A medium (R2) reliability effort was set at one percent or less but greater than zero. Those projects which spent greater than one percent on reliability were called high (R3).

$$R1 = 0.0\%\ \text{Low}$$

$$0.0\% < R2 < 1.0\%\ \text{Medium}$$

$$R3 \geq 1.0\%\ \text{High}$$

There are other variables which can affect the aggressiveness of the reliability program, e.g., the ratio of digital to analog parts; extent of parts standardization and others. Although these factors have not been quantified in this study we can say that they were relatively constant for our data base.

2.5 The Data Base

2.5.1 Equipment data class. The equipment data class is the group of data sets for a particular equipment category, ground or airborne system, in-house or field and one of the divisions of reliability effort (R1, R2, R3). As an example, there were three data sets in the equipment data class for antennas, ground system, in-house and reliability effort R3. It was not possible to find data for all the equipment data classes. Table 2.5 shows the distribution of data sets in the equipment data classes. The number of prototypes can affect the growth results but for our data, most of the in-house systems were developmental models.

2.5.2 Data set distribution. The data set was the failure history for each equipment that was used for analysis. The number of data sets used in each data class (summed over system/equipment categories) is given in table 2.6.

2.5.3 Summary

a. Twenty seven systems were found with useful data.

b. Fifteen equipment categories were established.

c. Number of data sets: 186 data sets for ground systems/equipments and 84 data sets for airborne systems/equipments.

d. Quality of parts averaged out at a minimum military standard.

e. Reliability effort: low (R1), medium (R2) and high (R3).

f. Data sets were coded and put into computer file for analysis. See table 2.7 for sample data set.

TABLE 2.5

Equipment Data Class Distribution

Equipment Categories	In-House R1	In-House R2	In-House R3	Field R1	Field R2	Field R3	Total
Ground Systems							
Antenna			3	21			24
Radar			5	8			13
Microwave	1			20			21
Display		5	7	9	23	3	47
Computer	5	1	8	19		3	36
Communication			2	12			14
System-Radar			2	8			10
System-Microwave	1			20			21
Airborne Systems							
Antenna		5					5
Radar		6					6
Display		6					6
Computer	5	5					10
Laser Transmitter	2		2				4
Laser Receiver	1		2				3
Laser Xmtr/Rcvr	2		2				4
Infrared Receiver	3	1					4
System-Radar		6					6
System-Laser	2		2				4
System-Infrared	4					26	30
System-Visual Scan		2					2

TABLE 2.6

Data Set Distribution

	Ground Systems/Equipment			Airborne Systems/Equipment			Total
	R1	R2	R3	R1	R2	R3	
In-House	7	6	27	19	31	8	98
Field	117	23	6			26	172
Total	124	29	33	19	31	34	270

Ground Systems/Equipment Total = 186   Airborne Systems/Equipment Total = 84

TABLE 2.7

Sample Data Set as Coded in Computer File

Explanation of Data Set Code

System Number (4)

System Name

4MK-1B(AN/MSC-46)

Data Set Number (21)

Equipment Category
E1 = Antenna

A = In-House B = Field

Reliability Effort

21 E1 B R1 10690872 S/N 1

System Serial No.

Period of Data Collection
10/69 through 8/72

DATA SET

4MK-1B(AN/MSC-46) 21 E1 B R1 10690872 S/N 1

1	4340
2	5560
3	7400
4	10420
5	11640
7	12860
9	13480
10	14080
11	14700
13	15920
14	16540
15	17740
16	22020
17	23240
19	31160
20	31720
21	32940
22	33560
	35400

Cumulative Hours

Number of Failures

In this section we will give a description and derivation of the mathematical models used to fit the growth data in this study. In so doing it is hoped some light will be cast on the physical assumptions about the growth process inherent in the various mathematical functions used.

3.1 The Duane Model

In reference [8] J. T. Duane observed that the logarithm of cumulative MTBF was a linear function of the logarithm of time. That is, (letting Y(t) denote cumulative MTBF)

$$\ln Y(t) = a + b \ln t \tag{3.1}$$

This model is extremely popular for modeling reliability growth. For example, NAVAIR has a series of reliability test program specifications (AR-104, AR-111, AR-112, AR-113) based on the Duane model.

The idea is to estimate the parameters (a,b) and monitor reliability growth with equation (3.1). The method of estimation commonly recommended is to obtain the least squares estimates of (a,b).

Actually, if the matter had ended here, it would be an unsatisfactory situation: just another empirically derived fit. However, Crow [7] and independently, Finkelstein [10] noticed that for a nonhomogenous Poisson process with Weibull intensity function the expected number of events (failures) in time t is given by

$$E(\text{no. of events in } t) = (t/K)^{\beta}. \tag{3.2}$$

Hence, the cumulative MTBF, Y(t), by definition must be

$$Y(t) = t/E\ (\text{no. of events in } t) = K^{\beta} t^{1-\beta}$$

and hence

$$\ln Y(t) = \beta \ln K + (1-\beta) \ln t. \tag{3.3}$$

Setting $1-\beta = b$ and $\beta \ln K = a$ and inspecting equation (3.1) it is clear that the Duane model corresponds to a nonhomogenous Poisson process with Weibull intensity function (the intensity function is

$$d\,[E\ (\text{no. of events in } t)]/dt = \frac{\beta t^{\beta-1}}{K^{\beta}}\ ).$$

The implications of the foregoing are most important. First, the time to occurrence of events (failures) are not independent, identically distributed random variables. Indeed only the first time to failure has a Weibull distribution. Second, inspecting equation (3.1) indicates growth only occurs when $b > 0$. This means $1-\beta > 0 \Rightarrow \beta < 1$.

Thus, growth is observed only if the Weibull shape parameter is less than one. Finally, the implications on estimation of K and β are important. The least squares method is no longer needed, being inefficient, since the maximum likelihood estimates are available and are

$$\hat{\beta} = n \Big/ \sum_{i=1}^{n} \ln (t^*/t_i)$$

$$\hat{K} = t^*/n^{1/\hat{\beta}} \quad , \qquad (3.4)$$

where

t_i = time of i^{th} failure

n = total number of failures observed

$$t^* = \begin{cases} t_n \text{ if the test is stopped at the last failure} \\ t \text{ if the test is stopped at time } t > t_n. \end{cases}$$

Exact confidence bounds for β are easily obtained since $2n\,(\hat{\beta}/\beta)$ is distributed as χ^2 (chi-square) with $2(n^*-1)$ degrees of freedom where $n^* = n$ if $t^* = t_n$ and $n^* = n+1$ if $t^* = t > t_n$. It also turns out that $(\hat{K}/K)^{\hat{\beta}}$ is distributed independently of β and K and exact confidence bounds on K can be prepared using Table 1 of ref [11]. The preparation of confidence bounds on β is extremely important since even if the observed data yield $\hat{\beta} > 1$ the goodness of fit of a Duane model cannot be rejected if the lower confidence bound, say β_L, on β is less than one i.e., if $\beta_L < 1$ the hypothesis that there is growth ($\beta < 1$) cannot be rejected.

Since the time to first failure is Weibull with mean $K\Gamma(1/\beta + 1)$, where $\Gamma(u)$ is the usual gamma function evaluated at u, an estimate of the initial MTBF is given by

$$\hat{K}\,\Gamma(1/\hat{\beta} + 1). \qquad (3.5)$$

Equation (3.5) will be extremely important to us when we are estimating reliability gain. A discussion of nonhomogenous Poisson processes can be found in Parzen [14].

An important quantity in the Duane model is the instantaneous MTBF which is taken as the reciprocal of the intensity at time t i.e.,

$$\text{instantaneous MTBF} = \left[\frac{dE\ (\text{no. of events in } t)}{dt}\right]^{-1} = \frac{K^{\beta}\, t^{1-\beta}}{\beta}. \qquad (3.6)$$

The maximum likelihood estimate of this quantity is given by

$$\frac{\hat{K}^{\hat{\beta}} t^{1-\hat{\beta}}}{\hat{\beta}} \quad . \tag{3.7}$$

This instantaneous MTBF can be estimated for any future time, t_f, by applying equation (3.7). Also, and very important, Crow [7] gives a method, with tables, for preparing confidence bounds on the instantaneous MTBF at the time of the last of observed failure t_n. The limiting MTBF of the Duane model is the instantaneous MTBF at the time equipment improvement is stopped.

3.2 The IBM Model

This model is based on an approach quite different from the nonhomogenous Poisson process approach of the previous section. It is based on the solution to a differential equation. The IBM model assumes, explicitly, that: 1) there are random (constant failure rate) failures occurring at rate λ, and 2) there are a fixed but unknown, number of non-random design, manufacturing and workmanship defects present in the system at the beginning of testing. Let N(t) be the number of non-random type defects remaining at time $t \geq 0$. This model makes the intuitively plausible assumption that the rate of change of N(t) with respect to time is proportional to the number of non-random defects remaining at t. That is,

$$d\,N(t)/dt = -K_2\,N(t) \tag{3.8}$$

Equation (3.8) implies that

$$\ln N(t) = -K_2 t + c$$

and hence

$$N(t) = e^{-K_2 t + c}$$

Now if we denote the unknown number of non-random failures present at $t = 0$ by K_1 then

$$N(0) = K_1 = e^c$$

and finally

$$N(t) = K_1 e^{-K_2 t} \quad t > 0,\ K_1,\ K_2 > 0. \tag{3.9}$$

Defining V(t) to be the expected cumulative number of failures up to time t then

$$V(t) = \lambda t + K_1 - N(t)$$

$$= \lambda t + K_1 - K_1 e^{-K_2 t}$$

$$= \lambda t + K_1 (1 - e^{-K_2 t}). \qquad (3.10)$$

Thus the expected cumulative number of failures by time t is the expected number of random failures by time t plus the expected number of non-random failures removed by time t. It should be noted that $V(0) = 0$ as expected. Moreover

$$\lim_{t \to \infty} V(t) = \lambda t, \text{ as expected.}$$

Because of the non-linearity of the model (3.10) the estimation of λ, K_1 and K_2 must be accomplished by iterative means and this is discussed in Section 8.3.

There are some extremely nice features of this model. In addition to being "plausible" the most interesting feature is the ability of the model to predict the time when the system/equipment is "q" fraction debugged (i.e., q fraction of the original K_1 non-random failures have been removed, $0 < q < 1$). The number of non-random defects removed by time t is clearly

$$N(0) - N(t) = K_1 - K_1 e^{-K_2 t}$$

and hence the fraction (of K_1 initial non-random defects) removed by time t is

$$q = \frac{K_1 - K_1 e^{-K_2 t}}{K_1} = 1 - e^{-K_2 t} \qquad (3.11)$$

Thus having estimated K_2, say $\hat{K}_2$, we can find the time at which q=0.95 of the nonrandom defects have been removed by solving (3.11) for $t_{0.95}$. That is,

$$t_{0.95} = \frac{-\ln 0.05}{\hat{K}_2} .$$

In general, for arbitrary q, $0 < q < 1$ the time by which the system/equipment is q fraction debugged is

$$t_q = \frac{-\ln (1-q)}{\hat{K}_2} \qquad (3.12)$$

Equation (3.12) is a powerful tool because it can be used to help determine the length of development testing.

Another important feature of the IBM model is that the number of non-random failures remaining at time t can be estimated and of course is $\hat{K}_1 e^{-\hat{K}_2 t}$. Finally, the estimate of λ, say $\hat{\lambda}$ gives the estimate of the long-run achievable MTBF.

It is well to note that this model could never have been "discovered" by empirical means since the least squares solutions are not available in closed form and hence this model would never have been tried against a given set of data.

More details on this model can be found in ref [17].

3.3 The Exponential-Single Term Power Series Model

In this section and in Sections 3.4, 3.5 and 3.6 the symbol Y(t) will be used to denote cumulative mean time between failures and the real variable t, as usual, represents time. We continue to use the differential equation approach to developing the growth model.

Suppose that K is used to denote the limiting value of Y(t) i.e.,

$$\lim_{t \to \infty} Y(t) = K$$

and suppose the rate of growth dY(t)/dt is jointly proportional to the remaining growth (namely K-Y(t)) and some growth function g(t). Thus

$$dY(t)/dt = [K-Y(t)]\, g(t). \qquad (3.13)$$

Taking g(t), the growth function, to be a constant, say $K_2 > 0$, then the solution to the differential equation (3.13) is easily seen to be

$$Y(t) = K\,(1 - K_1 e^{-K_2 t}), \quad t > 0. \qquad (3.14)$$

Here $K_1 > 0$ is an intercept parameter arising as a constant of integration.

The growth rate (i.e., dY(t)/dt) is largest at t = 0 and is monotonically decreasing in t so that

$$\lim_{t \to \infty} [dY(t)/dt] = 0.$$

It is entirely plausible that the growth rate is largest at t = 0 and decreases to 0 as $t \to \infty$. This model is also extremely flexible because it has three parameters

K: The limit of cumulative MTBF.

K_1: When t = 0, $Y(0) = K\,(1-K_1)$. Thus $K\,(1-K_1)$ may be thought of as the initial MTBF of the system/equipment when $0 < K_1 < 1$. K_1 may also be thought of as the growth potential.

K_2: The growth function; constant in this case.

The disadvantage of this model is clear enough. Like the IBM model it has three parameters and is non-linear in t; nor can it be transformed to a linear function of t. Thus the least squares estimates of K, K_1, and K_2 must be obtained by iterative procedures. This procedure is discussed in Section 8.3. More details on this model can be found in ref [15].

3.4 The Lloyd-Lipow Model

This model is also obtained as the solution to a differential equation, where the equation involved results in a property not possessed by any of the other models treated in this report. Suppose that the growth rate is inversely proportional to the square of the growth factor t, i.e.,

$$dY(t)/dt = K_2/t^2, \quad K_2 > 0. \tag{3.15}$$

Then clearly,

$$Y(t) = K - K_2/t. \tag{3.16}$$

Here K is a constant of integration but it should be noticed that

$$\lim_{t \to \infty} Y(t) = K$$

and thus K is the limiting value of cumulative MTBF.

The parameter K_2 is a growth rate parameter which also affects the location of the curve. Since Y(t) cannot be negative and

$$\lim_{t \to 0} Y(t) = -\infty$$

we must define

$$Y(t) = 0, \quad 0 \le t < K_2/K$$

This definition provides a time period $(0, K_2/K)$ when the cumulative MTBF is 0 (i.e., a period of no growth) which may be realistic for certain systems/equipments.

By making the change of variable $t' = 1/t$ we see that

$$Y(t') = K - K_2 t'$$

and thus $Y(t')$ is linear in t' with slope K_2 and intercept K which means the parameters K and K_2 can be easily estimated by the usual least squares methods. This model is discussed further in ref [13].

3.5 The Aroef Model

In this case we assume that the growth rate is jointly proportional to the growth achieved at t, i.e., $Y(t)$, a constant multiplier (growth rate parameter) K_2 and inversely proportional to t^2. That is,

$$dY(t)/dt = K_2\, Y(t)/t^2. \tag{3.17}$$

This differential equation has the solution

$$Y(t) = K\, e^{-K_2/t}. \tag{3.18}$$

Since $\lim_{t \to \infty} Y(t) = K$ the reliability growth limit in cumulative MTBF is K. Also

$$\lim_{t \to 0} Y(t) = 0.$$

Since

$$\ln Y(t) = \ln K - K_2/t,$$

letting

$$t' = 1/t,$$

$$\ln Y(t') = \ln K - K_2\, t' \tag{3.19}$$

and usual linear least squares methods can be used to estimate the constants K and K_2.

3.6 The Simple Exponential Model

The last model we consider in this study is the simple exponential model

$$Y(t) = K\, e^{K_2 t} \quad K,\, K_2 > 0. \tag{3.20}$$

While $Y(t)$ can be obtained as the solution to a certain differential equation it is not a plausible model. The limit (as $t \to \infty$) of $Y(t)$ is infinite. Also $Y(0) = K$ which is the "initial" cumulative MTBF. Since $\ln Y(t) = \ln K + K_2 t$ then the linear least squares method can be used to fit the constants.

We have included this model as a more or less check on the data and the other models: if this model fits well and often then it may be that either the growth process is quite complex or the other models tried are not very good.

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3.7 Criteria for the Goodness of Fit of the Models

There are any number of mathematical functions which can be used to describe reliability growth. One approach to fitting growth curves is to select a very large number of mathematical functions and select the one that fits best. This approach is grossly unsatisfactory and not just because the criterion (or criteria) of "best" may be somewhat arbitrary. The problem is that, for any data set, an arbitrarily good fit can be obtained by selecting a mathematical function with enough parameters. Thus, no matter how "misbehaved" a given data set may be, a mathematical function can be found which will fit it. In essence this amounts to basing all decisions solely in the data and ignoring any other physical/engineering information. Moreover, the problem of interpreting the physical meaning of more than three parameters is very difficult. In this study we have limited all models to at most three parameters.

The Duane model parameter estimates were obtained by maximum likelihood methods because they are superior to the least squares estimates. For all other models the least squares estimates (obtained, in some cases, by suitable linearization) were used. It is important to note that the usual quantities for judging goodness of fit one hears about: coefficient of multiple determination, F tests, t tests for the model coefficients etc. are not applicable since the assumption that the data are multivariate normally distributed has no basis in fact.

Thus we have selected what we feel are two measures of the goodness of model fit. First, we compute

$$\bar{R} = \left(\sum_{i=1}^{n} \left| \frac{Y(t_i) - \hat{Y}(t_i)}{Y(t_i)} \right| / n \right) 100 . \qquad (3.21)$$

In equation (3.21) $Y(t_i)$ is the observed cumulative MTBF at time t_i, $\hat{Y}(t_i)$ is the calculated (from the fitted model) cumulative MTBF at time t_i, and n is the number of failures in the data set. Thus $i = 1, 2, \ldots, n$. Of course a value of $\bar{R} = 0$ would be ideal but generally this is impossible. Certainly, a good fit would be expected to have $\bar{R} \leq$ about 25%. **In words, $\bar{R}$ is the average absolute percentage error in the predicted versus the observed values.**

The second measure of godness of fit is defined in terms of relative variability

$$R.E. = \frac{S_e^2/n-2}{S_{Y(t_i)}^2/n-1} \qquad (3.22)$$

where

$$S_e^2 = \sum_{i=1}^{n} \left[Y(t_i) - \hat{Y}(t_i) \right]^2$$

$$S^2_{Y(t_i)} = \sum_{i=1}^{n} \left[Y(t_i) - \overline{Y(t_i)} \right]^2$$

$Y(t_i)$ = observed cumulative MTBF at t_i

$\hat{Y}(t_i)$ = calculated cumulative MTBF at t_i

$$\overline{Y(t_i)} = \sum_{i=1}^{n} Y(t_i)/n$$

Thus, in equation (3.22) the denominator is the sample variance of the observed cumulative MTBF's and the numerator is the squared residual error. The ideal situation would be R. E. = 0 i.e., there is no residual error. This is generally impossible but small values of R. E. indicate good fits.

For one particular given data set if a particular model has the lowest $\overline{R}$ and R. E. of all the models then that model is the best fit.

SECTION 4.0 – DATA ANALYSES

4.1 Estimation of Model Parameters

In this section we discuss the data analyses from the standpoint of the parameter estimates for each model and give an example of the use of each model. Comparisons between models and between factors of the data classes and general conclusions are given in Sections 5.0 and 6.0. The analysis of reliability gain is also presented in Section 5.0.

As previously mentioned there were a total of 270 data sets: 186 for ground based systems/equipment and 84 for airborne systems/equipment. This is less than the total amount of data collected since data sets with less than three failures were not used. Each of the six models was fitted to the 270 data sets. That is, the parameters of the models were estimated by the techniques discussed in Section 8.0. The results of the parameter estimation are given in Tables 4.3 and 4.4. However, Table 4.1 should be used in conjunction with Tables 4.3 and 4.4. Table 4.1 gives the explicit form of the models and the notation necessary to use the results given in Tables 4.3 and 4.4. In order to keep some degree of order in the computer routines the "parameter" estimates were designated simply P1, P2, P3 and P4. In addition to the parameter estimates Tables 4.3 and 4.4 give the system number (decoded in Table 2.1), number of failures, total hours of observation, and the two measures of goodness of fit $\bar{R}$ and R.E. (which are defined in Section 3.7).

4.1.1 Results for the Duane Model. The parameter β is the growth parameter. That is, in the Duane plot of ln cumulative MTBF versus ln time, $1 - \beta$ is the slope (see Section 3.1 for more details). Since growth only occurs when $1 - \beta > 0$ the Duane model cannot be described as a good fit unless $\beta < 1$. Of course we only have an estimate of β, namely $\hat{\beta}$ (P1 is computer notation) and $\hat{\beta}$ is subject to sampling error. This explains the "parameter" of β_L (P3) given in Tables 4.3 and 4.4. β_L is the lower 0.90 confidence limit for β based on the particular data set under discussion. This lower confidence limit is extremely important because $\hat{\beta} > 1$ does not prove $\beta > 1$ due to the sampling error involved in $\hat{\beta}$. By using β_L in a simple way we can test a hypothesis about β: if $\beta_L < 1$ then it could easily be that $\beta < 1$ even though $\hat{\beta} > 1$. On the other hand if $\beta_L > 1$ then clearly (i.e., with at least 0.90 confidence) $\beta > 1$ and the Duane model projects "negative" growth. In this latter case ($\beta_L > 1$ hence $\beta > 1$) we have not proved that the Duane model (which, as mentioned in Section 3.1, corresponds to a nonhomogenous Poisson process with Weibull intensity function) doesn't fit. It may be that the model doesn't fit; it may also be that there indeed was no growth present in the data. To handle this latter problem we calculated the quantity C_M^2 (P4). This is a goodness of fit statistic given in Crow in [7]. The table of critical values for C_M^2 is reproduced in Table 4.2 for varying levels of significance.

In inspecting Table 4.3 for the Duane model results it can be seen that $\hat{\beta}$ is, in the large majority of cases, less than one, i.e., growth is positive. Moreover, inspecting the lower confidence limit β_L (P3), it is greater than one only twelve (12) times and in only one case (computer, in-house, R1, data set No. 3) was the C_M^2

TABLE 4.1

Notation Used in Computer Program

Model	Computer Symbol			
	P1	P2	P3	P4
Duane $Y(t) = K^{\beta} t^{1-\beta}$	$\hat{\beta}$	$\hat{K}$	β_L	C_M^2
IBM $V(t) = \lambda t + K_1 (1 - e^{-K_2 t})$	$\hat{\lambda}$	$\hat{K}_1$	$\hat{K}_2$	
Exponential $Y(t) = K (1 - K_1 e^{-K_2 t})$	$\hat{K}$	$\hat{K}_1$	$\hat{K}_2$	
Lloyd-Lipow $Y(t) = K - K_2/t$	$\hat{K}$	$\hat{K}_2$		
Aroef $Y(t) = K e^{-K_2/t}$	$\hat{K}$	$\hat{K}_2$		
Simple Exponential $Y(t) = K e^{K_2 t}$	$\hat{K}$	$\hat{K}_2$		

value significant at less than the 0.010 level. Here $C_M^2 = 0.384$, which is significant i.e., the Duane model does not fit at the $\alpha < 0.01$ level. All this is not to say that the Duane model is always a perfect fit for ground based gear for after all $\hat{\beta}$, β_L and C_M^2 are measures of whether the Duane model fits. The Measures $\overline{R}$ and R.E. estimate how well the model fits. Inspecting these columns in Table 4.3 shows that the Duane model is quite good with respect to $\overline{R}$, i.e., in about one-half the cases $\overline{R} \leq 25\%$. It is also relatively good with respect to R.E. Actually, for the large number of data sets involved the Duane model performs very well and this, in part, explains why the Duane model is so popular.

For the airborne data (Table 4.4) none of the data sets fail the $\beta_L > 1$ and C_M^2 significance test.

However, there are easily identifiable cases where the Duane model does not do well. First, consider the Infrared (I.R.) systems. In-house three of the four $\hat{\beta}$'s exceed one; moreover all four of the $\overline{R}$'s exceed 30% although RE is not bad. Of the twenty-six field I.R.'s nine $\hat{\beta}$'s exceeded one. Moreover, the $\overline{R}$'s are uniformly large; the smallest being in excess of 30%. Similarly the Duane model is a mediocre to

TABLE 4.2

Critical Values of C_M^2

n-1	Level of Significance 0.20	0.15	0.10	0.05	0.01
2	0.138	0.149	0.162	0.175	0.186
3	0.121	0.135	0.154	0.184	0.231
4	0.121	0.136	0.155	0.191	0.279
5	0.121	0.137	0.160	0.199	0.295
6	0.123	0.139	0.162	0.204	0.307
7	0.124	0.140	0.165	0.208	0.316
8	0.124	0.141	0.165	0.210	0.319
9	0.125	0.142	0.167	0.212	0.323
10	0.125	0.142	0.167	0.212	0.324
15	0.126	0.144	0.169	0.215	0.327
20	0.128	0.146	0.172	0.217	0.333
30	0.128	0.146	0.172	0.218	0.333
60	0.128	0.147	0.173	0.220	0.333
100	0.129	0.147	0.173	0.220	0.336

poor description for all laser systems and also the I.R. receiver. On the other hand the Duane model performs excellently for all radar data.

More detailed comparisons and conclusions are given in Section 5.0. We close this section with an example.

Example: As an example consider data set number 1, Ground Based, Computer, Field, R1. The $\bar{R}$ and R.E. are very low (12.15% and 0.094 respectively). The maximum likelihood estimates were $\hat{K} = 56.92$ and $\hat{\beta} = 0.6644$. Thus $1-\hat{\beta}$ = growth rate = 0.3356. The calculated cumulative MTBF, i.e., $\hat{Y}(t)$, is given by

$$\hat{Y}(t) = (56.92)^{0.6644}\, t^{0.3356}$$

and is plotted in Figure 4.1a as a function of time along with the observed cumulative MTBF. Figure 4.1b gives the same graph in terms of ln Y(t). It should be noticed that neither of the graphs appears to be a least squares fit. This is because $\hat{\beta}$ and $\hat{K}$ are not the least squares estimates but the more efficient maximum likelihood estimates. A commonly occurring phenomenon is also visible in this data set: the "peak" (at the second and third failures) and the "valley" (at the fourth value). Had K and β been estimated as the first few failures became available undoubtedly $\hat{\beta} > 1$ ("negative" growth) would have been experienced. Early failure data must be carefully screened to determine that the actual failure times are indeed recorded and that the system is operating and being monitored correctly.

4.1.2 Results for the IBM model. This model and all the subsequent models have not been studied as intensely as the Duane model in the literature. Hence the measures of whether and how well the model fits have been combined into the $\bar{R}$ and R.E. quantities.

The IBM model shows some remarkable results. It is clearly not very good (in fact bad) for ground based radars (in-house and field) and microwave systems/equipment (in-house and field). However, with very minor isolated exceptions the IBM model fits excellently for communications (in-house and field) systems/equipment, quite well for displays and moderately well for computers and antennas.

For the airborne based systems/equipment the performance of the IBM model would be bad to mediocre except for radars for which the performance is good.

The following example, chosen to be a good fit, illustrates the power of the IBM to give information about the growth process.

Example: Data set No. 4, Airborne, Antenna, In-house, R2.

It will be recalled that in the IBM model the dependent variable was V(t) = the expected number of failures in time t; specifically

$$V(t) = \lambda t + K_1(1 - e^{-K_2 t}).$$

FIGURE 4.1a

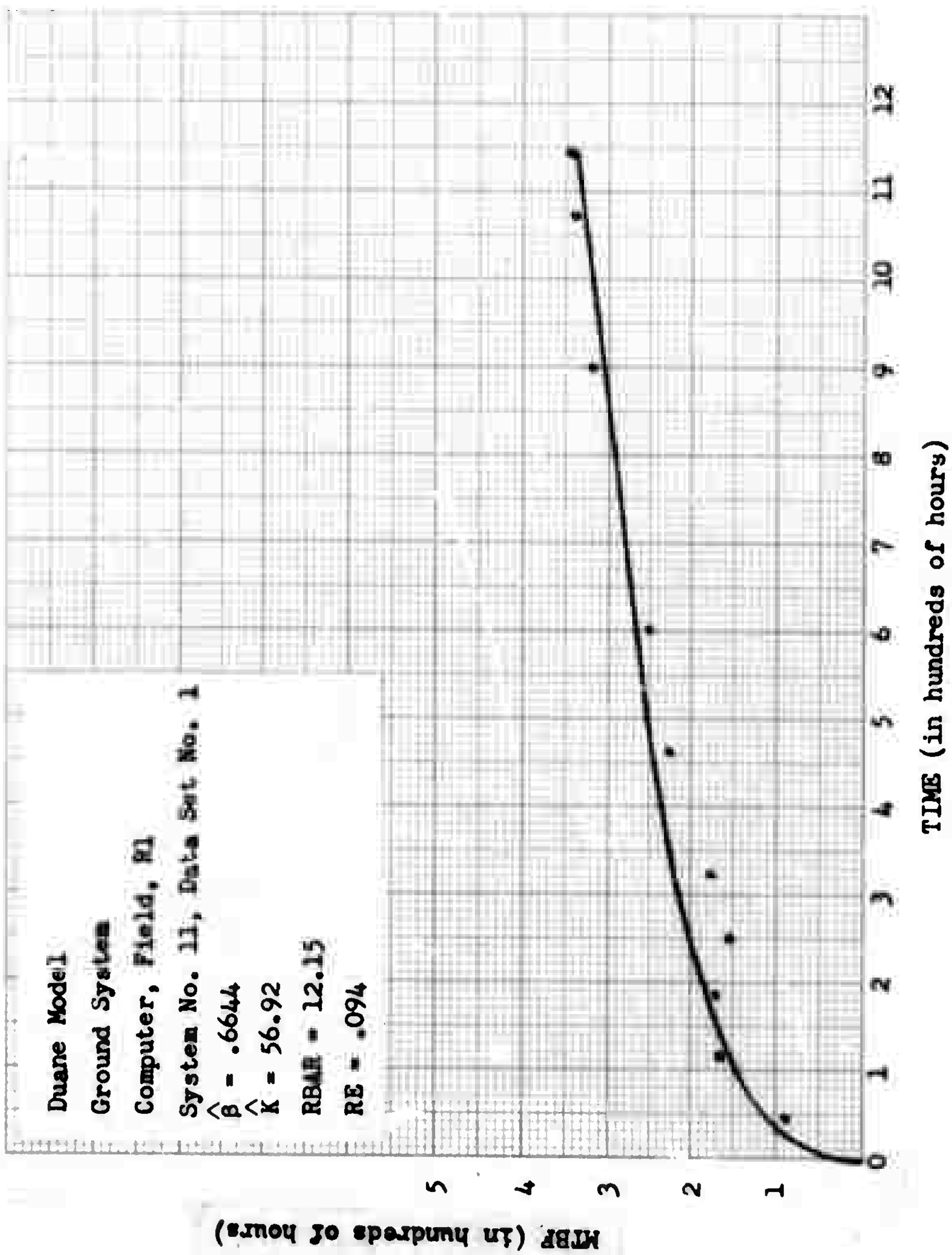
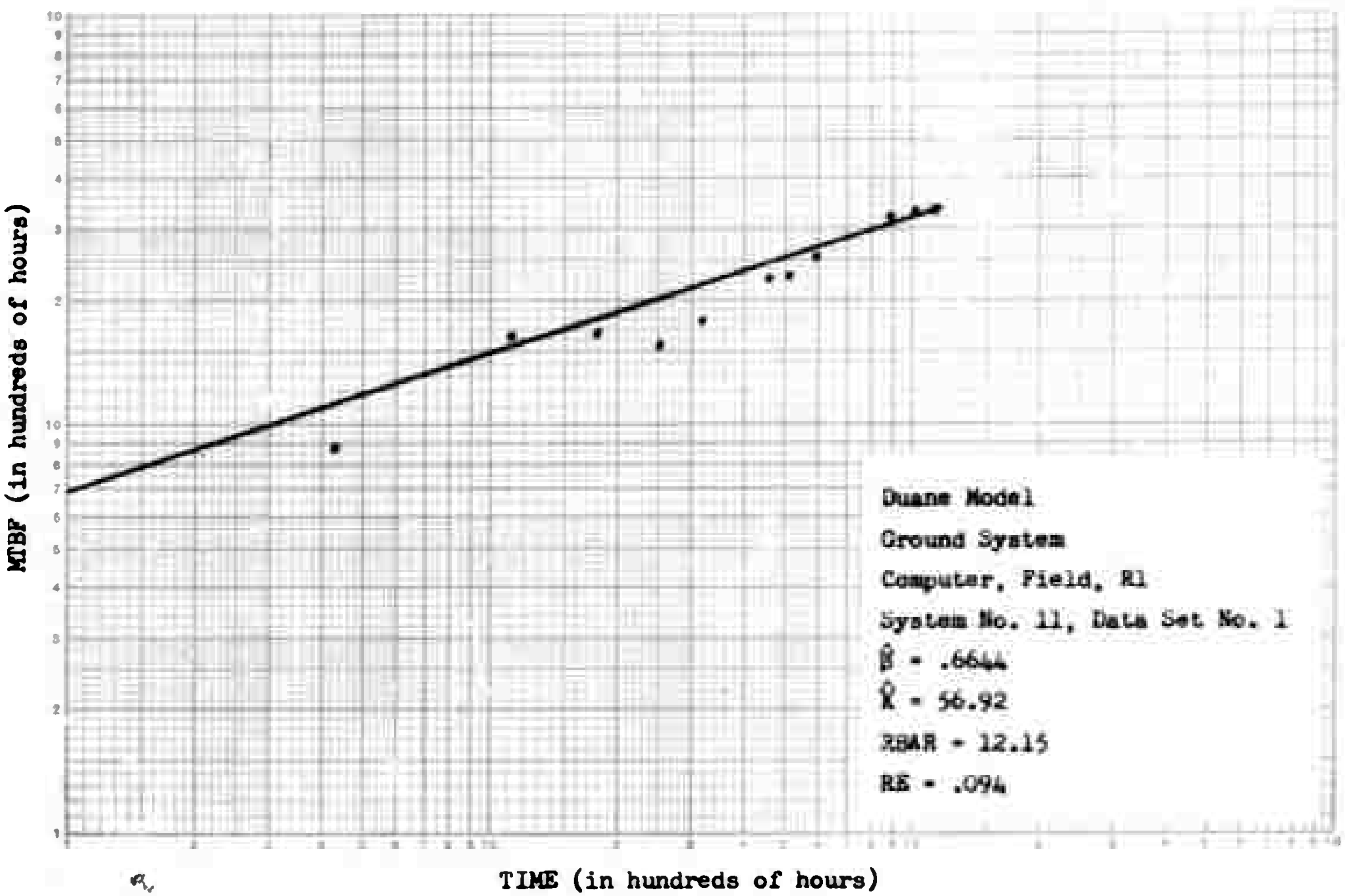

Duane Model
Ground System
Computer, Field, R1
System No. 11, Data Set No. 1
$\hat{\beta}$ = .6644
$\hat{K}$ = 56.92
RBAR = 12.15
RE = .094
MTBF (in hundreds of hours)
1
2
3
4
5
TIME (in hundreds of hours)
0
1
2
3
4
5
6
7
8
9
10
11
12

FIGURE 4.1b



Duane Model
Ground System
Computer, Field, R1
System No. 11, Data Set No. 1
$\hat{\beta}$ = .6644
$\hat{\lambda}$ = 56.92
XBAR = 12.15
RE = .094
MTBF (in hundreds of hours)
TIME (in hundreds of hours)

In Figure 4.2 we have graphed calculated cumulative MTBF (namely $t/\hat{V}(t)$) along with the observed cumulative MTBF. Of course

$$\hat{V}(t) = \hat{\lambda}t + \hat{K}_1(1 - e^{-\hat{K}_2 t}).$$

For this data set $\hat{\lambda} = 0.01037$, $\hat{K}_1 = 11.17$ and $\hat{K}_2 = 0.007259$. $\bar{R}$ and R.E. were very low (4.23% and 0.011 respectively). We can see the utility of the model as follows. First we should note that the total test time was 1,000 hrs and 21 failures were observed. Now $\hat{\lambda}$ is an estimate of the constant (random) failure rate and hence the MTBF for purely random failures is about $(0.01037)^{-1} \cong 100$ hrs. Thus in 1,000 hrs we should see about 10 random failures. The term $\hat{K}_1 = 11.17$ is an estimate of the number of non-random failures in the antenna at the beginning of testing. Thus, roughly, if all the non-random failures have been removed, we have: 10 (random) + 11 (non-random) = 21, the number of failures observed.

We can check this reasoning easily. Let us calculate the fraction of non-random failures removed by t = 1,000 hrs (the total test time). We must use equation (3.12) of Section 3.2. Since

$$t_q = \frac{-\ln(1-q)}{\hat{K}_2}$$

we can solve for q as follows:

$$-\ln(1-q) = \hat{K}_2 t_q \Rightarrow q = 1 - e^{-\hat{K}_2 t_q}.$$

Thus,

$$q = 1 - e^{-7.259} = 0.9993.$$

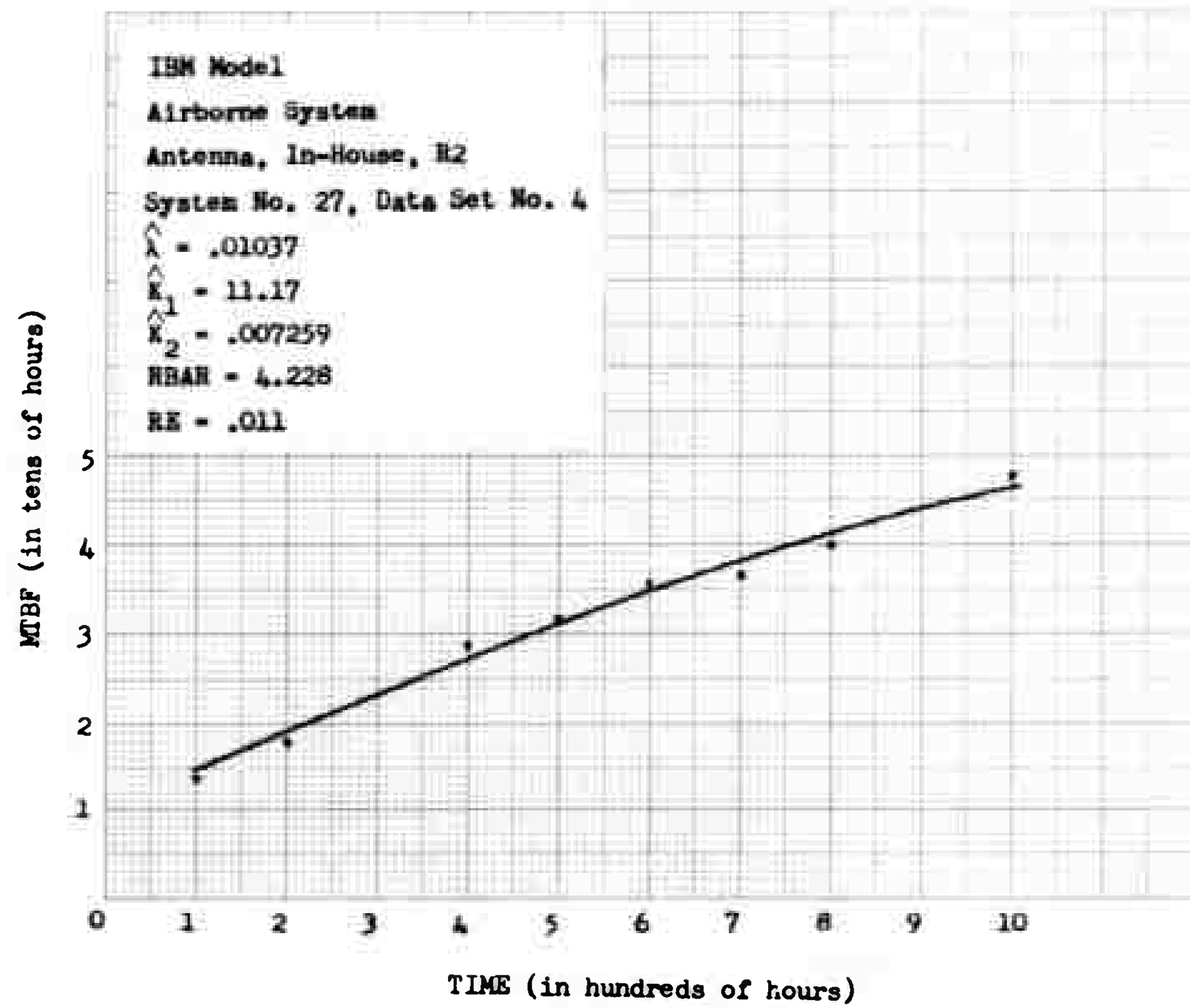
The estimate of the fraction of the non-random failures removed by time t = 1,000 hr is then 0.9993. If we had been content to stop testing when 0.90 of the non-random failures were removed we would have stopped at:

$$t_{0.90} = \frac{-\ln(0.10)}{\hat{K}_2} = \frac{-(-2.30)}{0.007259} \cong 317 \text{ hr}.$$

Thus the reliability program "debugged" the antenna quite nicely.

4.1.3 Results for the exponential-single term power series. This model is called simply the exponential model in the computer printouts i.e., Tables 4.3 and 4.4.

FIGURE 4.2



IBM Model
Airborne System
Antenna, In-House, R2
System No. 27, Data Set No. 4
$\hat{\lambda}$ = .01037
$\hat{K}_1$ = 11.17
$\hat{K}_2$ = .007259
RBAR = 4.228
RE = .011
MTBF (in tens of hours)
5
4
3
2
1
0
1
2
3
4
5
6
7
8
9
10
TIME (in hundreds of hours)

The results for this model on the ground based data indicate that it does well enough on displays and microwave systems/equipment and from mediocre to poor on the balance of the systems/equipments.

The results for the airborne data are quite different. The exponential-single term power series model is an excellent fit for virtually all airborne data with $\bar{R}$'s below 10% and between 10 and 20% not only common but occurring the majority of the time. The following example illustrates the use and interpretation of the model.

Example: Data set No. 4, Airborne, Antenna, In-house, R2. Again, by choice. the fit is very good and the model is given by

$$\text{Cumulative MTBF} = Y(t) = K\,(1 - K_1\, e^{-K_2 t}),$$

hence the fitted curve is

$$\hat{Y}(t) = \hat{K}\,(1 - \hat{K}_1\, e^{-\hat{K}_2 t})$$

where

$$\hat{K} = 193.1,\ \hat{K}_1 = 0.9409 \text{ and } \hat{K}_2 = 0.000219.$$

$\hat{Y}(t)$ is graphed in Figure 4.3 along with the observed values. As mentioned in Section 3.3 the parameter K represents the limiting ($t \to \infty$) cumulative MTBF which in this case is estimated to be 193.1 hr. Also, the initial MTBF is about $\hat{K}\,(1 - \hat{K}_1)$ = 193.1 (0.06) = 11.59.

4.1.4 Results for the Lloyd-Lipow model. Since (see Section 3.4) K is the limiting value of MTBF only positive values of $\hat{K}$ (P1) make sense no matter how small $\bar{R}$ and/or R.E. may be. For the ground based data this (negative $\hat{K}$) occurred only eight times. There are no obvious patterns for the ground based data and this model seems to fit mediocre to good for most of the systems/equipments. For the airborne data this model behaves about the same as the ground data except it definitely does not fit laser data well at all.

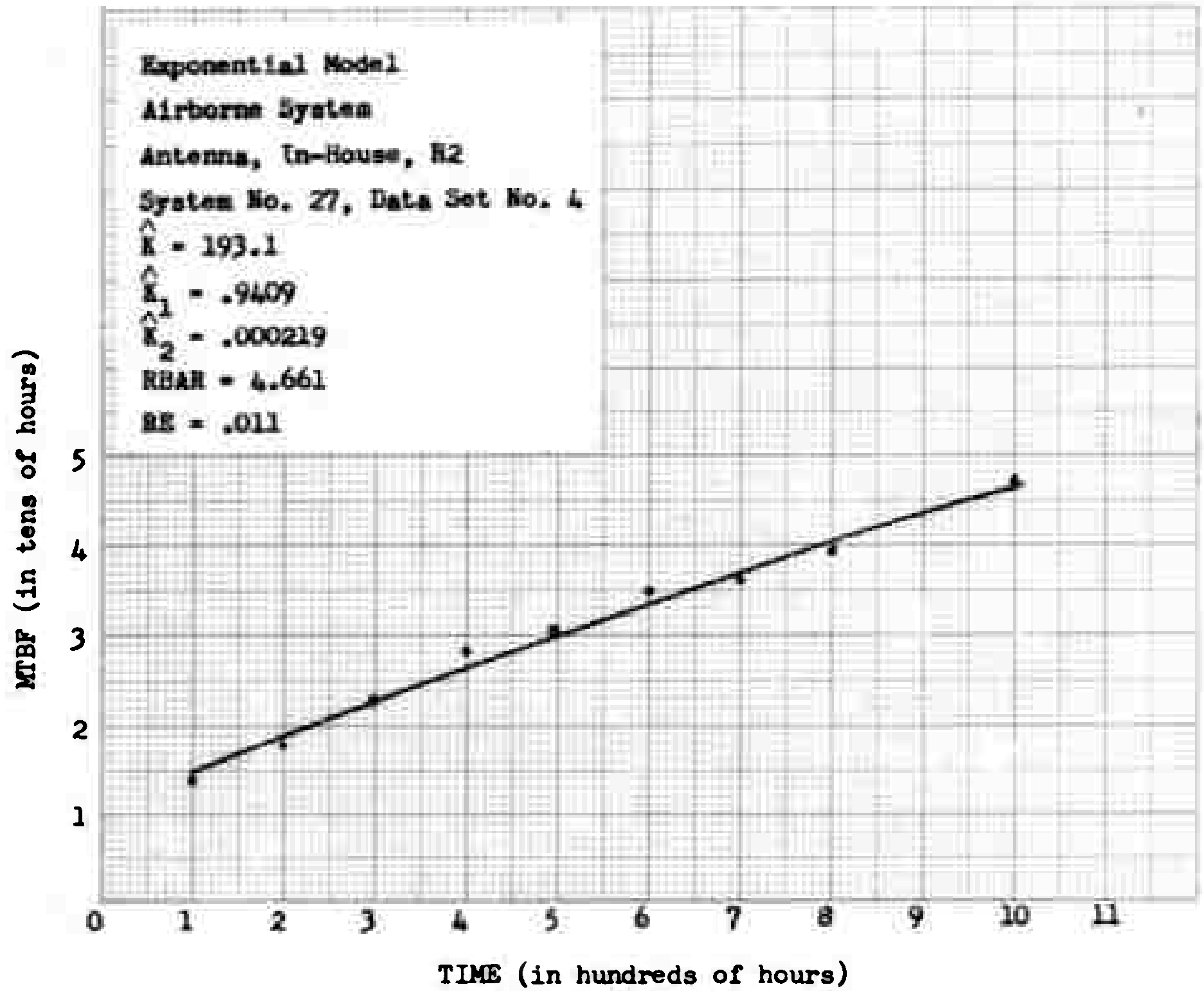
The following example, chosen from the good fits illustrates the interpretation of this model.

Example: Data set No. 5, Ground, Antenna, Field, R1.

This model is

$$\text{Cumulative MTBF} = Y(t) = K - K_2/t$$

FIGURE 4.3


Exponential Model
Airborne System
Antenna, In-House, R2
System No. 27, Data Set No. 4
$\hat{K}$ = 193.1
$\hat{K}_1$ = .9409
$\hat{K}_2$ = .000219
RBAR = 4.661
RE = .011
MTBF (in tens of hours)
5
4
3
2
1
0
1
2
3
4
5
6
7
8
9
10
11
TIME (in hundreds of hours)

and hence

$$\hat{Y}(t) = \hat{K} - \hat{K}_2/t.$$

For this data set $\bar{R} = 5.382\%$ and R.E. = 0.038 which indicates a very good fit. $\hat{K} = 183.9$ which is an estimate of the limiting MTBF. $\hat{K}_2/\hat{K} = 2993/183.9 \cong 16$ hrs. is an estimate of the right end point (the left end point is zero) of the interval of time over which no testing took place. Mathematically this is expressed by $Y(t) = 0$. The graph of the estimated function along with the observed values is given in Figure 4.4.

4.1.5 Results for the Aroef model. With respect to ground systems/equipments the Aroef model appears to fit, moderately well, all various data classes. For the airborne data the situation is much the same, perhaps even better although the model does not behave well for some laser equipments.

The following example was, as usual, chosen intentionally because it is a reasonably good fit.

Example: Data set No. 5, Ground, Radar, In-house, R3.

As indicated in Section 3.5 the Aroef model is

$$\text{Cumulative MTBF} = Y(t) = K\, e^{-K_2/t}$$

and hence the estimated model is

$$\hat{Y}(t) = \hat{K}\, e^{-\hat{K}_2/t}.$$

For this data set $\hat{K} = 491$ (the limiting cumulative MTBF) and the growth rate parameter $\hat{K}_2 = 182.1$. For this data $\hat{K} = 491$ may be a little low having been "pulled down" by the last point (as can be seen in Figure 4.5). The fit is very good however since $\bar{R} = 7.842$ and R. E. = 0.223 are low.

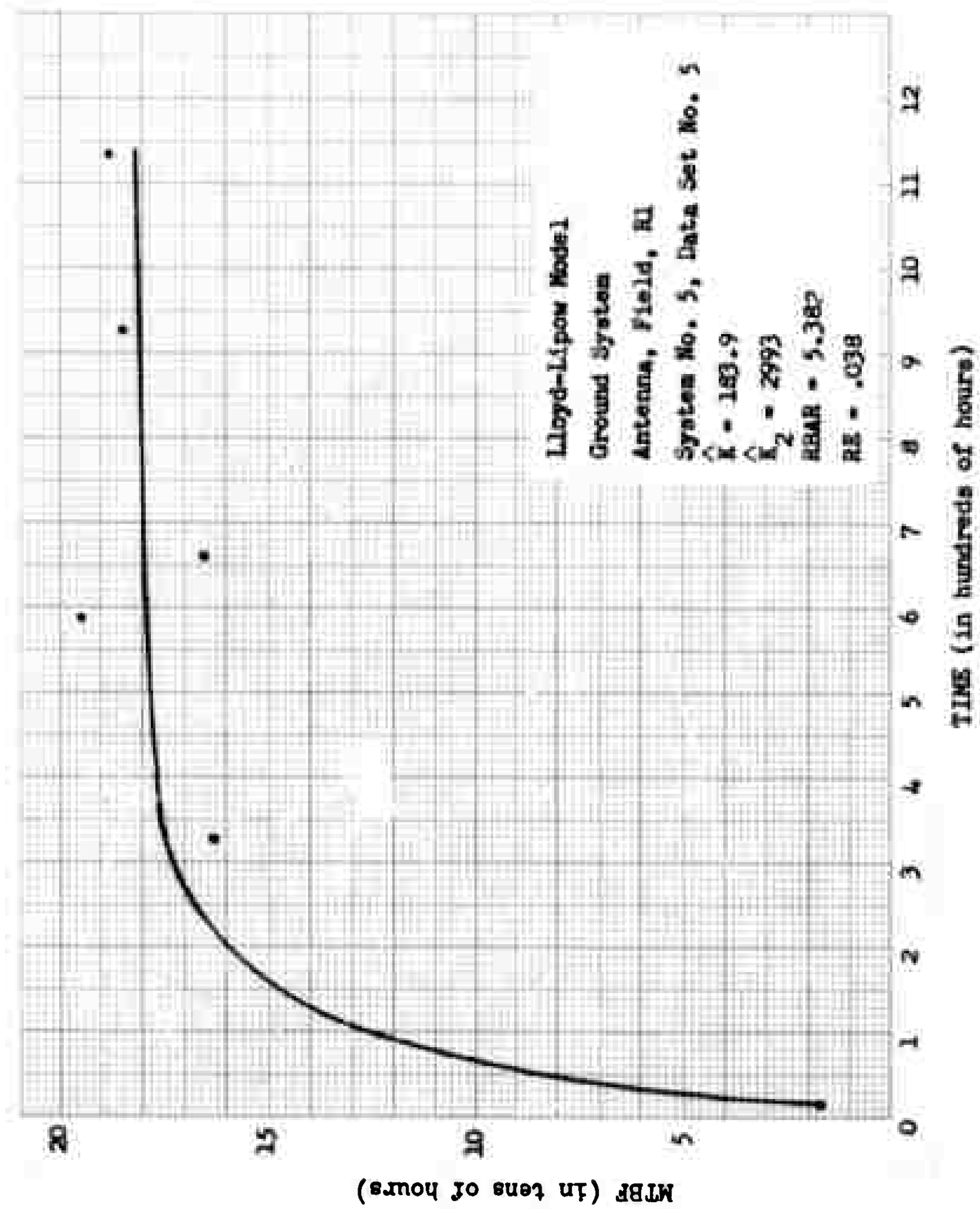
4.1.6 Results for the simple exponential model. This model was used arbitrarily to see if even models not physically correct (but with the appropriate mathematical properties) might fit the various data sets. The model is

$$\text{Cumulative MTBF} = Y(t) = K\, e^{K_2 t} \quad K > 0$$

and hence the fitted curve is

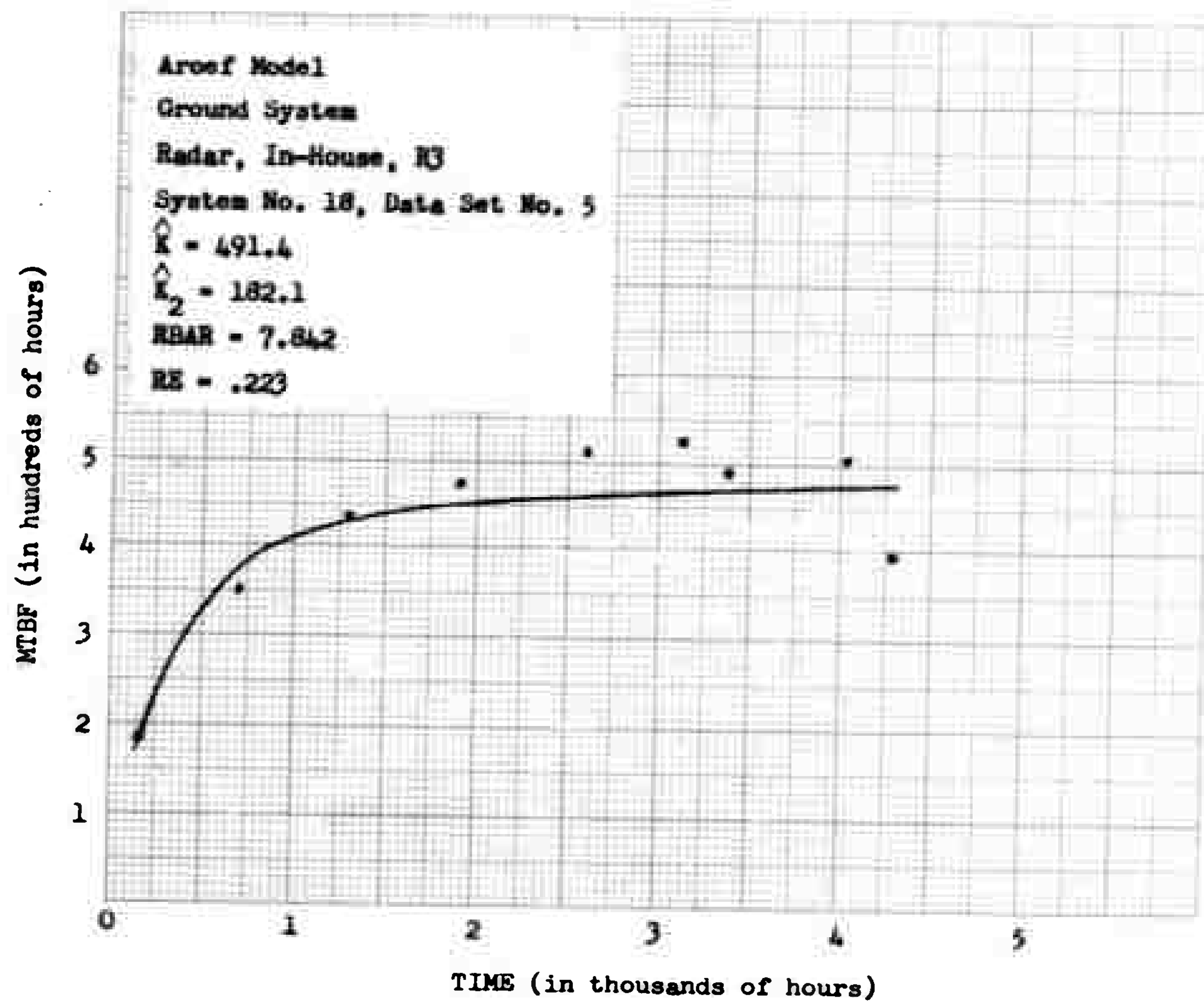
$$\hat{Y}(t) = \hat{K}\, e^{\hat{K}_2 t}.$$

FIGURE 4.4



Lloyd-Lipow Model
Ground System
Antenna, Field, R1
System No. 5, Data Set No. 5
K̂ = 183.9
K̂_2 = 2993
RBAR = 5.382
RE = .038
MTBF (in tens of hours)
TIME (in hundreds of hours)
0 1 2 3 4 5 6 7 8 9 10 11 12
5 10 15 20

FIGURE 4.5



Aroef Model
Ground System
Radar, In-House, R3
System No. 18, Data Set No. 5
$\hat{K}$ = 491.4
$\hat{K}_2$ = 182.1
RBAR = 7.842
RE = .223
MTBF (in hundreds of hours)
1
2
3
4
5
6
0
1
2
3
4
5
TIME (in thousands of hours)

Since

$$\lim_{t \to \infty} Y(t) = \infty \text{ if } K_2 > 0$$

and

$$\lim_{t \to \infty} Y(t) = 0 \text{ if } K_2 < 0$$

the model is nonsense physically because a cumulative MTBF of either zero or infinity is absurd; however Y(t) is monotone increasing in t and it is entirely possible for relatively short times (relative to $t \to \infty$) the model might fit well.

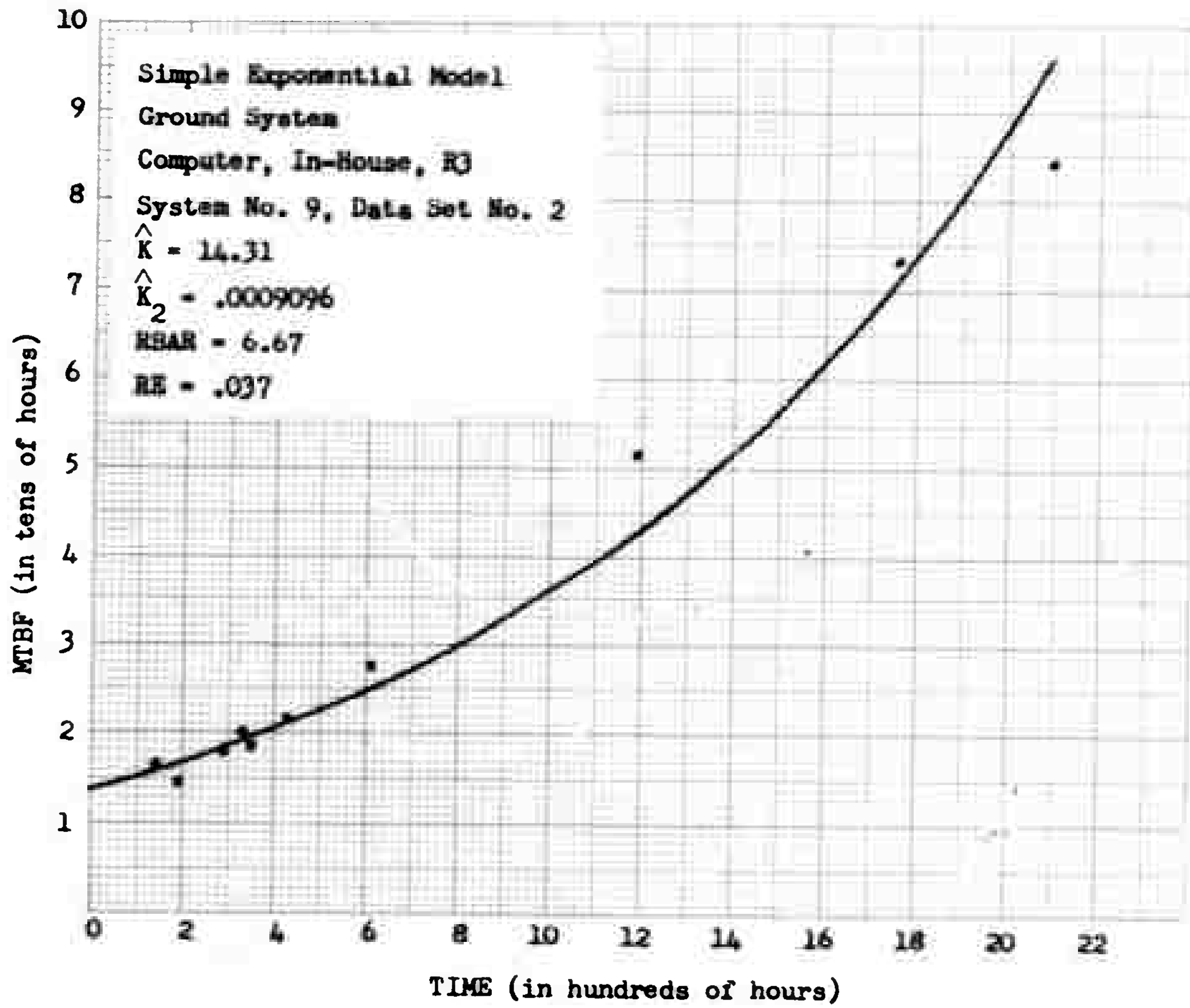
Inspecting Table 4.3 (ground-based data) it is clear that this model fits all the data quite well. For the airborne data in Table 4.4 the model also fits quite well except possibly for laser systems/equipment. Thus even though in the limit as $t \to \infty$ the model is absurd, it fits well for the relatively short times in the data.

The following is an example of the model when it fits well.

Example: Data set No. 2, Ground, Computer, In-house, R3.

For this data set $\hat{K} = 14.31$ and $\hat{K}_2 = 0.0009096$. The $\bar{R}$ and R.E., as can be seen from Figure 4.6 are very low. Also Figure 4.6 indicates that while the fit is good for the data observed, it cannot continue since the $\hat{Y}(t)$ is growing exponentially.

FIGURE 4.6


Simple Exponential Model
Ground System
Computer, In-House, R3
System No. 9, Data Set No. 2
$\hat{K}$ = 14.31
$\hat{K}_2$ = .0009096
RBAR = 6.67
RE = .037
MTBF (in tens of hours)
TIME (in hundreds of hours)
0
2
4
6
8
10
12
14
16
18
20
22
1
2
3
4
5
6
7
8
9
10

Before beginning the model comparisons over the various factors defining the data classes we give in Section 5.1 some general results concerning how well the models relate to each other using the $\bar{R}$ and R.E. statistics as the criteria of goodness of fit.

5.1 General Comparisons Between Models

A computer run was made to determine, for each data set, which model resulted in the smallest value of $\bar{R}$ and which model resulted in the smallest value of R.E. These results, along with the smallest values themselves, are given in Table 5.2 starting on page 198. A summary of Table 5.2 is given in Table 5.1a and Table 5.1b.

In Table 5.1a we see that the best model overall was the Simple Exponential. Also, the IBM, Exponential and Aroef models were frequently best. All the numbers presented in Table 5.1a must be viewed with several important "disclaimers." Before discussing these it should be noted that the median has been used for $\bar{R}$ as the measure of central tendency to eliminate the misleading upward bias of the arithmetic mean due to a few isolated excessively large values. Similarly the geometric mean has been used for R.E. because each R.E. represents a ratio and the arithmetic mean has a misleading upward bias.

Definitions: Let $\bar{R}_i$ and $R.E._i$ represent the individual values of a total of m in a particular category, i.e., $i = 1, \cdots, m$.

For m odd

Median $\equiv$ the $[(m+1)/2]^{th}$ largest value, i.e. the median is $\bar{R}\left(\frac{m+1}{2}\right)$ when the $\bar{R}_i$ have been ranked from smallest to largest.

For m even

$$\text{Median} \equiv \left(\frac{\bar{R}_{\frac{m}{2}} + \bar{R}_{\frac{m+2}{2}}}{2}\right)$$

i.e., the median is the arithmetic mean of the two "middle" values when the $\bar{R}_i$ have been ranked from smallest to largest.

$$\text{Geometric mean} \equiv \left[\prod_{i=1}^{M} R.E._i\right]^{1/m}$$

The numbers given in Table 5.1a are "overall" numbers and tend to mask airborne versus ground and in-house versus field differences. In fact, it is clear from Table 5.1a that all the models fit reasonably well <u>on the average</u>. It should be noted that while the IBM model, with the exception of the simple exponential model, was most frequently best it was the highest with respect to both "average" $\bar{R}$ and R.E. These points suggest that the results should be looked at in lower levels of classification and we do this in the next section.

SECTION 5.0 – COMPARISONS BETWEEN MODELS AND DATA CLASS FACTORS

Before beginning the model comparisons over the various factors defining the data classes we give in Section 5.1 some general results concerning how well the models relate to each other using the $\bar{R}$ and R.E. statistics as the criteria of goodness of fit.

5.1 General Comparisons Between Models

A computer run was made to determine, for each data set, which model resulted in the smallest value of $\bar{R}$ and which model resulted in the smallest value of R.E. These results, along with the smallest values themselves, are given in Table 5.2 starting on page 198. A summary of Table 5.2 is given in Table 5.1a and Table 5.1b.

In Table 5.1a we see that the best model overall was the Simple Exponential. Also, the IBM, Exponential and Aroef models were frequently best. All the numbers presented in Table 5.1a must be viewed with several important "disclaimers." Before discussing these it should be noted that the median has been used for $\bar{R}$ as the measure of central tendency to eliminate the misleading upward bias of the arithmetic mean due to a few isolated excessively large values. Similarly the geometric mean has been used for R.E. because each R.E. represents a ratio and the arithmetic mean has a misleading upward bias.

Definitions: Let $\bar{R}_i$ and $R.E._i$ represent the individual values of a total of m in a particular category, i.e., $i = 1, \cdots, m$.

For m odd

Median $\equiv$ the $[(m+1)/2]^{th}$ largest value, i.e. the median is $\bar{R}\left(\frac{m+1}{2}\right)$ when the $\bar{R}_i$ have been ranked from smallest to largest.

For m even

$$\text{Median} \equiv \left(\frac{\bar{R}_{\frac{m}{2}} + \bar{R}_{\frac{m+2}{2}}}{2}\right)$$

i.e., the median is the arithmetic mean of the two "middle" values when the $\bar{R}_i$ have been ranked from smallest to largest.

$$\text{Geometric mean} \equiv \left[\prod_{i=1}^{M} R.E._i\right]^{1/m}$$

The numbers given in Table 5.1a are "overall" numbers and tend to mask airborne versus ground and in-house versus field differences. In fact, it is clear from Table 5.1a that all the models fit reasonably well on the average. It should be noted that while the IBM model, with the exception of the simple exponential model, was most frequently best it was the highest with respect to both "average" $\bar{R}$ and R.E. These points suggest that the results should be looked at in lower levels of classification and we do this in the next section.

TABLE 5.1a

Analysis of Frequency of Best Fits and Goodness of Fit by Model

Model	$\bar{R}$			R.E.		
	No.	%	Median	No.	%	Mean*
Duane	13	4.8	26.92	22	8.2	0.96
IBM	53	19.6	26.85	27	10.0	1.10
Exponential	45	16.7	21.45	53	19.6	0.93
Lloyd-Lipow	9	3.3	21.15	29	10.7	0.58
Aroef	46	17.0	19.21	31	11.5	0.54
Simple Exponential	104	38.6	13.39	108	40.0	0.32
Totals	270	100	21.30	270	100	0.68

TABLE 5.1b

Total Goodness of Fit Analysis for Airborne/Ground and In-House/Field Classifications

	Ground		Airborne		In-house		Field	
	$\bar{R}$	R.E.	$\bar{R}$	R.E.	$\bar{R}$	R.E.	$\bar{R}$	R.E.
Duane	25.46	0.94	31.63	1.01	26.57	0.61	27.05	1.25
IBM	27.42	1.57	20.10	0.43	28.15	0.65	26.27	1.55
Exponential	31.84	1.88	10.97	0.09	15.42	0.31	31.29	1.66
Lloyd-Lipow	21.15	0.65	20.96	0.46	27.31	0.60	20.17	0.57
Aroef	19.55	0.63	18.64	0.39	22.81	0.58	18.52	0.52
Simple Exponential	13.60	0.35	12.91	0.26	15.46	0.28	12.89	0.34
Totals*	23.30	0.86	19.37	0.35	24.69	0.48	23.22	0.83

*Median for $\bar{R}$; geometric means for R.E.

5.2 Airborne/Ground and In-House/Field Comparisons by Model

Some interesting conclusions can be obtained from Table 5.1b.

In Table 5.1b, by inspecting the totals, it is clear that airborne systems/equipment growth data is better fitted, on the average than the ground based data. This may well be due to the generally more severe missions for airborne systems and hence more aggressive testing and monitoring throughout the life-cycle. While there is little difference with respect to the $\bar{R}$ for in-house versus field, the in-house R.E. is significantly better. This is probably due to the more careful testing and monitoring that is accomplished in-house and this result is entirely expected.

Regarding the models themselves, four points are worth noting.

i) The Duane model does not behave all that well for airborne data.

ii) The exponential model is much superior for airborne data than it is for ground and it is superior for in-house as against field data.

iii) The IBM model does its' best, by far, for airborne data.

iv) The simple exponential model is uniformly good (for a limited time span).

In the next section we investigate the class differences even further.

5.3 Joint Airborne/Ground/In-House/Field Comparisons by Model

The results of this analysis are given in Table 5.3. This table gives a better look at data class differences, if any. The following conclusions are evident.

i) The Duane model cannot be recommended for airborne field data.

ii) Conversely, the IBM model is excellent, at its' best, for airborne field data.

iii) The exponential model is excellent for all airborne data, but is best for airborne field data.

iv) The Lloyd-Lipow and Aroef models do quite well for airborne-field data.

v) The simple exponential model is good everywhere although the exponential model is clearly better for all airborne systems/equipments.

In the next section we look at the models in terms of equipment categories.

5.4 Comparisons of Models by Equipment Categories

The results are given in Table 5.4 and lead to the following conclusions.

i) For antennas all the models except the Duane model are quite good.

TABLE 5.3

Joint Goodness of Fit Analysis for Airborne/Ground and In-House/Field Classifications

	Ground				Airborne			
	In-House		Field		In-House		Field	
	$\bar{R}$	R.E.	$\bar{R}$	R.E.	$\bar{R}$	R.E.	$\bar{R}$	R.E.
Duane	28.64	0.73	24.38	1.01	25.44	0.54	67.88	4.1373
IBM	28.43	1.15	26.85	1.73	23.96	0.42	13.66	0.51
Exponential	24.41	1.21	32.05	2.11	11.41	0.10	7.38	0.07
Lloyd-Lipow	25.32	0.64	20.65	0.66	28.42	0.58	11.79	0.27
Aroef	22.30	0.62	19.21	0.63	23.70	0.55	10.57	0.18
Simple Exponential	16.95	0.36	13.08	0.35	13.76	0.24	12.20	0.31

ii) For radar and microwave systems/equipment the Duane model and the simple exponential model are very good.

iii) For display, computer, and communications equipment the Lloyd-Lipow, Aroef and simple exponential models are good.

iv) For infrared systems equipment all models but the Duane model are excellent.

v) For all laser systems/equipments the exponential is vastly superior to all other models.

vi) For the visual scan equipment the exponential model is again superior to the remaining models.

5.5 Reliability Gain Analysis

In this section we discuss reliability gain in terms of the various factors that define the data classes. Roughly speaking, for a given data set, the reliability gain is defined as the ratio of the final cumulative MTBF to the initial cumulative MTBF. For computing the reliability gain we will use the Duane model since: (1) it virtually always fits the data, and (2) it provides a convienent means of computing initial MTBF. We will use two measures of reliability gain defined as follows.

TABLE 5.4

Model Comparisons by Equipment Categories

	Duane	IBM	Exponential	Lloyd	Aroef	Simple Exponential	
Antenna	35.9850	16.7530	23.0410	22.3320	21.5580	16.2990	$\bar{R}$
	1.0482	0.7259	0.5796	0.5841	0.5548	0.4177	R.E.
Radar	20.0280	50.1790	72.3920	26.6380	22.6870	12.3960	$\bar{R}$
	0.4015	1.7720	6.2718	0.6765	0.6580	0.3157	R.E.
Microwave	19.0350	25.4430	15.4510	20.2110	18.7690	11.6750	$\bar{R}$
	0.7838	0.9908	0.6356	0.7973	0.8172	0.3025	R.E.
Display	28.4680	24.8820	33.6450	22.2150	18.6920	12.0720	$\bar{R}$
	1.1747	0.7968	1.1845	0.5284	0.4772	0.2424	R.E.
Computer	28.5570	46.8850	44.9850	19.0615	17.0070	11.7310	$\bar{R}$
	1.1587	2.8860	2.9100	0.6077	0.5948	0.3171	R.E.
Communications	30.7875	19.5005	30.8080	21.8400	20.5840	16.0990	$\bar{R}$
	2.4698	0.8457	0.9524	0.6223	0.6389	0.6372	R.E.
System-Radar	14.5100	26.7090	189.3860	33.2090	27.7325	12.1090	$\bar{R}$
	0.1688	1.3847	8.1803	0.7514	0.7769	0.1978	R.E.
System-Microwave	19.3220	19.1505	16.0805	20.2900	19.1680	11.3010	$\bar{R}$
	0.9852	0.7591	0.7144	0.9157	0.9182	0.3717	R.E.
System-Laser	19.3820	219.9044	8.2890	80.0380	48.1175	30.7790	$\bar{R}$
	0.0710	2.3913	0.0189	0.7265	0.7111	0.2242	R.E.
System-Infrared	65.9675	14.2100	11.6100	12.3915	11.5110	12.5170	$\bar{R}$
	4.2379	0.5450	0.1148	0.3028	0.2184	0.3516	R.E.

TABLE 5.4

Model Comparisons by Equipment Categories (Continued)

	Duane Model	IBM Model	Exponential Model	Lloyd Lipow	Aroef Model	Simple Exponential	
System- Visual Scan	13.4620 0.2909	44.3915 1.6316	8.7840 0.1942	23.8460 0.6400	19.6965 0.5550	18.2945 0.3932	$\overline{R}$ R.E.
Laser Transmitter	33.6590 0.2355	138.9970 0.6332	15.6250 0.0243	42.9715 0.3465	28.8185 0.2770	31.0705 0.3234	$\overline{R}$ R.F.
Laser Receiver	51.2480 0.3118	126.7180 0.9517	12.0280 0.0394	52.5700 0.6944	32.5030 0.6587	31.7310 0.2164	$\overline{R}$ R.E.
Laser Xmtr/ Rcvr	25.2970 0.1163	158.5719 0.9805	11.4100 0.0293	66.1775 0.6072	42.6435 0.5273	36.0765 0.3072	$\overline{R}$ R.E.
Infrared Receiver	41.4885 0.9573	16.1805 0.3365	22.4500 0.0816	21.4965 0.5767	16.2760 0.5047	19.4350 0.6174	$\overline{R}$ R.E.

$$RG_1 = \frac{\text{observed final cumulative MTBF}}{\text{calculated initial cumulative MTBF}}$$

$$RG_2 = \frac{\text{calculated final cumulative MTBF}}{\text{calculated initial cumulative MTBF}}$$

In RG_1 one would ordinarily expect to find the observed initial cumulative MTBF in the denominator. However, determining how many failures should be included in calculating "initial" cumulative MTBF is very arbitrary, particularly for data sets with small numbers of failures. To avoid possible serious bias in the results we have used the definitions given above.

It has already been shown (Section 3.1) that for the Duane model the mean time to first failure is

$$\text{Initial cumulative MTBF} = K\Gamma(1/\beta + 1)$$

where Γ (u) is the usual gamma function of u. The maximum likelihood estimate is thus given by $\hat{K}\Gamma(1/\hat{\beta} + 1)$. Thus $RG_1 = (t^*/n)/\hat{K}\Gamma(1/\hat{\beta} + 1)$,

where t* is the total length of test and n is the number of failures in the data set, and $RG_2 = \hat{K}^{\hat{\beta}} t^{*(1-\hat{\beta})} / \hat{K}\Gamma(1/\hat{\beta} + 1)$.

In RG_2 the numerator is the calculated final cumulative MTBF.

In calculating "average" values for RG_1 and RG_2 we have used, since the RG's are ratios, geometric means. These are denoted GM_1 (for RG_1) and GM_2 (for RG_2).

For calculation, $GM_i = \left(\prod_{j=1}^{m} RG_{ij} \right)^{1/m}$, $i = 1, 2$ $\quad j = 1, \cdots, m$.

where m is the number of RG_i's to be averaged (the average is over all sets in a category).

5.5.1 Analysis of Reliability Gain for Reliability Categories and Ground Versus Airborne Based Systems/Equipments. The results, i.e., the geometric means, are given in Table 5.5. First it should be noticed that the "observed" gains (GM_1) and the calculated gains move together quite nicely. Generally, the least gain is achieved by spending no dollars (R1) although it should be noted that while no reliability money was spent, per se, failures that did occur were recorded and corrective action taken under engineering auspices. The explanation for why the growth was larger for moderate reliability expenditures (R2) than it was for larger expenditures (R3) is two-fold.

i) The larger expenditures concentrated more funds in the design phase (as against testing) and the system/equipment was probably better (less design/ workmanship faults) when testing started so there was less gain to be had to achieve the limiting cumulative MTBF. This conclusion was based on the general observation of a number of the individual data sets.

TABLE 5.5

Average* Reliability Gains for Reliability Categories and Airborne and Ground Based Data

	Ground		Airborne	
	GM_1	GM_2	GM_1	GM_2
R1	3.88	5.42	3.09	5.03
R2	5.79	9.98	5.17	7.65
R3	4.02	7.10	2.17	3.57

*Geometric means.

ii) Some data sets barely fell into R2 or R3, i.e., were borderline in the classes. Since the bounds in the classes were arbitrarily selected, the differences in the reliability expenditures in terms of reliability gain are hard to detect.

Whether we deal with GM_1 or GM_2 it is apparent that the reliability gain is larger for ground based systems/equipment than for airborne systems/equipment irrespective of whether the reliability class is R1, R2, or R3. We checked the airborne data fairly carefully and found that generally the airborne systems/equipment undergo more environmental and screening type tests at all levels (card through system) than ground-based systems/equipments. Thus the data we have collected includes some, but not all (e.g. card level) screening/environmental tests. Hence, when the airborne systems/equipment reach developmental testing, they are better (higher initial cumulative MTBF) than the ground-based systems/equipments, and thus less reliability gain is present to be achieved by developmental testing.

The absolute magnitude of the numbers in Table 5.5 are of interest in and of themselves. Personally, we are somewhat surprised they are as large as they are. Gains of 5 to 1 and more occur in seven of the twelve cases. Actually they are somewhat small in terms of what some people claim. For example, R.P.M. (the General Electric Co. version of the Duane model) claims a 10 to 1 increase where the limiting cumulative MTBF is taken as the predicted value, and the prediction is made according to MIL Handbook 217B. We did however, experience a 10 to 1 ratio (R2, ground).

5.5.2 Analysis of Reliability Gain for In-House and Field Data. Table 5.6 gives the geometric means for the in-house and field data sets. The results are entirely believable. Even though the 9.76 result is high (caused by a particular gain present in a limited number of data sets on the ground data) it is clear there is more reliability gain achieved by developmental testing than by field use. This is because most of the design, workmanship, and other non-random failures have been removed before the system enters the field. Thus, developmental testing is doing its' job.

TABLE 5.6

Average* Reliability Gain, In-House and Field

	GM_1	GM_2
In-House	5.64	9.76
Field	2.45	4.68

*Geometric mean.

5.5.3 Analysis of Reliability Gain by System/Equipment Category. Tables 5.7 (ground) and 5.8 (airborne) actually present the "average" reliability gains. We have intentionally not averaged the data over reliability categories, in-house versus field or airborne versus ground so as not to obscure equipment/system differences which might be caused by small data sets and/or unusually large reliability gains.

Several very logical results can be seen from the tables. A case in point is the ground based communications equipment in Table 5.7. It shows very modest reliability growth and this phenomenon is probably due to the fact that communications technology is among the oldest and many design problems have long since been solved. Thus the payoff in developmental testing for communications equipment is not large.

Generally, computers and displays exhibit moderate reliability growth which is probably a manifestation of the fact that computers and displays represent a relatively mature technology.

Radars, which are a constantly changing technology reflected in complex designs, generally experienced moderate to large gain.

Microwaves and antennas exhibit generally moderate to large gain.

Actually, except for communications equipment there are very small differences in the gain among the remaining categories.

By referring to Table 2.5 of Section 2, we can see that some of the large gains are due to paucity of data. For example in Table 5.8 the infrared receiver, in-house, R2, the gain is determined from only one data set.

5.6 Parametric Analysis for the Duane Model

In this section, because of the overwhelming popularity of the Duane model, we give a brief parametric analysis in terms of the slope of the growth line. Here the "line" is in terms of the ln cumulative MTBF versus ln time. In Section 3.1 it is pointed out that this slope is given by $1 - \beta$. Of course we do not have β, but we do have an estimate of β, namely $\hat{\beta}$. The results are given in Table 5.9 which provides ground versus airborne and in-house versus field comparisons. The only significant fact is that the in-house growth rate is significantly larger than the field

TABLE 5.7

Reliability Gain, Ground Summary

Equipment		REL	GM1	GM2
Antenna	In-house	R3	2.431	5.455
Antenna	Field	R1	2.121	2.928
Radar	In-house	R3	2.328	3.719
Radar	Field	R1	3.771	5.261
Microwave	In-house	R1	1.129	2.174
Microwave	Field	R1	5.400	7.334
Display	In-house	R3	38.402	78.580
Display	In-house	R3	3.217	4.484
Display	Field	R1	5.512	9.329
Display	Field	R2	2.762	4.450
Display	Field	R3	2.363	3.723
Computer	In-house	R1	4.507	7.205
Computer	In-house	R2	1.781	2.212
Computer	In-house	R3	11.880	28.419
Computer	Field	R1	22.952	4.091
Computer	Field	R2	5.024	9.331
Communication	In-house	R3	1.464	1.727
Communication	Field	R1	1.507	1.852
System-Radar	In-house	R3	2.642	3.572
System-Radar	Field	R1	11.609	18.239
System-Microwave	In-house	R1	1.129	1.174
System-Microwave	Field	R1	5.335	7.187

TABLE 5.8

Reliability Gain, Airborne Summary

Equipment		REL	GM1	GM2
Antenna	In-house	R2	4.089	6.335
Radar	In-house	R2	13.993	23.341
Display	In-house	R2	2.153	2.837
Computer	In-house	R1	2.376	3.745
Computer	In-house	R2	1.424	1.715
Laser Transmitter	In-house	R1	2.119	3.704
Laser Transmitter	In-house	R3	3.403	6.142
Laser Receiver	In-house	R1	2.990	4.924
Laser Receiver	In-house	R3	3.183	8.207
Laser Xmtr/Rcvr	In-house	R1	3.941	6.601
Laser Xmtr/Rcvr	In-house	R3	7.477	15.057
Infrared Receiver	In-house	R2	25.096	48.205
System-Radar	In-house	R2	12.059	18.692
System-Laser	In-house	R1	9.423	17.675
System-Laser	In-house	R3	7.279	13.973
System-Visual Scan	In-house	R2	2.921	3.969
System-Infrared	In-house	R1	1.283	1.448
System-Infrared	Field	R3	1.344	1.934

TABLE 5.9

Growth Rates*, 1 - $\hat{\beta}$, for the Duane Model

	Ground	Airborne	Totals
In-House	0.38	0.35	0.36
Field	0.29	0.28	0.28
Totals	0.31	0.33	0.32

*Means

growth rate and this is to be expected because of the closer monitoring and control in-house. It is also interesting to note that for in-house data the commonly "pitched" 0.50 growth rate was not seen here, although 0.36 is not all that far from it. The discrepancy is explained by the fact that, generally, R.P.M. and other monitoring techniques were not applied to the present data.

In Table 5.10, we can clearly see the effects of the expenditure of reliability dollars (as percentage of total contract dollars). For the R3 category, the largest (> 1% of contract costs) expenditure class, the growth rate is 0.45 which closely approaches the commonly "heard" 0.50.

TABLE 5.10

Growth Rates*, 1 - $\hat{\beta}$, for the Duane Model by Reliability Category

Reliability Category	R1	R2	R3
1 - $\hat{\beta}$	0.30	0.37	0.45

*Means

Although the growth rate is largest for the R3 class this does not necessarily contradict the point made at the bottom of page 48. That is, the rate of growth depends on the agressiveness of the "debugging" program, not necessarily on the absolute amount of growth potential available.

The results of the data analyses make it clear that, generally, a number of models can be used to fit any particular situation. In this connection we note that while we tried only six different models here, there are many other possibilities and it is likely some of them would also graduate the data well. It is also important that we distinguish how well a given model fits from whether it fits at all. The primary case here is the Duane model. While it was rarely the best fitting model, significance tests indicate that it virtually always fits; which is quite a point in its favor.

Many interesting things were learned by analyzing this data in terms of the various factors defining the data classes and by investigating reliability gain. These results form the basis for the guidelines for applications.

Before proceeding to these guidelines we note the most important conclusion (perhaps already known to the reader) learned from the study.

THE RELIABILITY GROWTH PROCESS IS AN EXTREMELY COMPLEX PHYSICAL PROCESS AND MAY REQUIRE QUITE SOPHISTICATED MATHEMATICAL TOOLS.

When we say "physically complex" we mean the type of failures present, the rate at which they present themselves for detection, and the aggressiveness and consistency of the testing process. Mathematically the growth process is a stochastic process. Now it turns out that, in spite of the wealth of literature on the subject (see ref. [14]), only relatively simple stochastic processes have been studied and analyzed in any detail. It may well be that quite complex stochastic processes are required to model growth processes closely. This brings up another point. Other than recognizing the Duane model as a nonhomogeneous Poisson process with Weibull intensity (a <u>very</u> recent development) the approach to growth models has been, historically, through the use of differential equations. It is our belief that to achieve physically and mathematically satisfying results, reliability growth will have to be approached from the study of stochastic processes. This will result in better estimators for the unknown parameters and a better understanding of the process itself. Thus, the user would be able to more intelligently select a model.

To prove this point of physical complexity, we recall that the simple exponential model, unappealing because it demands an infinite cumulative MTBF, eventually, was far and away the best fitting model. It appears that reliability growth may encompass several phases and that even several <u>different</u> mathematical functions (models) might be required to describe reliability growth.

<u>Guidelines for Applications</u> – Data Class Factors

- <u>Ground versus Airborne Systems/Equipments</u>

  Generally, the models tried here <u>fit</u> the airborne data ($\bar{R}$ = 19.37, R.E. = 0.35) better than the ground based data ($\bar{R}$ = 23.30, R.E. = 0.86). For ground based data the Lloyd-Lipow, Aroef and simple exponential models are quite good but only the IBM and exponential models are unsatisfactory. For airborne data all the models fit very well except the Duane model; however, the exponential model is superior to all the other models.

- In-House versus Field Data

With respect to R.E., the models describe in-house data better than field data overall. Apart from the simple exponential being a good fit as usual all the models fit in-house reasonably well (the exponential model is better than all save the simple exponential model). For field data only three models are satisfactory: the Lloyd-Lipow, Aroef, and simple exponential models.

- Systems/Equipment Categories

  - Antennas – all models are suitable except the Duane model.
  - Radar and microwave – the Duane and simple exponential models are very good.
  - Displays, computers, communicators – the Lloyd-Lipow, Aroef and simple exponential are models which fit well.
  - Infrared – All models except the Duane model are excellent.
  - Lasers – the exponential model is vastly superior to the other models.

- Reliability Gain

The details of calculating reliability gain are given in section 5.5. Roughly it is the ratio of final cumulative MTBF to initial cumulative MTBF. The results given here are based on the Duane model for reasons given in section 5.5.

Generally speaking the reliability gains, over all data classifications were good, i.e., on the order of about 5 to 1 on the average.

With respect to ground based versus airborne data the potential for reliability gain is larger (i.e., larger reliability gain) for ground based systems/equipments. This may well be due to more intensive card level (pre-equipment and system) tests used on many airborne systems.

In terms of in-house versus field data, the results (see Table 5.6) show that the reliability gain for in-house exceeds the field gain by a factor of 2 to 1. This is as expected and could be summarized by saying, as is well known, the growth potential is greater and the cost of removing/correcting defects is lower during in-house testing.

In terms of the reliability expenditure categories R1 (low), R2 (moderate), R3 (higher), the lowest gain (see Table 5.5) is achieved at the lowest expenditure level R1. There is a "crossover" in that R2 results in more gain than R3. This is probably due to two effects.

i) The additional expenditure (in R3) caused a better design and hence less potential for gain was available.

ii) There is relatively less R2 and R3 data than R1 and this result may have been due to sampling error, or to incorrect classification, e.g., misclassifying an R2 into an R3 category.

Next we give the growth rate for the Duane model which provides a different but interesting view of the R1, R2 and R3 categories.

- Parametric Analysis for the Duane Model

We mentioned in section 3.1 (equation 3.1) that the Duane model is

$$\ln \text{cumulative MTBF} = \beta \ln k + (1 - \beta) \ln t.$$

Hence $1 - \hat{\beta}$ is an estimate of the logarithmic growth rate $1 - \beta$. There is no difference in the growth rate between airborne and ground equipment. However, for in-house the growth rate (0.36) is much higher than the field growth rate (0.28). The interesting result is to compare the Duane model growth rates in terms of reliability categories. They are:

R1 - 0.30
R2 - 0.37
R3 - 0.45

This last rate, 0.45, is very close to the much talked about 0.50 growth rate for well monitored, well controlled programs.

- Procedure for Using Reliability Growth Models

1. Locate in Tables 5.3 and 5.4 the model that has the best fit (try to find the model that between both tables has the lowest $\overline{R}$ & R.E. for the particular situation in question) for the particular equipment, environment, and type of growth being considered.

2. Use Table 4.1 to find the parameters that have to be calculated and the form of the model.

3. Locate in either Table 4.3 (for ground) or 4.4 (for airborne) the pertinent data base for the equipment/system being considered. Estimate each parameter by averaging those found for each equipment/system in the data base (i.e.,

$$\hat{P}_1 = \left(\frac{\sum_{i=1}^{N} P_1 i}{N} \right)$$

where $\hat{P}_1$ is the value of P_1 to be used in the growth model for the equipment/system being considered and $P_1 i$ are the estimated parameters from the data base).

4. Use examples in sections 4.1.1 through 4.1.6 and 6.1 and the explanation of each model in sections 3.1 through 3.6 to aid in calculating the desired times and MTBFs.

6.1 Examples of Use of Models

Example 1. Suppose it is desired to develop an airborne laser system to a specfied MTBF = θ_0 = 25 hrs. at a low level of reliability effort (i.e. R1). Tables 5.3, 5.4 pages 45, 46 indicates the (single-term power series) exponential model is excellent for in-house airborne systems. Proceeding to Table 4.4, page 169, we find two data sets on system no. 21 for laser systems in-house, airborne, R1. From page 22, equation (3.14) we have

$$\text{cumulative MTBF} = Y(t) = K(1-K_1\, e^{-K_2 t})$$

and from the bottom of page 22 the initial MTBF = $K(1-K_1)$. From Table 4.1 we learn that

$$P1 = \hat{K},\ P2 = \hat{K}_1,\ P3 = \hat{K}_2.$$

Since the two data sets are on the same system no. we will average the values to obtain our estimates:

$$\hat{K} = \frac{28.02 + 30.64}{2} = 29.33;\quad \hat{K}_1 = \frac{0.9524 + 0.8225}{2} = 0.89;$$

$$\hat{K}_2 = \frac{0.002608 + 0.002798}{2} = 0.0027.$$

Thus, initial MTBF is estimated to be $\hat{K}(1-\hat{K}_1) = 29.33(0.11) = 3.23$.

The key issue is: how much developmental test time is required to achieve θ_0 = 25 hrs. Thus setting

$25 = \hat{K}(1-\hat{K}_1\, e^{-\hat{K}_2 t})$ and solving for t we get

$$t = \frac{1}{\hat{K}_2}\left\{-\ln\left[\left(1-\frac{25}{\hat{K}}\right)\left(\frac{1}{\hat{K}_1}\right)\right]\right\}$$

$$= \frac{1}{0.0027}\left\{-\ln\left[\left(1-\frac{25}{29.3}\right)\left(\frac{1}{0.89}\right)\right]\right\}$$

$$= 664 \text{ hrs}$$

If this t is too long then more reliability effort must be expended during the development testing. It should be noted that the parameters for the two data sets were so close a weighted average (based on the number of failures in the two sets) was not used.

Example 2. In this example we consider development of a radar system (in-house) to a specified MTBF = 100 hrs at R3. Table 5.4, page 46 indicates the Duane model is a good fit. Table 4.3, page 78, shows two data sets on the same system. Rather than complicate this example with weighted averages of the parameters (the number of failures on the two data sets are 14 and 53) we will just use data set number 2. From equation (3.5), page 19,

$$\text{initial MTBF} = \hat{K}\Gamma(1/\hat{\beta} + 1) = 24.64\ \Gamma(1/0.745 + 1)$$
$$= 24.64\ \Gamma(2.34) = 24.64\ (1.195)$$
$$= 29.44$$

From equation (3.3), page 18, we obtain (for the time required to achieve a cumulative MTBF of 100 hrs)

$$t^{1-\hat{\beta}} = Y(t)/\hat{K}^{\hat{\beta}} \text{ so that}$$

$$t = \left[Y(t)/\hat{K}^{\hat{\beta}}\right]^{1/(1-\hat{\beta})}$$

$$= \left[100/(24.64)^{0.745}\right]^{1/0.255}$$

$$= 5973 \text{ hrs}$$

This is extremely long because the growth rate (0.255) is low. If the "customer" is satisfied that only the instantaneous (and not the cumulative) MTBF be 150 hrs then equation (3.6), page 19, gives

$$t^{1-\hat{\beta}} = \frac{\hat{\beta}\,(100)}{\hat{K}^{\hat{\beta}}} \text{ so that}$$

$$t = \left[\frac{(100)\,(0.745)}{(24.64)^{0.745}}\right]^{1/0.255}$$

$$= 1888 \text{ hrs.}$$

SECTION 7.0 – RECOMMENDATIONS

As a result of this study a large data base has been built. Moreover, the funds available on this program could not nearly exhaust the analyses that could be run; indeed, a large part of the funds was expended building the data base. Thus we are recommending more analysis of the data now available.

In particular we recommend two or three new models be investigated based on a stochastic process approach. Specifically, the nonhomogeneous Poisson process with intensity functions different from the Weibull intensity (which corresponds to the Duane model) should be investigated. This will improve the parameter estimation techniques and lead to a better understanding of the growth process.

Also, we recommend a more intensive analysis of selected data sets. What we mean is that each individual data set selected should be subjected to a (sequential) failure by failure fit. That is,the models selected shall be fit subsequent to each failure to determine whether the best fit changes from failure to failure.

Finally, (and this point relates to the stochastic process approach mentioned above) the growth rates should be classified and investigated by data class factor.

SECTION 8 – COMPUTER MODEL DESCRIPTION

8.1 General Description

The reliability growth software routines were programmed in Fortran IV, utilizing the Hughes computer installation consisting of an IBM 370-165 with extensive library modules.

Data reduction was accomplished through multi-job step procedures, as depicted in diagram 1. Software coding was minimized by using "canned routines," i.e., programs existing in Hughes software library. New software was added only to merge the existing general purpose routines into an integrated data processing program for the Reliability Growth study. The "canned routines" included the UCLA Biomedical computer programs for non-linear least squares and Hughes own programs for curve fitting; both linear and exponential.

8.2 System Failure Data Sets

The ground and airborne system data was stored in permanent computer storage (data sets). Originally we had two (raw) data sets on ATS (administrative technical service), then the data sets were printed, checked and corrected during the restructuring and creation of new data sets. Restructuring was necessary to make the data compatible with the input requirement of the canned routines. Also, additional information was provided in terms of general parameters necessary for the Biomedical Computer Programs (BMD).

8.3 The Biomedical Computer Program

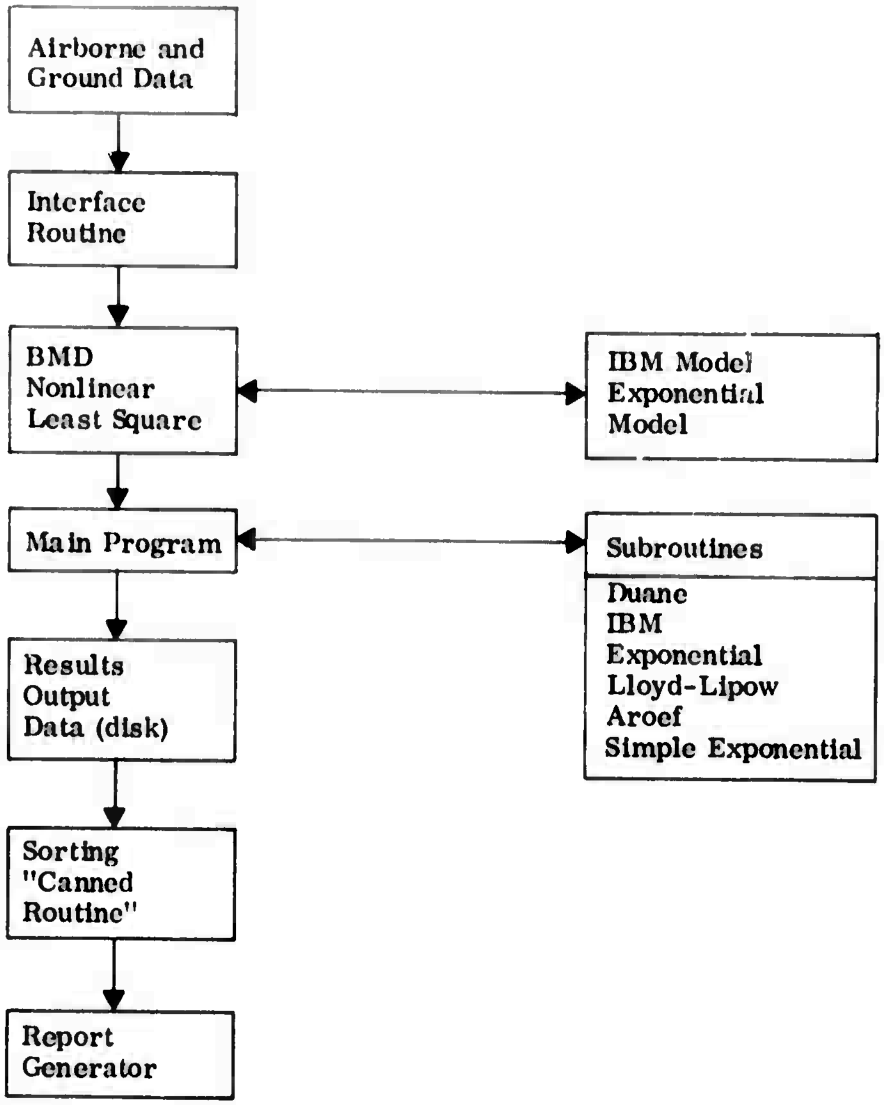
8.3.1 BMD program. The Biomedical Computer Program, (BMDO7R) non-linear least squares, was utilized on two models the IBM and the exponential (single-term power series). The BMDO7R was available only in load module form; consequently, it could not be modified. Therefore, the output coefficients for the models were rekeypunched and stored as separate data sets.

8.3.2 Non-linear least squares program. The non-linear regression program obtains a least squared fit of a specific function to data values by means of step-wise Gauss-Newton iterations on the parameters. Within each iteration parameters are selected for modification in the stepwise manner. The parameter selected at a given step is the one which, differentially at least, makes the greatest reduction in the sum of the squares error.

The IBM and exponential (single term power series) model subroutines were coded in Fortran, with the respective derivatives needed for the coefficient evaluation. In all cases the number of iterations was limited to 100, and in a few of the cases the process would not converge.

8.4 The Main Program

The main program has a subroutine for each of the six growth models which is called for each case of the ground and airborne data sets. The subroutines



Data Reduction Program

DIAGRAM No. 1

perform calculations which are passed back to the main program through calling argument list. The system information is then written on separate data set files for subsequent sorting by equipment type, field or in-house and reliability level. The main program also calculates the $\hat{\beta}$ and $\hat{K}$ for the Duane model.

8.4.1 The Duane subroutine. The Duane Model routine uses the data to calculate the maximum likelihood estimates $\hat{K}$ and $\hat{\beta}$ given in equation (3.4).

8.4.2 The IBM subroutine. The IBM subroutine fits the following expression

$$V(t_i) = t_i + K_1 (1 - e^{-K_2 t_i})$$

where λ, K_1 and K_2 are coefficients to be calculated by the BMD program. The parameter data is read from cards for each case because a link between the BMD routine and the main program could not be established.

8.4.3 The exponential (single-term power series model) subroutine. The above discussion applies to the exponential model where the following expression was fitted

$$Y(t_i) = + K (1 - K_1 e^{-K_2 t_i}).$$

In both the IBM and exponential models the range of x in the factor e^{-x} had to be restricted to less than 174.67 otherwise machine diagnostic would indicate machine underflow.

8.4.4 The Lloyd-Lipow subroutine. In the Lloyd-Lipow subroutine the curve fit routine is called to obtain the coefficients used to fit the following expression:

$$Y(t_i) = MTBF_i = K - K_2/t_i$$

where K and K_2 are derived by the curve fit module, and t_i is equal to the time of the i^{th} failure.

8.4.5 The Aroef subroutine. The procedure is the same as 8.4.4 except the expression to be fitted is as follows:

$$Y(t_i) = MTBF_i = K e^{-K_2 t_i}.$$

8.4.6 The simple exponential subroutine. The procedure is the same as 8.4.4 except the expression to be evaluated is as follows:

$$Y(t_i) = MTBF_i = K\, e^{K_2 t_i}$$

8.4.7 Model output data. The calculation from the model subroutine are further processed to determine the statistical goodness of fit criteria $\bar{R}$ and R.E. (see Section 3.7). The subroutine data and the statistical goodness of fit critieria are stored in permanent disk storage for additional processing in preparation for the report generator.

8.4.8 Report generation. The results from the main program are sorted and merged into one large file to facilitate processing. Individual reports for each model are prepared with a data set summary report. This is done for both the ground and airborne system data (see Tables 4.3, 4.4, and 5.2).

8.4.9 Example of method of estimating model coefficients. To illustrate the method of least squares as applied to estimating the model coefficients consider the (non-linear) exponential-single term power series model:

$Y(t) = K\,(1-K_1\, e^{-K_2 t})$. Here K, K_1, and K_2 are unknown. The data consists of n pairs $(Y_i,\ t_i)$ where Y_i is the cumulative MTBF at time t_i. Defining $\hat{Y}(t)=\hat{K}(1-\hat{K}_1 e^{-\hat{K}_2 t})$ we need to find estimates $\hat{K}$, $\hat{K}_1$, and $\hat{K}_2$ so that $Q=\sum_{i=1}^{n} (\hat{Y}(t_i)-Y_i)^2$ is a minimum. This is the least squares approach. The equations for $\hat{K}$, $\hat{K}_1$, and $\hat{K}_2$ are not available in closed form except in the linear case. The computer routines solve the three equations $\frac{\partial Q}{\partial \hat{K}} = 0$; $\frac{\partial Q}{\partial \hat{K}_1} = 0$; $\frac{\partial Q}{\partial \hat{K}_2} = 0$ interatively for $\hat{K}$, $\hat{K}_1$, $\hat{K}_2$. For the linear case the equations may be found in almost every statistics book.

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TABLE 4.3

DUANE MODEL
GROUND SYSTEM
ANTENNA
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	12	7	18304	0.5629E+00	0.5770E+03	0.3133E+00	0.8248E-01	41.103	1.711
R1	NO. 2	12	3	24804	0.6051E+00	0.4037E+04	0.2223E+00	0.1077E+00	71.271	0.695
R1	NO. 3	5	3	2767	0.8703E+00	0.7830E+03	0.3198E+00	0.8991E-01	71.526	13.382
R1	NO. 4	5	9	3032	0.4925E+00	0.3500E+02	0.2549E+00	0.1675E+00	29.430	0.105
R1	NO. 5	5	6	1373	0.7530E+00	0.1875E+03	0.3962E+00	0.8212E-01	64.673	0.330
R1	NO. 6	5	6	7128	0.4868E+00	0.1795E+03	0.2558E+00	0.1125E+00	82.248	0.067
R1	NO. 7	5	4	2663	0.1193E+01	0.8328E+03	0.5205E+00	0.1176E+00	52.984	23.105
R1	NO. 8	5	7	407	0.1043E+01	0.6298E+02	0.5805E+00	0.1365E+00	54.384	2.044
R1	NO. 9	4	18	42080	0.1144E+01	0.3367E+04	0.7615E+00	0.2103E+00	51.979	3.032
R1	NO.10	4	14	46800	0.7566E+00	0.1430E+04	0.5118E+00	0.1819E+00	33.669	1.008
R1	NO.11	4	23	47900	0.8416E+00	0.1154E+04	0.5944E+00	0.7809E-01	20.192	0.037
R1	NO.12	4	41	46060	0.8564E+00	0.6132E+03	0.6713E+00	0.4102E+00	26.704	1.174
R1	NO.13	4	73	46040	0.8284E+00	0.2509E+03	0.6938E+00	0.2774E+00	14.240	1.171
R1	NO.14	4	13	51840	0.2269E+01	0.1661E+05	0.1509E+01	0.1661E+00	36.215	0.675
R1	NO.15	4	28	31798	0.9746E+00	0.1041E+04	0.7168E+00	0.8140E+00	46.007	0.922
R1	NO.16	4	33	10240	0.7178E+00	0.1398E+03	0.5437E+00	0.4969E+00	31.362	1.254
R1	NO.17	4	35	33680	0.1237E+01	0.1900E+04	0.9775E+00	0.6881E-01	12.580	1.176
R1	NO.18	4	14	24920	0.8436E+00	0.1091E+04	0.5707E+00	0.2314E+00	35.985	2.206
R1	NO.19	4	61	32000	0.8251E+00	0.2250E+03	0.6929E+00	0.8249E+00	19.128	0.274
R1	NO.20	4	80	42000	0.6770E+00	0.6541E+02	0.5748E+00	0.1240E+01	23.429	2.710
R1	NO.21	4	22	35400	0.1203E+01	0.2710E+04	0.8801E+00	0.2363E+00	24.960	0.673

TABLE 4.3 (Continued)

DUANE MODEL
GROUND SYSTEM
ANTENNA
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	1	8	3038	0.4262E+00	0.1174E+03	0.1860E+00	0.1046E+00	52.812	0.428
R3	NO. 2	1	5	5085	0.4413E+00	0.1326E+03	0.2149E+00	0.9792E-01	60.550	0.269
R3	NO. 3	18	4	3022	0.4705E+00	0.2007E+03	0.2053E+00	0.5747E-01	59.858	60.493

DUANE MODEL
GROUND SYSTEM
RADAR
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	16	16	2513	0.4963E+00	0.9420E+01	0.3454E+00	0.4526E-01	22.140	0.038
R1	NO. 2	12	99	24804	0.9872E+00	0.2361E+03	0.8624E+00	0.3512E+00	12.277	1.120
R1	NO. 3	11	70	6751	0.6561E+00	0.1041E+02	0.5570E+00	0.1082E+00	15.497	0.041
R1	NO. 4	12	34	9165	0.7073E+00	0.6264E+02	0.5305E+00	0.1769E+00	20.028	0.495
R1	NO. 5	12	4	714	0.8808E+00	0.1408E+03	0.3845E+00	0.1339E+00	54.306	3.647
R1	NO. 6	12	77	18304	0.8766E+00	0.1290E+03	0.7513E+00	0.3066E+00	13.735	1.092
R1	NO. 7	11	71	4382	0.5323E+00	0.1458E+01	0.4531E+00	0.2051E+00	16.400	0.038
R1	NO. 8	11	129	7574	0.7468E+00	0.1131E+02	0.6639E+00	0.3726E+00	14.116	1.138

TABLE 4.3 (Continued)

DUANE MODEL
GROUND SYSTEM
RADAR
IN-HOUSE

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
RS NO, 1	1	20	6369	0,6267E+00	0,3124E+02	0,4805E+00	0,1043E+00	12,994	0,131
RS NO, 2	1	3	2076	0,4693E+00	0,1998E+03	0,1724E+00	0,8670E-01	74,955	0,471
RS NO, 3	10	18	3022	0,8340E+00	0,1194E+03	0,5941E+00	0,2311E+00	28,742	0,542
RS NO, 4	10	12	5370	0,2316E+01	0,1837E+04	0,1355E+01	0,4074E-01	21,423	0,661
RS NO, 5	10	11	4650	0,1208E+01	0,6392E+03	0,7714E+00	0,1180E+00	49,597	0,040

TABLE 4.3 (Continued)

DUANE MODEL
GROUND SYSTEM
MICROWAVE
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	4	114	42078	0,9399E+00	0,2727E+03	0,8213E+00	0,2226E+00	9,001	0,866
R1	NO, 2	4	259	46860	0,6516E+00	0,9275E+01	0,5979E+00	0,1030E+01	17,384	0,398
R1	NO, 3	4	240	47899	0,7259E+00	0,2520E+02	0,6636E+00	0,2200E+01	20,617	0,180
R1	NO, 4	4	183	46798	0,5676E+00	0,4834E+01	0,5116E+00	0,2448E+01	23,682	0,828
R1	NO, 5	5	10	407	0,1111E+01	0,5120E+02	0,6912E+00	0,1634E+00	36,699	2,230
R1	NO, 6	5	40	2663	0,9726E+00	0,6000E+02	0,7596E+00	0,2814E+00	17,053	1,094
R1	NO, 7	5	26	1373	0,2491E+01	0,3713E+03	0,1806E+01	0,6773E-01	15,535	0,560
R1	NO, 8	5	42	7124	0,5598E+00	0,8971E+01	0,4523E+00	0,3028E+00	24,314	0,227
R1	NO, 9	5	45	3032	0,8131E+00	0,2809E+02	0,6458E+00	0,2714E+00	16,302	1,055
R1	NO,10	5	4	161	0,1046E+01	0,4277E+02	0,2882E+00	0,7207E-01	55,890	7,075
R1	NO,11	5	26	2767	0,8161E+00	0,4957E+02	0,6143E+00	0,1232E+00	17,762	0,388
R1	NO,12	4	147	35400	0,8758E+00	0,1184E+03	0,7786E+00	0,1339E+01	19,175	1,086
R1	NO,13	4	308	42610	0,6614E+00	0,7502E+01	0,6110E+00	0,2845E+01	22,177	1,885
R1	NO,14	4	283	32000	0,6858E+00	0,8640E+01	0,6310E+00	0,1068E+01	18,679	0,287
R1	NO,15	4	173	24920	0,7291E+00	0,2122E+02	0,6550E+00	0,6997E+00	19,035	0,961
R1	NO,16	4	25:	33680	0,7558E+00	0,2251E+02	0,6924E+00	0,1067E+01	15,322	1,658
R1	NO,17	4	149	18240	0,6308E+00	0,6545E+01	0,5615E+00	0,1225E+01	21,691	0,649
R1	NO,18	4	182	41798	0,9491E+00	0,2257E+03	0,8422E+00	0,1909E+01	27,643	0,764
R1	NO,19	4	160	51440	0,6532E+00	0,2173E+02	0,5841E+00	0,7892E+00	12,946	0,288
R1	NO,20	4	448	46834	0,7086E+00	0,8491E+01	0,6645E+00	0,1562E+01	14,623	0,959

TABLE 4.3 (Continued)

DUANE MODEL
GROUND SYSTEM
MICROWAVE
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	5	33	1122	0.9619E+00	0.2960E+02	0.7585E+00	0.1955E+00	26.175	0.819

DUANE MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	11	34	11490	0.5247E+00	0.1306E+02	0.3995E+00	0.1295E+00	10.879	0.043
R1	NO. 2	11	17	4382	0.5825E+00	0.3383E+02	0.4104E+00	0.8809E-01	19.879	0.070
R1	NO. 3	12	30	10304	0.6676E+00	0.1122E+03	0.4973E+00	0.5620E+00	25.051	1.326
R1	NO. 4	12	7	9165	0.3219E+00	0.2173E+02	0.1792E+00	0.2544E+00	44.057	0.027
R1	NO. 5	12	6	715	0.5710E+00	0.6300E+02	0.2492E+00	0.5563E-01	55.190	0.619
R1	NO. 6	11	49	9663	0.8203E+00	0.8408E+02	0.6742E+00	0.1181E+00	11.954	0.806
R1	NO. 7	11	117	10809	0.1075E+01	0.1290E+03	0.9500E+00	0.2722E-01	6.915	0.623
R1	NO. 8	12	33	24804	0.9671E+00	0.6673E+03	0.7586E+00	0.1025E+00	18.535	1.003
R1	NO. 9	11	177	7849	0.4995E+00	0.2480E+00	0.6520E+00	0.1230E+01	21.994	0.125

TABLE 4.3 (Continued)

DUANE MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R2	NO, 1	8	15	9425	0,7435E+00	0,2460E+03	0,4694E+00	0,9983E-01	20,417	0,489
R2	NO, 2	8	7	8246	0,6017E+00	0,3248E+03	0,2711E+00	0,1072E+00	32,864	0,401
R2	NO, 3	8	16	7570	0,7359E+00	0,1749E+03	0,4738E+00	0,1038E+00	20,416	0,506
R2	NO, 4	8	11	9425	0,1171E+01	0,1215E+04	0,6623E+00	0,5268E-01	31,936	7,122
R2	NO, 5	8	15	45376	0,4610E+00	0,1276E+03	0,3166E+00	0,1992E+00	35,726	0,713
R2	NO, 6	8	4	22037	0,6856E+00	0,2917E+04	0,2992E+00	0,1301E+00	58,427	0,866
R2	NO, 7	8	9	45059	0,4641E+00	0,3959E+03	0,2802E+00	0,8643E-01	38,555	4,573
R2	NO, 8	8	17	8979	0,1738E+01	0,1760E+04	0,1139E+01	0,9323E-01	26,547	8,887
R2	NO, 9	8	18	11916	0,9731E+00	0,6112E+03	0,6475E+00	0,3432E-01	14,317	3,498
R2	NO,10	8	11	17219	0,1149E+01	0,2335E+04	0,7333E+00	0,2245E-01	22,075	739,381
R2	NO,11	8	3	2237	0,3780E+01	0,1673E+04	0,6677E+00	0,1029E+00	78,569	65,416
R2	NO,12	8	4	2247	0,1283E+01	0,7627E+03	0,3536E+00	0,5004E-01	65,804	21,155
R2	NO,13	8	3	2332	0,1225E+01	0,9508E+03	0,2163E+00	0,8852E-01	90,029	15,158
R2	NO,14	8	3	1988	0,1229E+01	0,8097E+03	0,2170E+00	0,1206E+00	74,622	21,488
R2	NO,15	8	3	631	0,3454E+01	0,4591E+03	0,6108E+00	0,1021E+00	78,919	79,382
R2	NO,16	8	4	3492	0,1823E+01	0,1632E+04	0,5024E+00	0,5302E-01	62,298	1319,069
R2	NO,17	8	11	4096	0,1396E+01	0,7358E+03	0,7897E+00	0,1255E-01	25,382	123,826
R2	NO,18	8	14	44314	0,6721E+00	0,8733E+03	0,4546E+00	0,5157E-01	26,732	0,409
R2	NO,19	8	9	45376	0,5305E+00	0,7218E+03	0,3203E+00	0,8880E-01	29,078	0,473
R2	NO,20	8	6	33328	0,5625E+00	0,1378E+04	0,2956E+00	0,7785E-01	53,225	7,485

TABLE 4.3 (Continued)

DUANE MODEL
GROUND SYSTEM
DISPLAY
FIELD
(CONTINUED)

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO,21	8	3	45221	0,5541E+00	0,6226E+04	0,2036E+00	0,8589E-01	93,164	0,122
R2	NO,22	8	16	45477	0,4721E+00	0,1200E+03	0,3286E+00	0,4611E-01	21,180	0,019
R2	NO,23	8	10	45201	0,8230E+00	0,2758E+04	0,5121E+00	0,5942E-01	34,775	0,934

DUANE MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	5	3784	0,6935E+00	0,3716E+03	0,2822E+00	0,8798E-01	88,368	0,253
R3	NO, 2	2	12	6336	0,6695E+00	0,1549E+03	0,8369E+00	0,1101E+00	20,898	0,516
R3	NO, 3	2	8	4576	0,5506E+00	0,1048E+03	0,3206E+00	0,2891E-01	29,341	0,274

TABLE 4.3 (Continued)

D U A N E   M O D E L
G R O U N D   S Y S T E M
D I S P L A Y
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	105	2700	0,4105E+00	0,3215E-01	0,3564E+00	0,2352E+01	30,586	0,304
R2	NO, 2	8	100	3200	0,4718E+00	0,1847E+00	0,4080E+00	0,7188E+00	20,674	0,053
R2	NO, 3	8	50	3700	0,5180E+00	0,1943E+01	0,4172E+00	0,2406E+00	20,964	0,046
R2	NO, 4	8	33	3700	0,3637E+00	0,2470E+00	0,2755E+00	0,1090E+01	52,469	0,236
R2	NO, 5	8	16	2509	0,7639E+00	0,6633E+02	0,4918E+00	0,9152E-01	23,723	0,519

D U A N E   M O D E L
G R O U N D   S Y S T E M
D I S P L A Y
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	7	17	2193	0,5639E+00	0,1442E+02	0,3694E+00	0,1354E+00	19,695	0,124
R3	NO, 2	7	32	2248	0,8632E+00	0,4057E+02	0,6505E+00	0,3509E+00	32,296	0,761
R3	NO, 3	7	12	3322	0,1414E+01	0,5727E+03	0,8272E+00	0,1788E+00	40,806	0,980
R3	NO, 4	2	384	3415	0,6674E+00	0,4581E+00	0,6241E+00	0,2324E+01	20,075	3,462
R3	NO, 5	2	211	4536	0,1012E+01	0,2292E+02	0,9239E+01	0,1501E+01	24,945	0,981
R3	NO, 6	1	6	4659	0,6750E+00	0,3277E+03	0,3548E+00	0,5439E-01	65,229	1,969
R3	NO, 7	1	21	6144	0,8662E+00	0,1828E+03	0,6345E+00	0,2827E+00	23,039	2,534

TABLE 4.3 (Continued)

D U A N E M O D E L
G R O U N D S Y S T E M
C O M P U T E R
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0,6666E+00	0,5692E+02	0,5058E+00	0,8138E-01	12,153	0,094
R1	NO, 2	11	33	5703	0,6617E+00	0,2088E+01	0,3346E+00	0,2081E+00	25,533	0,022
R1	NO, 3	12	16	9165	0,6688E+00	0,1278E+03	0,4513E+00	0,2018E+00	39,451	0,095
R1	NO, 4	15	19	11800	0,7758E+00	0,2648E+03	0,5577E+00	0,2926E+00	26,997	5,261
R1	NO, 5	12	35	10304	0,5186E+00	0,1930E+02	0,4099E+00	0,2775E+00	16,316	0,211
R1	NO, 6	16	5	2513	0,6995E+00	0,8199E+03	0,4379E+00	0,7599E-01	54,794	1,733
R1	NO, 7	15	9	11209	0,7816E+00	0,6741E+03	0,4045E+00	0,5662E-01	26,303	0,812
R1	NO, 8	15	7	10642	0,1955E+01	0,6891E+04	0,1080E+01	0,7841E-01	50,406	37,829
R1	NO, 9	15	9	16192	0,1024E+01	0,1096E+04	0,6182E+00	0,1753E+00	30,252	2,387
R1	NO,10	15	19	23495	0,9651E+00	0,1112E+04	0,6513E+00	0,7377E-01	27,105	0,898
R1	NO,11	15	10	15741	0,6179E+00	0,3791E+03	0,3845E+00	0,2014E+00	36,737	9,706
R1	NO,12	15	17	23572	0,9881E+00	0,1360E+04	0,6473E+00	0,2927E-01	19,131	[illegible],562
R1	NO,13	15	20	15756	0,1102E+01	0,1040E+04	0,8004E+00	0,8784E-01	13,942	1,705
R1	NO,14	15	16	13960	0,1009E+01	0,8936E+03	0,7021E+00	0,6074E-01	15,681	10,[illegible]
R1	NO,15	15	34	23680	0,8980E+00	0,3805E+03	0,6532E+00	0,6098E-01	12,937	0,[illegible]
R1	NO,16	11	35	10323	0,7799E+00	0,1081E+03	0,5966E+00	0,1401E+00	13,365	[illegible],593
R1	NO,17	12	41	24804	0,1023E+01	0,6623E+03	0,8259E+00	0,2555E+00	27,621	1,063
R1	NO,18	11	36	9833	0,1541E+01	0,9609E+03	0,1134E+01	0,9047E-01	31,717	16,718
R1	NO,19	11	35	12141	0,6803E+00	0,6523E+02	0,5377E+00	0,7647E-01	13,704	0,103

TABLE 4.3 (Continued)

DUANE MODEL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	10	3965	0,5449E+00	0,5707E+02	0,2961E+00	0,1308E+00	59,819	0,126
R3	NO, 2	2	16	4576	0,5322E+00	0,2501E+02	0,3705E+00	0,1056E+00	29,077	0,058
R3	NO, 3	2	9	6336	0,1303E+01	0,1173E+04	0,7867E+00	0,3149E-01	26,069	4,965

DUANE MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	86	4467	0,5616E+00	0,4891E+01	0,4470E+00	0,1660E+00	15,173	0,097
R1	NO, 2	14	12	2043	0,5067E+00	0,1516E+02	0,3367E+00	0,9215E-01	46,733	0,027
R1	NO, 3	14	43	11189	0,1555E+01	0,9964E+03	0,1260E+01	0,3840E+00	29,156	16,185
R1	NO, 4	14	45	10666	0,1509E+01	0,8555E+03	0,1229E+01	0,1078E+00	23,585	13,522
R1	NO, 5	14	9	2792	0,8606E+00	0,2173E+03	0,5196E+00	0,3159E-01	25,392	4,575

DUANE MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	13	18	1540	0,8056E+00	0,4260E+02	0,5739E+00	0,7788E-01	26,842	2,125

TABLE 4.3 (Continued)

D U A N E M O D E L
G R O U N D S Y S T E M
C O M P U T E R
I N - H O U S E

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R[illegible]	1	9	10	1726	0.2376E+00	0.1068E+00	0.1291E+00	0.1864E+00	40.800	0.004
R3	NO. 2	9	25	2261	0.4192E+00	0.1046E+01	0.3160E+00	0.6355E+00	36.051	0.223
R3	NO. 3	9	24	2370	0.5458E+00	0.6986E+01	0.3808E+00	0.1957E+00	20.540	0.132
R3	NO. 4	9	3	3105	0.2879E+00	0.6836E+02	0.3865E+01	0.1020E+00	75.553	89.500
R3	NO. 5	2	74	3415	0.6205E+00	0.3319E+01	0.5300E+00	0.4423E+00	20.317	0.073
R3	NO. 6	2	67	4536	0.5502E+00	0.2177E+01	0.4660E+00	0.7753E+00	29.042	1.236
R3	NO. 7	1	5	8513	0.1578E+01	0.3071E+04	0.7683E+00	0.9271E+[illegible]	53.946	1.401
R3	NO. 8	1	4	6339	0.1300E+01	0.2102E+04	0.5079E+00	0.2291E+00	63.262	9.121

TABLE 4.3 (Continued)

D U A N E   M O D E L
G R O U N D   S Y S T E M
C O M M U N I C A T I O N S
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	4	14	35400	0,8716E+00	0,1714E+04	0,5896E+00	0,2944E+00	39,579	1,261
R1	NO, 2	4	25	46040	0,8017E+00	0,8452E+03	0,5765E+00	0,4100E+00	34,242	1,220
R1	NO, 3	4	11	51440	0,1196E+01	0,6932E+04	0,7638E+00	0,6009E-01	22,481	15,190
R1	NO, 4	4	11	41790	0,5052E+01	0,2600E+05	0,2858E+01	0,1698E+00	63,963	14,093
R1	NO, 5	4	16	33600	0,9857E+00	0,2040E+04	0,6802E+00	0,1371E+00	23,303	1,496
R1	NO, 6	4	16	24920	0,1160E+01	0,2205E+04	0,8077E+00	0,1717E+00	46,500	3,400
R1	NO, 7	4	16	32000	0,8430E+00	0,1223E+04	0,5427E+00	0,8143E-01	27,333	0,422
R1	NO, 8	4	95	42000	0,8492E+00	0,1970E+03	0,7313E+00	0,1344E+01	26,752	0,600
R1	NO, 9	4	4	46800	0,5704E+00	0,6118E+04	0,2490E+00	0,1299E+00	53,932	3,500
R1	NO,10	4	36	47900	0,2610E+01	0,1218E+05	0,2006E+01	0,2800E+00	27,322	9,075
R1	NO,11	4	23	46860	0,8772E+00	0,1313E+0C	0,6525E+00	0,2404E+00	22,049	1,455
R1	NO,12	4	3	42000	0,7749E+00	0,1019E+05	0,2847E+00	0,1605E+00	66,003	12,700

TABLE 4.3 (Continued)

DUANE MODEL
GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	2	20	3615	0.8603E+00	0.1084E+03	0.6306E+00	0.1130E+00	15.286	3.800
R3	NO. 2	2	10	4536	0.8273E+00	0.2805E+03	0.5148E+00	0.1505E+00	49.836	0.543

DUANE MODEL
GROUND SYSTEM
SYSTEM-RADAR
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	16	24	2513	0.5965E+00	0.1220E+02	0.4468E+00	0.5380E-01	16.706	0.053
R1	NO. 2	11	170	6751	0.6049E+00	0.3098E+01	0.6253E+00	0.3221E+00	11.832	0.180
R1	NO. 3	12	170	24804	0.9898E+00	0.1304E+03	0.8938E+00	0.1282E+00	10.028	1.044
R1	NO. 4	11	244	7849	0.5577E+00	0.4112E+00	0.5125E+00	0.1160E+01	19.546	0.188
R1	NO. 5	11	114	4382	0.4316E+00	0.7511E-01	0.3806E+00	0.1024E+01	24.520	0.035
R1	NO. 6	12	148	18304	0.7051E+00	0.1529E+02	0.6274E+00	0.7537E+00	12.626	0.032
R1	NO. 7	12	57	9165	0.5844E+00	0.9064E+01	0.4782E+00	0.6658E-01	12.472	0.033
R1	NO. 8	11	200	7574	0.6610E+00	0.2500E+01	0.5986E+00	0.6307E+00	13.817	0.398

DUANE MODEL
GROUND SYSTEM
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	1	14	2076	0.7348E+00	0.5699E+02	0.4966E+00	0.1338E+00	26.301	0.303
R3	NO. 2	1	53	5085	0.7450E+00	0.2464E+02	0.6172E+00	0.1306E+00	14.431	0.223

TABLE 4.3 (Continued)

D U A N E   M O D E L
G R O U N D   S Y S T E M
S Y S T E M - M I C R O W A V E
F I E L D

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	5	17	407	0,1077E+01	0,2930E+02	0,7587E+00	0,2399E+00	30,721	1,547
R1	NO. 2	5	54	3031	0,7311E+00	0,1294E+02	0,5965E+00	0,2287E+00	13,655	0,460
R1	NO. 3	5	32	1373	0,1690E+01	0,1783E+03	0,1279E+01	0,1203E+00	162,292	54,715
R1	NO. 4	5	40	7124	0,5470E+00	0,6904E+01	0,4489E+00	0,3502E+00	20,447	0,302
R1	NO. 5	5	44	2662	0,1083E+01	0,6109E+02	0,7930E+00	0,3725E+00	19,322	1,042
R1	NO. 6	4	135	42076	0,9572E+00	0,2502E+03	0,8465E+00	0,8014E+00	8,440	0,760
R1	NO. 7	4	323	46056	0,6839E+00	0,1904E+02	0,6335E+00	0,1321E+01	16,772	0,633
R1	NO. 8	4	299	47896	0,8059E+00	[illegible]	0,7442E+00	0,2672E+01	20,646	0,286
R1	NO. 9	4	201	46798	0,5781E+00	0,4082E+01	0,5237E+00	0,2599E+01	23,697	0,806
R1	NO.10	5	5	161	0,1074E+01	0,3995E+02	0,3740E+00	0,0991E+01	43,800	11,435
R1	NO.11	5	29	2767	0,8116E+00	0,4304E+02	0,6254E+00	0,1730E+00	16,466	0,547
R1	NO.12	4	103	35400	0,9037E+00	0,1110E+03	0,8145E+00	0,1603E+01	19,990	1,094
R1	NO.13	4	477	42618	0,6901E+00	0,5601E+01	0,6405E+00	0,2792E+01	16,032	1,727
R1	NO.14	4	360	32800	0,7064E+00	0,7099E+01	0,6572E+00	0,1212E+01	17,411	0,212
R1	NO.15	4	203	24920	0,7576E+00	0,2242E+02	0,6867E+00	0,6503E+00	17,024	1,047
R1	NO.16	4	302	33680	0,7996E+00	0,2605E+02	0,7386E+00	0,1064E+01	13,603	1,050
R1	NO.17	4	181	41794	0,9729E+00	0,1903E+03	0,8759E+00	0,3029E+01	30,463	0,871
R1	NO.18	4	184	51440	0,7078E+00	0,3207E+02	0,6301E+00	0,6833E+00	10,589	0,226
R1	NO.19	4	546	46840	0,7266E+00	0,8810E+01	0,6858E+00	0,1491E+01	14,568	1,155
R1	NO.20	4	184	18240	0,6412E+00	0,5353E+01	0,5788E+00	0,1668E+01	23,048	0,825

TABLE 4.3 (Continued)

DUANE MODEL
GROUND SYSTEM
SYSTEM-MICROWAVE
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	5	34	1122	0.9110E+00	0.2338E+02	0.7174E+00	0.1586E+00	21.310	0.602

TABLE 4.3 (Continued)

I B M M O D E L
G R O U N D S Y S T E M
A N T E N N A
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	12	7	10304	0,1392E-02	0,3061E+01	0,7466E-03		50,730	3,580
R1	NO, 2	12	3	24804	0,1029E-02	0,1189E+02	0,7718E-03		90,845	5,285
R1	NO, 4	5	9	3032	0,1455E-10	0,8604E+01	0,2340E-02		11,976	0,015
R1	NO, 6	5	6	7124	0,2067E-03	0,4328E+01	0,2245E-02		11,742	0,010
R1	NO, 7	5	4	2663	0,1850E-02	0,1123E+03	0,1767E-09		12,019	1,553
R1	NO, 8	5	7	407	0,1906E-01	0,1526E-04	0,1263E-02		30,040	1,230
R1	NO, 9	4	10	42880	0,3403E-03	0,6646E+00	0,4160E-02		14,183	0,241
R1	NO,10	4	14	46000	0,1455E-10	0,1416E+02	0,5982E-04		15,715	0,855
R1	NO,11	4	23	47900	0,3756E-03	0,5567E+01	0,1528E-03		12,220	0,768
R1	NO,12	4	41	46860	0,9837E-03	0,2823E+03	0,2328E-09		32,315	1,040
R1	NO,13	4	73	46840	0,8428E-03	0,3342E+02	0,6603E-04		11,270	1,061
R1	NO,14	4	13	51440	0,2168E-03	0,1526E-04	0,1000E-02		24,190	1,300
R1	NO,15	4	20	31790	0,5437E-03	0,5033E+01	0,5063E-03		19,026	0,320
R1	NO,16	4	33	10240	0,1455E-10	0,3548E+02	0,1368E-03		16,793	1,087
R1	NO,17	4	35	33600	0,1022E-02	0,1526E-04	0,1213E-02		14,076	1,384
R1	NO,19	4	61	32800	0,1463E-02	0,8415E+01	0,7342E-03		11,535	0,111
R1	NO,20	4	80	42006	0,1455E-10	0,1090E+03	0,4048E-04		11,760	0,914
R1	NO,21	4	22	35400	0,6631E-03	0,3638E-11	0,5321E-03		19,765	1,230

TABLE 4.3 (Continued)

IBM MODEL
GROUND SYSTEM
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	4	3038	0,2581E-02	0,7782E+02	0,3725E-08		284,738	4,181
R3	NO, 2	1	5	5085	0,1438E-02	0,1044E+01	0,3663E+00		2,861	0,015
R3	NO, 3	18	4	3022	0,1280E-02	0,9537E-06	0,2182E-02		281,533	1034,375

IBM MODEL
GROUND SYSTEM
RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	16	16	2513	0,3328E-03	0,9537E-06	0,7574E-01		8626,160	4154,031
R1	NO, 2	12	99	24804	0,1409E-01	0,7841E+02	0,6810E-03		80,980	30,417
R1	NO, 3	11	70	6751	0,1079E-01	0,1819E-11	0,9628E-03		170,648	2,219
R1	NO, 5	12	4	714	0,5821E-10	0,3793E+02	0,1680E-03		61,018	4,780
R1	NO, 6	12	77	18304	0,6814E-02	0,5196E+01	0,3002E-03		33,099	6,164
R1	NO, 7	11	71	4382	0,1409E-02	0,1658E+02	0,4655E-03		523,787	42,122
R1	NO, 8	11	129	7574	0,6416E-02	0,1526E-04	0,1676E-02		297,066	40,612

TABLE 4.3 (Continued)

I B M M O D E L
G R O U N D S Y S T E M
R A D A R
I N - H O U S E

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	1	28	6369	0.2476E-03	0.2944E+02	0.3644E-03		28.434	0.191
R3	NO. 3	10	18	3022	0.1373E-02	0.3177E+01	0.2090E-01		72.593	6.982
R3	NO. 4	10	12	5370	0.4739E-02	0.1511E+01	0.1278E-01		68.666	3.832
R3	NO. 5	10	11	4650	0.4594E-02	0.4141E+00	0.2728E-01		50.179	7.024

TABLE 4.3 (Continued)

I B M M O D E L
G R O U N D S Y S T E M
M I C R O W A V E
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 2	4	259	46860	0,6725E-02	0,8415E+02	0,2833E-09		54,237	2,185
R1	NO, 3	4	240	47899	0,4784E-02	0,5278E+02	0,3810E-08		83,458	1,706
R1	NO, 4	4	183	46798	0,5865E-02	0,6926E+02	0,2852E-09		56,191	2,275
R1	NO, 5	5	10	407	0,2810E-01	0,5163E+01	0,1210E-08		20,263	1,177
R1	NO, 6	5	40	2663	0,3553E-14	0,9198E+02	0,2194E-03		16,737	1,343
R1	NO, 7	5	26	1373	0,1475E-01	0,1526E-04	0,1180E-02		25,443	1,317
R1	NO, 8	5	42	7124	0,2153E-02	0,2580E+02	0,1042E-02		9,404	0,079
R1	NO, 9	5	45	3032	0,7105E-14	0,6332E+02	0,4163E-03		10,070	0,784
R1	NO,10	5	4	161	0,2007E-01	0,1526E-04	0,2772E-02		36,763	2,810
R1	NO,11	5	26	2767	0,5960E-07	0,3013E+02	0,4770E-03		16,895	0,358
R1	NO,13	4	302	42610	0,1025E-01	0,7081E+02	0,2305E-09		26,790	1,235
R1	NO,14	4	283	32860	0,9466E-02	0,7937E+02	0,2940E-09		62,139	1,090
R1	NO,15	4	173	24920	0,8459E-02	0,5384E+02	0,2320E-09		30,256	1,511
R1	NO,16	4	251	33600	0,9322E-02	0,4621E+02	0,3346E-09		18,597	1,351
R1	NO,17	4	149	18240	0,1122E-01	0,1526E-04	0,2328E-09		42,266	2,158
R1	NO,18	4	182	41798	0,3121E-02	0,1163E+02	0,5668E-03		18,798	0,657
R1	NO,19	4	160	51440	0,1455E-12	0,2001E+03	0,3366E-08		12,784	0,197
R1	NO,20	4	420	36036	0,2390E-02	0,3568E+03	0,5819E-08		7,171	0,448

TABLE 4.3 (Continued)

I B M MODEL
GROUND SYSTEM
MICROWAVE
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	33	1122	0,2824E-01	0,4578E-04	0,2328E-09		31,605	1,222

I B M MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0,4507E-02	0,2635E+02	0,1341E-02		50,342	1,021
R1	NO, 2	11	17	4382	0,1328E-01	0,1039E+03	0,5601E-03		81,524	3,565
R1	NO, 3	12	30	18304	0,3698E-03	0,3155E+01	0,5885E-05		204,046	70,441
R1	NO, 5	12	4	714	0,2328E-09	0,1961E+03	0,8139E-04		98,043	1,533
R1	NO, 6	11	49	9663	0,3086E-02	0,1526E-04	0,1213E-02		122,359	28,767
R1	NO, 7	11	117	18809	0,1455E-10	0,4239E+02	0,1598E-03		137,858	70,317
R1	NO, 9	11	177	7849	0,2939E-02	0,1478E+02	0,7889E-02		307,692	67,635

TABLE 4.3 (Continued)

IBM MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	15	9425	0,5598E-03	0,1146E+02	0,4974E-03		22,840	0,506
R2	NO, 2	8	7	8246	0,8515E-03	0,1892E+01	0,1181E-02		27,775	0,302
R2	NO, 3	8	16	7570	0,1665E-02	0,1526E-04	0,1191E-02		117,097	12,913
R2	NO, 4	8	11	9425	0,1050E-02	0,5628E+01	0,2792E-03		36,291	7,367
R2	NO, 5	8	15	45376	0,1625E-03	0,1086E+02	0,2050E-03		10,333	0,069
R2	NO, 6	8	4	22037	0,1455E-10	0,4105E+01	0,2015E-03		7,529	0,815
R2	NO, 8	8	17	8979	0,1333E-02	0,1903E+01	0,7895E-02		26,267	2,015
R2	NO, 9	8	18	11916	0,6038E-03	0,1082E+01	0,1688E-02		101,815	182,531
R2	NO,18	8	14	40314	0,3908E-03	0,1406E+01	0,4696E-02		7,504	0,149
R2	NO,19	8	9	45376	0,5080E-04	0,7505E+01	0,1096E-03		20,021	0,095
R2	NO,20	8	6	33328	0,5602E-03	0,1526E-04	0,4441E-15		17,639	1,388
R2	NO,22	8	16	45477	0,2519E-03	0,5549E+01	0,1997E-02		9,311	0,812

IBM MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	5	3784	0,2567E-02	0,1526E-04	0,4163E-16		192,478	1,563
R3	NO, 2	2	12	6336	0,4121E-03	0,9423E+01	0,6386E-03		9,993	0,121
R3	NO, 3	2	8	4576	0,1360E-02	0,3408E+01	0,2487E-02		26,916	0,859

TABLE 4.3 (continued)

I B M   M O D E L
G R O U N D   S Y S T E M
D I S P L A Y
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	105	2700	0,2506E-02	0,9817E+02	0,2693E-02		5,379	0,011
R2	NO, 2	8	100	3200	0,9932E-02	0,6413E+02	0,3050E-02		2,776	0,002
R2	NO, 3	8	50	3700	0,6600E-02	0,3559E+02	0,4109E-02		30,021	0,180
R2	NO, 4	8	33	3700	0,2407E-03	0,3078E+02	0,4276E-02		28,149	0,203
R2	NO, 5	8	16	2500	0,3202E-02	0,7459E+01	0,2243E-02		12,017	0,260

I B M   M O D E L
G R O U N D   S Y S T E M
D I S P L A Y
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	7	17	2193	0,1060E-01	0,1526E-04	0,1491E-02		127,394	2,136
R3	NO, 2	7	32	2208	0,2016E-02	0,2087E+02	0,1073E-02		23,497	0,708
R3	NO, 3	7	12	3322	0,2013E-02	0,1991E+02	0,8510E-04		21,606	1,229
R3	NO, 4	2	304	3415	0,2320E-09	0,5937E+03	0,6378E-03		5,076	0,325
R3	NO, 5	2	211	4536	0,5450E-01	0,1101E+03	0,1300E-16		19,119	1,301
R3	NO, 6	1	6	4659	0,3412E-02	0,3652E-04	0,1507E-02		29,762	1,590
R3	NO, 7	4	21	6144	0,2320E-09	0,3841E+02	0,1527E-03		14,551	1,931

TABLE 4.3 (Continued)

IBM MODEL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0,9960E-02	0,5608E+02	0,5223E-03		77,341	4,560
R1	NO, 2	11	33	5703	0,1057E-01	0,2603E+02	0,4375E-02		47,560	0,909
R1	NO, 3	12	16	9165	0,3203E-02	0,7949E+01	0,1271E-02		65,029	1,728
R1	NO, 4	15	19	11000	0,3230E-02	0,1526E-04	0,1293E-02		23,600	5,009
R1	NO, 7	15	9	11209	0,9095E-12	0,2551E+02	0,3331E-04		73,126	5,475
R1	NO, 8	15	7	18642	0,6984E-03	0,1624E+01	0,3540E-02		63,350	17,026
R1	NO, 9	15	9	16192	0,1455E-10	0,1400E+02	0,1506E-03		45,450	8,226
R1	NO,10	15	19	23495	0,5030E-03	0,2449E+01	0,5030E-03		10,845	0,194
R1	NO,13	15	20	15756	0,1130E-02	0,5832E+01	0,5075E-03		32,217	10,178
R1	NO,14	15	14	13960	0,1455E-10	0,4333E+02	0,7167E-04		46,885	95,050
R1	NO,15	15	34	23600	0,4503E-02	0,2954E+01	0,2214E+00		64,340	8,607
R1	NO,16	11	35	10323	0,1019E-01	0,6018E+02	0,3560E-02		84,846	19,442
R1	NO,17	12	41	20404	0,4379E-02	0,1526E-04	0,9534E-03		50,505	4,934
R1	NO,18	11	36	9033	0,1527E-01	0,1307E+03	0,9084E-03		92,270	20,720
R1	NO,19	11	35	12141	0,8332E-02	0,1471E+02	0,1808E-02		64,672	3,286

TABLE 4.3 (Continued)

IBM MODEL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	17	10	3965	0.7980E-02	0.6114E+01	0.1263E-01		80.460	1.904
R3	NO. 2	2	16	4576	0.2619E-02	0.4835E+01	0.1095E-01		12.640	0.032
R3	NO. 3	2	9	6336	0.1496E-02	0.1658E+01	0.2160E-05		9.323	1.000

IBM MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	11	46	4467	0.2328E-09	0.2451E+02	0.3623E-02		38.172	1.000
R1	NO. 2	14	12	2043	0.3601E-02	0.1526E-04	0.1280E-02		2402.302	10.343
R1	NO. 3	14	43	11189	0.3369E-02	0.1398E+01	0.4630E-02		24.227	3.364
R1	NO. 5	14	9	2792	0.1804E-01	0.1526E-04	0.2084E-03		73.466	39.874

IBM MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	13	10	1540	0.1338E-02	0.3125E+01	0.1254E-01		147.208	60.421

TABLE 4.3 (Continued)

I B M M O D E L
G R O U N D S Y S T E M
C O M P U T E R
I N - H O U S E

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
RS	NO. 1	9	10	1726	0.1191E-01	0.1926E-04	0.1682E-02		4558.773	1.557
RS	NO. 2	9	25	2261	0.5960E-07	0.5434E+02	0.2192E-02		41.102	0.735
RS	NO. 4	9	3	3105	0.6726E-03	0.8120E+01	0.5950E-03		257.963	457.616
RS	NO. 5	2	74	3415	0.5960E-07	0.8373E+02	0.7092E-03		3.347	0.035
RS	NO. 6	2	67	4536	0.3211E-03	0.6817E+02	0.8175E-03		10.620	0.313
RS	NO. 7	1	5	8513	0.6750E-03	0.2868E+01	0.2439E-05		22.429	1.661
RS	NO. 8	1	4	6339	0.8358E-03	0.1926E-04	0.1110E-15		18.724	1.843

TABLE 4.3 (Continued)

IBM MODEL
GROUND SYSTEM
COMMUNICATIONS
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	4	14	35400	0,5261E-03	0,4123E+02	0,1104E-09		20,609	1,098
R1	NO, 3	4	11	51940	0,2255E-03	0,9537E-06	0,1777E-02		7,374	1,242
R1	NO, 4	4	11	41798	0,2060E-03	0,1526E-04	0,1006E-02		32,452	1,500
R1	NO, 5	4	16	33600	0,6215E-03	0,1526E-04	0,1147E-02		16,347	1,416
R1	NO, 6	4	16	74920	0,6027E-03	0,9095E-11	0,6477E-02		27,415	1,084
R1	NO, 7	4	16	32800	0,3634E-03	0,3078E+01	0,5433E-03		11,956	0,135
R1	NO, 8	4	95	42000	0,2253E-02	0,3657E+01	0,2087E-02		22,654	0,500
R1	NO, 9	4	4	46830	0,9095E-12	0,4342E+01	0,1090E-03		12,173	0,249
R1	NO,10	4	36	47936	0,5658E-03	0,1526E-04	0,6713E-01		29,625	1,332
R1	NO,11	4	23	46860	0,2728E-11	0,4246E+02	0,1867E-08		15,173	1,277

IBM MODEL
GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	2	20	3415	0,9095E-12	0,1366E+03	0,5920E-04		7,148	1,026
R3	NO, 2	2	10	4536	0,2547E-02	0,3403E+05	0,1455E-10		83,080	1,225

TABLE 4.3 (Continued)

I B M M O D E L
G R O U N D S Y S T E M
S Y S T E M - R A D A R
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 2	11	178	6751	0,4421E-02	0,8831E+01	0,6656E-03		477,150	194,376
R1	NO, 4	11	244	7049	0,8941E-02	0,1087E+03	0,1076E-02		22,312	0,044
R1	NO, 5	11	114	4302	0,4907E-02	0,1526E-04	0,1325E-02		2517,703	264,120
R1	NO, 6	12	148	10304	0,5021E-10	0,3554E+02	0,1191E-03		330,250	243,740
R1	NO, 7	12	57	9165	0,1029E-03	0,6082E+01	0,3406E-02		360,554	142,546
R1	NO, 8	11	200	7574	0,1692E-02	0,1504E+02	0,1496E-02		444,606	386,423

I B M M O D E L
G R O U N D S Y S T E M
S Y S T E M - R A D A R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	18	2076	0,7150E-02	0,1544E+01	0,3446E-01		10,616	0,180
R3	NO, 2	1	53	5085	0,1455E-10	0,8943E+02	0,1918E-03		31,106	0,523

I B M M O D E L
G R O U N D S Y S T E M
S Y S T E M - M I C R O W A V E
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	34	1122	0,2717E-01	0,2471E+01	0,3264E-01		13,764	0,343

TABLE 4.3 (Continued)

I B M M O D E L
G R O U N D S Y S T E M
S Y S T E M - M I C R O W A V E
F I E L D

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	5	17	407	0.4533E-01	0.6960E+02	0.3730E-00		19.730	1.102
R1	NO. 2	5	54	3031	0.9960E-07	0.6275E+02	0.6050E-03		6.321	0.123
R1	NO. 3	5	32	1373	0.1910E-01	0.1526E-04	0.1292E-02		25.447	1.302
R1	NO. 4	5	40	7124	0.2967E-02	0.2030E+02	0.1213E-02		9.451	0.092
R1	NO. 5	5	44	2662	0.1002E-01	0.1045E+02	0.2328E-09		18.562	1.070
R1	NO. 6	4	135	42076	0.8600E-03	0.1467E+03	0.2239E-04		5.734	0.576
R1	NO. 7	4	323	46856	0.8290E-02	0.7666E+02	0.5021E-10		43.226	2.032
R1	NO. 8	4	299	47896	0.5036E-02	0.5203E+02	0.2320E-09		56.898	1.540
R1	NO. 9	4	201	46798	0.5513E-02	0.7182E+02	0.3019E-09		54.535	2.221
R1	NO.10	5	5	161	0.9960E-07	0.6977E+01	0.8197E-02		7.093	0.320
R1	NO.11	5	29	2107	0.9960E-07	0.3039E+02	0.6874E-03		15.167	0.425
R1	NO.13	4	477	42618	0.1919E-01	0.7972E+02	0.2749E-09		21.072	1.709
R1	NO.14	4	360	32000	0.1170E-01	0.8450E+02	0.2031E-08		50.946	1.920
R1	NO.15	4	203	28920	0.9731E-02	0.5421E+02	0.2320E-09		28.194	1.421
R1	NO.16	4	302	33600	0.5821E-10	0.5701E+03	0.2960E-04		8.501	0.989
R1	NO.17	4	181	41794	0.3920E-02	0.1374E+02	0.6250E-03		19.819	0.649
R1	NO.18	4	184	51440	0.1055E-10	0.2576E+03	0.2565E-04		12.486	0.265
R1	NO.19	4	546	46840	0.5604E-13	0.5540E+03	0.4062E-04		9.086	0.742
R1	NO.20	4	184	10240	0.1370E-01	0.7643E+02	0.2021E-09		39.731	2.064

TABLE 4.3 (Continued)

EXPONENTIAL MODEL
GROUND SYSTEM
ANTENNA
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	12	7	10304	0.6079E+03	0.1000E+00	0.1000E+00		32.068	2.650
R1	NO. 2	12	3	20804	0.5003E+03	0.8096E+00	0.8720E-04		90.550	5.259
R1	NO. 4	5	9	3032	0.8630E+04	0.9955E+00	0.1209E-04		12.042	0.015
R1	NO. 5	5	6	1373	0.1839E+03	0.1019E+01	0.6736E-02		3.443	0.029
R1	NO. 6	5	6	7124	0.4687E+03	0.1586E-04	0.1086E-01		146.704	1.250
R1	NO. 7	5	8	2663	0.5255E+03	0.1000E+00	0.1000E+00		12.990	1.500
R1	NO. 8	5	7	807	0.5613E+02	0.9769E+00	0.2004E-01		13.254	0.464
R1	NO. 9	4	10	42000	0.2452E+04	0.1000E+00	0.1000E+00		31.846	1.063
R1	NO.10	4	14	46800	0.2204E+04	0.1030E+00	0.1000E+00		37.160	1.003
R1	NO.11	4	23	47900	0.1596E+04	0.1000E+00	0.1000E+00		23.041	1.048
R1	NO.12	4	41	46860	0.9653E+03	0.1000E+00	0.1000E+00		29.340	1.026
R1	NO.13	4	73	46840	0.5102E+03	0.1000E+00	0.1000E+00		19.711	1.018
R1	NO.14	4	13	51440	0.6961E+04	0.1000E+00	0.1000E+00		52.552	1.091
R1	NO.15	4	28	31798	0.1115E+04	0.1000E+00	0.1000E+00		58.349	1.038
R1	NO.16	4	33	10240	0.3629E+03	0.1000E+00	0.1000E+00		31.292	1.032
R1	NO.17	4	35	33680	0.1095E+04	0.1000E+00	0.1000E+00		14.232	1.030
R1	NO.18	4	14	24920	0.1298E+04	0.1000E+00	0.1000E+00		22.898	1.003
R1	NO.19	4	61	32800	0.4436E+03	0.1000E+00	0.1000E+00		40.172	1.017
R1	NO.20	4	80	42000	0.3169E+03	0.1000E+00	0.1000E+00		9.567	1.013
R1	NO.21	4	22	35400	0.1805E+04	0.1000E+00	0.1000E+00		27.942	1.050

TABLE 4.3 (Continued)

EXPONENTIAL MODEL
GROUND SYSTEM
ANTENNA
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	1	4	3038	0.4276E+04	0.9800E+00	0.5509E-04		6.321	0.002
R3	NO. 2	1	5	5085	0.4637E+03	0.2187E+01	0.1000E+00		15.223	0.224
R3	NO. 3	10	4	3822	0.6557E+03	0.9997E+02	0.9556E-01		220.269	632.152

EXPONENTIAL MODEL
GROUND SYSTEM
RADAR
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	16	16	2513	0.3363E+04	0.1000E+00	0.1000E+00		9683.195	5216.892
R1	NO. 2	12	99	24804	0.1003E+03	0.8407E+00	0.4791E-04		78.943	29.271
R1	NO. 3	11	70	6751	0.9688E+02	0.1000E+00	0.1000E+00		179.150	2.555
R1	NO. 5	12	4	714	0.6906E+03	0.8603E+00	0.5455E-04		15.653	1.673
R1	NO. 6	12	77	10304	0.1430E+03	0.1000E+00	0.1000E+00		29.750	4.789
R1	NO. 7	11	71	4302	0.5272E+03	0.8248E+00	0.7723E-04		468.146	30.085
R1	NO. 8	11	129	7574	0.3472E+03	0.9991E+00	0.4115E-03		387.092	108.360

TABLE 4.3 (Continued)

EXPONENTIAL MODEL
GROUND SYSTEM
RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	28	6369	0,2459E+03	0,7825E+00	0,2556E-03		16,406	0,003
R3	NO, 3	10	10	3822	0,5501E+03	0,9035F+00	0,4738E-03		75,005	7,399
R3	NO, 4	10	12	5370	0,1714E+03	0,7979E+02	0,1000E+00		72,392	4,613
R3	NO, 5	10	11	4650	0,2072E+02	0,1000E+00	0,1000E+00		59,330	7,159

TABLE 4.3 (Continued)

EXPONENTIAL MODEL
GROUND SYSTEM
MICROWAVE
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	4	114	42070	0.3382E+03	0.1000E+00	0.1000E+00		10.316	1.009
R1	NO. 3	4	240	47899	0.2582E+03	0.8076E+00	0.4020E-08		12.241	0.078
R1	NO. 5	5	10	407	0.3904E+02	0.8119E+00	0.3283E-01		10.355	0.917
R1	NO. 6	5	40	2663	0.6241E+02	0.7855E+01	0.1000E+00		13.387	0.898
R1	NO. 7	5	26	1373	0.9812E+02	0.1000E+00	0.1000E+00		43.329	1.002
R1	NO. 8	5	42	7124	0.6048E+02	0.1000E+00	0.4516E+02		47.562	1.025
R1	NO. 9	5	45	3032	0.5073E+02	0.5960E-07	0.8344E-01		16.599	1.026
R1	NO.11	5	26	2767	0.1193E+03	0.6299E+00	0.6317E-03		13.972	0.279
R1	NO.12	4	[illegible]	35800	0.2060E+03	0.1000E+00	0.1000E+00		[illegible]	1.007
R1	NO.13	4	302	42610	0.8350E+02	0.1000E+00	0.1000E+00		17.593	1.000
R1	NO.14	4	283	32800	0.7698E+02	0.5960E-07	0.8066E-01		36.601	1.008
R1	NO.16	4	251	33600	0.9679E+02	0.1000E+00	0.1709E+03		14.303	1.005
R1	NO.17	4	149	10240	0.6844E+02	0.5960E-07	0.7854E-01		20.730	1.007
R1	NO.18	4	142	41798	0.2577E+03	0.1000E+00	0.1000E+00		32.700	1.132
R1	NO.19	4	160	51440	0.4087E+03	0.7240E+00	0.1969E-04		9.200	0.125

TABLE 4.3 (Continued)

EXPONENTIAL MODEL
GROUND SYSTEM
MICROWAVE
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	33	1122	0,3697E+02	0,6840E+00	0,4392E-02		12,097	0,274

EXPONENTIAL MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0,4667E+02	0,5960E-07	0,5501E-01		53,911	2,211
R1	NO, 3	12	30	10304	0,9756E+03	0,1000E+00	0,1000E+00		200,746	47,967
R1	NO, 5	12	4	718	0,1966E+03	0,7038E+00	0,3208E-04		92,550	1,636
R1	NO, 6	11	49	9663	0,3657E+03	0,1000E+00	0,1000E+00		156,913	43,905
R1	NO, 7	11	117	10809	0,2009E+03	0,1000E+00	0,1000E+00		110,612	46,496
R1	NO, 9	11	177	7849	0,2169E+03	0,9693E+00	0,2915E-03		322,100	67,028

TABLE 4.3 (Continued)

EXPONENTIAL MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	15	9425	0,2975E+03	0,1000E+00	0,1000E+00		18,020	1,737
R2	NO, 2	8	7	8246	0,8252E+03	0,1000E+00	0,1000E+00		102,733	2,444
R2	NO, 3	8	16	7570	0,7246E+03	0,1000E+00	0,1000E+00		161,963	20,000
R2	NO, 4	8	11	9425	0,5663E+03	0,1000E+00	0,1000E+00		30,027	6,314
R2	NO, 5	8	15	45376	0,8845E+03	0,1000E+00	0,1000E+00		40,832	1,077
R2	NO, 6	8	4	22037	0,2640E+04	0,1000E+00	0,1000E+00		50,210	1,500
R2	NO, 7	8	9	45059	0,1309E+04	0,1000E+00	0,1000E+00		23,009	1,143
R2	NO, 8	8	17	8979	0,7000E+03	0,1000E+00	0,1000E+00		22,000	1,000
R2	NO, 9	8	18	11916	0,1469E+04	0,1000E+00	0,1000E+00		160,985	300,002
R2	NO,13	8	14	44314	0,1065E+04	0,1000E+00	0,1000E+00		72,059	1,003
R2	NO,19	8	9	45376	0,1004E+04	0,1000E+00	0,1000E+00		53,101	1,143
R2	NO,20	8	6	33328	0,1927E+04	0,1000E+00	0,1000E+00		19,597	1,250
R2	NO,22	8	16	45477	0,3162E+04	0,9990E+00	0,4206E-06		9,051	0,011
R2	NO,23	8	10	45261	0,3188E+04	0,1000E+00	0,1000E+00		30,354	1,125

TABLE 4.3 (Continued)

EXPONENTIAL MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	17	5	3784	0.4035E+03	0.9549E+00	0.4032E-01		176.863	1.445
R3	NO. 2	2	12	6336	0.2071E+03	0.1000E+00	0.1000E+00		32.016	1.100
R3	NO. 3	2	8	4576	0.2691E+03	0.4371E+01	0.4202E-01		35.845	0.709

EXPONENTIAL MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 2	8	100	3200	0.1799E+03	0.9782E+00	0.5767E-04		5.838	0.006
R2	NO. 3	8	50	3700	0.1208E+03	0.9261E+00	0.2535E-03		8.634	0.011

EXPONENTIAL MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	7	17	2193	0.1709E+03	0.8885E+00	0.5375E-03		14.059	0.060
R3	NO. 2	7	32	2248	0.6119E+02	0.2274E+01	0.1000E+00		31.416	0.862
R3	NO. 3	7	12	3322	0.3448E+03	0.1000E+00	0.1000E+00		35.274	1.100
R3	NO. 5	2	211	4536	0.2198E+02	0.9110E+02	0.3462E+02		26.027	1.309
R3	NO. 6	1	6	4659	0.3892E+03	0.1000E+00	0.1000E+00		41.025	1.250
R3	NO. 7	1	21	6144	0.2254E+03	0.1000E+00	0.1000E+00		13.717	1.053

TABLE 4.3 (Continued)

EXPONENTIAL MODEL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0,4241E+02	0,1000E+00	0,1000E+00		75,200	4,963
R1	NO, 2	11	33	5703	0,7649E+02	0,8945E+00	0,3240E-03		44,985	0,910
R1	NO, 3	12	16	9165	0,1730E+03	0,1000E+00	0,1060E+00		111,510	2,258
R1	NO, 4	15	19	11800	0,3540E+03	0,1000E+00	0,1000E+00		15,795	2,348
R1	NO, 5	12	35	18304	0,2007E+03	0,1000E+00	0,1000E+00		62,612	1,069
R1	NO, 7	15	9	11209	0,1502E+04	0,1000E+00	0,1380E+00		108,011	11,936
R1	NO, 8	15	7	18642	0,1103E+04	0,1000E+00	0,1000E+00		66,075	17,844
R1	NO, 9	15	9	16192	0,6965E+03	0,1000E+00	0,1000E+00		51,578	8,768
R1	NO,10	15	19	23495	0,1211E+04	0,1000E+00	0,1000E+00		31,566	1,192
R1	NO,11	15	10	15741	0,7720E+03	0,1000E+00	0,1000E+00		16,419	1,864
R1	NO,12	15	17	23572	0,7620E+03	0,1000E+00	0,1000E+00		35,182	6,060
R1	NO,13	15	20	15756	0,5613E+03	0,1000E+00	0,1000E+00		25,991	5,522
R1	NO,14	15	16	13960	0,4130E+03	0,1000E+00	0,1000E+00		45,709	88,753
R1	NO,15	15	34	23680	0,1726E+03	0,9782E+00	0,1490E-02		68,854	9,986
R1	NO,16	11	35	10323	0,7640E+02	0,9599E+00	0,1536E-03		84,668	19,323
R1	NO,17	12	41	24884	0,2414E+03	0,1000E+00	0,1000E+00		56,143	4,671
R1	NO,18	11	36	9833	0,3809E+03	0,9791E+00	0,8400E-05		92,135	24,707
R1	NO,19	11	35	12141	0,9425E+02	0,8329E+00	0,5163E-03		66,111	3,463

TABLE 4.3 (Continued)

EXPONENTIAL MODEL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	17	10	3965	0.1002E+03	0.8790E+00	0.1081E-02		81.593	1.956
R3	NO. 2	2	16	4576	0.2669E+03	0.9573E+00	0.7302E-03		13.047	0.029
R3	NO. 3	2	9	6336	0.7158E+03	0.1000E+00	0.1000E+00		11.684	1.143

EXPONENTIAL MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 2	14	12	2043	0.3161E+03	0.1000E+00	0.1000E+00		2643.178	14.068
R1	NO. 3	14	43	11189	0.2120E+03	0.1000E+00	0.1000E+00		38.035	6.029
R1	NO. 5	14	9	2792	0.5961E+02	0.5960E-07	0.8160E-01		71.470	37.843

EXPONENTIAL MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	13	10	1540	0.5070E+03	0.2373E-01	0.7579E-01		77[illegible].439	1367.531

TABLE 4.3 (Continued)

EXPONENTIAL MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
RS	NO, 1	9	10	1726	0,4742E+02	0,5960E-07	0,8054E-01		2555,655	1,131
RS	NO, 2	9	25	2261	0,1639E+02	0,1000E+00	0,1043E+03		17,409	1,227
RS	NO, 4	9	3	3105	0,4013E+03	0,1000E+00	0,1000E+00		669,519	3121,370
RS	NO, 6	2	67	4536	0,2955E+02	0,4992E+02	0,1577E+02		24,407	3,016
RS	NO, 7	1	5	8913	0,1879E+04	0,1000E+00	0,1000E+00		30,429	1,333
RS	NO, 9	1	4	6339	0,1371E+04	0,1000E+00	0,1000E+00		21,456	1,500

TABLE 4.3 (Continued)

EXPONENTIAL MODEL
GROUND SYSTEM
COMMUNICATIONS
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	4	14	35400	0.2012E+04	0.1000E+00	0.1000E+00		32.049	1.083
R1	NO. 2	4	25	45840	0.1417E+04	0.1000E+00	0.1000E+00		34.030	1.043
R1	NO. 3	4	11	51440	0.4557E+04	0.1000E+00	0.1000E+00		6.989	1.111
R1	NO. 4	4	11	41798	0.7969E+04	0.1000E+00	0.1000E+00		47.069	1.111
R1	NO. 5	4	16	33680	0.1841E+04	0.1000E+00	0.1000E+00		16.501	1.071
R1	NO. 6	4	16	24920	0.1616E+04	0.1000E+00	0.1000E+00		26.427	1.071
R1	NO. 7	4	16	32800	0.1599E+04	0.1000E+00	0.1000E+00		44.605	1.071
R1	NO. 8	4	95	42000	0.3866E+03	0.1000E+00	0.1000E+00		40.486	1.011
R1	NO. 9	4	4	46800	0.3890E+04	0.1000E+00	0.1000E+00		30.800	1.500
R1	NO.10	4	36	47906	0.2621E+04	0.1000E+00	0.1000E+00		48.766	1.029
R1	NO.11	4	23	46860	0.1638E+04	0.1000E+00	0.1000E+00		37.447	1.048

EXPONENTIAL MODEL
GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	2	20	3415	0.1329E+03	0.1000E+00	0.3040E-02		7.027	0.897
R3	NO. 2	2	10	4536	0.4151E+03	0.1114E+01	0.2846E-02		19.467	0.211

TABLE 4.3 (Continued)

EXPONENTIAL MODEL
GROUND SYSTEM
SYSTEM-RADAR
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 2	11	178	6751	0.1525E+03	0.1000E+00	0.1000E+00		590.579	258.142
R1	NO. 3	12	170	24004	0.7001E+03	0.1000E+00	0.1000E+00		401.778	318.909
R1	NO. 4	11	244	7049	0.8310E+03	0.9900E+00	0.5027E-05		21.452	0.500
R1	NO. 5	11	114	4302	0.2822E+05	0.8010E+00	0.4201E-03		772.349	89.650
R1	NO. 6	12	148	10304	0.3523E+03	0.1000E+00	0.1000E+00		357.320	233.825
R1	NO. 8	11	200	7574	0.4970E+03	0.9191E+00	0.9576E-04		450.657	398.101

EXPONENTIAL MODEL
GROUND SYSTEM
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	1	14	2076	0.1252E+03	0.8036E+00	0.2961E-02		10.973	0.161
R3	NO. 2	1	53	5085	0.7498E+02	0.8625E+00	0.3038E-02		9.023	0.164

EXPONENTIAL MODEL
GROUND SYSTEM
SYSTEM-MICROWAVE
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	5	34	1122	0.3450E+02	0.6603E+00	0.3806E-02		12.627	0.291

TABLE 4.3 (Continued)

EXPONENTIAL MODEL
GROUND SYSTEM
SYSTEM - MICROWAVE
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	17	407	0,2303E+02	0,5072E+00	0,2068E-01		19,207	0,885
R1	NO, 2	5	54	3031	0,3735E+02	0,9966E-07	0,7099E-01		10,309	1,022
R1	NO, 3	5	32	1373	0,6410E+02	0,6567E+01	0.1230E+00		26,874	0,882
R1	NO, 4	5	48	7126	0,6979E+02	0,1000E+00	0,1106E+03		55,651	1,022
R1	NO, 5	5	44	2662	0,5006E+02	0,7510E+01	0,1000E+00		15,490	0,906
R1	NO, 6	4	135	42076	0,2919E+03	0,1000E+00	0,1000E+00		9,953	1,008
R1	NO, 7	4	323	46656	0,9330E+02	0,1000E+00	0,2341E+03		26,230	1,003
R1	NO, 8	4	209	47896	0,1958E+03	0,7425E+00	0,5193E-04		11,952	0,189
R1	NO,10	5	5	161	0,2440E+02	0,3725E-08	0,7487E-01		10,007	1,337
R1	NO,11	5	29	2767	0,1603E+03	0,6090E+00	0,1925E-03		10,000	0,416
R1	NO,12	4	103	35480	0,1784E+03	0,1000E+00	0,1000E+00		16,671	1,006
R1	NO,13	4	477	42618	0,5609E+02	0,1000E+00	0,4274E+02		14,032	1,005
R1	NO,14	4	360	32000	0,6321E+02	0,9966E-07	0,7643E-01		37,146	1,003
R1	NO,16	4	302	33680	0,8639E+02	0,1000E+00	0,5031E+03		12,336	1,008
R1	NO,17	4	101	41794	0,2079E+03	0,1000E+00	0,1000E+00		33,747	1,136
R1	NO,18	4	104	51640	0,2781E+03	0,6671E+00	0,3824E-06		0,696	0,153
R1	NO,20	4	104	10240	0,5609E+02	0,9966E-07	0,7643E-01		19,065	1,006

TABLE 4.3 (Continued)

LLOYD- LIPOW MODEL
GROUND SYSTEM
ANTENNA
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	12	7	18308	0,1256E+04	[illegible]			28,445	0,684
R1	NO, 2	12	3	24804	0,5396E+04	0,8679E+07			42,763	0,714
R1	NO, 3	5	3	2767	-,4802E+02	[illegible]			10,300	0,311
R1	NO, 4	5	9	3032	0,1634E+03	[illegible]			81,472	0,911
R1	NO, 5	5	6	1373	0,1839E+03	[illegible]			5,382	0,838
R1	NO, 6	5	6	7124	0,7948E+03	0,1457E+06			188,482	0,631
R1	NO, 7	5	4	2663	0,5191E+03	[illegible]			12,853	1,497
R1	NO, 8	5	7	407	0,5844E+02	0,7552E+01			14,165	0,885
R1	NO, 9	4	18	42080	0,2789E+04	0,2694E+07			17,013	0,328
R1	NO,10	4	14	46800	0,2308E+04	0,9629E+06			36,717	1,075
R1	NO,11	4	23	47908	0,1673E+04	0,7037E+06			28,332	0,993
R1	NO,12	4	41	46860	0,0519E+03	[illegible]			32,300	0,701
R1	NO,13	4	73	46840	0,4857E+03	[illegible]			20,643	0,930
R1	NO,14	4	13	35480	-,7150E+04	[illegible]			43,717	0,623
R1	NO,15	4	28	31798	0,1211E+04	0,6318E+06			43,514	0,774
R1	NO,16	4	33	18840	0,3368E+03	[illegible]			29,527	0,976
R1	NO,17	4	35	33680	0,1200E+04	-,9830E+06			13,225	0,699
R1	NO,18	4	14	24928	0,9938E+03	-,1938E+07			15,277	0,534
R1	NO,19	4	61	32860	0,4782E+03	0,1291E+06			34,221	0,773
R1	NO,20	4	80	42000	0,3218E+03	0,2161E+05			9,275	0,969
R1	NO,21	4	22	35400	0,8071E+03	[illegible]			18,003	0,227

TABLE 4.3 (Continued)

LLOYD- LIPOW MODEL
GROUND SYSTEM
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	NBAR	RE
R3	NO, 1	1	4	3038	0,3083E+03	0,1978E+05			83,133	0,715
R3	NO, 2	1	5	5065	0,4675E+03	0,3685E+04			18,183	0,216
R3	NO, 3	18	4	3022	0,1800E+03	-,7859E+04			8,764	1,198

LLOYD- LIPOW MODEL
GROUND SYSTEM
RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	NBAR	RE
R1	NO, 1	16	16	2513	0,8701E+02	0,2082E+06			90,891	0,643
R1	NO, 2	12	99	38804	0,2351E+03	-,3499E+05			9,528	0,368
R1	NO, 3	11	78	6751	0,6820E+02	0,5079E+03			75,6[illegible]8	0,787
R1	NO, 4	12	38	9165	0,1930E+03	0,3281E+05			26,638	0,823
R1	NO, 5	12	4	718	0,1418E+03	0,6161E+04			25,940	0,982
R1	NO, 6	12	77	10304	C,2058E+03	0,1177E+05			10,999	0,940
R1	NO, 7	11	71	4382	0,3295E+02	0,6119E+63			72,939	0,852
R1	NO, 8	11	129	7578	0,3938E+02	-,3967E+04			28,054	0,951

TABLE 4.3 (Continued)

L L O Y D - L I P O W   M O D E L
G R O U N D   S Y S T E M
R A D A R
I N - H O U S E

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	1	28	6369	0.1342E+03	0.2237E+04			35.451	0.789
R3	NO. 2	1	3	2976	0.3454E+03	0.8096E+04			25.927	0.440
R3	NO. 3	18	18	3022	0.1810E+03	0.7389E+04			27.280	0.664
R3	NO. 4	18	12	5370	-.7600E+02	-.2577E+07			9.251	0.107
R3	NO. 5	18	11	4350	0.4810E+03	0.5527E+05			8.591	0.234

TABLE 4.3 (Continued)

LLOYD- LIPOW MODEL
GROUND SYSTEM
MICROWAVE
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	4	114	42078	0.3420E+03	0.2272E+05			9.963	0.962
R1	NO. 2	4	259	46860	0.1114E+03	0.6190E+04			28.123	0.988
R1	NO. 3	4	240	47899	0.1572E+03	0.1336E+05			55.866	0.915
R1	NO. 4	4	183	46798	0.1223E+03	-.1307E+04			21.108	1.005
R1	NO. 5	5	10	407	0.4097E+02	0.3703E+03			19.117	0.981
R1	NO. 6	5	40	2663	0.6350E+02	0.7375E+03			18.432	0.926
R1	NO. 7	5	26	1373	-.2172E+02	-.1021E+06			9.668	0.995
R1	NO. 8	5	42	7124	0.9131E+02	0.6330E+04			46.411	0.907
R1	NO. 9	5	45	3032	0.5200E+02	0.7663E+03			16.298	0.956
R1	NO.10	5	4	161	0.3694E+02	0.3845E+03			18.711	0.545
R1	NO.11	5	26	2767	0.8955E+02	0.3905E+04			20.197	0.603
R1	NO.12	6	147	35400	0.2051E+03	-.1297E+05			13.555	0.983
R1	NO.13	4	302	42618	0.8304E+02	-.1105E+05			17.487	0.982
R1	NO.14	4	283	32800	0.7898E+02	0.4025E+04			36.450	0.964
R1	NO.15	4	173	24920	0.1016E+03	0.2890E+04			23.277	0.991
R1	NO.16	4	251	33680	0.9700E+02	-.1058E+04			16.303	1.002
R1	NO.17	4	149	18240	0.7962E+02	-.2457E+04			20.211	0.953
R1	NO.18	4	142	41798	0.2969E+03	0.5740E+05			30.930	0.938
R1	NO.19	4	160	51440	0.1998E+03	0.2047E+05			22.794	0.835
R1	NO.20	4	448	46834	0.6992E+02	-.3549E+04			21.323	0.988

TABLE 4.3 (Continued)

LLOYD- LIPOW MODEL
GROUND SYSTEM
MICROWAVE
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	33	1122	0,3496E+02	0,6105E+03			22,347	0,644

LLOYD- LIPOW MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0,1000E+03	0,1616E+05			61,739	0,002
R1	NO, 2	11	17	4382	0,1028E+03	0,9858E+04			60,125	0,027
R1	NO, 3	12	30	10394	0,3661E+03	0,3190E+05			21,990	0,981
R1	NO, 4	12	7	9165	0,4070E+03	0,2692E+05			244,899	1,001
R1	NO, 5	12	4	714	0,9710E+02	0,1269E+04			22,215	0,373
R1	NO, 6	11	49	9663	0,1589E+03	0,9166E+04			16,619	0,953
R1	NO, 7	11	117	10889	0,8907E+02	-,2180E+05			4,601	0,321
R1	NO, 8	12	33	24804	0,5570E+03	-,9311E+06			20,588	0,844
R1	NO, 9	11	177	7849	0,1896E+02	0,2632E+03			50,529	0,948

TABLE 4.3 (Continued)

LLOYD- LIPOW MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	8	15	9425	0.4557E+02	0.8009E+05			28.048	0.030
R2	NO. 2	8	7	8246	0.7081E+03	0.1893E+06			44.562	0.036
R2	NO. 3	8	16	7570	0.3326E+03	0.4084E+05			22.319	0.045
R2	NO. 4	8	11	9425	0.8649E+03	0.1812E+06			10.688	0.771
R2	NO. 5	8	15	45376	0.1096E+04	0.5271E+06			37.334	0.059
R2	NO. 6	8	4	22037	0.3995E+04	0.4826E+07			45.659	0.011
R2	NO. 7	8	9	45059	0.1498E+04	0.5352E+06			9.688	0.339
R2	NG. 8	8	17	8979	0.6191E+03	-.4262E+06			18.599	0.727
R2	NO. 9	8	18	11916	0.5838E+03	0.4832E+05			6.712	0.864
R2	NO.10	8	11	17219	0.1472E+04	0.1938E+05			0.604	1.053
R2	NO.11	8	3	2237	-.2263E+02	-.1661E+07			3.052	0.032
R2	NO.12	8	4	2287	0.5887E+03	0.8696E+05			1.669	0.018
R2	NO.13	8	3	2332	0.8240E+03	0.1672E+06			2.864	0.030
R2	NO.14	8	3	1980	0.6538E+03	0.1149E+06			14.473	0.783
R2	NO.15	8	3	631	0.4355E+02	-.1817E+06			2.484	0.025
R2	NO.16	8	4	3492	0.8702E+03	-.7636E+05			1.651	0.601
R2	NO.17	8	11	4096	0.3995E+03	-.1286E+05			3.385	0.887
R2	NO.18	8	14	88314	0.2051E+04	0.4358E+06			21.581	0.360
R2	NO.19	8	9	45376	0.2417E+04	0.1792E+07			28.700	0.526
R2	NO.20	8	6	33328	0.1732E+04	-.9471E+06			18.813	1.167

TABLE 4.3 (Continued)

LLOYD- LIPOW MODEL
GROUND SYSTEM
DISPLAY
FIELD
(CONTINUED)

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO,21	8	3	45221	0,1125E+05	0,6793E+07			25,752	0,430
R2	NO,22	8	16	45877	0,1573E+04	0,3133E+06			159,760	0,665
R2	NO,23	8	10	45261	0,3507E+04	0,2271E+07			0,284	0,318

LLOYD- LIPOW MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	5	3784	0,7003E+03	0,3430E+05			75,385	0,538
R3	NO, 2	2	12	6336	0,3394E+03	0,4662E+05			30,732	0,032
R3	NO, 3	2	8	4576	0,2844E+03	0,1013E+05			40,212	0,607

TABLE 4.3 (Continued)

LLOYD- LIPOW MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	8	105	2700	0.7006E+01	0.3201E+02			37.010	0.950
R2	NO. 2	8	100	3200	0.1370E+02	0.1119E+03			74.530	0.927
R2	NO. 3	8	50	3700	0.4004E+02	0.0488E+03			85.001	0.853
R2	NO. 4	8	33	3700	0.4259E+02	0.2642E+04			118.731	0.895
R2	NO. 5	8	16	2500	0.1103E+03	0.5799E+04			31.100	0.890

LLOYD- LIPOW MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	7	17	2193	0.7209E+02	0.1482E+04			47.602	0.669
R3	NO. 2	7	32	2240	0.6252E+02	0.5324E+03			31.551	0.855
R3	NO. 3	7	12	3322	0.1521E+03	-.2039E+05			30.338	0.924
R3	NO. 4	2	304	3415	0.5600E+01	0.7000E+01			9.100	0.985
R3	NO. 5	2	211	4536	0.2106E+02	-.5609E+03			25.024	0.950
R3	NO. 6	1	6	4659	-.5261E+03	-.9525E+06			6.432	0.025
R3	NO. 7	1	21	6144	0.2171E+03	-.1109E+05			13.253	0.963

TABLE 4.3 (Continued)

LLOYD- LIPOW MODEL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0,2203E+03	0,2101E+05			35,860	0,726
R1	NO, 2	11	33	5703	0,9256E+02	0,2274E+04			191,189	0,801
R1	NO, 3	12	16	9165	0,4802E+03	0,2941E+05			70,781	9,402
R1	NO, 4	15	19	11800	0,3941E+03	-,4475E+05			18,652	0,893
R1	NO, 5	12	35	18304	0,2453E+03	0,1669E+05			40,598	0,659
R1	NO, 6	16	5	2513	0,4322E+03	0,3730E+05			6,054	0,890
R1	NO, 7	15	9	11209	0,9302E+03	0,3044E+06			20,130	0,622
R1	NO, 8	15	7	18642	0,2988E+04	-,3581E+07			14,533	0,993
R1	NO, 9	15	9	16192	0,1158E+04	-,[illegible]801E+07			12,373	0,580
R1	NO,10	15	19	23495	0,1251E+04	0,5972E+06			19,496	0,475
R1	NO,11	15	10	15741	0,6926E+03	-,6152E+04			8,812	1,124
R1	NO,12	15	17	23572	0,1312E+04	0,5226E+06			13,525	0,683
R1	NO,13	15	20	15756	0,7240E+03	-,2205E+06			10,372	0,783
R1	NO,14	15	16	13960	0,7535E+03	-,3370E+05			4,098	1,000
R1	NO,15	15	34	23680	0,6039E+03	0,1552E+06			20,047	0,743
R1	NO,16	11	35	10323	0,2195E+03	0,1567E+05			13,788	0,869
R1	NO,17	12	41	24804	0,6024E+C3	-,3544E+05			26,290	1,025
R1	NO,18	11	36	9833	0,3646E+03	-,4830E+04			15,922	1,028
R1	NO,19	11	35	12141	0,2439E+03	0,2829E+05			38,494	0,757

TABLE 4.3 (Continued)

LLOYD- LIPOW MODEL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	17	10	3965	0.2993E+03	0.1282E+04			228.169	0.890
R3	NO. 2	2	16	4576	0.1925E+03	0.8366E+04			96.132	0.508
R3	NO. 3	2	9	6336	0.5970E+03	-.2922E+06			6.180	0.420

LLOYD- LIPOW MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	11	46	4467	0.5285E+02	0.1555E+04			42.998	0.773
R1	NO. 2	14	12	2043	0.1156E+03	0.2765E+03			337.224	0.591
R1	NO. 3	14	43	11109	0.3404E+03	-.5315E+05			16.264	0.903
R1	NO. 4	14	45	10666	0.3041E+03	-.6332E+05			15.137	0.886
R1	NO. 5	14	9	2792	0.2334E+03	0.1204E+05			7.252	0.502

LLOYD- LIPOW MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	13	18	1540	0.6102E+02	0.3000E+03			10.291	1.052

TABLE 4.3 (Continued)

LLOYD-LIPOW MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	9	10	1726	0,6780E+02	0,1073E+03			2009,260	0,863
R3	NO. 2	9	25	2261	0,2741E+02	0,3915E+03			45,120	0,959
R3	NO. 3	9	28	2370	0,6497E+02	0,3246E+04			60,758	0,708
R3	NO. 4	9	3	3105	0,4106E+02	-,1154E+04			12,680	1,452
R3	NO. 5	2	74	3415	0,2547E<02	0,2678E+03			17,350	0,919
R3	NO. 6	2	67	4536	0,3004E+02	0,1273E+03			24,823	1,012
R3	NO. 7	1	5	8513	-,1629E+04	-,1552E+00			20,852	0,390
R3	NO. 8	1	4	5339	0,1581E+04	0,5126E+06			18,414	1,261

TABLE 4.3 (Continued)

LLOYD- LIPOW MODEL
GROUND SYSTEM
COMMUNICATIONS
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	4	18	35400	0,1017E+04	-,9658E+07			35,086	0,794
R1	NO, 2	4	25	46840	0,1110E+04	-,3192E+07			33,906	0,862
R1	NO, 3	4	11	51440	0,8466E+04	-,1530E+07			6,573	1,052
R1	NO, 4	4	11	41798	-,7640E+04	-,5187E+09			14,985	0,226
R1	NO, 5	4	16	33600	0,1446E+04	-,3760E+07			12,362	0,491
R1	NO, 6	4	16	24920	0,1759E+04	0,6684E+06			13,524	0,468
R1	NO, 7	4	16	32800	0,1947E+04	0,1822E+07			29,846	0,533
R1	NO, 8	4	95	62400	0,4268E+03	0,1777E+06			30,752	0,736
R1	NO, 9	4	4	66800	0,5489E+04	0,1029E+08			30,126	0,857
R1	NO,10	4	36	67900	0,6584E+03	-,5776E+08			28,862	0,385
R1	NO,11	4	23	46860	0,1496E+04	-,1470E+07			10,818	0,944
R1	NO,12	4	3	42000	0,8300E+04	0,1705E+08			12,986	0,927

LLOYD- LIPOW MODEL
GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	2	20	3415	0,1337E+03	0,2225E+04			7,423	0,940
R3	NO, 2	2	10	4536	0,4203E+03	0,3346E+05			33,882	0,328

TABLE 4.3 (Continued)

LLOYD- LIPOW MODEL
GROUND SYSTEM
SYSTEM-RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	16	26	2513	0,6820E+02	0,1567E+04			56,668	0,569
R1	NO, 2	11	173	6751	0,2614E+02	0,1011E+03			30,809	0,838
R1	NO, 3	12	170	24004	0,1316E+03	-,6623E+05			9,921	0,506
R1	NO, 4	11	244	7849	0,1600E+02	0,1088E+03			39,038	0,953
R1	NO, 5	11	114	4382	0,1516E+02	0,1438E+03			109,147	0,936
R1	NO, 6	12	148	18304	0,8439E+02	0,4150E+04			16,124	0,806
R1	NO, 7	12	57	9165	0,1022E+03	0,6127E+04			63,936	0,723
R1	NO, 8	11	200	7574	0,2364E+02	0,3132E+03			25,309	0,970

LLOYD- LIPOW MODEL
GROUND SYSTEM
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	14	2076	0,1128E+03	0,2752E+04			33,195	0,498
R3	NO, 2	1	53	5085	0,7155E+02	0,6408E+03			20,217	0,469

LLOYD- LIPOW MODEL
GROUND SYSTEM
SYSTEM-MICROWAVE
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	34	1122	0,3196E+02	0,5289E+03			23,441	0,698

TABLE 4.3 (Continued)

L L O Y D - L I P O N   M O D E L
G R O U N D   S Y S T E M
S Y S T E M - M I C R O W A V E
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	17	407	0,240[illegible]E+02	0,1694E+03			20,459	0,913
R1	NO, 2	5	54	3031	0,3966E+02	0,7068E+03			17,758	0,875
R1	NO, 3	5	32	1373	0,6533E+02	0,7199E+03			26,896	0,926
R1	NO, 4	5	88	7124	0,6094E+02	0,6096E+04			53,502	0,898
R1	NO, 5	5	44	2662	0,5976E+02	0,5923E+03			16,986	0,970
R1	NO, 6	4	135	42076	0,2945E+03	0,1429E+05			9,879	0,983
R1	NO, 7	4	323	46856	0,9499E+02	0,1273E+04			20,872	1,002
R1	NO, 8	4	299	47696	0,1306E+03	0,1100E+05			43,094	0,911
R1	NO, 9	4	201	46798	0,1141E+03	-,4932E+04			21,184	1,001
R1	NO,10	5	5	161	0,2767E+02	0,1552E+03			10,682	0,912
R1	NO,11	5	29	2767	0,7788E+02	0,2729E+04			10,384	0,719
R1	NO,12	4	183	35808	0,1706E+03	-,2745E+05			15,923	0,938
R1	NO,13	4	477	42610	0,5712E+02	-,1261E+04			14,084	0,993
R1	NO,14	4	360	32800	0,6487E+02	0,2972E+04			36,838	0,964
R1	NO,15	4	283	24920	0,9073E+02	0,2380E+04			20,298	0,986
R1	NO,16	4	302	33600	0,8608E+02	-,3646E+04			12,315	0,978
R1	NO,17	4	181	41798	0,2391E+03	0,3673E+05			31,685	0,931
R1	NO,18	4	184	51440	0,1931E+03	0,1921E+05			19,426	0,817
R1	NO,19	4	546	40840	0,5888E+02	-,6616E+04			21,186	0,945
R1	NO,20	4	184	10240	0,5032E+02	0,1502E+04			20,064	0,968

TABLE 4.3 (Continued)

A R O E F M O D E L
G R O U N D S Y S T E M
A N T E N N A
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	MBAR	RE
R1	NO, 1	12	7	18304	0,1213E+04	0,6058E+03			26,673	0,634
R1	NO, 2	12	3	24804	0,5307E+04	0,1765E+04			27,315	0,574
R1	NO, 3	5	3	2767	0,1641E+03	-,9257E+03			10,695	0,344
R1	NO, 4	5	9	3032	0,1302E+03	0,5398E+02			40,449	0,981
R1	NO, 5	5	6	1373	0,1914E+03	0,4257E+02			3,982	0,031
R1	NO, 6	5	6	7124	0,6081E+03	0,3087E+03			66,518	0,656
R1	NO, 7	5	4	2663	0,5099E+03	-,2027E+02			13,164	1,506
R1	NO, 8	5	7	407	0,5964E+02	6,2170E+02			12,831	0,488
R1	NO, 9	4	18	42080	0,2798E+04	0,1458E+04			14,791	0,253
R1	NO,10	4	14	46800	0,2193E+04	0,5618E+03			33,320	1,102
R1	NO,11	4	23	47900	0,1630E+04	0,4769E+03			22,156	0,996
R1	NO,12	4	41	46060	0,7437E+03	-,2135E+04			26,967	0,702
R1	NO,13	4	73	46040	0,4028E+03	-,2564E+03			19,574	0,942
R1	NO,14	4	13	51440	0,1141E+04	-,5231E+05			25,365	0,606
R1	NO,15	4	28	31798	0,1155E+04	0,6026E+03			38,487	0,781
R1	NO,16	4	33	18240	0,3221E+03	-,2097E+03			26,580	0,994
R1	NO,17	4	35	33600	0,1003E+04	-,7604E+03			13,196	0,699
R1	NO,18	4	18	24920	0,1015E+04	-,1372E+04			15,528	0,613
R1	NO,19	4	61	32800	0,4522E+03	0,3313E+03			32,241	0,733
R1	NO,20	4	80	42000	0,3184E+03	0,6740E+02			8,891	0,972
R1	NO,21	4	22	35400	0,1116E+04	-,5560E+04			15,648	0,187

TABLE 4.3 (Continued)

AROEF MODEL
GROUND SYSTEM
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	4	3036	0,2607E+03	0,1125E+03			44,975	0,666
R3	NO, 2	1	5	5085	0,4662E+03	0,3254E+02			13,881	0,196
R3	NO, 3	18	4	3822	0,1865E+03	-,4079E+02			8,927	1,268

AROEF MODEL
GROUND SYSTEM
RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	16	16	2513	0,7425E+02	0,4276E+02			54,180	0,614
R1	NO, 2	12	99	24804	0,2334E+03	-,1310E+03			9,257	9,894
R1	NO, 3	11	70	6751	0,6319E+02	0,1999E+02			44,826	0,641
R1	NO, 4	12	34	9165	0,1867E+03	0,1504E+03			25,668	0,779
R1	NO, 5	12	4	714	0,1337E+03	0,4608E+02			22,578	0,960
R1	NO, 6	12	77	10304	0,2031E+03	0,6871E+02			13,732	0,937
R1	NO, 7	11	71	4382	0,2771E+02	0,2616E+02			50,074	0,885
R1	NO, 8	11	129	7574	0,4052E+02	-,6749E+01			23,252	1,914

TABLE 4.3 (Continued)

A R O E F M O D E L
G R O U N D S Y S T E M
R A D A R
I N - H O U S E

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	1	28	6369	0.1296E+03	0.3647E+02			24.804	0.654
R3	NO. 2	1	3	2076	0.3499E+03	0.6621E+02			10.597	0.369
R3	NO. 3	10	10	3022	0.1773E+03	0.6081E+02			22.687	0.609
R3	NO. 4	10	12	5370	0.2673E+03	-.2940E+04			0.203	0.037
R3	NO. 5	10	11	4650	0.8914E+03	0.1021E+03			7.042	0.223

TABLE 4.3 (Continued)

A R O E F   M O D E L
G R O U N D   S Y S T E M
M I C R O - A V E
F I E L D

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	4	114	42078	0.3397E+03	0.6678E+02			9.884	0.963
R1	NO. 2	4	259	46860	0.1057E+03	0.4717E+02			26.359	1.009
R1	NO. 3	4	240	47899	0.1408E+03	0.1198E+03			48.788	0.980
R1	NO. 4	4	183	40798	0.1146E+03	-.1545E+02			19.955	1.022
R1	NO. 5	5	10	407	0.4013E+02	0.1064E+02			18.618	0.968
R1	NO. 6	5	40	2663	0.6299E+02	0.1961E+02			14.841	0.966
R1	NO. 7	5	26	1373	0.3549E+02	-.7616E+03			11.996	0.186
R1	NO. 8	5	42	7128	0.8049E+02	0.6528E+02			30.489	0.932
R1	NO. 9	5	45	3032	0.5208E+02	0.1694E+02			15.613	0.955
R1	NO.10	5	4	161	0.3696E+02	0.1321E+02			12.555	0.677
R1	NO.11	5	26	2767	0.8827E+02	0.5836E+02			18.506	0.583
R1	NO.12	4	147	35400	0.2820E+03	-.5965E+02			12.904	0.995
R1	NO.13	4	302	42618	0.8188E+02	-.9567E+02			16.652	0.968
R1	NO.14	4	283	32800	0.7364E+02	0.5158E+02			32.991	0.989
R1	NO.15	4	173	24920	0.9830E+02	0.2738E+02			22.485	1.007
R1	NO.16	4	251	33600	0.9547E+02	-.9224E+01			14.268	1.011
R1	NO.17	4	149	18240	0.6840E+02	0.3770E+02			18.769	0.934
R1	NO.18	4	142	41798	0.2828E+03	0.2195E+03			30.815	0.940
R1	NO.19	4	160	51440	0.1932E+03	0.1388E+03			22.075	0.798
R1	NO.20	6	448	46834	0.6815E+02	-.3987E+02			20.217	1.000

TABLE 4.3 (Continued)

AROEF MODEL
GROUND SYSTEM
MICROWAVE
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	PE
R1	NO, 1	5	33	1122	0,3811E+02	0,2286E+02			21,265	0,570

AROEF MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0,1544E+03	0,1171E+03			57,431	0,830
R1	NO, 2	11	17	4302	0,1461E+03	0,9051E+02			43,986	0,573
R1	NO, 3	12	30	18304	0,3538E+03	0,9684E+02			28,583	0,996
R1	NO, 4	12	7	9165	0,2032E+03	0,9426E+02			69,090	1,155
R1	NO, 5	12	4	714	0,1001E+03	0,2883E+02			14,862	0,290
R1	NO, 6	11	49	9663	0,1582E+03	0,8792E+02			15,638	0,949
R1	NO, 7	11	117	10009	0,9022E+02	-,1719E+03			4,677	0,436
R1	NO, 8	12	33	24808	0,6020E+03	-,6941E+03			16,311	0,807
R1	NO, 9	11	177	7849	0,1668E+02	0,1470E+02			40,797	0,982

TABLE 4.3 (Continued)

A R D E F M O D E L
G R O U N D S Y S T E M
D I S P L A Y
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	15	9425	0.4329E+03	0.1840E+03			24.919	0.819
R2	NO, 2	8	7	8246	0.6226E+03	0.3027E+03			33.534	0.830
R2	NO, 3	8	16	7570	0.3189E+03	0.1275E+03			19.818	0.833
R2	NO, 4	8	11	9425	0.8835E+03	0.2159E+03			10.253	0.751
R2	NO, 5	8	15	45376	0.9533E+03	0.5130E+03			32.782	0.864
R2	NO, 6	8	4	22037	0.3631E+04	0.1683E+04			31.967	0.766
R2	NO, 7	8	9	45059	0.1528E+08	9.5598E+03			9.022	0.343
R2	NO, 8	8	17	8979	0.6893E+03	-.5812E+03			10.543	0.803
R2	NO, 9	8	18	11916	0.5816E+03	0.8310E+02			6.570	0.857
R2	NO,10	8	11	17219	0.1472E+08	0.1293E+02			0.599	1.053
R2	NO,11	8	3	2237	0.3508E+03	-.1860E+08			1.407	0.887
R2	NO,12	8	4	2287	0.6875E+03	0.2050E+03			0.902	0.886
R2	NO,13	8	3	2332	0.8732E+03	0.3211E+03			1.646	0.811
R2	NO,14	8	3	1988	0.6523E+03	0.2181E+03			13.288	0.782
R2	NO,15	8	3	631	0.1155E+03	-.3712E+03			1.116	0.885
R2	NO,16	8	4	3492	0.3766E+03	-.8176E+02			1.685	0.612
R2	NO,17	8	11	4896	0.3990E+03	-.3210E+02			3.426	0.893
R2	NO,18	8	14	44318	0.2059E+04	0.3130E+03			15.036	0.266
R2	NO,19	8	9	45376	0.2376E+04	0.1208E+04			21.709	0.462

TABLE 4.3 (Continued)

A R D E F M O D E L
G R O U N D S Y S T E M
D I S P L A Y
F I E L D
(C O N T I N U E D)

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO,20	8	6	33328	0,1750E+04	-,3539E+03			18,448	1,187
R2	NO,21	8	3	45221	0,1132E+05	0,1830E+04			18,692	0,371
R2	NO,22	8	16	48477	0,1271E+04	0,[illegible]368E+03			77,545	0,669
R2	NO,23	8	10	45261	0,3679E+04	0,1230E+04			8,651	0,348

A R D E F M O D E L
G R O U N D S Y S T E M
D I S P L A Y
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
P3	NO, 1	17	5	3784	0,6681E+03	0,1318E+03			65,129	0,847
R3	NO, 2	2	12	6336	0,3181E+03	0,1500E+03			26,776	0,817
R3	NO, 3	2	8	4576	0,2778E+03	0,7821E+02			26,427	0,531

TABLE 4.3 (Continued)

ARDEF MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	8	105	2700	0.6255E+01	0.6644E+01			31.425	0.978
R2	NO. 2	8	100	3200	0.1106E+02	0.9863E+01			59.476	0.988
R2	NO. 3	8	50	3700	0.3218E+02	0.2705E+02			59.622	0.902
R2	NO. 4	8	33	3770	0.2399E+02	0.4742E+02			70.156	1.080
R2	NO. 5	8	16	2500	0.1113E+03	0.4869E+02			28.902	0.887

ARDEF MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	7	17	2193	0.6796E+02	0.3519E+02			39.598	0.684
R3	NO. 2	7	32	2248	0.6010E+02	0.1808E+02			20.944	0.872
R3	NO. 3	7	12	3322	0.2105E+03	-.5122E+03			29.069	0.976
R3	NO. 4	2	384	3415	0.5370E+01	0.1221E+01			0.730	0.987
R3	NO. 5	2	211	4536	0.2086E+02	-.2611E+02			23.418	1.005
R3	NO. 6	1	6	4659	0.4379E+02	-.2174E+04			8.227	0.887
R3	NO. 7	1	21	6144	0.2147E+03	-.5275E+02			13.189	0.978

TABLE 4.3 (Continued)

A R O E F M O D E L
G R O U N D S Y S T E M
C O M P U T E R
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0,2167E+03	0,1308E+03			29,314	0,677
R1	NO, 2	11	33	5705	0,6125E+02	0,4203E+02			100,452	0,936
R1	NO, 3	12	16	9165	0,4578E+03	0,1598E+03			39,132	0,330
R1	NO, 4	15	19	11800	0,3904E+03	-,1118E+03			10,669	0,910
R1	NO, 5	12	35	10304	0,2331E+03	0,1303E+03			29,435	0,594
R1	NO, 6	16	5	2513	0,4552E+03	0,1592E+03			6,695	0,122
R1	NO, 7	15	9	11209	0,9177E+03	0,3948E+03			17,295	0,567
R1	NO, 8	15	7	14642	0,2931E+04	-,1152E+04			14,343	1,019
R1	NO, 9	15	9	16192	0,1186E+04	-,1124E+04			12,445	0,601
R1	NO,10	15	19	23495	0,1235E+04	0,6514E+03			17,319	0,387
R1	NO,11	15	10	15741	0,6015E+03	-,2603E+02			8,844	1,131
R1	NO,12	15	17	23572	0,1298E+04	0,4394E+03			13,889	0,649
R1	NO,13	15	20	15756	0,7206E+03	-,2797E+03			10,535	0,799
R1	NO,14	15	16	13960	0,7528E+03	-,4585E+02			4,099	1,008
R1	NO,15	15	34	23680	0,5905E+03	0,2912E+03			19,633	0,704
R1	NO,16	11	35	10323	0,2159E+03	0,7318E+02			12,632	0,850
R1	NO,17	12	41	24804	0,6090E+03	0,2933E+03			23,036	1,072
R1	NO,18	11	36	9833	0,3576E+03	-,1981E+02			15,305	1,037
R1	NO,19	11	38	12141	0,2288E+03	0,1475E+03			32,599	0,724

TABLE 4.3 (Continued)

A R O E F M O D E L
G R O U N D S Y S T E M
C O M P U T E R
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	10	3965	0,2232E+03	0,1677E+02			106,968	0,952
R3	NO, 2	2	16	4576	0,1700E+03	0,0316E+02			60,604	0,858
R3	NO, 3	2	9	6336	0,6077E+03	-,3793E+03			6,225	0,836

A R O E F M O D E L
G R O U N D S Y S T E M
C O M P U T E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	46	4467	0,4043E+02	0,3951E+02			35,043	0,780
R1	NO, 2	14	12	2043	0,9850E+02	0,9398E+01			77,191	0,596
R1	NO, 3	14	43	11109	0,3340E+03	-,1565E+03			16,342	0,932
R1	NO, 4	14	45	10666	0,2998E+03	-,1404E+03			15,141	0,916
R1	NO, 5	14	9	2792	0,2331E+03	0,6234E+02			6,890	0,463

A R O E F M O D E L
G R O U N D S Y S T E M
C O M P U T E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	13	18	1540	0,5077E+02	0,4296E+01			13,273	1,060

TABLE 4.3 (Continued)

AROEF MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	9	10	1726	0.1599E+02	0.4387E+01			215.496	1.272
R3	NO. 2	9	25	2261	0.2202E+02	0.1207E+02			29.010	0.990
R3	NO. 3	9	24	2370	0.5036E+02	0.6494E+02			53.350	0.711
R3	NO. 4	9	3	3105	0.4111E+02	-.2304E+02			12.683	1.070
R3	NO. 5	2	74	3015	0.2403E+02	0.1052E+02			15.941	0.916
R3	NO. 6	2	67	4536	0.2067E+02	0.1331E+01			23.463	1.030
R3	NO. 7	1	5	8513	0.3158E+03	-.7539E+04			14.605	0.393
R3	NO. 8	1	4	4339	0.1533E+04	0.3524E+03			16.985	1.283

TABLE 4.3 (Continued)

A R O E F M O D E L
G R O U N D S Y S T E M
C O M M U N I C A T I O N S
F I E L D

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	4	16	35400	0.1346E+04	-.3132E+04			20.294	0.812
R1	NO. 2	4	25	46840	0.1135E+04	-.1506E+04			30.715	0.879
R1	NO. 3	4	11	51440	0.4450E+04	-.3486E+03			9.619	1.858
R1	NO. 4	4	11	41798	0.1403E+04	-.5534E+05			19.261	0.235
R1	NO. 5	4	16	33680	0.1507E+04	-.1757E+04			12.689	0.409
R1	NO. 6	4	16	24926	0.1778E+04	0.6070E+03			12.776	0.451
R1	NO. 7	4	16	32000	0.1877E+04	0.1271E+04			26.036	0.451
R1	NO. 8	4	95	42000	0.4132E+03	0.6420E+03			26.866	9.603
R1	NO. 9	4	4	46800	0.5243E+04	0.2310E+04			27.105	0.809
R1	NO.10	4	36	47000	0.1279E+04	-.1663E+05			24.827	0.323
R1	NO.11	4	23	46060	0.1511E+04	-.5400E+03			17.568	0.966
R1	NO.12	4	3	42000	0.0496E+04	0.2712E+04			12.676	0.940

A R O E F M O D E L
G R O U N D S Y S T E M
C O M M U N I C A T I O N S
I N - H O U S E

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	2	20	3415	0.1332E+03	0.1691E+02			7.277	0.940
R3	NO. 2	2	10	4536	0.4206E+03	0.1609E+03			21.907	0.274

TABLE 4.3 (Continued)

APOEF MODEL
GROUND SYSTEM
SYSTEM-RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	PBAR	RE
R1	NO, 1	16	24	2515	0,6317E+02	0,3949E+02			40,823	0,459
R1	NO, 2	11	178	6751	0,2513E+02	0,1327E+02			25,941	0,799
R1	NO, 3	12	179	24804	0,1333E+03	-,3214E+03			9,081	0,619
R1	NO, 4	11	244	7849	0,1475E+02	0,1212E+02			34,328	0,975
R1	NO, 5	11	114	4382	0,1099E+02	0,1101E+02			67,890	1,031
R1	NO, 6	12	140	10304	0,8207E+02	0,6347E+02			15,130	0,768
R1	NO, 7	12	57	9165	0,9070E+02	0,9183E+02			49,660	0,697
R1	NO, 8	11	200	7974	0,2269E+02	0,1272E+02			23,493	0,988

AROEF MODEL
GROUND SYSTEM
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	18	2876	0,1109E+03	0,8393E+02			33,330	0,392
R3	NO, 2	1	53	5085	0,7106E+02	0,2141E+02			13,083	0,361

AROEF MODEL
GROUND SYSTEM
SYSTEM-MICROWAVE
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	38	1122	0,3106E+02	0,2093E+02			22,923	0,630

TABLE 4.3 (Continued)

A R O E F   M O D E L
G R O U N D   S Y S T E M
S Y S T E M - M I C R O W A V E
F I E L D

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	5	17	407	0.2432E+02	0.8133E+01			19.527	0.928
R1	NO. 2	5	58	3031	0.3871E+02	0.1898E+02			16.561	0.861
R1	NO. 3	5	32	1373	0.6341E+02	0.2066E+02			26.731	0.972
R1	NO. 4	5	48	7124	0.6969E+02	0.7455E+02			43.897	0.926
R1	NO. 5	5	44	2662	0.5888E+02	0.1703E+02			16.409	1.005
R1	NO. 6	4	135	42076	0.2927E+03	0.4845E+02			9.832	0.983
R1	NO. 7	4	323	46856	0.9043E+02	0.7615E+01			23.252	1.020
R1	NO. 8	4	299	47896	0.1286E+03	0.1096E+03			39.917	0.918
R1	NO. 9	4	201	46798	0.1091E+03	-.4216E+02			19.168	1.017
R1	NO.10	5	5	161	0.2734E+02	0.5869E+01			9.835	0.980
R1	NO.11	5	29	2767	0.7679E+02	0.4837E+02			17.432	0.682
R1	NO.12	4	183	35400	0.1669E+03	-.1420E+03			18.955	0.975
R1	NO.13	4	477	42618	0.5629E+02	-.1943E+02			13.951	1.000
R1	NO.14	4	360	32000	0.6057E+02	0.4671E+02			33.858	0.989
R1	NO.15	4	203	28920	0.8841E+02	0.2703E+02			19.758	0.998
R1	NO.16	4	302	33680	0.8504E+02	-.3467E+02			12.127	0.983
R1	NO.17	4	181	41794	0.2270E+03	0.1737E+03			31.596	0.937
R1	NO.18	4	184	51440	0.1883E+03	0.1343E+03			19.065	0.772
R1	NO.19	4	546	46840	0.5761E+02	-.8101E+02			26.056	0.961
R1	NO.20	4	184	18240	0.5658E+02	0.2593E+02			18.586	0.972

TABLE 4.3 (Continued)

S I M P L E   E X P O N E N T I A L
G R O U N D   S Y S T E M
A N T E N N A
F I E L D

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	12	7	18304	0.6002E+03	0.9676E-04			14.929	0.251
R1	NO. 2	12	3	24804	0.1205E+04	0.8016E-04			19.462	0.078
R1	NO. 3	5	3	2767	0.1705E+04	-.1412E-02			9.986	0.296
R1	NO. 4	5	9	3032	0.5530E+02	0.6424E-03			15.018	0.050
R1	NO. 5	5	6	1373	0.4196E+02	0.1758E-02			55.120	1.671
R1	NO. 6	5	6	7124	0.1446E+03	0.3283E-03			14.748	0.154
R1	NO. 7	5	4	2663	0.4850E+03	0.5261E-04			13.094	1.003
R1	NO. 8	5	7	407	0.2644E+02	0.2696E-02			26.584	0.960
R1	NO. 9	4	18	42080	0.1467E+04	0.1816E-04			21.409	0.663
R1	NO.10	4	14	46000	0.1573E+04	0.1559E-04			20.684	0.688
R1	NO.11	4	25	47900	0.1202E+04	0.1229E-04			13.547	0.518
R1	NO.12	4	41	46860	0.8208E+03	0.4954E-05			22.665	1.049
R1	NO.13	4	73	46840	0.4211E+03	0.8516E-05			11.516	0.700
R1	NO.14	4	13	51440	0.2260E+05	-.3959E-04			20.626	0.755
R1	NO.15	4	28	31790	0.5703E+03	0.3112E-04			22.157	0.377
R1	NO.16	4	33	18240	0.2877E+03	0.2864E-04			23.251	0.022
R1	NO.17	4	35	33680	0.1399E+04	-.1431E-04			8.519	0.535
R1	NO.18	4	14	24920	0.1733E+04	-.3678E-04			17.158	0.586
R1	NO.19	4	61	32800	0.2525E+03	0.3106E-04			16.299	0.294
R1	NO.20	4	80	42000	0.2793E+03	0.8843E-05			8.604	0.607
R1	NO.21	4	22	35400	0.2812E+04	-.1979E-04			23.758	0.720

TABLE 4.3 (Continued)

SIMPLE EXPONENTIAL
GROUND SYSTEM
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	4	3038	0,6716E+02	0,1101E-02			15,373	0,085
R3	NO, 2	1	5	5085	0,3300E+02	0,1305E-02			113,363	2,425
R3	NO, 3	10	4	3822	0,2036E+03	-,3342E-03			8,264	1,000

SIMPLE EXPONENTIAL
GROUND SYSTEM
RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	16	16	2513	0,2317E+02	0,9653E-03			36,[illegible]01	0,301
R1	NO, 2	12	99	24804	0,2699E+03	-,1045E-04			9,413	0,763
R1	NO, 3	11	70	6751	0,2730E+02	0,2504E-03			52,523	0,477
R1	NO, 4	12	34	9165	0,1133E+03	0,1096E-03			10,829	0,416
R1	NO, 5	12	4	714	0,7350E+02	0,1159E-02			10,938	0,171
R1	NO, 6	12	77	18384	0,1803E+03	0,1199E-04			10,966	0,930
R1	NO, 7	11	71	4302	0,1275E+02	0,4615E-03			16,207	0,187
R1	NO, 8	11	129	7974	0,3277E+02	0,7483E-04			10,783	0,925

TABLE 4.3 (Continued)

SIMPLE EXPONENTIAL
GROUND SYSTEM
RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	20	6369	0,6864E+02	0,2327E-03			26,387	0,320
R3	NO, 2	1	3	2076	0,4030E+02	0,2039E-02			52,178	0,848
R3	NO, 3	10	19	3822	0,9008E+02	0,3108E-03			25,024	0,603
R3	NO, 4	10	12	5370	0,2000E+04	-,3002E-03			10,340	0,231
R3	NO, 5	10	11	4650	0,2936E+03	0,1272E-03			20,333	0,840

TABLE 4.3 (Continued)

SIMPLE EXPONENTIAL
GROUND SYSTEM
MICROWAVE
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	4	114	42978	0,3038E+03	0,9079E-05			6,913	0,600
R1	NO. 2	4	259	46860	0,7469E+02	0,2034E-04			8,512	0,105
R1	NO. 3	4	240	47899	0,7313E+02	0,2723E-04			18,118	0,205
R1	NO. 4	4	183	46798	0,8000E+02	0,2165E-04			8,683	0,173
R1	NO. 5	5	10	407	0,3358E+02	0,4321E-03			20,848	1,133
R1	NO. 6	5	40	2663	0,6077E+02	-,4914E-05			16,739	1,938
R1	NO. 7	5	26	1373	0,3609E+03	-,1457E-02			12,011	0,167
R1	NO. 8	5	42	7124	0,4664E+02	0,2848E-03			11,478	0,082
R1	NO. 9	5	45	3032	0,4265E+02	0,1348E-03			11,675	0,672
R1	NO.10	5	4	161	0,1967E+02	0,4580E-02			2,332	0,012
R1	NO.11	5	26	2767	0,5333E+02	0,2991E-03			15,866	0,375
R1	NO.12	4	147	35400	0,2276E+03	-,7561E-09			12,840	0,851
R1	NO.13	4	302	42618	0,7160E+02	0,1133E-04			11,379	0,850
R1	NO.14	4	283	32800	0,4807E+02	0,3145E-04			12,962	0,141
R1	NO.15	4	173	24920	0,7726E+02	0,2066E-04			12,553	0,558
R1	NO.16	4	251	33680	0,8217E+02	0,1109E-04			9,887	0,686
R1	NO.17	4	149	18240	0,5050E+02	0,4772E-04			8,329	[illegible]
R1	NO.18	4	[illegible]	41798	0,1823E+03	0,1758E-04			17,936	0,422
R1	NO.19	4	160	51840	0,1285E+03	0,2008E-04			11,660	0,210
R1	NO.20	4	446	46838	0,5600E+02	0,1309E-04			8,629	0,348

TABLE 4.3 (Continued)

SIMPLE EXPONENTIAL
GROUND SYSTEM
MICROWAVE
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	33	1122	0,2006E+02	0,6940E-03			18,811	0,636

SIMPLE EXPONENTIAL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0,6449E+02	0,1779E-03			18,040	0,192
R1	NO, 2	11	17	4362	0,5509E+02	0,4487E-03			19,152	0,250
R1	NO, 3	12	30	10304	0,2727E+03	0,3848E-04			13,925	0,620
R1	NO, 4	12	7	9165	0,7098E+02	0,3351E-03			22,673	0,036
R1	NO, 5	12	4	714	0,2306E+02	0,3833E-02			40,316	0,509
R1	NO, 6	11	69	7663	0,1107E+03	0,5641E-04			[illegible],008	0,613
R1	NO, 7	11	117	[illegible]009	0,1071E+03	-,1929E-04			[illegible]6,991	0,020
R1	NO, 8	12	33	28804	0,6905E+03	-,2694E-05			14,593	1,031
R1	NO, 9	11	177	7809	0,9964E+01	0,2375E-03			7,917	0,080

TABLE 4.3 (Continued)

SIMPLE EXPONENTIAL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RSCR	RE
R2	NO, 1	8	15	9425	0,2671E+03	0,9704E-04			7,198	0,064
R2	NO, 2	8	7	8246	0,2996E+03	0,1704E-03			7,978	0,031
R2	NO, 3	8	16	7570	0,2649E+03	0,1137E-03			4,527	0,033
R2	NO, 4	8	11	9425	0,6695E+03	0,3013E-04			5,989	0,319
R2	NO, 5	8	15	45376	0,5452E+03	0,4734E-04			12,869	0,081
R2	NO, 6	8	4	22037	0,1414E+04	0,6187E-04			4,258	0,006
R2	NO, 7	8	9	45059	0,9012E+03	0,4867E-04			19,683	0,936
R2	NO, 8	8	17	8979	0,1217E+04	-,9530E-04			10,178	0,341
R2	NO, 9	8	18	11916	0,5000E+03	0,2169E-04			2,747	0,146
R2	NO,10	8	11	17219	0,1454E+04	0,1110E-05			0,602	0,002
R2	NO,11	8	3	2237	0,2586E+04	-,5717E-03			4,751	0,006
R2	NO,12	8	4	2247	0,3275E+03	0,2730E-03			8,737	0,307
R2	NO,13	8	3	2332	0,3305E+03	0,4026E-03			10,959	0,328
R2	NO,14	8	3	1980	0,3417E+03	0,3223E-03			5,152	0,087
R2	NO,15	8	3	631	0,5943E+03	-,1698E-02			4,397	0,092
R2	NO,16	8	4	3492	0,9787E+03	-,3155E-04			0,947	0,197
R2	NO,17	8	11	4096	0,4377E+03	-,2965E-04			2,255	0,407
R2	NO,18	8	14	44314	0,8970E+03	0,3907E-04			42,226	0,984
R2	NO,19	8	9	45376	0,9730E+03	0,4620E-04			20,750	0,269
R2	NO,20	8	6	33328	0,2129E+04	-,1051E-04			17,898	1,150

TABLE 4.3 (Continued)

SIMPLE EXPONENTIAL
GROUND SYSTEM
DISPLAY
FIELD
(CONTINUED)

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO.21	8	3	45221	0.1099E+04	0.6754E-04			59.142	1.060
R2	NO.22	8	16	45477	0.2986E+03	0.6672E-04			59.360	0.745
R2	NO.23	8	10	45261	0.1911E+04	0.2382E-04			29.312	1.150

TABLE 4.3 (Continued)

SIMPLE EXPONENTIAL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	5	3784	0,8625E+02	0,6900E-03			44,170	0,655
R3	NO, 2	2	12	6336	0,1048E+03	0,1735E-03			10,635	0,190
R3	NO, 3	2	8	4576	0,9665E+02	0,5297E-03			30,635	0,318

SIMPLE EXPONENTIAL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	105	2700	0,4154E+01	0,8101E-03			9,774	0,155
R2	NO, 2	8	100	3200	0,5829E+01	0,6295E-03			13,815	0,162
R2	NO, 3	8	50	3700	0,1428E+02	0,5414E-03			15,405	0,146
R2	NO, 4	8	33	3700	0,1239E+02	0,6798E-03			41,393	0,272
R2	NO, 5	8	16	2500	0,6973E+02	0,3541E-03			12,890	0,181

TABLE 4.3 (Continued)

SIMPLE EXPONENTIAL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	7	17	2193	0,2755E+02	0,9102E-03			23,203	0,658
R3	NO, 2	7	32	2248	0,3935E+02	0,3193E-03			25,207	0,727
R3	NO, 3	7	12	3322	0,3763E+03	-,1058E-03			27,377	1,058
R3	NO, 4	2	384	3415	0,4608E+01	0,1361E-03			4,537	0,180
P3	NO, 5	2	211	4536	0,3357E+02	-,2246E-03			10,708	0,473
R3	NC, 6	1	6	4659	0,4160E+04	-,2292E-02			5,746	0,025
R3	NO, 7	1	21	6144	0,2290E+03	-,1077E-04			13,414	1,045

TABLE 4.3 (Continued)

S I M P L E   E X P O N E N T I A L
G R O U N D   S Y S T E M
C O M P U T E R
F I E L D

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	REAR	RE
R1	NO. 1	11	34	11490	0.1164E+03	0.1097E-03			13.661	0.115
R1	NO. 2	11	33	5703	0.1755E+02	0.5031E-03			31.172	0.414
R1	NO. 3	12	16	9165	0.9802E+02	0.2564E-03			57.393	0.579
R1	NO. 4	15	19	11800	0.4477E+03	-.2256E-04			10.055	0.918
R1	NO. 5	12	35	10304	0.1104E+03	0.1135E-03			32.286	0.544
R1	NO. 6	16	5	2513	0.1560E+03	0.6219E-03			26.812	1.000
R1	NO. 7	15	9	11209	0.5164E+03	0.8365E-04			5.461	0.051
R1	NO. 8	15	7	10642	0.4567E+04	-.2597E-04			11.253	0.793
R1	NO. 9	15	9	16192	0.1761E+04	-.2602E-04			15.873	0.871
R1	NO.10	15	19	23495	0.6790E+03	0.3564E-04			15.840	0.481
R1	NO.11	15	10	15741	0.6430E+03	0.1807E-04			10.405	0.950
R1	NO.12	15	17	23572	0.9297E+03	0.2119E-04			5.037	0.165
R1	NO.13	15	20	15756	0.8137E+03	-.7763E-05			11.819	0.965
R1	NO.14	15	16	13960	0.7656E+03	-.7863E-06			4.391	1.079
R1	NO.15	15	34	23600	0.3903E+03	0.3040E-04			6.850	0.150
R1	NO.16	11	35	10323	0.1623E+03	0.5768E-04			3.844	0.054
R1	NO.17	12	41	24804	0.4650E+03	0.1688E-04			20.205	0.995
R1	NO.18	11	36	9833	0.4697E+03	-.4277E-04			11.062	0.689
R1	NO.19	11	35	12141	0.1224E+03	0.1032E-03			11.081	0.128

TABLE 4.3 (Continued)

SIMPLE EXPONENTIAL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	10	3965	0,3470E+02	0,7167E-03			114,149	0,302
R3	NO, 2	2	16	4576	0,3749E+02	0,6120E-03			36,365	0,866
R3	NO, 3	2	9	6336	0,8553E+03	-,5535E-04			8,645	0,611

SIMPLE EXPONENTIAL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	46	4467	0,2507E+02	0,3679E-03			16,455	0,176
R1	NO, 2	14	12	2043	0,1282E+02	0,1716E-02			135,839	1,366
R1	NO, 3	14	43	11189	0,4780E+03	-,86[illegible]E-04			11,052	0,497
R1	NO, 4	14	45	10666	0,4242E+03	-,4627E-04			0,758	0,466
R1	NO, 5	14	9	2792	0,1717E+03	0,1809E-03			2,346	0,047

SIMPLE EXPONENTIAL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	13	18	1580	0,6584E+02	-,2057E-03			12,502	1,000

TABLE 4.3 (Continued)

SIMPLE EXPONENTIAL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
RS	NO, 1	9	10	1726	0,1740E+01	0,3039E-02			66,764	0,727
RS	NO, 2	9	25	2261	0,1431E+02	0,9096E-03			6,670	0,037
RS	NO, 3	9	24	2370	0,2155E+02	0,7536E-03			19,256	0,150
RS	NO, 4	9	3	3105	0,7393E+02	0,3286E-02			12,369	1,424
RS	NO, 5	2	70	3415	0,1829E+02	0,2634E-03			2,763	0,016
RS	NO, 6	2	67	4536	0,2197E+02	0,2348E-03			11,643	0,221
RS	NO, 7	1	5	8513	0,7830E+04	0,3266E-03			18,899	0,485
RS	NO, 8	1	8	6339	0,1058E+04	0,6972E-04			17,640	1,336

TABLE 4.3 (Continued)

SIMPLE EXPONENTIAL
GROUND SYSTEM
COMMUNICATIONS
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	4	14	35400	0.1009E+04	-.1032E-05			27.667	1.107
R1	NO. 2	4	25	46840	0.1151E+04	0.7833E-05			26.675	1.017
R1	NO. 3	4	11	51440	0.4700E+04	-.1097E-05			6.318	1.001
R1	NO. 4	4	11	41790	0.5960E+05	-.6009E-04			14.797	0.230
R1	NO. 5	4	16	33680	0.2562E+00	-.2495E-02			11.194	0.465
R1	NO. 6	4	16	24920	0.1110E+04	0.2350E-04			25.367	0.960
R1	NO. 7	4	16	32800	0.8675E+03	0.3347E-04			17.283	0.295
R1	NO. 8	4	95	42000	0.2127E+03	0.2640E-04			26.249	0.737
R1	NO. 9	4	4	46800	0.2510E+04	0.3503E-04			14.129	0.201
R1	NO.10	4	36	47900	0.1067E+05	-.4437E-04			19.787	0.249
R1	NO.11	4	23	46860	0.1520E+04	0.2330E-05			16.451	1.065
R1	NO.12	4	3	42000	0.4215E+04	0.3049E-04			13.323	1.0[illegible]2

SIMPLE EXPONENTIAL
GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	2	20	3415	0.1250E+03	0.2029E-04			7.464	1.007
R3	NO. 2	2	10	4536	0.1271E+03	0.4007E-03			37.318	1.330

TABLE 4.3 (Continued)

SIMPLE EXPONENTIAL
GROUND SYSTEM
SYSTEM-RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	16	24	2513	0,2342E+02	0,7941E-03			29,870	0,006
R1	NO, 2	11	178	6751	0,1622E+02	0,1478E-03			14,676	0,107
R1	NO, 3	12	170	24804	0,1468E+03	-,3126E-05			9,517	0,979
R1	NO, 4	11	244	7849	0,9377E+01	0,1824E-03			7,130	0,002
R1	NO, 5	11	114	4302	0,5227E+01	0,5711E-03			16,360	0,120
R1	NO, 6	12	140	18304	0,6005E+02	0,4184E-04			8,802	0,218
R1	NO, 7	12	57	9165	0,3020E+02	0,2015E-03			22,660	0,315
R1	NO, 8	11	200	7574	0,1599E+02	0,1242E-03			7,951	0,100

SIMPLE EXPONENTIAL
GROUND SYSTEM
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	14	2076	0,4410E+02	0,8193E-03			24,479	0,639
R3	NO, 2	1	53	5085	0,4378E+02	0,1900E-03			30,034	0,658

SIMPLE EXPONENTIAL
GROUND SYSTEM
SYSTEM-MICROWAVE
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	34	1122	0,1050E+02	0,7144E-03			17,049	0,502

TABLE 4.3 (Continued)

SIMPLE EXPONENTIAL
GROUND SYSTEM
SYSTEM MICROWAVE
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	5	17	407	0.2017E+02	0.5234E-03			20.852	1.067
R1	NO. 2	5	54	3031	0.2793E+02	0.2391E-03			6.618	0.111
R1	NO. 3	5	32	1373	0.8364E+02	-.3743E-03			28.281	0.789
R1	NO. 4	5	48	7124	0.3029E+02	0.2171E-03			12.902	0.110
R1	NO. 5	5	44	2662	0.6059E+02	-.5871E-04			10.060	0.985
R1	NO. 6	4	135	42076	0.2574E+03	0.5878E-05			6.045	0.493
R1	NO. 7	4	383	46856	0.6798E+02	0.1471E-04			8.484	0.201
R1	NO. 8	4	299	47896	0.7278E+02	0.2240E-04			17.406	0.277
R1	NO. 9	4	201	46790	0.8461E+02	0.2037E-04			9.101	0.214
R1	NO.10	5	5	161	0.1977E+02	0.2673E-02			5.396	0.218
R1	NO.11	5	29	2767	0.5220E+02	0.2422E-03			15.053	0.436
R1	NO.12	4	183	35800	0.1988E+03	-.1042E-04			15.573	0.885
R1	NO.13	4	477	48618	0.4609E+02	0.1305E-04			6.285	0.351
R1	NO.14	4	360	32000	0.3092E+02	0.3130E-04			13.481	0.143
R1	NO.15	4	203	29920	0.7155E+02	0.2076E-04			11.031	0.626
R1	NO.16	4	302	33680	0.7733E+02	0.7627E-05			9.556	0.892
R1	NO.17	4	181	41794	0.1451E+03	0.1779E-04			19.099	0.442
R1	NO.18	4	184	51440	0.1303E+03	0.1698E-04			11.301	0.257
R1	NO.19	4	546	46840	0.4716E+02	0.1219E-04			9.401	0.313
R1	NO.20	4	184	18240	0.6334E+02	0.8298E-04			10.260	0.218

TABLE 4.4

D U A N E M O D E L
A I R B O R N E
A N T E N N A
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	25	6	1598	0,2174E+01	0,6946E+03	0,8818E+00	0,1023E+00	39,107	1,543
R2	NO, 2	27	29	1400	0,7870E+00	0,1941E+02	0,5826E+00	0,4037E-01	13,459	0,171
R2	NO, 3	27	8	400	0,6583E+00	0,1699E+02	0,3833E+00	0,9155E-01	32,080	2,248
R2	NO, 4	27	2[illegible]	1200	0,5372E+00	0,4150E+01	0,3936E+00	0,1144E+00	23,559	0,304
R2	NO, 5	27	52	6000	0,6237E+00	0,1063E+02	0,5048E+00	0,6239E+00	24,760	0,506

D U A N E M O D E L
A I R B O R N E
R A D A R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	162	4988	0,6964E+00	0,3350E+01	0,6231E+00	0,4763E+00	15,003	0,459
R2	NO, 2	27	43	1000	0,4867E+00	0,4400E+00	0,3841E+00	0,4577E+00	25,172	0,147
R2	NO, 3	25	382	2176	0,4967E+00	0,1377E-01	0,4631E+00	0,2343E+01	16,845	0,145
R2	NO, 4	25	315	3984	0,9724E+00	0,1074E+02	0,8999E+00	0,2896E+01	18,804	1,133
R2	NO, 5	27	27	400	0,5994E+00	0,1637E+01	0,4377E+00	0,4094E+00	25,533	0,987
R2	NO, 6	27	42	1300	0,4727E+00	0,4788E+00	0,3719E+00	0,4720E+00	25,418	0,136

TABLE 4.4 (Continued)

DUANE MODEL
AIRBORNE
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	13	1100	0,8415E+00	0,5219E+02	0,5069E+00	0,1418E+00	19,834	2,240
R2	NO, 2	27	8	400	0,8102E+00	0,3072E+02	0,3946E+00	0,6752E-01	29,[illegible]73	1,213
R2	NO, 3	25	50	3992	0,7205E+00	0,1750E+02	0,5933E+00	0,6704E+00	38,468	4,423
R2	NO, 4	27	13	800	0,7219E+00	0,2291E+02	0,4348E+00	0,5084E-01	20,727	0,333
R2	NO, 5	27	63	4996	0,8261E+00	0,3315E+02	0,6838E+00	0,1525E+00	10,283	0,446
R2	NO, 6	25	11	1200	0,6506E+00	0,3009E+02	0,3680E+00	0,6256E-01	24,523	0,160

DUANE MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	5	536	0,9185E+00	0,9294E+02	0,4472E+00	0,7170E-01	53,123	3,680
R1	NO, 2	23	3	785	0,6816E+00	0,1566E+03	0,2504E+00	0,9462E-01	65,848	841,710
R1	NO, 3	23	3	521	0,1362E+01	0,2326E+03	0,5006E+00	0,1179E+00	73,785	52,324
R1	NO, 4	21	9	500	0,6268E+00	0,1502E+02	0,3244E+00	0,1376E+00	28,574	0,376
R1	NO, 5	21	10	760	0,4134E+00	0,2898E+01	0,2573E+00	0,9430E-01	30,304	0,163

TABLE 4.4 (Continued)

DUANE MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	26	3	407	0.6742E+00	0.7978E+02	0.2477E+00	0.1492E+00	68.149	4.944
R2	NO. 2	27	77	3994	0.9333E+00	0.3803E+02	0.7886E+00	0.2608E+00	35.878	0.603
R2	NO. 3	27	12	400	0.9625E+00	0.3026E+02	0.5633E+00	0.5074E-01	20.227	4.059
R2	NO. 4	27	27	1400	0.8499E+00	0.2897E+02	0.6206E+00	0.2787E-01	12.381	0.408
R2	NO. 5	27	14	800	0.7650E+00	0.2541E+02	0.4725E+00	0.4249E-01	17.952	0.431

DUANE MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	21	3	500	0.6427E+00	0.9050E+02	0.2362E+00	0.8508E-01	82.228	0.700
R1	NO. 2	21	7	760	0.5091E+00	0.1663E+02	0.2834E+00	0.6156E-01	35.060	0.074

DUANE MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	20	7	782	0.5524E+00	0.2309E+02	0.3075E+00	0.4362E-01	32.258	0.371
R3	NO. 2	20	11	767	0.5561E+00	0.1029E+02	0.3550E+00	0.1023E+00	25.462	0.160

TABLE 4.4 (Continued)

DUANE MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	21	10	760	0.6074E+00	0.1716E+02	0.3780E+00	0.8563E-01	30.116	0.196

DUANE MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	20	4	767	0.3481E+00	0.1429E+02	0.1519E+00	0.1246E+00	55.885	0.027
R3	NO. 2	20	6	782	0.4320E+00	0.1236E+02	0.2271E+00	0.1893E+00	51.248	5.729

DUANE MODEL
AIRBORNE
LASER XMTR/RCVR
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	21	17	760	0.5400E+00	0.4001E+01	0.3804E+00	0.6444E-01	22.964	0.068
R1	NO. 2	21	10	500	0.6601E+00	0.1528E+02	0.4108E+00	0.7190E-01	31.184	0.219

TABLE 4.4 (Continued)

DUANE MODEL
AIRBORNE
LASER XMTR/RCVR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	14	782	0,5253E+00	0,5155E+01	0,3555E+00	0,2034E+00	27,630	0,246
R3	NO, 2	20	15	767	0,4692E+00	0,2388E+01	0,3222E+00	0,8878E-01	20,634	0,050

DUANE MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	5	711	0,2546E+01	0,3778E+03	0,1239E+01	0,1719E+00	45,637	1,083
R1	NO, 2	23	5	785	0,1397E+01	0,2481E+03	0,4879E+00	0,1357E+00	44,329	9,621
R1	NO, 3	23	8	536	0,2087E+01	0,1979E+03	0,1017E+01	0,4789E-01	38,648	2,879

DUANE MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	65	2530	0,5206E+00	0,8233E+00	0,4397E+00	0,1615E+00	13,259	0,028

TABLE 4.4 (Continued)

DUANE MODEL
AIRBORNE
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	103	798	0,5368E+00	0,1420E+00	0,4653E+00	0,5025E+00	18,988	0,129
R2	NO, 2	27	127	1097	0,6152E+00	0,4173E+00	0,5418E+00	0,3751E+00	14,509	0,141
R2	NO, 3	27	65	399	0,5483E+00	0,1972E+00	0,4554E+00	0,6722E+00	23,697	0,422
R2	NO, 4	25	347	1192	0,6152E+00	0,8851E-01	0,5716E+00	0,3981E+00	10,174	0,060
R2	NO, 5	27	316	2500	0,6990E+00	0,6634E+00	0,6470E+00	0,1458E+00	6,482	0,039
R2	NO, 6	25	371	3981	0,9267E+00	0,6721E+01	0,8632E+00	0,3756E+01	20,566	1,295

DUANE MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	27	760	0,4521E+00	0,5183E+00	0,3448E+00	0,6238E-01	18,207	0,025
R1	NO, 2	21	19	500	0,6286E+00	0,462[illegible]E+01	0,4242E+00	0,5857E-01	14,391	0,115

DUANE MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	17	767	0,5269E+00	0,3583E+01	0,3712E+00	0,6920E-01	20,557	0,048
R3	NO, 2	20	17	782	0,5151E+00	0,3196E+01	0,3629E+00	0,2094E+00	27,446	0,184

TABLE 4.4 (Continued)

DUANE MODEL
AIRBURNE
SYSTEM-INFRARED
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	17	536	0,1269E+01	0,5746E+02	0,8312E+00	0,2330E+00	30,776	0,888
R1	NO, 2	23	11	785	0,8859E+00	0,5240E+02	0,5012E+00	0,2671E+00	30,826	2,159
R1	NO, 3	23	5	521	0,1668E+01	0,1985E+03	0,5823E+00	0,7828E-01	59,181	27,885
R1	NO, 4	23	9	711	0,2088E+01	0,2483E+03	0,1081E+01	0,4644E-01	36,773	11,888

TABLE 4.4 (Continued)

D U A N E   M O D E L
A I R B O R N E
S Y S T E M - I N F R A R E D
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	24	3	227	0,1523E+01	0.1103E+03	0.5596E+00	0,1190E+00	65,395	28,268
R3	NO, 2	24	3	344	0,8545E+00	0,9511E+02	0.3140E+00	0,8733E-01	70.232	6,582
R3	NO, 3	24	3	789	0,5173E+00	0,9437E+02	0.1901E+00	0,1034E+00	72,626	1,277
R3	NO, 4	24	4	411	0,1319E+01	0,1437E+03	0.5759E+00	0,8041E-01	54,768	45,863
R3	NO, 5	24	3	433	0,1598E+01	0,2178E+03	0.5873E+00	0,1097E+00	65,903	71,869
R3	NO, 6	24	3	472	0,9026E+00	0.1397E+03	0.3316E+00	0,1025E+00	67,747	13,316
R3	NO, 7	24	8	1056	0,6122E+00	0,3537E+02	0.3565E+00	0,3973E-01	30.321	0,159
R3	NO, 8	24	3	324	0,1398E+01	0,1476E+03	0.5136E+00	0,1042E+00	68,533	8,528
R3	NO, 9	24	3	440	0,4901E+00	0,4677E+02	0.1801E+00	0,1594E+00	69,681	1,089
R3	NO,10	24	4	519	0,9761E+00	0,1254E+03	0.4261E+00	0,1948E+00	164,596	1,392
R3	NO,11	24	4	349	0,8459E+00	0,6777E+02	0,3692E+00	0,8889E-01	74,710	0,924
R3	NO,12	24	3	255	0,1660E+01	0.1315E+03	0,6098E+00	0,8978E-01	66,032	16,048
R3	NO,13	24	3	390	0,8599E+00	0.1087E+03	0.3159E+00	0,1318E+00	69,109	10,376
R3	NO,14	24	4	563	0.1010E+01	0,1427E+03	0,4409E+00	0,5619E-01	57,527	5,014
R3	NO,15	24	3	307	0,4456E+00	0,2609E+02	0.1637E+00	0,1676E+00	69,345	2,698
R3	NO,16	24	3	345	0,8151E+00	0,8963E+02	0.2995E+00	0,1224E+00	76,033	6,540
R3	NO,17	24	3	705	0,1278E+01	0,2984E+03	0,6694E+00	0,1345E+00	70,116	7,616
R3	NO,18	24	4	448	0,5089E+00	0,4255E+02	0,2570E+00	0,5886E-01	68,016	0,138
R3	NO,19	24	4	529	0,9255E+00	0,1183E+03	0,4040E+00	0,4556E-01	54,890	5,323
R3	NO,20	24	4	354	0,1170E+01	0,1083E+03	0,5108E+00	0,1065E+00	53,246	22,898

TABLE 4.4 (Continued)

DUANE MODEL
AIRBORNE
SYSTEM-INFRARED
FIELD
(CONTINUED)

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO,21	24	4	671	0,7329E+00	0,1012E+03	0,3199E+00	0,1465E+00	54,898	1,531
R3	NO,22	24	3	314	0,6311E+00	0,5506E+02	0,2319E+00	0,9101E-01	64,774	10,476
R3	NO,23	24	4	378	0,1569E+01	0,1563E+03	0,6850E+00	0,6324E-01	53,286	36,354
R3	NO,24	24	4	385	0,6000E+00	0,3819E+02	0,2619E+00	0,5961E-01	57,160	0,346
R3	NO,25	24	3	477	0,8239E+00	0,1257E+03	0,3027E+00	0,8507E-01	83,072	2,095
R3	NO,26	24	3	393	0,5328E+00	0,5000E+02	0,1958E+00	0,1656E+00	74,420	0,334

DUANE MODEL
AIRBORNE
SYSTEM-VISUAL SCAN
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	22	29	766	0,4521E+00	0,4383E+01	0,4828E+00	0,2534E+00	13,456	0,262
R2	NO, 2	22	41	549	0,8310E+00	0,6293E+01	0,6514E+00	0,6209E-01	13,468	0,323

TABLE 4.4 (Continued)

I B M M O D E L
A I R B O R N E
A N T E N N A
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	25	6	1584	0,3490E-02	0,5960E-07	0,1000E+00		19,773	1,561
R2	NO, 2	27	29	1400	0,2217E-01	0,1805E+01	0,7785E-07		45,885	1,724
R2	NO, 3	27	8	400	0,3324E-01	0,5831E+01	0,3543E-06		37,196	2,431
R2	NO, 4	27	21	1200	0,1037E-01	0,1117E+02	0,7259E-02		4,228	0,011

I B M M O D E L
A I R B O R N E
R A D A R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	162	4988	0,4002E-01	0,4823E+03	0,5960E-07		35,725	2,015
R2	NO, 2	27	43	1000	0,1114E-01	0,3135E+02	0,7735E-02		4,096	0,004
R2	NO, 3	25	382	2176	0,9423E-01	0,2130E+03	0,3465E-02		7,587	0,019
R2	NO, 4	25	315	3984	0,9246E-01	0,5960E-07	0,5324E+00		14,787	1,232
R2	NO, 5	27	27	400	0,3725E-08	0,2974E+02	0,7383E-02		6,949	0,009
R2	NO, 6	27	42	1300	0,8150E-02	0,3102E+02	0,6248E-02		3,478	0,002

TABLE 4.4 (Continued)

IBM MODEL AIRBORNE DISPLAY IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 2	27	8	400	0.1792E-01	0.1589E+01	0.3562E+01		16.641	0.587
R2	NO. 4	27	13	800	0.1424E-01	0.2564E+01	0.3472E+01		17.481	0.263
R2	NO. 5	27	63	4996	0.1456E-01	0.2111E+01	0.5960E-07		17.045	1.390
R2	NO. 6	25	11	1200	0.1145E-01	0.1293E+00	0.2244E-04		100.652	2.023

IBM MODEL AIRBORNE COMPUTER IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	23	5	536	0.1610E-01	0.8690E-01	0.5215E-07		11.259	1.608
R1	NO. 4	21	9	500	0.2320E-09	0.8908E+01	0.8072E-02		8.040	0.027
R1	NO. 5	21	10	760	0.2369E-01	0.1410E+00	0.6153E-07		272.903	3.233

TABLE 4.4 (Continued)

IBM MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 2	27	77	3994	0,1876E-01	0,5960E-07	0,8217E+03		49,281	1,065
R2	NO, 3	27	12	400	0,2953E-01	0,1086E+01	0,1682E+01		11,209	2,108
R2	NO, 4	27	27	1400	0,2064E-01	0,1134E+00	0,1543E-05		28,858	1,870
R2	NO, 5	27	14	300	0,2083E-01	0,1257E+00	0,4248E-05		43,886	2,187

IBM MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 2	21	7	760	0,1250E-01	0,1245E+00	0,6882E-07		286,445	2,560

IBM MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	7	782	0,1452E-01	0,1788E-06	0,1923E-06		138,997	2,419
R3	NO, 2	20	11	767	0,1408E-02	0,9548E+01	0,6661E-02		20,508	0,041

TABLE 4.4 (Continued)

IBM MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	10	760	0,1865E-01	0,2279E+01	0,1155E-06		126,718	1,694

IBM MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	4	767	0,6131E-02	0,4602E+00	0,7221E+01		157,302	0,308
R3	NO, 2	20	6	782	0,3235E-01	0,5087E+00	0,2901E-06		34,014	1,652

IBM MODEL
AIRBORNE
LASER XMTR/RCVR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	17	760	0,3010E-01	0,2615E+00	0,2008E-05		193,259	1,877
R1	NO, 2	21	10	500	0,2273E-01	0,1272E+01	0,2729E+00		7,943	0,868

IBM MODEL
AIRBORNE
LASER XMTR/RCVR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	14	782	0,2643E-01	0,5087E-02	0,1039E-02		123,885	2,851
R3	NO, 2	20	15	767	0,2393E-01	0,2540E+00	0,2248E-04		352,388	2,879

TABLE 4.4 (Continued)

IBM MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	23	5	711	0.6417E-02	0.5960E-07	0.1000E+00		27.413	1.666
R1	NO. 2	23	5	785	0.6618E-02	0.1753E+00	0.1000E+00		16.927	1.822
R1	NO. 3	23	8	536	0.1294E-01	0.5960E-07	0.1000E+00		15.434	1.408

IBM MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	27	65	2500	0.2297E-01	0.1743E+02	0.1525E-01		4.730	0.003

IBM MODEL
AIRBORNE
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	27	103	798	0.6225E-01	0.5570E+02	0.1016E-01		3.555	0.005
R2	NO. 2	27	127	1097	0.4966E-01	0.7079E+02	0.4715E-02		1.947	0.003
R2	NO. 3	27	65	399	0.2513E+00	0.1397E+02	0.3015E-06		66.764	2.510
R2	NO. 4	25	347	1192	0.1930E+00	0.1260E+03	0.6801E-02		2.374	0.004
R2	NO. 5	27	316	2500	0.1196E+00	0.4061E+02	0.1239E-01		3.820	0.013
R2	NO. 6	25	371	3981	0.1131E+00	0.5960E-07	0.4664E+00		14.162	1.165

TABLE 4.4 (Continued)

IBM MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	21	27	760	0.5114E-01	0.3343E+00	0.1988E-04		312.782	2.230
R1	NO. 2	21	19	500	0.4936E-01	0.2822E+01	0.2470E-06		84.117	2.112

IBM MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	20	17	767	0.2419E-01	0.5602E-01	0.2013E-06		306.990	2.443
R3	NO. 2	20	17	782	0.3132E-01	0.3286E-01	0.2814E-06		132.819	2.842

IBM MODEL
AIRBORNE
SYSTEM-INFRARED
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	23	17	536	0.3305E-01	0.5960E-07	0.1000E+00		20.105	1.186

TABLE 4.4 (Continued)

I B M M O D E L
A I R B O R N E
S Y S T E M - I N F R A R E D
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 4	24	4	411	0,9204E-02	0,4406E+00	0,4496E+00		11,352	2,101
R3	NO, 7	24	8	1056	0,9611E-02	0,1550E+01	0,2881E-06		143,409	2,367
R3	NO,10	24	4	519	0,7345E-02	0,5960E-07	0,4670E+00		188,242	1,734
R3	NO,11	24	4	349	0,8772E-02	0,1000E+01	0,1352E+00		2,230	0,008
R3	NO,14	24	4	563	0,7177E-02	0,5803E+00	0,2018E+01		7,078	0,246
R3	NO,18	24	4	448	0,4742E-02	0,1800E+01	0,8064E-01		6,883	0,026
R3	NO,19	24	4	529	0,8250E-02	0,5818E+00	0,6742E+00		3,855	0,041
R3	NO,20	24	4	354	0,1414E-01	0,6687E+02	0,6240E-07		13,665	1,561
R3	NO,21	24	4	671	0,7870E-02	0,4081E+00	0,3530E-06		83,685	3,319
R3	NO,23	24	4	378	0,1183E-01	0,5960E-07	0,1079E+03		14,755	1,972
R3	NO,24	24	4	385	0,1371E-01	0,1168E+03	0,6029E-07		226,571	3,187

I B M M O D E L
A I R B O R N E
S Y S T E M - V I S U A L S C A N
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	22	29	766	0,5310E-01	0,2119E+00	0,4723E-06		56,109	1,546
R2	NO, 2	22	41	549	0,7882E-01	0,1683E+00	0,1502E-04		32,674	1,722

TABLE 4.4 (Continued)

EXPONENTIAL MODEL
AIRBORNE
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	25	6	1584	0,3545E+03	0,1000E+00	0,1000E+00		30,562	1,250
R2	NO, 2	27	29	1400	0,5193E+02	0,7181E+00	0,1733E-02		5,936	0,035
R2	NO, 4	27	21	1200	0,1931E+03	0,9409E+00	0,2190E-03		4,661	0,011
R2	NO, 5	27	52	6000	0,7429E+02	0,9053E+00	0,3421E-02		19,038	0,318

EXPONENTIAL MODEL
AIRBORNE
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	13	1100	0,5938E+02	0,3725E-08	0,3812E-01		11,497	1,093
R2	NO, 3	25	50	3992	0,5130E+02	0,1060E+00	0,1535E+02		12,919	1,024
R2	NO, 4	27	13	800	0,3944E+03	0,9482E+00	0,1505E-03		5,029	0,020
R2	NO, 5	27	63	4996	0,6544E+02	0,6572E+00	0,3371E-02		8,408	0,308
R2	NO, 6	25	11	1200	0,1181E+03	0,8580E+00	0,1591E-02		10,330	0,050

TABLE 4.4 (Continued)

EXPONENTIAL MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 2	27	77	3994	0,5413E+02	0,9595E+00	0,4524E-02		6,828	0,066
R2	NO, 3	27	12	400	0,2675E+02	0,5960E-07	0,5708E-01		8,851	1,103
R2	NO, 4	27	27	1400	0,4026E+02	0,1118E-07	0,5219E-01		21,264	1,041
R2	NO, 5	27	14	800	0,1742E+03	0,8715E+00	0,3244E-03		2,730	0,011

EXPONENTIAL MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 2	21	7	760	0,1192E+03	0,9534E+00	0,2269E-02		8,370	0,008

EXPONENTIAL MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	7	782	0,1192E+03	0,0929E+00	0,1859E-02		15,625	0,050
R3	NO, 2	20	11	767	0,7755E+03	0,9846E+00	0,1051E-03		18,069	0,036

TABLE 4.4 (Continued)

EXPONENTIAL MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	21	10	760	0.5842E+02	0.9295E+00	0.6325E-02		12.028	0.081

EXPONENTIAL MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	20	4	767	0.6993E+03	0.9950E+00	0.4037E-03		7.486	0.0
R3	NO. 2	20	6	782	0.2633E+02	0.8240E+02	0.4077E+02		24.448	1.258

EXPONENTIAL MODEL
AIRBORNE
LASER XMTR/RCVR
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 2	20	15	767	0.1152E+03	0.9640E+00	0.7464E-03		16.090	0.015

EXPONENTIAL MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	23	5	711	0.2008E+03	0.1000E+00	0.1000E+00		39.031	1.333

TABLE 4.4 (Continued)

EXPONENTIAL MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	27	65	2500	0.3358E+07	0.9083E+00	0.1203E-02		5.869	0.005

EXPONENTIAL MODEL
AIRBORNE
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 5	27	316	2500	0.6481E+01	0.7392E+00	0.1716E-02		10.534	0.135
R2	NO. 6	25	371	3981	0.9695E+01	0.1735E+03	0.7893E+02		16.225	1.028

EXPONENTIAL MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	21	27	750	0.2802E+02	0.9524E+00	0.2608E-02		7.130	0.014
R1	NO. 2	21	19	500	0.3064E+02	0.8225E+00	0.2798E-02		8.289	0.030

EXPONENTIAL MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	20	17	767	0.6773E+02	0.9487E+00	0.1525E-02		12.151	0.016

TABLE 4.4 (Continued)

EXPONENTIAL MODEL
AIRBORNE
SYSTEM-INFRARED
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	23	17	536	0.3700E+02	0.3135E+0[illegible]	0.3678E+01		32.100	1.067
R1	NO. 2	23	11	785	0.5264E+02	0.1000E+00	0.1469E+03		16.657	1.112

EXPONENTIAL MODEL
AIRBORNE
SYSTEM-INFRARED
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 7	24	8	1056	0.1558E+03	0.9047E+00	0.1465E-02		6.495	0.022
R3	NO.10	24	4	519	0.1457E+03	0.2647E+01	0.6456E-01		12.197	0.226
R3	NO.11	24	4	349	0.9001E+02	0.9466E+00	0.8264E-02		2.093	0.008
R3	NO.14	24	4	563	0.1260E+03	0.7642E+00	0.6222E-02		6.700	0.235
R3	NO.18	24	4	448	0.1151E+03	0.1009E+01	0.6347E-02		18.597	0.015
R3	NO.19	24	4	529	0.1072E+03	0.7952E+00	0.7862E-02		2.657	0.032
R3	NO.20	24	4	354	0.7000E+02	0.4751E+02	0.1000E+00		11.610	1.424
R3	NO.23	24	4	378	0.9100E+02	0.1000E+00	0.3724E+03		12.055	1.5[illegible]
R3	NO.24	24	4	385	0.1277E+03	0.9445E+00	0.3031E-02		7.381	[illegible]

EXPONENTIAL MODEL
AIRBORNE
SYSTEM-VISUAL SCAN
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	22	29	766	0.1814E+02	0.8196E+00	0.1072E-01		7.958	0.164
R2	NO. 2	22	41	549	0.1814E+02	0.6394E+00	0.1668E-02		9.610	0.230

TABLE 4.4 (Continued)

LLOYD-LIPOW MODEL
AIRBORNE
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	25	6	1584	-,4012E+02	-,3772E+06			20,559	0,320
R2	NO, 2	27	29	1400	0,3993E+02	0,7155E+03			20,317	0,635
R2	NO, 3	27	8	400	0,2747E+02	0,2220E+03			17,090	0,832
R2	NO, 4	27	21	1200	0,2720E+02	0,3370E+03			30,012	0,770
R2	NO, 5	27	52	6000	0,7523E+02	0,3430E+04			26,735	0,417

LLOYD-LIPOW MODEL
AIRBORNE
RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	162	4988	0,2051E+02	0,1928E+03			19,929	0,912
R2	NO, 2	27	43	1000	0,9757E+01	0,5387E+02			49,546	0,986
R2	NO, 3	25	382	2176	0,2357E+01	0,4265E+01			48,997	0,960
R2	NO, 4	25	315	3984	0,1174E+02	-,6967E+03			15,137	0,699
R2	NO, 5	27	27	400	0,7550E+01	0,1910E+02			16,948	0,930
R2	NO, 6	27	42	1300	0,1245E+02	0,8613E+02			52,597	0,903

TABLE 4.4 (Continued)

LLOYD-LIPOW MODEL
AIRBORNE
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	13	1100	0,6355E+02	0,8442E+03			10,161	0,862
R2	NO, 2	27	8	400	0,3792E+02	0,4674E+03			20,187	0,734
R2	NO, 3	25	50	3992	0,4942E+02	-,1464E+04			11,027	0,813
R2	NO, 4	27	13	800	0,4448E+02	0,7814E+03			29,452	0,701
R2	NO, 5	27	63	4996	0,6519E+02	0,1665E+04			11,355	0,520
R2	NO, 6	25	11	1200	0,7739E+02	0,1899E+04			43,514	0,400

LLOYD-LIPOW MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	5	536	0,2825E+02	-,7350E+04			15,839	0,630
R1	NO, 2	23	3	785	0,1065E+03	0,1092E+04			0,048	0,0
R1	NO, 3	23	3	521	0,1689E+03	0,6360E+04			10,948	1,018
R1	NO, 4	21	9	500	0,3341E+02	0,3960E+03			38,447	0,838
R1	NO, 5	21	10	760	0,2698E+02	0,1836E+03			81,733	0,761

TABLE 4.4 (Continued)

LLOYD-LIPOW MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	26	3	407	0,8458E+02	0,2229E+04			27,340	0,726
R2	NO, 2	27	77	3994	0,5310E+02	0,5927E+03			29,028	0,407
R2	NO, 3	27	12	400	0,2823E+02	0,1304E+03			8,240	0,876
R2	NO, 4	27	27	1400	0,4361E+02	0,7338E+03			18,627	0,778
R2	NO, 5	27	14	800	0,4281E+02	0,6797E+03			20,136	0,618

LLOYD-LIPOW MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	3	500	0,1177E+03	0,1632E+04			6,403	0,055
R1	NO, 2	21	7	760	0,6479E+02	0,7218E+03			98,138	0,507

LLOYD-LIPOW MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	7	782	0,5505E+02	0,4952E+03			57,150	0,027
R3	NO, 2	20	11	767	0,3584E+02	0,2063E+03			48,793	0,031

TABLE 4.4 (Continued)

LLOYD- LIPOW MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	10	760	0,4990E+02	0,5216E+03			52,570	0,385

LLOYD- LIPOW MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	4	767	0,9842E+02	0,6891E+03			320,260	0,898
R3	NO, 2	20	6	782	0,3069E+02	0,2207E+03			21,363	0,975

LLOYD- LIPOW MODEL
AIRBORNE
LASER XMTR/RCVR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	17	760	0,2733E+02	0,1778E+03			88,303	0,544
R1	NO, 2	21	10	500	0,3435E+02	0,1734E+03			41,543	0,364

TABLE 4.4 (Continued)

LLOYD-LIPOW MODEL
AIRBORNE
LASER XMTR/RCVR
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R5	NO. 1	20	14	782	0.2605E+02	0.2317E+03			44.052	0.833
R5	NO. 2	20	15	767	0.2452E+02	0.9126E+02			106.781	0.824

LLOYD-LIPOW MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	23	5	711	-.2324E+03	-.2046E+06			25.436	0.326
R1	NO. 2	23	5	785	0.1146E+03	-.1212E+05			12.712	0.812
R1	NO. 3	23	8	536	0.3538E+02	-.1731E+05			17.557	0.533

LLOYD-LIPOW MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	27	65	2500	0.2036E+02	0.1705E+03			85.868	0.784

TABLE 4.4 (Continued)

LLOYD-LIPOW MODEL
AIRBORNE
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	103	798	0,3749E+01	0,9260E+01			45,169	0,911
R2	NO, 2	27	127	1097	0,5033E+01	0,1634E+02			33,223	0,909
R2	NO, 3	27	65	399	0,2076E+01	0,4326E+01			28,526	0,986
R2	NO, 4	25	347	1192	0,2025E+01	0,3183E+01			39,450	0,927
R2	NO, 5	27	316	2500	0,5645E+01	0,2020E+02			36,49E	0,840
R2	NO, 6	25	371	3981	0,9203E+01	-,8033E+03			13,800	0,500

LLOYD-LIPOW MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	27	768	6,1343E+02	0,4172E+02			132,175	0,712
R1	NO, 2	21	19	500	0,1651E+02	0,0371E+02			35,575	0,507

LLOYD-LIPOW MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	17	767	0,2669E+02	0,1011E+03			109,543	0,785
R3	NO, 2	20	17	782	0,2163E+02	9,2032E+03			50,533	0,849

TABLE 4.4 (Continued)

LLOYD-LIPOW MODEL
AIRBORNE
SYSTEM-INFRARED
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	17	536	0,5775E+01	-,6889E+04			32,368	0,579
R1	NO, 2	23	11	785	0,4496E+02	-,1660E+04			16,578	0,080
R1	NO, 3	23	5	521	0,1047E+03	-,1650E+04			14,027	1,279
R1	NO, 4	[illegible]	9	711	0,7034E+02	-,1528E+05			10,730	0,388

TABLE 4.4 (Continued)

L L O Y D - L I P O W   M O D E L
A I R B O R N E
S Y S T E M - I N F R A R E D
F I E L D

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	24	3	227	0.3[illegible]06E+02	-.3899E+04			8.058	0.422
R3	NO. 2	24	3	344	0.8643E+02	0.1810E+04			2.147	0.016
R3	NO. 3	24	3	789	0.1283E+03	0.1890E+04			9.951	0.153
R3	NO. 4	24	4	411	0.9197E+02	0.7309E+03			10.528	1.411
R3	NO. 5	24	3	433	0.8761E+02	-.8876E+04			4.651	0.317
R3	NO. 6	24	3	472	0.1125E+03	0.3061E+04			12.122	0.868
R3	NO. 7	24	8	1056	0.8721E+02	0.1807E+04			51.924	0.517
R3	NO. 8	24	3	324	-.6699E+02	-.2467E+05			4.776	0.046
R3	NO. 9	24	3	440	0.7952E+02	0.1511E+04			55.978	0.429
R3	NO.10	24	4	519	0.1515E+03	0.2280E+04			12.836	0.235
R3	NO.11	24	4	349	0.7854E+02	0.9743E+03			13.828	0.170
R3	NO.12	24	3	255	0.1684E+02	-.8411E+04			10.404	0.438
R3	NO.13	24	3	390	0.2071E+02	-.5631E+04			12.661	0.650
R3	NO.14	24	4	563	0.1253E+03	0.4017E+04			9.045	0.208
R3	NO.15	24	3	307	0.4019E+02	0.4565E+03			38.038	0.377
R3	NO.16	24	3	345	-.1495E+03	-.2103E+05			13.679	0.239
R3	NO.17	24	3	705	-.1493E+03	-.1067E+06			15.522	0.458
R3	NO.18	24	4	448	0.8948E+02	0.9161E+03			103.874	0.528
R3	NO.19	24	4	529	0.1078E+03	0.2953E+04			4.541	0.881
R3	NO.20	24	4	354	0.7342E+02	0.6017E+03			11.465	1.378

TABLE 4.4 (Continued)

LLOYD-LIPOW MODEL
AIRBORNE
SYSTEM-INFRARED
FIELD
(CONTINUED)

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO,21	24	4	671	0,1211E+03	0,4669E+04			36,147	0,041
R3	NO,22	24	3	314	0,5061E+02	0,6440E+03			4,194	0,068
R3	NO,23	24	4	378	0,7728E+02	-,2513E+04			10,246	1,021
R3	NO,24	24	4	385	0,6003E+02	0,4884E+03			36,393	0,589
R3	NO,25	24	3	477	0,1331E+03	0,3239E+04			1,327	0,003
R3	NO,26	24	3	393	0,1056E+03	0,2097E+04			77,101	0,333

LLOYD-LIPOW MODEL
AIRBORNE
SYSTEM-VISUAL SCAN
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	22	29	766	0,1655E+02	0,5342E+02			27,943	0,572
R2	NO, 2	22	41	549	0,1135E+02	0,5999E+02			19,749	0,716

TABLE 4.4 (Continued)

A R O E F M O D E L
A I R B O R N E
A N T E N N A
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	25	6	1584	0.1277E+03	-.9178E+03			15.395	0.237
R2	NO. 2	27	29	1400	0.3855E+02	0.2328E+02			25.804	0.563
R2	NO. 3	27	8	400	0.2671E+02	0.8551E+01			15.156	0.812
R2	NO. 4	27	21	1200	0.2532E+02	0.1485E+02			31.730	0.745
R2	NO. 5	27	52	6000	0.7453E+02	0.8388E+02			21.558	0.362

A R O E F M O D E L
A I R B O R N E
R A D A R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	27	162	4988	0.1999E+02	0.1095E+02			18.807	0.908
R2	NO. 2	27	43	1000	0.8461E+01	0.5850E+01			36.972	0.932
R2	NO. 3	25	382	2176	0.2119E+01	0.2311E+01			41.701	0.962
R2	NO. 4	25	315	3984	0.1156E+02	-.4295E+02			14.915	1.198
R2	NO. 5	27	27	400	0.7295E+01	0.2376E+01			15.193	0.941
R2	NO. 6	27	42	1300	0.1068E+02	0.7525E+01			37.846	0.931

TABLE 4.4 (Continued)

AROEF MODEL
AIRBORNE
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	13	1100	0,6297E+02	0,1412E+02			9,788	0,858
R2	NO, 2	27	8	400	0,3688E+02	0,1396E+02			17,468	0,697
R2	NO, 3	25	50	3992	0,4900E+02	-,2718E+02			10,854	0,845
R2	NO, 4	27	13	800	0,4248E+02	0,2102E+02			25,449	0,659
R2	NO, 5	27	63	4996	0,6497E+02	0,3435E+02			10,531	0,455
R2	NO, 6	25	11	1200	0,7374E+02	0,3900E+02			32,577	0,382

AROEF MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	5	536	0,4[illegible]8E+02	-,8871E+02			13,763	0,605
R1	NO, 2	23	3	785	0,1067E+03	0,1106E+02			0,024	0,0
R1	NO, 3	23	3	521	0,1680E+03	0,3204E+02			10,531	0,963
R1	NO, 4	21	9	500	0,3058E+02	0,1376E+02			28,281	0,826
R1	NO, 5	21	10	760	0,2274E+02	0,1126E+02			46,945	0,753

TABLE 4.4 (Continued)

AROEF MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	26	3	407	0.8291E+02	0.3625E+02			24.248	0.623
R2	NO. 2	27	77	3994	0.5192E+02	0.2451E+02			18.475	0.229
R2	NO. 3	27	12	400	0.2804E+02	0.4632E+01			8.002	0.867
R2	NO. 4	27	27	1400	0.4269E+02	0.1829E+02			17.745	0.743
R2	NO. 5	27	14	800	0.4195E+02	0.1946E+02			17.109	0.561

AROEF MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	21	3	500	0.1258E+03	0.3303E+02			4.304	0.031
R1	NO. 2	21	7	760	0.5774E+02	0.2268E+02			50.560	0.426

AROEF MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	20	7	782	0.5397E+02	0.1762E+02			25.197	0.553
R3	NO. 2	20	11	767	0.3318E+02	0.1091E+02			32.440	0.606

TABLE 4.4 (Continued)

A R D E F M O D E L
A I R B O R N E
L A S E R R E C E I V E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	10	760	0,4816E+02	0,2023E+02			32,503	0,274

A R D E F M O D E L
A I R B O R N E
L A S E R R E C E I V E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	4	767	0,5977E+02	0,1679E+02			88,338	1,060
R3	NO, 2	20	6	782	0,2982E+02	0,8416E+01			19,760	0,984

A R D E F M O D E L
A I R B O R N E
L A S E R X M T R / R C V R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	17	760	0,2404E+02	0,1235E+02			56,456	0,474
R1	NO, 2	21	10	500	0,3391E+02	0,1082E+02			25,949	0,234

TABLE 4.4 (Continued)

A R D E F M O D E L
A I R B O R N E
L A S E R   X M T R / R C V R
I N - H O U S E

	SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3 NO. 1	20	14	782	0,2364E+02	0,1160E+02			31,415	0,830
R3 NO. 2	20	15	767	0,2006E+02	0,7626E+01			53,872	0,840

TABLE 4.4 (Continued)

AROEF MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	23	5	711	0.2676E+02	-.9102E+03			17.326	0.205
R1	NO. 2	23	5	785	0.1177E+03	-.7729E+02			12.566	0.783
R1	NO. 3	23	8	536	0.5290E+02	-.1550E+03			15.226	0.509

AROEF MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	27	65	2500	0.1713E+02	0.1301E+02			64.902	0.798

AROEF MODEL
AIRBORNE
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	27	103	798	0.3376E+01	0.2736E+01			37.765	0.920
R2	NO. 2	27	127	1097	0.4718E+01	0.3586E+01			29.524	0.911
R2	NO. 3	27	65	399	0.2708E+01	0.1484E+01			25.260	0.934
R2	NO. 4	25	337	1192	0.1876E+01	0.1925E+01			35.443	0.938
R2	NO. 5	27	316	2500	0.5310E+01	0.5368E+01			33.955	0.795
R2	NO. 6	25	371	3981	0.9197E+01	-.5555E+02			14.139	1.770

TABLE 4.4 (Continued)

A R O E F M O D E L
A I R B O R N E
S Y S T E M - L A S E R
I N - H O U S E

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	21	27	760	0.1055E+02	0.5952E+01			79.665	0.740
R1	NO. 2	21	19	500	0.1593E+02	0.8150E+01			26.637	0.505

A R O E F M O D E L
A I R B O R N E
S Y S T E M - L A S E R
I N - H O U S E

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	20	17	767	0.2220E+02	0.8085E+01			59.711	0.798
R3	NO. 2	20	17	782	0.1888E+02	0.1066E+02			36.524	0.864

A R O E F M O D E L
A I R B O R N E
S Y S T E M - I N F R A R E D
I N - H O U S E

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	23	17	536	0.1887E+02	-.1279E+03			23.146	0.558
R1	NO. 2	23	11	785	0.4522E+02	-.2779E+02			15.830	0.878
R1	NO. 3	23	5	521	0.1037E+03	-.1416E+02			14.137	1.284
R1	NO. 4	23	9	711	0.7619E+02	-.1297E+03			11.508	0.475

TABLE 4.4 (Continued)

AROEF MODEL
AIRBORNE
SYSTEM-INFRARED
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	24	3	227	0,3923E+02	-,5642E+02			7,325	0,351
R3	NO, 2	24	3	344	0,9192E+02	0,3386E+02			0,968	0,004
R3	NO, 3	24	3	789	0,1361E+03	0,3534E+02			9,916	0,162
R3	NO, 4	24	4	411	0,9111E+02	0,7594E+01			10,384	1,411
R3	NO, 5	24	3	433	0,9390E+02	-,6660E+02			4,347	0,272
R3	NO, 6	24	3	472	0,1144E+03	0,3648E+02			11,930	0,882
R3	NO, 7	24	8	1056	0,8295E+02	0,3631E+02			31,768	0,424
R3	NO, 8	24	3	324	0,1610E+02	-,2639E+03			1,980	0,009
R3	NO, 9	24	3	440	0,7582E+02	0,3375E+02			36,464	0,308
R3	NO,10	24	4	519	0,1571E+03	0,3777E+02			12,837	0,249
R3	NO,11	24	4	349	0,8270E+02	0,2586E+02			9,625	0,105
R3	NO,12	24	3	255	0,3514E+02	-,1060E+03			10,642	0,470
R3	NO,13	24	3	390	0,3482E+02	-,7707E+02			11,514	0,564
R3	NO,14	24	4	563	0,1293E+03	0,4074E+02			7,857	0,265
R3	NO,15	24	3	307	0,4013E+02	0,1930E+02			36,163	0,274
R3	NO,16	24	3	345	0,1736E+01	-,3490E+03			8,011	0,123
R3	NO,17	24	3	705	0,3097E+02	-,5553E+03			12,350	0,334
R3	NO,18	24	4	448	0,8055E+02	0,2316E+02			53,116	0,404
R3	NO,19	24	4	529	0,1122E+03	0,4092E+02			3,647	0,056
R3	NO,20	24	4	354	0,7241E+02	0,7992E+01			11,704	1,385

TABLE 4.4 (Continued)

A R O E F M O D E L
A I R B O R N E
S Y S T E M - I N F R A R E D
F I E L D
(C O N T I N U E D)

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO,21	24	4	671	0,1123E+03	0,4756E+02			27,900	0,800
R3	NO,22	24	3	314	0,5329E+02	0,1948E+02			2,900	0,037
R3	NO,23	24	4	378	0,7696E+02	-,2896E+02			10,496	1,044
R3	NO,24	24	4	385	0,5965E+02	0,1744E+02			22,723	0,493
R3	NO,25	24	3	477	0,1437E+03	0,4807E+02			0,016	0,0
R3	NO,26	24	3	393	0,9917E+02	0,4016E+02			41,938	0,227

A R O E F M O D E L
A I R B O R N E
S Y S T E M - V I S U A L S C A N
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	22	29	766	0,1624E+02	0,6124E+01			20,581	0,455
R2	NO, 2	22	41	549	0,1117E+02	0,6857E+01			18,812	0,677

TABLE 4.4 (Continued)

SIMPLE EXPONENTIAL
AIRBORNE
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	25	6	1584	0,7144E+03	-,7251E-03			19,535	0,591
R2	NO, 2	27	29	1400	0,2104E+02	0,7516E-03			11,594	0,221
R2	NO, 3	27	8	-90	0,1743E+02	0,2430E-02			4,390	0,048
R2	NO, 4	27	21	1206	0,1354E+02	0,1453E-02			6,033	0,085
R2	NO, 5	27	52	6060	0,3685E+02	0,2497E-03			35,232	0,894

SIMPLE EXPONENTIAL
AIRBORNE
RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	162	4988	0,1462E+02	0,1568E-03			6,571	0,119
R2	NO, 2	27	43	1600	0,4843E+01	0,1805E-02			7,929	9,075
R2	NO, 3	25	302	2176	0,1237E+01	0,9077E-03			14,150	0,213
R2	NO, 4	25	315	3984	0,1680E+02	-,1063E-03			12,396	0,492
R2	NO, 5	27	27	400	0,5296E+01	0,2305E-02			4,005	0,044
R2	NO, 6	27	42	1306	0,6003E+01	0,1472E-02			8,494	0,087

TABLE 4.4 (Continued)

SIMPLE EXPONENTIAL
AIRBORNE
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	13	1100	0,5011E+02	0,3781E-03			7,773	0,437
R2	NO, 2	27	8	400	0,2213E+02	0,2060E-02			3,321	0,022
R2	NO, 3	25	50	3992	0,5370E+02	-,3861E-04			12,072	0,979
R2	NO, 4	27	13	800	0,2314E+02	0,1358E-02			5,691	0,052
R2	NO, 5	27	63	4996	0,4975E+02	0,9812E-04			10,145	0,546
R2	NO, 6	25	11	1200	0,2731E+02	0,1456E-02			21,156	0,465

SIMPLE EXPONENTIAL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	5	536	0,1077E+03	-,2291E-02			16,180	0,815
R1	NO, 2	23	3	765	0,9229E+02	0,3778E-03			0,924	0,167
R1	NO, 3	23	3	521	0,1070E+03	0,8579E-03			5,944	0,275
R1	NO, 4	21	9	500	0,1602E+02	0,2595E-02			6,760	0,032
R1	NO, 5	21	10	760	0,8080E+01	0,4028E-02			29,270	0,391

TABLE 4.4 (Continued)

SIMPLE EXPONENTIAL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	26	3	407	0,3248E+02	0,3680E-02			12,364	0,149
R2	NO, 2	27	77	3494	0,2898E+02	0,2258E-03			40,855	1,159
R2	NO, 3	27	12	400	0,2302E+02	0,8219E-03			3,702	0,163
R2	NO, 4	27	27	1400	0,2918E+02	0,4804E-03			6,623	0,112
R2	NO, 5	27	18	800	0,2470E+02	0,1155E-02			5,099	0,046

SIMPLE EXPONENTIAL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	3	500	0,1857E+02	0,5866E-02			32,716	0,963
R1	NO, 2	21	7	760	0,1290E+02	0,3659E-02			32,903	0,634

TABLE 4.4 (Continued)

SIMPLE EXPONENTIAL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	7	782	0,1964E+02	0,2928E-02			29,427	0,181
R3	NO, 2	20	11	767	0,1494E+02	0,2303E-02			25,729	0,899

SIMPLE EXPONENTIAL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	10	760	0,1376E+02	0,3238E-02			31,731	0,644

SIMPLE EXPONENTIAL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	4	767	0,8095E+01	0,4480E-02			35,063	0,022
R3	NO, 2	20	6	782	0,2002E+02	0,2628E-02			16,361	0,715

TABLE 4.4 (Continued)

SIMPLE EXPONENTIAL
AIRBORNE
LASER XMTR/RCVR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	17	760	0,6779E+01	0,3521E-02			34,147	0,738
R1	NO, 2	21	10	500	0,1012E+02	0,4665E-02			30,006	0,839

SIMPLE EXPONENTIAL
AIRBORNE
LASER XMTR/RCVR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	16	782	0,1229E+02	0,2201E-02			13,370	0,807
R3	NO, 2	20	15	767	0,7325E+01	0,3090E-02			44,769	0,166

SIMPLE EXPONENTIAL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	5	711	0,9025E+03	=,3250E-02			22,776	0,472
R1	NO, 2	23	5	785	0,1618E+03	=,2197E-03			16,094	1,228
R1	NO, 3	23	8	536	0,1454E+03	=,1305E-02			15,960	0,702

TABLE 4.4 (Continued)

SIMPLE EXPONENTIAL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	27	65	2500	0.6645E+01	0.9951E-03			27.044	0.357

SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO. 1	27	103	798	0.1975E+01	0.2040E-02			8.294	0.081
R2	NO. 2	27	127	1097	0.2975E+01	0.1111E-02			5.248	0.041
R2	NO. 3	27	65	399	0.1808E+01	0.3312E-02			5.028	0.085
R2	NO. 4	25	347	1192	0.1128E+01	0.1130E-02			10.941	0.117
R2	NO. 5	27	316	2500	0.3074E+01	0.4945E-03			21.769	0.302
R2	NO. 6	25	[illegible]	3981	0.1312E+02	-.1747E-03			13.277	0.623

SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	21	27	760	0.3105E+01	0.4172E-02			41.249	0.760
R1	NO. 2	21	19	500	0.7472E+01	0.3098E-02			20.309	0.257

TABLE 4.4 (Continued)

SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	17	767	0,7221E+01	0,2855E-02			42,785	0,199
R3	NO, 2	20	17	782	0,9762E+01	0,2289E-02			7,767	0,065

SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM-INFRARED
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	17	536	0,4616E+02	-,1110E-02			27,639	0,930
R1	NO, 2	23	11	785	0,5108E+02	0,4042E-04			17,029	1,121
R1	NO, 3	23	5	521	0,1072E+03	0,7252E-04			15,511	1,302
R1	NO, 4	23	9	711	0,1081E+03	-,1108E-02			8,602	0,245

TABLE 4.4 (Continued)

SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM=INFRARED
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	24	3	227	0.9801E+02	-.3422E-02			10.045	0.781
R3	NO. 2	24	3	344	0.3319E+02	0.4068E-02			12.135	0.381
R3	NO. 3	24	3	759	0.1568E+02	0.6827E-02			18.864	0.521
R3	NO. 4	24	4	411	0.7689E+02	0.5532E-03			8.461	0.908
R3	NO. 5	24	3	433	0.1667E+03	-.1091E-02			6.669	0.685
R3	NO. 6	24	3	472	0.5717E+02	0.2222E-02			13.067	1.011
R3	NO. 7	24	8	1056	0.2731E+02	0.1830E-02			23.968	0.348
R3	NO. 8	24	3	324	0.4789E+03	-.1068E-01			5.140	0.063
R3	NO. 9	24	3	440	0.1636E+02	0.6543E-02			10.872	0.0[illegible]6
R3	NO.10	24	4	519	0.1753E+02	0.4962E-02			26.020	0.858
R3	NO.11	24	4	349	0.2008E+02	0.5041E-02			31.215	0.577
R3	NO.12	24	3	255	0.1973E+03	-.6501E-02			9.955	0.408
R3	NO.13	24	3	390	0.1131E+03	-.4122E-02			13.830	0.934
R3	NO.14	24	4	563	0.5949E+02	0.1731E-02			12.765	0.398
R3	NO.15	24	3	307	0.1007E+02	0.1152E-01			16.060	0.072
R3	NO.16	24	3	345	0.1569E+04	-.3284E-01			11.048	0.208
R3	NO.17	24	3	705	0.8487E+03	-.4792E-02			14.716	0.527
R3	NO.18	24	4	448	0.1198E+02	0.5863E-02			25.003	0.325
R3	NO.19	24	4	529	0.5127E+02	0.1973E-02			12.273	0.358
R3	NO.20	24	4	354	0.6133E+02	0.6031E-03			10.657	1.307

TABLE 4.4 (Continued)

SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM-INFRARED
FIELD
(CONTINUED)

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO,21	24	3	671	0,5013E+02	0,1794E-02			11,661	0,078
R3	NO,22	24	3	314	0,2155E+02	0,6013E-02			9,022	0,23E
R3	NO,23	24	4	378	0,1178E+03	-,1227E-02			9,761	0,845
R3	NO,24	24	4	385	0,1469E+02	0,5782E-02			39,472	0,366
R3	NO,25	24	3	477	0,3221E+02	0,4106E-02			21,296	0,667
R3	NO,26	24	3	393	0,1571E+02	0,5930E-02			11,535	0,087

SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM-VISUAL SCAN
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	22	29	766	0,8622E+01	0,1808E-02			26,263	0,611
R2	NO, 2	22	41	549	0,7372E+01	0,1315E-02			10,326	0,293

TABLE 5.2

GROUND SYSTEM
ANTENNA
IN-HOUSE

		SYSNO	RBAR	RE
R3	NO. 1	1	EXPONENTIAL 6.321	EXPONENTIAL 0.002
R3	NO. 2	1	IBM MODEL 2.861	IBM MODEL 0.015
R3	NO. 3	10	SIMPLE EXPO 0.264	SIMPLE EXPO 1.060

GROUND SYSTEM
ANTENNA
FIELD

		SYSNO	RBAR	RE
R1	NO. 1	12	SIMPLE EXPO 14.929	SIMPLE EXPO 0.251
R1	NO. 2	12	SIMPLE EXPO 19.462	SIMPLE EXPO 0.678
R1	NO. 3	5	SIMPLE EXPO 9.986	SIMPLE EXPO 0.296
R1	NO. 4	5	IBM MODEL 11.976	EXPONENTIAL 0.015
R1	NO. 5	5	EXPONENTIAL 3.443	EXPONENTIAL 0.029
R1	NO. 6	5	IBM MODEL 11.742	IBM MODEL 0.010
R1	NO. 7	5	IBM MODEL 12.019	SIMPLE EXPO 1.093
R1	NO. 8	5	AROEF MODEL 12.831	EXPONENTIAL 0.464
R1	NO. 9	4	IBM MODEL 14.183	IBM MODEL 0.241
R1	NO.10	4	IBM MODEL 15.715	SIMPLE EXPO 0.688
R1	NO.11	4	IBM MODEL 12.228	SIMPLE EXPO 0.518
R1	NO.12	4	SIMPLE EXPO 22.665	LLOYD-LIPOW 0.701
R1	NO.13	4	IBM MODEL 11.278	SIMPLE EXPO 0.780
R1	NO.14	4	IBM MODEL 24.190	AROEF MODEL 0.606
R1	NO.15	4	IBM MODEL 19.826	IBM MODEL 0.320
R1	NO.16	4	IBM MODEL 16.753	SIMPLE EXPO 0.822
R1	NO.17	4	SIMPLE EXPO 0.519	SIMPLE EXPO 0.535
R1	NO.18	4	LLOYD-LIPOW 15.277	LLOYD-LIPOW 0.534
R1	NO.19	4	IBM MODEL 11.535	IBM MODEL 0.111
R1	NO.20	4	SIMPLE EXPO 0.604	SIMPLE EXPO 0.607
R1	NO.21	4	AROEF MODEL 15.648	AROEF MODEL 0.187

TABLE 5.2 (Continued)

GROUND SYSTEM
RADAR
IN-HOUSE

		SYSNO	RBAR		RE	
R3	NO. 1	1	DUANE MODEL	12,904	EXPONENTIAL	0,083
R3	NO. 2	1	AROEF MODEL	10,557	AROEF MODEL	0,369
R3	NO. 3	10	AROEF MODEL	22,687	DUANE MODEL	0,542
R3	NO. 4	10	AROEF MODEL	8,283	AROEF MODEL	0,057
R3	NO. 5	10	AROEF MODEL	7,842	AROEF MODEL	0,223

GROUND SYSTEM
RADAR
FIELD

		SYSNO	RBAR		RE	
R1	NO. 1	16	DUANE MODEL	22,140	DUANE MODEL	0,038
R1	NO. 2	12	AROEF MODEL	9,257	SIMPLE EXPO	0,763
R1	NO. 3	11	DUANE MODEL	15,497	DUANE MODEL	0,041
R1	NO. 4	12	SIMPLE EXPO	10,829	SIMPLE EXPO	0,416
R1	NO. 5	12	SIMPLE EXPO	10,938	SIMPLE EXPO	0,171
R1	NO. 6	12	AROEF MODEL	10,732	AROEF MODEL	0,937
R1	NO. 7	11	SIMPLE EXPO	16,287	DUANE MODEL	0,038
R1	NO. 8	11	SIMPLE EXPO	10,783	SIMPLE EXPO	0,925

TABLE 5.2 (Continued)

GROUND SYSTEM
MICROWAVE
IN-HOUSE

		SYSNO	RBAR	RE
R1	NO. 1	5	EXPONENTIAL 12,857	EXPONENTIAL 0,274

GROUND SYSTEM
MICROWAVE
FIELD

		SYSNO	RBAR	RE
R1	NO. 1	4	SIMPLE EXPO 6,913	SIMPLE EXPO 0,680
R1	NO. 2	4	SIMPLE EXPO 8,512	SIMPLE EXPO 0,105
R1	NO. 3	4	EXPONENTIAL 12,281	EXPONENTIAL 0,074
R1	NO. 4	4	SIMPLE EXPO 8,683	SIMPLE EXPO 0,173
R1	NO. 5	5	ANDEF MODEL 10,014	EXPONENTIAL 0,917
R1	NO. 6	5	EXPONENTIAL 13,387	EXPONENTIAL 0,852
R1	NO. 7	5	LLOYD- LIPOW 9,668	LLOYD- LIPOW 0,095
R1	NO. 8	5	IBM MODEL 9,404	IBM MODEL 0,079
R1	NO. 9	5	IBM MODEL 10,070	SIMPLE EXPO 0,672
R1	NO.10	5	SIMPLE EXPO 2,332	SIMPLE EXPO 0,012
R1	NO.11	5	EXPONENTIAL 13,972	EXPONENTIAL 0,279
R1	NO.12	4	SIMPLE EXPO 12,840	SIMPLE EXPO 0,851
R1	NO.13	4	SIMPLE EXPO 11,379	SIMPLE EXPO 0,850
R1	NO.14	4	SIMPLE EXPO 12,932	SIMPLE EXPO 0,141
R1	NO.15	4	SIMPLE EXPO 12,553	SIMPLE EXPO 0,558
R1	NO.16	4	SIMPLE EXPO 9,887	SIMPLE EXPO 0,666
R1	NO.17	4	SIMPLE EXPO 8,329	SIMPLE EXPO 0,132
R1	NO.18	4	SIMPLE EXPO 17,936	SIMPLE EXPO 0,422
R1	NO.19	4	EXPONENTIAL 9,200	EXPONENTIAL 0,125
R1	NO.20	4	IBM MODEL 7,171	SIMPLE EXPO 0,348

TABLE 5.2 (Continued)

GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	RBAR	RE
R2	NO. 1	8	IBM MODEL 5.379	IBM MODEL 0.011
R2	NO. 2	8	IBM MODEL 2.776	IBM MODEL 0.002
R2	NO. 3	6	EXPONENTIAL 8.634	EXPONENTIAL 0.011
R2	NO. 4	8	IBM MODEL 28.149	IBM MODEL 0.203
R2	NO. 5	8	IBM MODEL 12.017	SIMPLE EXPO 0.181

GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	RBAR	RE
R3	NO. 1	7	EXPONENTIAL 14.059	EXPONENTIAL 0.060
R3	NO. 2	7	IBM MODEL 23.497	SIMPLE EXPO 0.727
R3	NO. 3	7	IBM MODEL 21.686	LLOYD-LIPOW 0.924
R3	NO. 4	2	SIMPLE EXPO 4.537	SIMPLE EXPO 0.180
R3	NO. 5	2	SIMPLE EXPO 10.708	SIMPLE EXPO 0.473
R3	NO. 6	1	SIMPLE EXPO 5.746	LLOYD-LIPOW 0.025
R3	NO. 7	1	AROEF MODEL 13.189	LLOYD-LIPOW 0.963

TABLE 5.2 (Continued)

GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	RRAR	PE
R1	NO. 1	11	SIMPLE EXPO 18,040	DUANE MODEL 0,043
R1	NO. 2	11	SIMPLE EXPO 19,152	DUANE MODEL 0,079
R1	NO. 3	12	SIMPLE EXPO 13,925	SIMPLE EXPO 0,620
R1	NO. 4	12	SIMPLE EXPO 22,678	SIMPLE EXPO 0,026
R1	NO. 5	12	AROEF MODEL 14,862	AROEF MODEL 0,290
R1	NO. 6	11	SIMPLE EXPO 10,608	SIMPLE EXPO 0,613
R1	NO. 7	11	AROEF MODEL 4,877	LLOYD- LIPOW 0,321
R1	NO. 8	12	SIMPLE EXPO 14,593	LLOYD- LIPOW 0,844
R1	NO. 9	11	SIMPLE EXPO 7,917	SIMPLE EXPO 0,066

TABLE 5.2 (Continued)

GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	RBAR		RE	
R2	NO. 1	8	SIMPLE EXPO	7.198	SIMPLE EXPO	0.064
R2	NO. 2	8	SIMPLE EXPO	7.978	SIMPLE EXPO	0.031
R2	NO. 3	8	SIMPLE EXPO	4.527	SIMPLE EXPO	0.033
R2	NO. 4	8	SIMPLE EXPO	5.909	SIMPLE EXPO	0.315
R2	NO. 5	8	IBM MODEL	10.333	IBM MODEL	0.069
R2	NO. 6	8	SIMPLE EXPO	4.258	SIMPLE EXPO	0.006
R2	NO. 7	8	AROEF MODEL	9.022	LLOYD- LIPOW	0.339
R2	NO. 8	8	SIMPLE EXPO	10.178	SIMPLE EXPO	0.341
R2	NO. 9	8	SIMPLE EXPO	2.787	SIMPLE EXPO	0.146
R2	NO.10	8	AROEF MODEL	0.599	SIMPLE EXPO	0.802
R2	NO.11	8	AROEF MODEL	1.407	AROEF MODEL	0.007
R2	NO.12	8	AROEF MODEL	2.902	AROEF MODEL	0.006
R2	NO.13	8	AROEF MODEL	1.646	AROEF MODEL	0.011
R2	NO.14	8	SIMPLE EXPO	5.152	SIMPLE EXPO	0.087
R2	NO.15	8	AROEF MODEL	1.116	AROEF MODEL	0.005
R2	NO.16	8	SIMPLE EXPO	0.947	SIMPLE EXPO	0.197
R2	NO.17	8	SIMPLE EXPO	2.235	SIMPLE EXPO	0.407
R2	NO.18	8	IBM MODEL	7.504	IBM MODEL	0.149
R2	NO.19	8	IBM MODEL	20.021	IBM MODEL	0.095
R2	NO.20	8	IBM MODEL	17.639	SIMPLE EXPO	1.158
R2	NO.21	8	AROEF MODEL	18.697	DUANE MODEL	0.122
R2	NO.22	8	IBM MODEL	9.311	EXPONENTIAL	0.011
R2	NO.23	8	AROEF MODEL	8.651	LLOYD- LIPOW	0.318

TABLE 5.2 (Continued)

GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	RBAR	RE
R3	NO. 1	17	SIMPLE EXPO 44,176	DUANE MODEL 0,253
R3	NO. 2	2	IBM MODEL 9,993	SIMPLE EXPO 0,100
R3	NO. 3	2	IBM MODEL 26,916	IBM MODEL 0,059

GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	RBAR	RE
R1	NO. 1	11	DUANE MODEL 15,173	DUANE MODEL 0,097
R1	NO. 2	14	DUANE MODEL 46,733	DUANE MODEL 0,027
R1	NO. 3	14	SIMPLE EXPO 11,052	SIMPLE EXPO 0,497
R1	NO. 4	14	SIMPLE EXPO 8,750	SIMPLE EXPO 0,406
R1	NO. 5	14	SIMPLE EXPO 2,346	SIMPLE EXPO 0,047

GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	RBAR	RE
R2	NO. 1	13	SIMPLE EXPO 12,582	SIMPLE EXPO 1,000

TABLE 5.2 (Continued)

GROUND SYSTEM
COMPUTER
IN-HOUSE

	SYSNO	RBAR		RE	
R3 NO. 1	9	DUANE MODEL	40.804	DUANE MUDEL	0.004
R3 NO. 2	9	SIMPLE EXPO	6.670	SIMPLE EXPO	0.037
R3 NO. 3	9	SIMPLE EXPO	19.254	DUANE MODEL	0.132
R3 NO. 4	9	SIMPLE EXPO	12.368	SIMPLE EXPO	1.424
R3 NO. 5	2	SIMPLE EXPO	2.763	SIMPLE EXPO	0.016
R3 NO. 6	2	IBM MODEL	10.628	SIMPLE EXPO	0.221
R3 NO. 7	1	AROEF MODEL	14.685	AROFF MODEL	0.303
R3 NO. 8	1	AROEF MODEL	16.985	LLO/D- LIPOW	1.261

TABLE 5.2 (Continued)

GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	RBAR	RE
R1	NO. 1	11	DUANE MODEL 12.153	DUANE MODEL 0.094
R1	NO. 2	11	DUANE MODEL 25.533	DUANE MODEL 0.022
R1	NO. 3	12	AHOEF MODEL 39.132	DUANE MODEL 0.095
R1	NO. 4	15	SIMPLE EXPO 10.055	LLOYD- LIPOW 0.895
R1	NO. 5	12	DUANE MODEL 16.316	DUANE MODEL 0.211
R1	NO. 6	16	LLOYD- LIPOW 6.054	LLOYD- LIPOW 0.090
R1	NO. 7	15	SIMPLE EXPO 5.461	SIMPLE EXPO 0.051
R1	NO. 8	15	SIMPLE EXPO 11.253	SIMPLE EXPO 0.793
R1	NO. 9	15	LLOYD- LIPOW 12.373	LLOYD- LIPOW 0.580
R1	NO.10	15	IBM MODEL 10.048	IBM MODEL 0.194
R1	NO.11	15	LLOYD- LIPOW 8.012	SIMPLE EXPO 0.950
R1	NO.12	15	SIMPLE EXPO 5.037	SIMPLE EXPO 0.165
R1	NO.13	15	LLOYD- LIPOW 10.372	LLOYD- LIPOW 0.783
R1	NO.14	15	LLOYD- LIPOW 4.098	LLOYD- LIPOW 1.000
R1	NO.15	15	SIMPLE EXPO 6.050	SIMPLE EXPO 0.150
R1	NO.16	11	SIMPLE EXPO 3.044	SIMPLE EXPO 0.054
R1	NO.17	12	SIMPLE EXPO 20.205	SIMPLE EXPO 0.995
R1	NO.18	11	SIMPLE EXPO 11.062	SIMPLE EXPO 0.689
R1	NO.19	11	SIMPLE EXPO 11.081	DUANE MODEL 0.103

GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	RBAR	RE
R3	NO. 1	17	DUANE MODEL 59.819	DUANE MODEL 0.336
R3	NO. 2	2	IBM MODEL 12.648	EXPONENTIAL 0.029
R3	NO. 3	2	LLOYD- LIPOW 6.180	LLOYD- LIPOW 0.420

TABLE 5.2 (Continued)

GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

		SYSNO	RBAR	RE
R3	NO. 1	2	EXPONENTIAL 7,027	EXPONENTIAL 0,897
R3	NO. 2	2	EXPONENTIAL 19,467	EXPONENTIAL 0,211

GROUND SYSTEM
COMMUNICATIONS
FIELD

		SYSNO	RBAR	RE
R1	NO. 1	4	SIMPLE EXPO 27,667	LLOYD-LIPOW 0,794
R1	NO. 2	4	SIMPLE EXPO 26,675	LLOYD-LIPOW 0,862
R1	NO. 3	4	SIMPLE EXPO 6,318	SIMPLE EXPO 1,001
R1	NO. 4	4	SIMPLE EXPO 14,797	LLOYD-LIPOW 0,226
R1	NO. 5	4	SIMPLE EXPO 11,194	SIMPLE EXPO 0,465
R1	NO. 6	4	AROEF MODEL 12,776	AROEF MODEL 0,451
R1	NO. 7	4	IBM MODEL 11,956	IBM MODEL 0,135
R1	NO. 8	4	IBM MODEL 22,658	IBM MODEL 0,560
R1	NO. 9	4	IBM MODEL 12,173	SIMPLE EXPO 0,201
R1	NO.10	4	SIMPLE EXPO 15,747	SIMPLE EXPO 0,249
R1	NO.11	4	IBM MODEL 15,173	LLOYD-LIPOW 0,948
R1	NO.12	4	AROEF MODEL 12,676	LLOYD-LIPOW 0,927

GROUND SYSTEM
SYSTEM-RADAR
IN-HOUSE

		SYSNO	RBAR	RE
R3	NO. 1	1	IBM MODEL 10,616	EXPONENTIAL 0,161
R3	NO. 2	1	EXPONENTIAL 9,023	EXPONENTIAL 0,164

TABLE 5.2 (Continued)

GROUND SYSTEM
SYSTEM-RADAR
FIELD

		SYSNO	RBAR	RE
R1	NO. 1	16	DUANE MODEL 16.706	DUANE MODEL 0.053
R1	NO. 2	11	DUANE MODEL 11.832	DUANE MODEL 0.180
R1	NO. 3	12	AROEF MODEL 9.081	LLOYD-LIPOW 0.544
R1	NO. 4	11	SIMPLE EXPO 7.130	SIMPLE EXPO 0.062
R1	NO. 5	11	SIMPLE EXPO 16.360	DUANE MODEL 0.035
R1	NO. 6	12	SIMPLE EXPO 8.802	SIMPLE EXPO 0.218
R1	NO. 7	12	DUANE MODEL 12.472	DUANE MODEL 0.033
R1	NO. 8	11	SIMPLE EXPO 7.951	SIMPLE EXPO 0.100

GROUND SYSTEM
SYSTEM-MICROWAVE
IN-HOUSE

		SYSNO	RBAR	RE
R1	NO. 1	5	EXPONENTIAL 12.627	EXPONENTIAL 0.201

TABLE 5.2 (Continued)

GROUND SYSTEM
SYSTEM=MICROWAVE
FIELD

		SYSNO	RBAR		RE	
R1	NO. 1	5	EXPONENTIAL	10.287	EXPONENTIAL	0.885
R1	NO. 2	5	IBM MODEL	6.521	SIMPLE EXPO	0.111
R1	NO. 3	5	SIMPLE EXPO	24.281	SIMPLE EXPO	0.789
R1	NO. 4	5	IBM MODEL	9.451	IBM MODEL	0.092
R1	NO. 5	5	EXPONENTIAL	15.490	EXPONENTIAL	0.906
R1	NO. 6	4	IBM MODEL	5.734	SIMPLE EXPO	0.693
R1	NO. 7	4	SIMPLE EXPO	8.484	SIMPLE EXPO	0.201
R1	NO. 8	4	EXPONENTIAL	11.952	EXPONENTIAL	0.109
R1	NO. 9	4	SIMPLE EXPO	9.101	SIMPLE EXPO	0.214
R1	NO.10	5	SIMPLE EXPO	5.396	SIMPLE EXPO	0.218
R1	NO.11	5	EXPONENTIAL	14.888	EXPONENTIAL	0.416
R1	NO.12	4	AROEF MODEL	14.955	SIMPLE EXPO	0.808
R1	NO.13	4	SIMPLE EXPO	6.245	SIMPLE EXPO	0.351
R1	NO.14	4	SIMPLE EXPO	13.481	SIMPLE EXPO	0.143
R1	NO.15	4	SIMPLE EXPO	11.031	SIMPLE EXPO	0.626
R1	NO.16	4	IBM MODEL	8.501	SIMPLE EXPO	0.892
R1	NO.17	4	SIMPLE EXPO	19.099	SIMPLE EXPO	0.482
R1	NO.18	4	EXPONENTIAL	8.606	EXPONENTIAL	0.153
R1	NO.19	4	IBM MODEL	9.086	SIMPLE EXPO	0.513
R1	NO.20	4	SIMPLE EXPO	10.268	SIMPLE EXPO	0.218

TABLE 5.2 (Continued)

AIRBORNE
ANTENNA
IN-HOUSE

	SYSNO	RBAR	RE
R2 NO. 1	25	AROEF MODEL 15.395	AROEF MODEL 0.237
R2 NO. 2	27	EXPONENTIAL 5.938	EXPONENTIAL 0.035
R2 NO. 3	27	SIMPLE EXPO 4.390	SIMPLE EXPO 0.048
R2 NO. 4	27	IBM MODEL 4.228	IBM MODEL 0.011
R2 NO. 5	27	EXPONENTIAL 19.038	EXPONENTIAL 0.318

AIRBORNE
RADAR
IN-HOUSE

	SYSNO	RBAR	RE
R2 NO. 1	27	SIMPLE EXPO 6.571	SIMPLE EXPO 0.119
R2 NO. 2	27	IBM MODEL 4.096	IBM MODEL 0.004
R2 NO. 3	25	IBM MODEL 7.587	IBM MODEL 0.019
R2 NO. 4	25	SIMPLE EXPO 12.396	SIMPLE EXPO 0.492
R2 NO. 5	27	SIMPLE EXPO 4.885	SIMPLE EXPO 0.044
R2 NO. 6	27	IBM MODEL 3.478	IBM MODEL 0.002

TABLE 5.2 (Continued)

AIRBORNE
DISPLAY
IN-HOUSE

		SYSNO	RBAR	RE
R2	NO. 1	27	SIMPLE EXPO 7.773	SIMPLE EXPO 0.437
R2	NO. 2	27	SIMPLE EXPO 3.321	SIMPLE EXPO 0.022
R2	NO. 3	25	AROEF MODEL 10.854	LLOYD-LIPOW 0.813
R2	NO. 4	27	EXPONENTIAL 5.029	EXPONENTIAL 0.020
R2	NO. 5	27	EXPONENTIAL 8.408	EXPONENTIAL 0.308
R2	NO. 6	25	EXPONENTIAL 10.350	EXPONENTIAL 0.050

AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	RBAR	RE
R1	NO. 1	23	IBM MODEL 11.259	ARCEF MODEL 0.605
R1	NO. 2	23	AROEF MODEL 0.024	AROEF MODEL 0.0
R1	NO. 3	23	SIMPLE EXPO 5.944	SIMPLE EXPO 0.275
R1	NO. 4	21	SIMPLE EXPO 6.760	IBM MODEL 0.027
R1	NO. 5	21	EXPONENTIAL 5.293	EXPONENTIAL 0.002

AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	RBAR	RE
R2	NO. 1	26	SIMPLE EXPO 12.364	SIMPLE EXPO 0.149
R2	NO. 2	27	EXPONENTIAL 6.828	EXPONENTIAL 0.066
R2	NO. 3	27	SIMPLE EXPO 3.702	SIMPLE EXPO 0.163
R2	NO. 4	27	SIMPLE EXPO 6.623	SIMPLE EXPO 0.112
R2	NO. 5	27	EXPONENTIAL 2.730	EXPONENTIAL 0.011

AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	RBAR	RE
R1	NO. 1	21	AROEF MODEL 4.304	AHOEF MODEL 0.031
R1	NO. 2	21	EXPONENTIAL 8.370	EXPONENTIAL 0.008

AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	RBAR	RE
R3	NO. 1	20	EXPONENTIAL 15.625	EXPONENTIAL 0.050
R3	NO. 2	20	EXPONENTIAL 18.069	EXPONENTIAL 0.036

TABLE 5.2 (Continued)

AIRBORNE
LASER RECEIVER
IN-HOUSE

	SYSNO	RBAR	RE
R1 NO. 1	21	EXPONENTIAL 12,028	EXPONENTIAL 0,081

AIRBORNE
LASER RECEIVER
IN-HOUSE

	SYSNO	RBAR	RE
R3 NO. 1	20	EXPONENTIAL 7,486	EXPONENTIAL 0,0
R3 NO. 2	20	SIMPLE EXPO 16,361	SIMPLE EXPO 0,715

AIRBORNE
LASER XMTR/RCVR
IN-HOUSE

	SYSNO	RBAR	RE
R1 NO. 1	21	EXPONENTIAL 11,410	EXPONENTIAL 0,040
R1 NO. 2	21	EXPONENTIAL 7,164	EXPONENTIAL 0,042

AIRBORNE
LASER XMTR/RCVR
IN-HOUSE

	SYSNO	RBAR	RE
R3 NO. 1	20	SIMPLE EXPO 13,370	SIMPLE EXPO 0,087
R3 NO. 2	20	EXPONENTIAL 16,090	EXPONENTIAL 0,015

TABLE 5.2 (Continued)

AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	RBAR	RE
R1	NO. 1	23	AROEF MODEL 17.526	AROEF MODEL 0.205
R1	NO. 2	23	AROEF MODEL 12.566	AROEF MODEL 0.783
R1	NO. 3	23	AROEF MODEL 15.226	AROEF MODEL 0.509

AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	RBAR	RE
R2	NO. 1	27	IBM MODEL 4.700	IBM MODEL 0.003

AIRBORNE
SYSTEM-RADAR
IN-HOUSE

		SYSNO	RBAR	RE
R2	NO. 1	27	IBM MODEL 3.555	IBM MODEL 0.005
R2	NO. 2	27	IBM MODEL 1.947	IBM MODEL 0.003
R2	NO. 3	27	SIMPLE EXPO 5.028	SIMPLE EXPO 0.025
R2	NO. 4	25	IBM MODEL 2.374	IBM MODEL 0.004
R2	NO. 5	27	IBM MODEL 3.820	IBM MODEL 0.013
R2	NO. 6	25	SIMPLE EXPO 13.277	LLOYD-LIPOW 0.588

AIRBORNE
SYSTEM-LASER
IN-HOUSE

	SYSNO	RBAR	RE
R1 NO. 1	21	EXPONENTIAL 7.130	EXPONENTIAL 0.014
R1 NO. 2	21	EXPONENTIAL 8.289	EXPONENTIAL 0.030

AIRBORNE
SYSTEM-LASER
IN-HOUSE

	SYSNO	RBAR	RE
R3 NO. 1	20	EXPONENTIAL 12.151	EXPONENTIAL 0.016
R3 NO. 2	20	SIMPLE EXPO 7.767	SIMPLE EXPO 0.065

AIRBORNE
SYSTEM-INFRARED
IN-HOUSE

	SYSNO	RBAR	RE
R1 NO. 1	23	IBM MODEL 20.105	AROEF MODEL 0.558
R1 NO. 2	23	AROEF MODEL 15.830	AROEF MODEL 0.878
R1 NO. 3	23	LLOYD- LIPOW 1[illegible].027	LLOYD- LIPOW 1.279
R1 NO. 4	23	SIMPLE EXPO 8.682	SIMPLE EXPO 0.245

TABLE 5.2 (Continued)

AIRBORNE
SYSTEM-INFRARED
FIELD

		SYSNO	RBAR		RE	
R3	NO, 1	24	AROEF MODEL	7,325	AROEF MODEL	0,351
R3	NO, 2	24	AROEF MODEL	0,968	AROEF MODEL	0,004
R3	NO, 3	24	AROEF MODEL	9,916	LLOYD- LIPOW	0,155
R3	NO, 4	24	SIMPLE EXPO	8,461	SIMPLE EXPO	0,908
R3	NO, 5	24	AROEF MODEL	4,347	AROEF MODEL	0,272
R3	NO, 6	24	AROEF MODEL	11,930	LLOYD- LIPOW	0,868
R3	NO, 7	24	EXPONENTIAL	6,498	EXPONENTIAL	0,022
R3	NO, 8	24	AROEF MODEL	1,980	AROEF MODEL	0,009
R3	NO, 9	24	SIMPLE EXPO	10,872	SIMPLE EXPO	0,016
R3	NO,10	24	EXPONENTIAL	12,197	EXPONENTIAL	0,226
R3	NO,11	24	EXPONENTIAL	2,093	EXPONENTIAL	0,004
R3	NO,12	24	SIMPLE EXPO	9,955	SIMPLE EXPO	0,404
R3	NO,13	24	AROEF MODEL	11,514	AROEF MODEL	0,564
R3	NO,14	24	EXPONENTIAL	6,700	EXPONENTIAL	0,235
R3	NO,15	24	SIMPLE EXPO	16,060	SIMPLE EXPO	0,072
R3	NO,16	24	AROEF MODEL	8,811	AROEF MODEL	0,123
R3	NO,17	24	AROEF MODEL	12,350	AROEF MODEL	0,334
R3	NO,18	24	IBM MODEL	6,883	EXPONENTIAL	0,015
R3	NO,19	24	EXPONENTIAL	2,657	EXPONENTIAL	0,032
R3	NO,20	24	SIMPLE EXPO	10,657	SIMPLE EXPO	1,307
R3	NO,21	24	SIMPLE EXPO	11,661	SIMPLE EXPO	0,074
R3	NO,22	24	AROEF MODEL	2,900	AROEF MODEL	0,037
R3	NO,23	24	SIMPLE EXPO	9,761	SIMPLE EXPO	0,845
R3	NO,24	24	EXPONENTIAL	7,381	EXPONENTIAL	0,008
R3	NO,25	24	AROEF MODEL	0,016	AROEF MODEL	0,0
R3	NO,26	24	SIMPLE EXPO	11,535	SIMPLE EXPO	0,007

TABLE 5.2 (Continued)

AIRBORNE
SYSTEM-VISUAL SCAN
IN-HOUSE

	SYSNO	MBAR	RE
R2 NO. 1	22	EXPONENTIAL 7.958	EXPONENTIAL 0.164
R2 NO. 2	22	EXPONENTIAL 9.610	EXPONENTIAL 0.230

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TABLE 4.3
DUANE MODEL
GROUND SYSTEM
ANTENNA
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	12	7	18304	0.5629E+00	0.5770E+03	0.3133E+00	0.8248E-01	41.103	1.711
R1	NO. 2	12	3	24804	0.6051E+00	0.4037E+04	0.2223E+00	0.1077E+00	71.271	0.695
R1	NO. 3	5	3	2767	0.8703E+00	0.7830E+03	0.3198E+00	0.8991E-01	71.526	13.342
R1	NO. 4	5	9	3032	0.4925E+00	0.3500E+02	0.2549E+00	0.1675E+00	29.430	0.105
R1	NO. 5	5	6	1373	0.7538E+00	0.1275E+03	0.3962E+00	0.8212E-01	64.673	0.330
R1	NO. 6	5	6	7124	0.4868E+00	0.1795E+03	0.2558E+00	0.1125E+00	42.240	0.067
R1	NO. 7	5	4	2663	0.1193E+01	0.8328E+03	0.5205E+00	0.1176E+00	52.984	23.105
R1	NO. 8	5	7	407	0.1043E+01	0.6298E+02	0.5805E+00	0.1365E+00	54.384	2.044
R1	NO. 9	4	18	42080	0.1144E+01	0.3367E+04	0.7615E+00	0.2103E+00	51.979	3.032
R1	NO.10	4	14	46800	0.7566E+00	0.1430E+04	0.5118E+00	0.1819E+00	33.669	1.004
R1	NO.11	4	23	47900	0.8416E+00	0.1154E+04	0.5944E+00	0.7809E-01	20.192	0.837
R1	NO.12	4	41	46860	0.8564E+00	0.6132E+03	0.6713E+00	0.4102E+00	26.704	1.174
R1	NO.13	4	73	46840	0.8254E+00	0.2589E+03	0.6938E+00	0.2774E+00	14.240	1.171
R1	NO.14	4	13	51440	0.2269E+01	0.1661E+05	0.1509E+01	0.1661E+00	36.215	0.675
R1	NO.15	4	28	31798	0.9746E+00	0.1041E+04	0.7168E+00	0.8140E+00	46.807	0.922
R1	NO.16	4	33	18240	0.7178E+00	0.1390E+03	0.5437E+00	0.4969E+00	31.362	1.254
R1	NO.17	4	35	33680	0.1237E+01	0.1900E+04	0.9775E+00	0.6881E-01	12.580	1.176
R1	NO.18	4	14	24920	0.8436E+00	0.1091E+04	0.5707E+00	0.2314E+00	35.985	2.206
R1	NO.19	4	61	32800	0.8251E+00	0.2250E+03	0.6929E+00	0.6249E+00	19.128	0.274
R1	NO.20	4	80	42000	0.6778E+00	0.6541E+02	0.5748E+00	0.1240E+01	23.429	2.710
R1	NO.21	4	22	35400	0.1203E+01	0.2710E+04	0.3881E+00	0.2363E+00	24.960	0.673

TABLE 4.3 (Cont'd)

DUANE MODEL
GROUND SYSTEM
MICROWAVE
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	4	114	42078	0,9399E+00	0,2727E+03	0,5213E+00	0,2226E+00	9,001	0,866
R1	NO, 2	4	259	46860	0,6516E+00	0,9275E+01	0,5979E+00	0,1030E+01	17,304	0,398
R1	NO, 3	4	240	47899	0,7259E+00	0,2520E+02	0,6636E+00	0,2200E+01	20,617	0,189
R1	NO, 4	4	183	46795	0,5676E+00	0,4834E+01	0,5116E+00	0,2448E+01	23,682	0,824
R1	NO, 5	5	10	407	0,1111E+01	0,5120E+02	0,6912E+00	0,1634E+00	36,699	2,230
R1	NO, 6	5	40	2663	0,9726E+00	0,6000E+02	0,7596E+00	0,2814E+00	17,453	1,094
R1	NO, 7	5	26	1373	0,2491E+01	0,3713E+03	0,1806E+01	0,6773E-01	15,535	0,568
R1	NO, 8	5	42	7124	0,5598E+00	0,8971E+01	0,4523E+00	0,3020E+00	24,314	0,227
R1	NO, 9	5	45	3032	0,8131E+00	0,2809E+02	0,6458E+00	0,2734E+00	16,302	1,055
R1	NO,10	5	4	161	0,1046E+01	0,4277E+02	0,2882E+00	0,7207E-01	55,890	7,075
R1	NO,11	5	26	2767	0,8101E+00	0,4957E+02	0,6143E+00	0,1232E+00	17,762	0,384
R1	NO,12	4	147	35400	0,8754E+00	0,1184E+03	0,7786E+00	0,1339E+01	19,175	1,806
R1	NO,13	4	302	42618	0,6614E+00	0,7582E+01	0,6110E+00	0,2845E+01	22,177	1,805
R1	NO,14	4	283	32800	0,6850E+00	0,8640E+01	0,6310E+00	0,1068E+01	18,679	0,247
R1	NO,15	4	173	24920	0,7291E+00	0,2122E+02	0,6550E+00	0,6997E+00	19,035	0,961
R1	NO,16	4	251	33680	0,7558E+00	0,2251E+02	0,6924E+00	0,1067E+01	15,322	1,658
R1	NO,17	4	149	18240	0,6308E+00	0,6545E+01	0,5615E+00	0,1225E+01	21,691	0,649
R1	NO,18	4	142	41798	0,9491E+00	0,2257E+03	0,8422E+00	0,1909E+01	27,643	0,764
R1	NO,19	4	160	51440	0,6532E+00	0,2173E+02	0,5841E+00	0,7892E+00	12,946	0,248
R1	NO,20	4	448	46834	0,7086E+00	0,8491E+01	0,6645E+00	0,1562E+01	14,623	0,959

TABLE 4.3 (Cont'd)

D U A N E   M O D E L
G R O U N D   S Y S T E M
A N T E N N A
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	4	3038	0,4262E+00	0,1174E+03	0,1860E+00	0,1046E+00	52,812	0,428
R3	NO, 2	1	5	5085	0,4413E+00	0,1326E+03	0,2149E+00	0,9792E-01	60,558	0,269
R3	NO, 3	18	4	3822	0,4705E+00	0,2007E+03	0,2053E+00	0,5747E-01	59,858	60,493

D U A N E   M O D E L
G R O U N D   S Y S T E M
R A D A R
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	16	16	2513	0,4963E+00	0,9420E+01	0,3454E+00	0,4526E-01	22,140	0,038
R1	NO, 2	12	99	24804	0,9872E+00	0,2361E+03	0,8624E+06	0,3512E+00	12,277	1,120
R1	NO, 3	11	70	6751	0,6561E+00	0,1041E+02	0,5578E+00	0,1082E+00	15,497	0,041
R1	NO, 4	12	34	9165	0,7073E+00	0,6264E+02	0,5385E+00	0,1769E+00	20,028	0,495
R1	NO, 5	12	4	714	0,8808E+00	0,1480E+03	0,3845E+00	0,1339E+00	54,306	3,647
R1	NO, 6	12	77	18306	0,8766E+00	0,1290E+03	0,7513E+00	0,3066E+00	13,735	1,092
R1	NO, 7	11	71	4382	0,5323E+00	0,1458E+01	0,4531E+00	0,2051E+00	16,400	0,058
R1	NO, 8	11	129	7574	0,7468E+00	0,1131E+02	0,6639E+00	0,3726E+00	14,116	1,158

TABLE 4.3 (Cont'd)
DUANE MODEL
GROUND SYSTEM
RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	PE
R3	NO, 1	1	28	6369	0,6267E+00	0,3124E+02	0,4805E+00	0,1043E+00	12,994	0,1[illegible]
R3	NO, 2	1	3	2076	0,4693E+00	0,1998E+03	0,1724E+00	0,8670E-01	74,955	0,471
R3	NO, 3	18	18	3822	0,8340E+00	0,1194E+03	0,5941E+00	0,2311E+00	28,742	0,542
R3	NO, 4	18	12	5370	0,2316E+01	0,1837E+04	0,1355E+01	0,4074E-01	21,423	0,66[illegible]
R3	NO, 5	18	11	4650	0,1208E+01	0,6392E+03	0,7714E+00	0,1180E+00	49,557	6,840

TABLE 4.3 (Cont'd)

DUANE MODEL
GROUND SYSTEM
MICROWAVE
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	33	1122	0,9619E+00	0,2960E+02	0,7545E+00	0,1955E+00	26,176	0,819

DUANE MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0,5247E+00	0,1386E+02	0,3995E+00	0,1295E+00	19,879	0,043
R1	NO, 2	11	17	4382	0,5825E+00	0,3383E+02	0,4104E+00	0,4809E-01	19,679	0,070
R1	NO, 3	12	30	18304	0,6676E+00	0,1122E+03	0,4973E+00	0,5620E+00	25,851	1,326
R1	NO, 4	12	7	9165	0,3219E+00	0,2173E+02	0,1792E+00	0,2544E+00	44,857	0,027
R1	NO, 5	12	4	714	0,5710E+00	0,6300E+02	0,2492E+00	0,556[illegible]E-01	55,190	0,619
R1	NO, 6	11	49	9663	0,8203E+00	0,8408E+02	0,6742E+00	0,1181E+00	11,954	0,806
R1	NO, 7	11	117	10509	0,1075E+01	0,1290E+03	0,9500E+00	0,2722E-01	6,915	0,623
R1	NO, 8	12	33	24804	0,9671E+00	0,6673E+03	0,7586E+00	0,1625E+00	18,535	1,083
R1	NO, 9	11	177	7849	0,4995E+00	0,2480E+00	0,6920E+00	0,1230E+01	21,994	0,125

TABLE 4.7 (Cont'd)
DUANE MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	15	9425	0,7435E+00	0,2468E+03	0,4694E+00	0,9983E-01	20,417	0,449
R2	NO, 2	8	7	8246	0,6017E+00	0,3248E+03	0,2711E+00	0,1472E+00	35,864	0,401
R2	NO, 3	8	16	9570	0,7359E+00	0,1749E+03	0,4738E+00	0,1038E+00	20,416	0,506
R2	NO, 4	8	11	9425	0,1171E+01	0,1215E+04	0,6623E+00	0,5268E-01	31,936	7,122
R2	NO, 5	8	15	45376	0,4610E+00	0,1276E+03	0,3166E+00	0,1992E+00	35,726	0,713
R2	NO, 6	8	4	22037	0,6856E+00	0,2917E+04	0,2992E+00	0,1301E+00	54,427	0,866
R2	NO, 7	8	9	45059	0,4641E+00	0,3959E+03	0,2802E+00	0,8643E-01	38,555	4,573
R2	NO, 8	8	17	8979	0,1738E+01	0,1760E+04	0,1139E+01	0,9323E-01	26,547	8,887
R2	NO, 9	8	18	11914	0,9731E+00	0,6112E+03	0,6475E+00	0,3432E-01	14,317	3,498
R2	NO,10	8	11	17219	0,1149E+01	0,2135E+04	0,7333E+00	0,2245E-01	22,075	739,381
R2	NO,11	8	3	2237	0,3780E+01	0,1673E+04	0,6677E+00	0,1029E+00	78,569	65,416
R2	NO,12	8	4	2247	0,1283E+01	0,7627E+03	0,3536E+00	0,5004E-01	65,804	21,155
R2	NO,13	8	3	2332	0,1225E+01	0,9508E+03	0,2163E+00	0,8852E-01	90,429	15,158
R2	NO,14	8	3	1980	0,1229E+01	0,8097E+03	0,2170E+00	0,1206E+00	74,622	21,488
R2	NO,15	8	3	631	0,3454E+01	0,4591E+03	0,6100E+00	0,1021E+00	78,919	79,382
R2	NO,16	8	4	3492	0,1823E+01	0,1632E+04	0,5024E+00	0,5302E-01	62,298	1319,069
R2	NO,17	8	11	4096	0,1396E+01	0,7550E+03	0,7897E+00	0,1255E-01	25,382	123,826
R2	NO,18	8	14	44314	0,6721E+00	0,8733E+03	0,4546E+00	0,3157E-01	26,732	0,409
R2	NO,19	8	9	45376	0,5305E+00	0,7210E+03	0,3203E+00	0,8880E-01	29,078	0,473
R2	NO,20	8	6	33328	0,5625E+00	0,1378E+04	0,2956E+00	0,7705E-01	53,225	7,485

TABLE 4.3 (Cont'd)

DUANE MODEL
GROUND SYSTEM
DISPLAY
FIELD
(CONTINUED)

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO,21	8	3	45221	0,5541E+00	0,6226E+04	0,2036E+00	0,8589E-01	93,164	0,122
R2	NO,22	8	16	45477	0,4721E+00	0,1280E+03	0,3286E+00	0,4611E-01	21,140	0,019
R2	NO,23	8	10	45261	0,8230E+00	0,2758E+04	0,5121E+00	0,5942E-01	34,775	0,934

DUANE MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	5	3764	0,6935E+00	0,3716E+03	0,2422E+00	0,8792E-01	88,368	0,253
R3	NO, 2	2	12	6336	0,6695E+00	0,1549E+03	0,4369E+00	0,1101E+00	28,894	0,516
R3	NO, 3	2	8	4576	0,5506E+00	0,1048E+03	0,3206E+00	0,2891E-01	29,341	0,274

TABLE 4.3 (Cont'd)

DUANE MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	105	2700	0,4135E+00	0,3215E-01	0,3564E+00	0,2352E+01	30,586	0,304
R2	NO, 2	8	100	3200	0,4718E+00	0,1847E+00	0,4080E+00	0,7188E+00	20,674	0,053
R2	NO, 3	6	50	3700	0,5180E+00	0,1943E+01	0,4172E+00	0,2406E+00	20,964	0,046
R2	NO, 4	8	33	3700	0,3637E+00	0,2470E+00	0,2755E+00	0,1490E+01	52,469	0,256
R2	NO, 5	8	16	2500	0,7639E+00	0,6633E+02	0,4918E+00	0,9152E-01	23,723	0,519

DUANE MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	7	17	2193	0,9639E+00	0,1442E+02	0,3698E+00	0,1354E+00	19,695	0,124
R3	NO, 2	7	32	2248	0,8632E+00	0,4057E+02	0,6505E+00	0,3509E+00	32,296	0,761
R3	NO, 3	7	12	3322	0,1414E+01	0,5727E+03	0,8272E+00	0,1788E+00	40,806	0,980
R3	NO, 4	2	384	3415	0,6674E+00	0,4581E+00	0,5241E+00	0,2324E+01	20,075	3,462
R3	NO, 5	2	211	4536	0,1012E+01	0,2292E+02	0,9239E+00	0,1501E+01	24,945	0,981
R3	NO, 6	1	6	4659	0,6750E+00	0,3277E+03	0,3548E+00	0,5439E-01	65,229	1,969
R3	NO, 7	1	21	6144	0,8662E+00	0,1828E+03	0,6345E+00	0,2027E+00	83,039	2,534

TABLE 4.3 (Cont'd)
DUANE MODEL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0,6644E+00	0,5692E+02	0,5058E+00	0,8138E-01	12,153	0,094
R1	NO, 2	11	33	5703	0,4417E+00	0,2080E+01	0,3346E+00	0,2041E+00	25,333	0,022
R1	NO, 3	12	16	9165	0,6484E+00	0,1274E+03	0,4313E+00	0,2018E+00	39,451	0,095
R1	NO, 4	15	19	11800	0,7750E+00	0,2642E+03	0,5577E+00	0,2926E+00	26,997	5,261
R1	NO, 5	12	35	10304	0,5186E+00	0,1930E+02	0,4049E+00	0,2775E+00	16,316	0,211
R1	NO, 6	16	5	2513	0,8995E+00	0,4199E+03	0,4379E+00	0,7599E-01	54,794	1,733
R1	NO, 7	15	9	11209	0,7816E+00	0,6741E+03	0,4045E+00	0,5662E-01	26,303	0,812
R1	NO, 8	15	7	18602	0,1955E+01	0,6841E+04	0,1088E+01	0,7841E-01	50,406	37,829
R1	NO, 9	15	9	16192	0,1024E+01	0,1894E+[illegible]	0,6182E+00	0,1753E+00	30,252	2,387
R1	NO,10	15	19	23495	0,9651E+00	0,1112E+04	0,6513E+00	0,7377E-01	27,105	0,898
R1	NO,11	15	10	15741	0,6179E+00	0,3791E+03	0,3845E+00	0,2014E+00	36,737	9,706
R1	NO,12	15	17	23572	0,9821E+00	0,1340E+04	0,6473E+00	0,2927E-01	19,131	1,562
R1	NO,13	15	20	15756	0,1102E+01	0,1040E+04	0,8004E+00	0,8784E-01	13,942	1,705
R1	NO,14	15	16	13960	0,1009E+01	0,8936E+03	0,7021E+00	0,6074E-01	15,681	10,900
R1	NO,15	15	34	23660	0,8580E+00	0,3885E+03	0,6532E+00	0,6098E-01	12,937	0,336
R1	NO,16	11	35	10323	0,7799E+00	0,1081E+03	0,5966E+00	0,1481E+00	13,365	0,593
R1	NO,17	12	41	24804	0,1025E+01	0,6623E+03	0,8259E+00	0,2555E+00	27,621	1,063
R1	NO,18	11	36	9833	0,1541E+01	0,9605E+03	0,1184E+01	0,9047E-01	31,717	16,718
R1	NO,19	11	35	12141	0,6803E+00	0,6523E+02	0,5377E+00	0,7547E-01	13,704	0,103

TABLE 4.3 (Cont'd)

D U A N E   M O D E L
G R O U N D   S Y S T E M
C O M P U T E R
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	10	3965	0,5449E+00	0,5797E+02	0,2961E+00	0,1308E+00	59,019	0,126
R3	NO, 2	2	16	4576	0,5322E+00	0,2501E+02	0,3705E+00	0,1056E+00	29,977	0,058
R3	NO, 3	2	9	6336	0,1303E+01	0,1173E+04	0,7867E+00	0,3149E-01	26,069	4,965

D U A N E   M O D E L
G R O U N D   S Y S T E M
C O M P U T E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	46	4467	0,5616E+00	0,4891E+01	0,4474E+00	0,1640E+00	15,173	0,097
R1	NO, 2	14	12	2043	0,5067E+00	0,1516E+02	0,3307E+00	0,9215E-01	46,733	0,027
R1	NO, 3	14	43	11189	0,1555E+01	0,9964E+03	0,1260E+01	0,3840E+00	29,156	16,105
R1	NO, 4	14	45	10666	0,1509E+01	0,8555E+03	0,1229E+01	0,1878E+00	23,585	13,522
R1	NO, 5	14	9	2792	0,8606E+00	0,2173E+03	0,5196E+00	0,3159E-01	25,392	4,575

D U A N E   M O D E L
G R O U N D   S Y S T E M
C O M P U T E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	13	18	1540	0,8056E+00	0,4260E+02	0,5739E+00	0,7788E-01	26,842	2,125

TABLE 4.3 (Cont'd)

D U A N E M O D E L
G R O U N D S Y S T E M
C O M P U T E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	9	10	1726	0,2376E+00	0,1068E+00	0,1291E+00	0,1864E+00	40.804	0,004
R3	NO, 2	9	25	2261	0,4192E+00	0,1046E+01	0,3160E+00	0,6355E+00	36.051	0,223
R3	NO, 3	9	24	2370	0,5454E+00	0,6786E+01	0,3888E+00	0,1957E+00	28.540	0,132
R3	NO, 4	9	3	3105	0,2879E+00	0,6836E+02	0,3865E+01	0,1028E+00	75.553	49,588
R3	NO, 5	2	74	3415	0,6205E+00	0,3319E+01	0,5300E+00	0,4423E+00	20.317	0,873
R3	NO, 6	2	67	4556	0,5502E+00	0,2177E+01	0,4660E+00	0,7753E+00	29.042	1,236
R3	NO, 7	1	5	8513	0,1578E+01	0,3071E+04	0,7683E+00	0,9271E-01	53.946	1,401
R3	NO, 8	1	4	6339	0,1300E+01	0,2182E+04	0,5675E+00	0,2291E+00	63.262	9,121

TABLE 4.3 (Cont'd)
DUANE MODEL
GROUND SYSTEM
COMMUNICATIONS
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	4	14	35400	0.8716E+00	0.1714E+04	0.5396E+00	0.2946E+00	39.570	1.261
R1	NO. 2	4	25	46840	0.8017E+00	0.8452E+03	0.5765E+00	0.4140E+00	34.242	1.226
R1	NO. 3	4	11	51440	0.1196E+01	0.6932E+04	0.7638E+00	0.8049E-01	22.481	14.198
R1	NO. 4	4	11	41798	0.5052E+01	0.2600E+05	0.2858E+01	0.1694E+00	63.943	14.093
R1	NO. 5	4	16	33680	0.9887E+00	0.2040E+04	0.6882E+00	0.1371E+00	23.303	1.496
R1	NO. 6	4	16	24920	0.1160E+01	0.2285E+04	0.8077E+00	0.1717E+00	46.508	3.400
R1	NO. 7	4	16	32800	0.8430E+00	0.1223E+04	0.5427E+00	0.8143E-01	27.333	0.422
R1	NO. 8	4	95	42000	0.8492E+00	0.1970E+03	0.7313E+00	0.1346E+01	26.752	0.600
R1	NO. 9	4	4	46800	0.5704E+00	0.4118E+04	0.2490E+00	0.1259E+00	53.952	3.500
R1	NO.10	4	36	47900	0.2610E+01	0.1214E+05	0.2006E+01	0.2008E+00	27.322	5.875
R1	NO.11	4	23	46860	0.6772E+00	0.1313E+04	0.6525E+00	0.2484E+00	22.869	1.455
R1	NO.12	4	3	42080	0.7749E+00	0.1019E+05	0.2847E+00	0.1085E+00	66.803	12.780

TABLE 4.3 (Cont'd)

DUANE MODEL
GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	2	20	3415	0,8683E+00	0,1084E+03	0,6306E+00	0,1130E+00	15,286	3,800
R3	NO, 2	2	10	4536	0,8273E+00	0,2805E+03	0,5168E+00	0,1535E+00	49,836	0,543

DUANE MODEL
GROUND SYSTEM
SYSTEM-RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	16	24	2513	0,5965E+00	0,1220E+02	0,4468E+00	0,5580E-01	16,706	0,053
R1	NO, 2	11	178	6751	0,6949E+00	0,5898E+01	0,6253E+00	0,3221E+00	11,832	0,180
R1	NO, 3	12	170	24804	0,9898E+00	0,1384E+03	0,6938E+00	0,1242E+00	10,020	1,044
R1	NO, 4	11	244	7849	0,5577E+00	0,4112E+00	0,5125E+00	0,1160E+01	19,546	0,188
R1	NO, 5	11	114	4382	0,4316E+00	0,7511E-01	0,3806E+00	0,1024E+01	24,520	0,035
R1	NO, 6	12	148	18304	0,7051E+00	0,1529E+02	0,6274E+00	0,7537E+00	12,626	0,432
R1	NO, 7	12	57	9165	0,5844E+00	0,9064E+01	0,4782E+00	0,6658E-01	12,472	0,033
R1	NO, 8	11	200	7574	0,6610E+00	0,250[illegible]E+01	0,5986E+00	0,6307E+00	13,817	0,398

DUANE MODEL
GROUND SYSTEM
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	14	2076	0,7340E+00	0,5699E+02	0,4966E+00	0,1338E+00	26,301	0,303
R3	NO, 2	1	53	5085	0,7450E+00	0,2464E+02	0,6172E+00	0,1306E+00	14,431	0,223

TABLE 4.3 (Cont'd)

DUANE MODEL
GROUND SYSTEM
SYSTEM-MICROWAVE
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	17	407	0,1077E+01	0,2930E+02	0,7587E+00	0,2399E+00	30,721	1,547
R1	NO, 2	5	54	3031	0,7311E+00	0,1294E+02	0,5945E+00	0,2287E+00	13,655	0,460
R1	NO, 3	5	32	1373	0,1608E+01	0,1783E+03	0,1279E+01	0,1243E+00	162,292	54,715
R1	NO, 4	5	48	7124	0,5474E+00	0,6044E+01	0,4459E+00	0,3582E+00	24,447	0,202
R1	NO, 5	5	46	2662	0,1003E+01	0,6109E+02	0,7938E+00	0,3725E+00	19,322	1,042
R1	NO, 6	4	135	42076	0,9572E+00	0,2502E+03	0,8665E+00	0,2416E+00	8,440	0,760
R1	NO, 7	4	323	46856	0,6839E+00	0,1004E+02	0,6335E+00	0,1321E+01	16,772	0,633
R1	NO, 8	4	299	47896	0,8059E+00	0,4060E+02	0,7442E+00	0,2672E+01	20,646	0,286
R1	NO, 9	4	201	46798	0,5781E+00	0,4952E+01	0,5237E+00	0,2599E+01	23,697	0,886
R1	NO,10	5	5	161	0,1074E+01	0,3595E+02	0,3748E+00	0,8591E-01	43,600	11,435
R1	NO,11	5	29	2767	0,8116E+00	0,4366E+02	0,6254E+00	0,1730E+00	16,466	0,547
R1	NO,12	4	183	35400	0,9037E+00	0,1110E+03	0,8145E+00	0,1643E+01	19,990	1,454
R1	NO,13	4	477	42618	0,6901E+00	0,5601E+01	0,6485E+00	0,2752E+01	16,832	1,727
R1	NO,14	4	360	32800	0,7064E+00	0,7890E+01	0,6572E+00	0,1212E+01	17,411	0,212
R1	NO,15	4	203	24920	0,7576E+00	0,2242E+02	0,6867E+00	0,6503E+00	17,024	1,047
R1	NO,16	4	302	33680	0,7996E+00	0,2665E+02	0,7336E+00	0,1064E+01	13,693	1,858
R1	NO,17	4	181	41794	0,9725E+00	0,1993E+03	0,8759E+00	0,3029E+01	30,463	0,871
R1	NO,18	4	184	51440	0,7078E+00	0,3247E+02	0,6381E+00	0,6233E+00	10,589	0,226
R1	NO,19	4	546	40840	0,7266E+00	0,8010E+01	0,6858E+00	0,1991E+01	14,568	1,155
R1	NO,20	4	184	18240	0,6412E+00	0,5351E+01	0,5780E+00	0,1668E+01	23,048	0,825

TABLE 4.3 Cont'd

DUANE MODEL
GROUND SYSTEM
SYSTEM-MICROWAVE
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	5	34	1122	0,9110E+00	0,2338E+02	0,7174E+00	0,1986E+00	21,310	0,602

TABLE 4.3 Cont'd

IBM MODEL
GROUND SYSTEM
ANTENNA
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RF
R1	NO. 1	12	7	18304	0,1392E-02	0,3061E+01	0,7466E-03		50,730	3,589
R1	NO. 2	12	3	24804	0,1829E-02	0,1189E+02	0,7718E-03		90,845	5,285
R1	NO. 4	5	9	3032	0,1455E-10	0,8604E+01	0,2340E-02		11,976	0,015
R1	NO. 6	5	6	7124	0,2067E-03	0,4328E+01	0,2245E-02		11,742	0,010
R1	NO. 7	5	4	2663	0,1854E-02	0,1123E+03	0,1767E-09		12,019	1,553
R1	NO. 8	5	7	407	0,1906E-01	0,1526E-04	0,1263E-02		38,040	1,238
R1	NO. 9	3	18	42080	0,3483E-03	0,6646E+00	0,4160E-02		14,183	0,241
R1	NO,10	4	14	46600	0,1455E-10	0,1416E+02	0,5782E-04		15,715	0,855
R1	NO,11	4	23	47900	0,3756E-03	0,5367E+01	0,1528E-03		12,228	0,748
R1	NO,12	4	41	46860	0,9837E-03	0,2823E+03	0,2328E-09		32,315	1,040
R1	NO,13	4	73	46840	0,8428E-03	0,3342E+02	0,6683E-04		11,278	1,061
R1	NO,14	4	13	51440	0,2168E-03	0,1526E-04	0,1000E-02		24,190	1,300
R1	NO,15	4	28	31798	0,5437E-03	0,5033E+01	0,5063E-03		19,826	0,320
R1	NO,16	4	33	18240	0,1455E-10	0,3548E+02	0,1368E-03		16,753	1,087
R1	NO,17	4	35	33680	0,1022E-02	0,1526E-04	0,1213E-02		14,076	1,384
R1	NO,19	4	61	32800	0,1463E-02	0,8415E+01	0,7342E-03		11,535	0,111
R1	NO,20	4	80	42000	0,1455E-10	0,1090E+03	0,4048E-04		11,760	0,914
R1	NO,21	4	22	35400	0,6631E-03	0,3638E-11	0,5321E-03		19,765	1,230

TABLE 4.3 (Cont'd)

IBM MODEL
GROUND SYSTEM
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	PE
R3	NO, 1	1	4	3038	0,2581E-02	0,7762E+02	0,3725E-08		284,738	4,101
R3	NO, 2	1	5	5085	0,1434E-02	0,1044E+01	0,3663E+00		2,861	0,015
R3	NO, 3	18	4	3822	0,1280E-02	0,9537E-06	0,2182E-02		281,533	1034,375

IBM MODEL
GROUND SYSTEM
RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	16	16	2513	0,3328E-03	0,9537E-06	0,7574E-01		8626,160	4156,031
R1	NO, 2	12	99	24804	0,1409E-01	0,7841E+02	0,6810E-03		80,980	30,417
R1	NO, 3	11	70	6751	0,1079E-01	0,1819E-11	0,9628E-03		170,848	2,219
R1	NO, 5	12	4	714	0,5821E-10	0,3793E+02	0,1680E-03		61,010	4,700
R1	NO, 6	12	77	18304	0,6614E-02	0,5196E+01	0,3002E-03		33,699	6,164
R1	NO, 7	11	71	4382	0,1409E-02	0,1658E+02	0,4655E-03		523,787	42,122
R1	NO, 8	11	129	7574	0,6416E-02	0,1526E-04	0,1676E-02		297,066	40,612

TABLE 4.3 (Cont'd)
IBM MODEL
GROUND SYSTEM
RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	HE
R3	NO, 1	1	28	6359	0,2476E-03	0,2948E+02	0,3644E-03		28,434	0,191
R3	NO, 3	18	18	3922	0,1373E-02	0,3177E+01	0,2090E-01		72,593*	6,982
R3	NO, 4	18	12	5370	0,4735E-02	0,1511E+01	0,1278E-01		68,666	3,832
R3	NO, 5	18	11	4650	0,4594E-02	0,4141E+00	0,2728E-01		50,179	7,024

TABLE 4.3 (Cont'd)
IBM MODEL
GROUND SYSTEM
MICROWAVE
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RL
R1	NO, 2	4	259	46860	0,6725E-02	0,8415E+02	0,2833E-09		54,237	2,185
R1	NO, 3	4	240	47899	0,4784E-02	0,5278E+02	0,3810E-08		83,458	1,706
R1	NO, 4	4	183	46798	0,5865E-02	0,6926E+02	0,2852E-09		56,191	2,275
R1	NO, 5	5	10	40[illegible]	0,2810E-01	0,5163E+01	0,1210E-08		20,263	1,177
R1	NO, 6	5	40	2663	0,3553E-14	0,9195E+02	0,2194E-03		14,737	1,343
R1	NO, 7	5	26	1373	0,1475E-01	0,1526E-04	0,1180E-02		25,443	1,317
R1	NO, 8	5	42	7124	0,2153E-02	0,2580E+02	0,1042E-02		9,404	0,079
R1	NO, 9	5	45	3032	0,7105E-14	0,6332E+02	0,4103E-03		10,070	0,784
R1	NO,10	5	4	161	0,2807E-01	0,1526E-04	0,2772E-02		36,763	2,810
R1	NO,11	5	26	2767	0,5960E-07	0,3413E+02	0,4778E-03		16,895	0,358
R1	NO,13	4	302	42618	0,1025E-01	0,7081E+02	0,2345E-09		26,790	1,235
R1	NO,14	4	283	32800	0,9466E-02	0,7937E+02	0,2949E-09		62,139	1,999
R1	NO,15	4	173	24920	0,8459E-02	0,5344E+02	0,2320E-09		30,256	1,511
R1	NO,16	4	251	33680	0,9322E-02	0,4621E+02	0,3346E-09		[illegible]8,597	1,351
R1	NO,17	4	149	18240	0,1122E-01	0,152[illegible]-04	0,2320E-09		42,266	2,154
R1	NO,18	4	142	41798	0,3121E-02	0,1163E+02	0,5668E-03		18,794	0,657
R1	NO,19	4	160	51440	0,1455E-10	0,2001E+03	0,3366E-08		12,784	0,197
R1	NO,20	4	448	46834	0,2390E-02	0,3568E+03	0,5419E-08		7,171	0,444

T A B L E 4.3 (Cont'd)

I B M M O D E L
G R O U N D S Y S T E M
M I C R O W A V E
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	33	1122	0,2824E-01	0,4570E-04	0,2328E-09		31,605	1,222

I B M M O D E L
G R O U N D S Y S T E M
D I S P L A Y
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0,4507E-02	0,2635E+02	0,1341E-02		90,342	1,021
R1	NO, 2	11	17	4382	0,1328E-01	0,1039E+03	0,5601E-03		81,524	3,549
R1	NO, 3	12	30	18304	0,3698E-03	0,3155E+01	0,5885E-03		204,046	70,441
R1	NO, 5	12	4	714	0,2328E-09	0,1961E+03	0,8139E-04		98,043	1,533
R1	NO, 6	11	49	9663	0,3086E-02	0,1526E-04	0,1213E-02		122,399	28,767
R1	NO, 7	11	117	10809	0,1455E-10	0,4239E+02	0,1598E-03		137,852	70,317
R1	NO, 9	11	177	7849	0,2939E-02	0,1478E+02	0,7009E-02		307,692	67,635

TABLE 4.3 (Cont'd)

IBM MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	15	9425	0,5594E-03	0,1146E+02	0,4974E-03		22,840	0,506
R2	NO, 2	8	7	8246	0,8515E-03	0,1892E+01	0,1181E-02		27,775	0,302
R2	NO, 3	8	16	7570	0,1665E-02	0,1526E-04	0,1191E-02		117,097	12,913
R2	NO, 4	8	11	9425	0,1050E-02	0,3628E+01	0,2792E-03		36,291	7,367
R2	NO, 5	8	15	45376	0,1425E-03	0,1086E+02	0,2050E-03		10,333	0,069
R2	NO, 6	8	4	22037	0,1455E-10	0,4105E+01	0,2015E-03		7,529	0,015
R2	NO, 8	8	17	8979	0,1333E-02	0,1003E+01	0,7895E-02		26,267	2,015
R2	NO, 9	8	18	11916	0,6038E-03	0,1082E+01	0,1688E-02		101,815	182,531
R2	NO,18	8	14	44314	0,3908E-03	0,1406E+01	0,4696E-02		7,504	0,149
R2	NO,19	8	9	45376	0,5080E-04	0,7505E+01	0,1096E-03		20,021	0,095
R2	NO,20	8	6	33328	0,5602E-03	0,1526E-04	0,4441E-15		17,639	1,388
R2	NO,22	8	16	45477	0,2519E-03	0,5549E+01	0,1997E-02		9,311	0,012

IBM MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	5	3784	0,2567E-02	0,1526E-04	0,4163E-16		192,478	1,563
R3	NO, 2	2	12	6336	0,4121E-03	0,9423E+01	0,6386E-03		9,993	0,121
R3	NO, 3	2	8	4576	0,1360E-02	0,3408E+01	0,2487E-02		26,916	0,059

TABLE 4.3 (Cont'd)

IBM MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	105	2700	0,2506E-02	0,9817E+02	0,2693E-02		5,379	0,011
R2	NO, 2	8	100	3200	0,9932E-02	0,6413E+02	0,3050E-02		2,776	0,002
R2	NO, 3	8	30	3700	0,6600E-03	0,3559E+02	0,4109E-02		30,021	0,188
R2	NO, 4	8	33	3700	0,2407E-03	0,3078E+02	0,4276E-02		28,149	0,203
R2	NO, 5	8	16	2500	0,3202E-02	0,7455E+01	0,2243E-02		12,017	0,266

IBM MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	7	17	2193	0,1060E-01	0,1526E-04	0,1491E-02		127,393	2,136
R3	NO, 2	7	32	2248	0,2416E-02	0,2487E+02	0,1073E-02		23,497	0,788
R3	NO, 3	7	12	3322	0,2013E-02	0,1991E+02	0,8510E-04		21,686	1,229
R3	NO, 4	2	584	3415	0,2328E-09	0,5537E+03	0,4378E-03		5,876	0,325
R3	NO, 5	2	211	4536	0,5458E-01	0,1101E+03	0,1388E-16		19,117	1,301
R3	NO, 6	1	6	4659	0,3412E-02	0,3052E-04	0,1507E-02		29,762	1,598
R3	NO, 7	1	21	6144	0,2328E-09	0,3841E+02	0,1527E-03		14,551	1,931

TABLE 4.3 (Cont'd)

IBM MODEL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0,9960E-02	0,5608E+02	0,5223E-03		77,341	4,568
R1	NO, 2	11	33	5703	0,1057E-01	0,2683E+02	0,4375E-02		47,5[illegible]0	0,909
R1	NO, 3	12	16	9165	0-3203E-02	0,7949E+01	0,1271E-02		65,029	1,725
R1	NO, 4	15	19	11800	0,3230E-02	0,1526E-04	0,1293E-02		23,688	5,009
R1	NO, 7	15	9	11209	0,9095E-12	0,25[illegible]1E+02	0,3331E-04		73,126	5,475
R1	NO, 8	15	7	18642	0,6904E-03	0,[illegible]624E+01	0,3540E-02		63,350	17,026
R1	NO, 9	15	9	16192	0,1455E-10	0,1400E+02	0,1506E-03		45,458	8,226
R1	NO,10	15	19	23495	0,5838E-03	0,2449E+01	0,5038E-03		10,845	0,194
R1	NO,13	15	20	15756	0,1138E-02	0,5832E+01	0,5075E-03		32,217	10,173
R1	NO,14	15	16	13960	0,1455E-10	0,4333E+02	0,7167E-04		46,885	95,050
R1	NO,15	15	34	23680	0,4543E-02	0,2954E+01	0,2214E+00		64,340	8,607
R1	NO,16	11	35	10323	0,1019E-01	0,6818E+02	0,3560E-02		84,844	19,442
R1	NO,17	12	41	24804	0,4379E-02	0,1526E-04	0,9534E-03		58,505	4,934
R1	NO,18	11	36	9833	0,1527E-01	0,1307E+03	0,9084E-03		92,270	24,720
R1	NO,19	11	35	12141	0,8332E-02	0,1671E+02	0,1888E-02		64,672	3,286

TABLE 4.3 (Cont'd

I B M M O D E L
G R O U N D S Y S T E M
C O M P U T E R
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	10	3965	0,7980E-02	0,6114E+01	0,1263E-01		80,460	1,904
R3	NO, 2	2	16	4576	0,2619E-02	0,4835E+01	0,1095E-01		12,648	C,032
R3	NO, 3	2	9	6336	0,1496E-02	0,1658E+01	0,2168E-05		9,323	1,406

I B M M O D E L
G R O U N D S Y S T E M
C O M P U T E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	46	4467	0,2328E-09	0,2451E+02	0,3623E-02		34,172	1,808
R1	NO, 2	14	12	2043	0,3601E-02	0,1526E-04	0,1288E-02		2482,382	10,943
R1	NO, 3	14	43	11189	0,3369E-02	0,1398E+01	0,4630E-02		24,227	3,364
R1	NO, 5	14	9	2792	0,1804E-01	0,1526E-04	0,2084E-03		73,466	39,874

I B M M O D E L
G R O U N D S Y S T E M
C O M P U T E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	13	18	1540	0,1334E-02	0,3125E+01	0,1254E-01		147,208	60,421

TABLE 4.3 (Cont'd)

I E M M O D E L
G R O U N D S Y S T E M
C O M P U T E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	9	10	1726	0,1191E-01	0,1526E-04	0,1682E-02		4558,773	1,557
R3	NO, 2	9	25	2261	0,5960E-07	0,5434E+02	0,2192E-02		41,102	0,733
R3	NO, 4	9	3	3105	0,6726E-03	0,8120E+01	0,5950E-03		257,963	457,616
R3	NO, 5	2	74	3415	0,5960E-07	0,8373E+02	0,7092E-03		3,347	0,035
R3	NO, 6	2	67	4536	0,3211E-03	0,6817E+02	0,8175E-03		10,628	0,313
R3	NO, 7	1	5	8513	0,6758E-03	0,2868E+01	0,2439E-05		22,429	1,661
R3	NO, 8	1	4	6339	0,8358E-03	0,1526E-04	0,1110E-15		18,724	1,843

TABLE 4.3 (Cont'd)

IBM MODEL
GROUND SYSTEM
COMMUNICATIONS
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	4	14	35400	0,5261E-03	0,4123E+02	0,1164E-09		28,689	1,098
R1	NO, 3	4	11	51440	0,2255E-03	0,9537E-06	0,1777E-02		7,374	1,242
R1	NO, 4	4	11	41798	0,2060E-03	0,1526E-04	0,1000E-02		32,452	1,508
R1	NO, 5	4	16	33680	0,6215E-03	0,1526E-04	0,1147E-02		16,347	1,416
R1	NO, 6	4	16	24920	0,6027E-03	0,9095E-11	0,6477E-02		27,415	1,084
R1	NO, 7	4	16	32800	0,3634E-03	0,3078E+01	0,5433E-03		11,956	0,135
R1	NO, 8	4	95	42000	0,2253E-02	0,3657E+01	0,2847E-02		22,654	0,560
R1	NO, 9	4	4	46800	0,9095E-12	0,4342E+01	0,1090E-03		12,173	0,249
R1	NO,10	4	36	47900	0,5658E-03	0,1526E-04	0,6713E-01		29,625	1,332
R1	NO,11	4	23	46860	0,2728E-11	0,4246E+02	0,1867E-04		15,173	1,277

IBM MODEL
GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	2	20	3415	0,9095E-12	0,1366E+03	0,5920E-04		7,148	1,026
R3	NO, 2	2	10	4536	0,2547E-02	0,3403E+01	0,1455E-10		83,080	1,225

TABLE 4.3 (Cont'd)

IBM MODEL
GROUND SYSTEM
SYSTEM-RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 2	11	178	6751	0,4421E-02	0,8831E+01	0,6656E-03		477,150	194,376
R1	NO, 4	11	244	7849	0,8941E-02	0,1087E+03	0,1076E-02		22,312	0,644
R1	NO, 5	11	114	4382	0,4907E-02	0,1526E-04	0,1325E-02		2517,703	264,120
R1	NO, 6	12	148	18304	0,5821E-10	0,3554E+02	0,1191E-03		330,250	243,740
R1	NO, 7	12	57	9165	0,1025E-03	0,6082E+01	0,3486E-02		368,554	142,546
R1	NO, 8	11	200	7574	0,1602E-02	0,1504E+02	0,1496E-02		444,606	386,423

IBM MODEL
GROUND SYSTEM
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	14	2076	0,7158E-02	0,1544E+01	0,3446E-01		10,616	0,180
R3	NO, 2	1	53	5085	0,1455E-10	0,8943E+02	0,1918E-03		31,106	0,523

IBM MODEL
GROUND SYSTEM
SYSTEM-MICROWAVE
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	34	1122	0,2717E-01	0,2471E+01	0,3264E-01		13,764	0,343

T A B L E 4.3 (Cont'd)

I B M M O D E L
G R O U N D S Y S T E M
S Y S T E M - M I C R O W A V E
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	17	407	0,4535E-01	0,6960E+02	0,3730E-09		19,739	1,102
R1	NO, 2	5	54	3031	0,5960E-07	0,6275E+02	0,6058E-03		6,521	0,123
R1	NO, 3	5	32	1373	0,1910E-01	0,1526E-04	0,1292E-02		25,447	1,302
R1	NO, 4	5	48	7124	0,2567E-02	0,2830E+02	0,1213E-02		9,451	0,092
R1	NO, 5	5	44	2662	0,1802E-01	0,1045E+03	0,2328E-09		18,562	1,070
R1	NO, 6	4	135	42076	0,8606E-03	0,1467E+03	0,2239E-04		5,734	0,576
R1	NO, 7	4	323	40856	0,8290E-02	0,7666E+02	0,5821E-10		43,226	2,032
R1	NO, 8	4	299	47896	0,5836E-02	0,5203E+02	0,2328E-09		56,898	1,540
R1	NO, 9	4	201	46798	0,6313E-02	0,7182E+02	0,3019E-09		54,535	2,221
R1	NO,10	5	5	161	0,5960E-07	0,6977E+01	0,8197E-02		7,093	0,328
R1	NO,11	5	29	2767	0,5960E-07	0,3839E+02	0,4874E-03		15,167	0,425
R1	NO,13	4	477	42618	0,1519E-01	0,7572E+02	0,2745E-09		21,072	1,709
R1	NO,14	4	360	32800	0,1170E-01	0,8450E+02	0,2831E-08		58,946	1,920
R1	NO,15	4	203	24920	0,9731E-02	0,5421E+02	0,2328E-09		25,194	1,421
R1	NO,16	4	302	33680	0,5821E-10	0,5701E+03	0,2460E-04		8,501	0,989
R1	NO,17	4	181	41794	0,3920E-02	0,1374E+02	0,6258E-03		19,819	0,649
R1	NO,18	4	184	51440	0,1455E-10	0,2576E+03	0,2565E-04		12,486	0,265
R1	NO,19	4	546	46840	0,5684E-13	0,5540E+03	0,4862E-04		9,086	0,742
R1	NO,20	4	184	18240	0,1370E-01	0,7643E+02	0,2021E-09		39,731	2,064

TABLE 4.3 (Cont'd)

EXPONENTIAL MODEL
GROUND SYSTEM
ANTENNA
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	12	7	18304	0,6079E+03	0,1000E+00	0,1000E+00		32,068	2,630
R1	NO, 2	12	3	24804	0,5003E+03	0,8096E+00	0,8728E-04		90,550	5,259
R1	NC, 4	5	9	3032	0,8630E+04	0,9955E+00	0,1209E-04		12,042	0,015
R1	NO, 5	5	6	1373	0,1839E+03	0,1019E+01	0,6736E-02		3,443	0,029
R1	NO, 6	5	6	7124	0,4687E+03	0,1526E-04	0,1886E-01		146,704	1,250
R1	NO, 7	5	4	2663	0,5255E+03	0,1000E+00	0,1000E+00		12,990	1,500
R1	NO, 8	5	7	407	0,5613E+02	0,9769E+00	0,2004E-01		13,254	0,464
R1	NO, 9	4	18	42080	0,2452E+04	0,1000E+00	0,1000E+00		31,840	1,063
R1	NO,10	4	14	46800	0,2204E+04	0,1000E+00	0,1900E+00		37,160	1,083
R1	NO,11	4	23	47900	0,1596E+04	0,1000E+00	0,1000E+00		23,041	1,048
R1	NO,12	4	41	46860	0,9653E+03	0,1000E+00	0,1000E+00		29,340	1,026
R1	NO,13	4	73	46840	0,5102E+03	0,1000E+00	0,1000E+00		19,711	1,014
R1	NO,14	4	13	51440	0,6961E+04	0,1000E+00	0,1000E+00		52,552	1,091
R1	NO,15	4	28	31798	0,1115E+04	0,1000E+00	0,1000E+00		50,349	1,038
R1	NO,16	4	33	18240	0,3629E+03	0,1000E+00	0,1000E+00		31,292	1,032
R1	NO,17	4	35	33680	0,1095E+04	0,1000E+00	0,1000E+00		18,232	1,030
R1	NO,18	4	14	24920	0,1298E+04	0,1000E+00	0,1000E+00		22,094	1,083
R1	NO,19	4	61	32800	0,4436E+03	0,1000E+00	0,1000E+00		40,173	1,017
R1	NO,20	4	80	42000	0,3169E+03	0,1000E+00	0,1000E+00		9,567	1,033
R1	NO,21	4	22	35400	0,1805E+04	0,1000E+00	0,1000E+00		27,942	1,050

TABLE 4.3 (Cont'd)

EXPONENTIAL MODEL
GROUND SYSTEM
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	4	3038	0,4276E+04	0,9898E+00	0,5589E-04		6,321	0,002
R3	NO, 2	1	5	5085	0,4637E+03	0,2187E+01	0,1000E+00		15,223	0,224
R3	NO, 3	18	4	3822	0,6557E+03	0,9997E+02	0,9556E-01		220,269	632,152

EXPONENTIAL MODEL
GROUND SYSTEM
RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	16	16	2513	0,3363E+04	0,1000E+00	0,1000E+00		9643,195	5216,492
R1	NO, 2	12	99	24804	0,1003E+03	0,8487E+00	0,4791E-04		78,943	29,271
R1	NO, 3	11	70	6751	0,9688E+02	0,1000E+00	0,1000E+00		179,150	2,555
R1	NO, 5	12	4	714	0,6906E+03	0,8683E+00	0,5455E-04		15,653	1,073
R1	NO, 6	12	77	18304	0,1436E+03	0,1000E+00	0,1000E+00		29,750	4,789
R1	NO, 7	11	71	4382	0,5272E+03	0,8248E+00	0,7723E-04		468,146	38,085
R1	NO, 8	11	129	7574	0,3472E+03	0,9991E+00	0,4115E-03		387,092	108,360

TABLE 4.3 (Cont'd)
EXPONENTIAL MODEL
GROUND SYSTEM
RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	28	6369	0,2459E+03	0,7825E+00	0,2556E-03		16,406	0,083
R3	NO, 3	18	18	3822	0,5501E+03	0,9835E+00	0,4738E-03		73,883	7,399
R3	NO, 4	18	12	5370	0,1714E+03	0,7979E+02	0,1000E+00		72,392	4,013
R3	NO, 5	18	11	4650	0,2072E+03	0,1000E+00	0,1000E+00		50,330	7,159

TABLE 4.3 (Cont'd)
EXPONENTIAL MODEL
GROUND SYSTEM
MICROWAVE
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	4	114	42078	0,3382E+03	0,1000E+00	0,1000E+00		10,316	1,009
R1	NO, 3	4	240	47899	0,2552E+03	0,8076E+00	0,4020E-04		12,241	0,074
R1	NO, 5	5	10	407	0,3904E+02	0,8119E+00	0,3283E-01		18,355	0,917
R1	NO, 6	5	40	2663	0,6241E+02	0,7855E+01	0,1000E+00		13,387	0,852
R1	NO, 7	5	26	1373	0,9812E+02	0,1000E+00	0,1000E+00		43,329	1,042
R1	NO, 8	5	42	7124	0,8048E+02	0,1000E+00	0,4516E+02		47,562	1,025
R1	NO, 9	5	45	3032	0,5073E+02	0,5960E-07	0,8344E-01		16,599	1,026
R1	NO,11	5	26	2767	0,1193E+03	0,6299E+00	0,6317E-03		13,972	0,279
R1	NO,12	4	147	35400	0,2068E+03	0,1000E+00	0,1000E+00		13,551	1,007
R1	NO,13	4	302	42618	0,855<E+02	0,1000E+00	0,1000E+0^		17,593	1,004
R1	NO,14	4	283	32800	0,7698E+02	0,5960E-07	0,8066E-01		36,681	1,004
R1	NO,16	4	251	33680	0,9679E+02	0,1000E+00	0,1709E+03		14,303	1,005
R1	NO,17	4	149	18240	0,6844E+02	0,5960E-07	0,7854E-01		20,730	1,007
R1	NO,18	4	142	41798	0,2577E+03	0,1000E+00	0,1000E+00		32,700	1,132
R1	NO,19	4	160	51440	0,4087E+03	0,7240E+00	0,1949E-04		9,200	0,125

TABLE 4.3 (Cont'd)

EXPONENTIAL MODEL
GROUND SYSTEM
MICROWAVE
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	33	1122	0,3697E+02	0,6860E+00	0,4392E-02		12,857	0,27

EXPONENTIAL MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0,4667E+02	0,5960E-07	0,5501E-01		53,911	2,211
R1	NO, 3	12	30	18304	0,9756E+03	0,1000E+00	0,1000E+00		200,746	47,967
R1	NO, 5	12	4	714	0,1906E+03	0,7038E+00	0,3208E-04		92,558	1,636
R1	NO, 6	11	49	9663	0,3657E+03	0,1000E+00	0,1000E+00		150,913	43,905
R1	NO, 7	11	117	10809	0,2089E+03	0,1000E+00	0,1000E+00		118,612	46,496
R1	NO, 9	11	177	7849	0,2169E+03	0,9693E+00	0,2915E-03		322,100	67,028

TABLE 4.3 (Cont'd)

EXPONENTIAL MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	15	9425	0,2975E+03	0,1000E+00	0,1000E+00		18,820	1,737
R2	NO, 2	8	7	8246	0,8252E+03	0,1000E+00	0,1000E+00		102,733	2,444
R2	NO, 3	8	16	7570	0,7246E+03	0,1000E+00	0,1000E+00		161,963	24,608
R2	NO, 4	8	11	9425	0,5663E+03	0,1000E+00	0,1000E+00		30,027	6,314
R2	NO, 5	8	15	45376	0,8845E+03	0,1000E+00	0,1000E+00		40,832	1,077
R2	NO, 6	8	4	22037	0,2640E+04	0,1000E+00	0,1000E+00		50,210	1,500
R2	NO, 7	8	9	45059	0,1309E+04	0,1000E+00	0,1000E+00		23,809	1,143
R2	NO, 8	8	17	8979	0,7000E+03	0,1000E+00	0,1000E+00		22,680	1,088
R2	NO, 9	8	18	11916	0,1469E+04	0,1000E+00	0,1000E+00		160,985	380,002
R2	NO,18	8	14	44314	0,1865E+04	0,1000E+00	0,1000E+00		72,059	1,083
R2	NO,19	8	9	45376	0,1884E+04	0,1000E+00	0,1000E+00		53,101	1,143
R2	NO,20	8	6	33328	0,1927E+04	0,1000E+00	0,1000E+00		19,597	1,250
R2	NO,22	8	16	45477	0,3162E+04	0,9598E+00	0,4206E-04		9,851	0,011
R2	NO,23	8	10	45261	0,3188E+04	0,1000E+00	0,1000E+00		38,354	1,125

TABLE 4.3 (Cont'd)

EXPONENTIAL MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	5	3784	0,4035E+03	0,9545E+00	0,4032E-01		176,863	1,445
R3	NO, 2	2	12	6336	0,2871E+03	0,1000E+00	0,1000E+00		32,016	1,100
R3	NO, 3	2	8	4576	0,2691E+03	0,4371E+01	0,4282E-01		35,845	0,709

EXPONENTIAL MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 2	8	100	3200	0,1799E+03	0,9782E+00	0,5767E-04		5,838	0,006
R2	NO, 3	8	50	3700	0,1208E+03	0,9261E+00	0,2535E-03		8,634	0,011

EXPONENTIAL MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	7	17	2193	0,1709E+03	0,8885E+00	0,5375E-03		14,059	0,060
R3	NO, 2	7	32	2248	0,6119E+02	0,2274E+01	0,1000E+00		31,416	0,862
R3	NO, 3	7	12	3322	0,3448E+03	0,1000E+00	0,1000E+00		35,274	1,100
R3	NO, 5	2	211	4536	0,2198E+02	0,9110E+02	0,3462E+02		26,027	1,009
R3	NO, 6	1	6	4659	0,3892E+03	0,1000E+00	0,1000E+00		41,025	1,250
R3	NO, 7	1	21	6144	0,2254E+03	0,1000E+00	0,1000E+00		13,717	1,053

TABLE 43 (Cont'd)

EXPONENTIAL MODEL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	36	11490	0,4241E+02	0,1000E+00	0,1000E+00		75,200	4,963
R1	NO, 2	11	33	5703	0,7649E+02	0,8945E+00	0,3240E-03		44,985	0,010
R1	NO, 3	12	16	9165	0,1738E+03	0,1000E+00	0,1000E+00		111,510	2,258
R1	NO, 4	15	19	11800	0,3540E+03	0,1000E+00	0,1000E+00		15,795	2,348
R1	NO, 5	12	35	18304	0,2007E+03	0,1000E+00	0,1000E+00		62,612	1,069
R1	NO, 7	15	9	11209	0,1502E+04	0,1000E+00	0,1000E+00		108,011	11,936
R1	NO, 8	15	7	18642	0,1103E+04	0,1000E+00	0,1000E+00		66,075	17,844
R1	NO, 9	15	9	16192	0,6965E+03	0,1000E+00	0,1000E+00		51,578	8,768
R1	NO,10	15	19	23495	0,1211E+04	0,1000E+00	0,1000E+00		31,566	1,192
R1	NO,11	15	10	15741	0,7724E+03	0,1000E+00	0,1000E+00		16,419	1,864
R1	NO,12	15	17	23572	0,7624E+03	0,1000E+00	0,1000E+00		35,182	6,060
R1	NO,13	15	20	15756	0,5613E+03	0,1000E+00	0,1000E+00		25,991	5,522
R1	NO,14	15	16	13960	0,4130E+03	0,1000E+00	0,1000E+00		45,709	88,753
R1	NO,15	15	34	23680	0,1726E+03	0,9782E+00	0,1490E-02		68,854	9,986
R1	NO,16	11	35	10323	0,7640E+02	0,9599E+00	0,1536E-03		84,668	19,323
R1	NO,17	12	41	24804	0,2414E+03	0,1000E+00	0,1000E+00		56,143	4,671
R1	NO,18	11	36	9833	0,3809E+03	0,9791E+00	0,8400E-05		92,135	24,707
R1	NO,19	11	35	12141	0,9425E+02	0,8329E+00	0,5163E-03		66,111	3,463

TABLE 4.3 (Cont'd)

EXPONENTIAL MODEL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	PBAR	RE
R3	NO, 1	17	10	3965	0,1062E+03	0,8790E+00	0,1081E-02		81,593	1,956
R3	NO, 2	2	16	4576	0,2669E+03	0,9573E+00	0,7302E-03		13,047	0,029
R3	NO, 3	2	9	6336	0,7158E+03	0,1000E+00	0,1000E+00		11,684	1,143

EXPONENTIAL MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 2	14	12	2043	0,3161E+03	0,1000E+00	0,1000E+00		2643,178	14,868
R1	NO, 3	14	49	11189	0,2120E+03	0,1000E+00	0,1000E+00		38,035	6,429
R1	NO, 5	14	9	2792	0,5961E+02	0,5960E-07	0,8140E-01		71,470	37,843

EXPONENTIAL MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	13	18	1540	0,5070E+03	0,2373E-01	0,7579E-01		773,439	1307,531

T A B L E 4.3 (Cont'd)
E X P O N E N T I A L   M O D E L
G R O U N D   S Y S T E M
C O M P U T E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	9	10	1726	0,4742E+02	0,5960E-07	0,8056E-01		2555,655	1,131
R3	NO, 2	9	25	2261	0,1639E+02	0,1000E+00	0,1043E+03		17,489	1,227
R3	NO, 4	9	3	3105	0,4013E+03	0,1000E+00	0,1000E+00		669,519	3121,370
R3	NO, 6	2	67	4536	0,2955E+02	0,4992E+02	0,1577E+02		24,407	1,016
R3	NO, 7	1	5	8513	0,1879E+04	0,1000E+00	0,1000E+00		34,429	1,333
R3	NO, 8	1	4	6339	0,1371E+04	0,1000E+00	0,1000E+00		21,454	1,500

TABLE 4.3 (Cont'd)

EXPONENTIAL MODEL
GROUND SYSTEM
COMMUNICATIONS
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	4	14	35400	0,2012E+04	0,1000E+00	0,1000E+00		32,040	1,083
R1	NO, 2	4	25	46840	0,1417E+04	0,1000E+00	0,1000E+00		34,030	1,043
R1	NO, 3	4	11	51440	0,4557E+04	0,1000E+00	0,1000E+00		6,949	1,111
R1	NO, 4	4	11	41798	0,7969E+04	0,1000E+00	0,1000E+00		47,069	1,111
R1	NO, 5	4	16	33680	0,1841E+04	0,1000E+00	0,1000E+00		16,501	1,071
R1	NO, 6	4	16	24920	0,1616E+04	0,1000E+00	0,1000E+00		26,427	1,071
R1	NO, 7	4	16	32800	0,1599E+04	0,1000E+00	0,1000E+00		44,685	1,071
R1	NO, 8	4	95	42000	0,3866E+03	0,1000E+00	0,1000E+00		40,486	1,011
R1	NO, 9	4	4	46800	0,3890E+04	0,1000E+00	0,1000E+00		30,806	1,500
R1	NO,10	4	36	47900	0,2621E+04	0,1000E+00	0,1000E+00		48,766	1,029
R1	NO,11	4	23	46860	0,1632E+04	0,1000E+00	0,1000E+00		17,447	1,048

EXPONENTIAL MODEL
GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	2	20	3415	0,1329E+03	0,1884E+00	0,3040E-02		7,027	0,897
R3	NO, 2	2	10	4536	0,4151E+03	0,1114E+01	0,2846E-02		19,467	0,211

TABLE 4.3 (CONT'D)

EXPONENTIAL MODEL
GROUND SYSTEM
SYSTEM-RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 2	11	178	6751	0,1525E+03	0,1000E+00	0,1000E+00		598,579	258,142
R1	NO, 3	12	170	24804	0,7001E+03	0,1000E+00	0,1000E+00		401,778	310,905
R1	NO, 4	11	244	7849	0,8310E+03	0,9904E+00	0,5827E-05		21,452	0,560
R1	NO, 5	11	114	4382	0,2822E+03	0,8810E+00	0,4201E-03		772,349	89,658
R1	NO, 6	12	148	18304	0,3523E+03	0,1000E+00	0,1000E+00		357,320	233,825
R1	NO, 8	11	200	7574	0,4978E+03	0,9191E+00	0,9576E-04		458,657	390,161

EXPONENTIAL MODEL
GROUND SYSTEM
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	14	2076	0,1252E+03	0,8936E+00	0,2961E-02		10,973	0,161
R3	NO, 2	1	53	5085	0,7498E+02	0,8625E+00	0,3038E-02		9,023	0,164

EXPONENTIAL MODEL
GROUND SYSTEM
SYSTEM-MICROWAVE
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	34	1122	0,3450E+02	0,6483E+00	0,3806E-02		12,627	0,291

TABLE 4.3 (Cont'd)

EXPONENTIAL MODEL
GROUND SYSTEM
SYSTEM-MICROWAVE
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	17	407	0,2383E+02	0,5872E+00	0,2868E-01		19,287	0,88
R1	NO, 2	5	54	3031	0,3735E+02	0,5960E-07	0,7099E-01		18,300	1,02
R1	NO, 3	5	32	1373	0,6410E+02	0,6587E+01	0,1230E+00		24,874	0,88
R1	NO, 4	5	48	7124	0,6979E+02	0,1000E+00	0,1106E+03		55,651	1,02
R1	NO, 5	5	44	2662	0,5884E+02	0,7514E+01	0,1000E+00		15,490	0,90
R1	NO, 6	4	135	42076	0,2919E+03	0,1000E+00	0,1000E+00		9,953	1,00
R1	NO, 7	4	323	46856	0,9330E+02	0,1000E+00	0,2341E+03		24,230	1,00
R1	NO, 8	4	299	47896	0,1952E+03	0,7425E+00	0,5193E-04		11,952	0,10
R1	NO,10	5	5	161	0,2440E+02	0,3725E-08	0,7427E-01		10,847	1,33
R1	NO,11	5	29	2767	0,1603E+03	0,6898E+00	0,1925E-03		14,888	0,41
R1	NO,12	4	183	35400	0,1744E+03	0,1000E+00	0,1000E+00		16,671	1,00
R1	NO,13	4	477	42618	0,5689E+02	0,1000E+00	0,4274E+02		14,032	1,00
R1	NO,14	4	360	32800	0,6321E+02	0,5960E-07	0,7643E-01		37,146	1,00
R1	NO,16	4	302	33680	0,8639E+02	0,1000E+00	0,5031E+03		12,336	1,00
R1	NO,17	4	181	41794	0,2079E+03	0,1000E+00	0,1000E+00		33,747	1,13
R1	NO,18	4	184	51440	0,2781E+03	0,6071E+00	0,3824E-04		8,696	0,15
R1	NO,20	4	184	18240	0,5689E+02	0,5960E-07	0,7643E-01		19,965	1,00

T A B L E 4.3 (Cont'd)

L L O Y D - L I P O W   M O D E L
G R O U N D   S Y S T E M
A N T E N N A
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	12	7	18304	0,1256E+04	0,6048E+06			28,445	0,684
R1	NO, 2	12	3	24804	0,5396E+04	0,4875E+07			42,763	0,714
R1	NO, 3	5	3	2767	-,4802E+02	-,4698E+06			10,308	0,311
R1	NO, 4	5	9	3032	0,1604E+03	0,5847E+04			81,472	0,911
R1	NO, 5	5	6	1373	0,1839E+03	0,2993E+04			5,382	0,038
R1	NO, 6	5	6	7124	0,7948E+03	0,1457E+06			128,482	0,631
R1	NO, 7	5	4	2663	0,5191E+03	-,6649E+04			12,853	1,497
R1	NO, 8	5	7	407	0,5844E+02	0,7552E+03			14,165	0,485
R1	NO, 9	4	18	42080	0,2789E+04	0,2654E+07			17,013	0,328
R1	NO,10	4	14	46800	0,2308E+04	0,9620E+06			36,717	1,075
R1	NO,11	4	23	47900	0,1673E+04	0,7047E+06			22,332	0,993
R1	NO,12	4	41	46860	0,6519E+03	-,3443E+07			32,300	0,701
R1	NO,13	4	73	46840	0,4857E+03	-,2072E+06			20,643	0,930
R1	NO,14	4	13	51440	-,7150E+04	-,4520E+09			43,717	0,623
R1	NO,15	4	28	31798	0,1241E+04	0,6318E+06			43,514	0,774
R1	NO,16	4	33	18240	0,3362E+03	-,8601E+05			29,527	0,976
R1	NO,17	4	35	33680	0,1000E+04	-,9830E+06			13,225	0,599
R1	NO,18	4	14	24920	0,9930E+03	-,1938E+07			15,277	0,534
R1	NO,19	4	61	32800	0,4782E+03	0,1291E+06			34,221	0,773
R1	NO,20	4	30	42000	0,3218E+03	0,2161E+05			9,275	0,969
R1	NO,21	4	22	35400	0,8071E+03	-,1316E+08			18,003	0,227

TABLE 4.3 (Cont'd)

LLOYD- LIPOW MODEL
GROUND SYSTEM
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	4	3038	0,3083E+03	0,1974E+05			83,133	0,715
R3	NO, 2	1	5	5085	0,4674E+03	0,3685E+04			18,183	0,216
R3	NO, 3	18	4	3822	0,1880E+03	-,7899E+04			8,764	1,194

LLOYD- LIPOW MODEL
GROUND SYSTEM
RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	15	16	2513	0,8701E+02	0,2042E+04			90,891	0,643
R1	NO, 2	12	99	24804	0,2351E+03	-,3499E+05			9,524	0,868
R1	NO, 3	11	70	6751	0,6820E+02	0,5074E+03			75,618	0,707
R1	NO, 4	12	34	9165	0,1930E+03	0,2241E+05			24,638	0,823
R1	NO, 5	12	4	714	0,1418E+03	0,6161E+04			25,940	0,982
R1	NO, 6	12	77	18304	0,2052E+03	0,1177E+05			10,999	0,940
R1	NO, 7	11	71	4382	0,3295E+02	0,6115E+03			72,939	0,852
R1	NO, 8	11	129	7574	0,3938E+02	-,3967E+04			28,054	0,951

TABLE 4.3 (Cont'd)

LLOYD- LIPOW MODEL
GROUND SYSTEM
RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	28	6369	0,1342E+03	0,2237E+04			32,651	0,729
R3	NO, 2	1	3	2076	0,3454E+03	0,8096E+04			25,927	0,440
R3	NO, 3	18	18	3822	0,1810E+03	0,7389E+04			27,280	0,664
R3	NO, 4	18	12	5370	-,7680E+02	-,2577E+07			9,251	0,107
R3	NO, 5	18	11	4650	0,4810E+03	0,5527E+05			8,591	0,234

T A B L E 4.3 (Cont'd)

L L O Y D - L I P O W M O D E L
G R O U N D S Y S T E M
M I C R O W A V E
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	4	114	42078	0,3420E+03	0,2272E+05			9,963	0,962
R1	NO, 2	4	259	46860	0,1114E+03	0,6190E+04			28,123	0,988
R1	NO, 3	4	240	47899	0,1572E+03	0,1336E+05			55,860	0,915
R1	NO, 4	4	183	46798	0,1223E+03	-,1307E+04			21,108	1,005
R1	NO, 5	5	10	407	0,4097E+02	0,3703E+03			19,117	0,951
R1	NO, 6	5	40	2663	0,6350E+02	0,7379E+03			14,432	0,926
R1	NO, 7	5	26	1373	-,2172E+02	-,1021E+06			9,668	0,095
R1	NO, 8	5	42	7124	0,9131E+02	0,6330E+04			46,411	0,907
R1	NO, 9	5	45	3032	0,5280E+02	0,7665E+03			16,298	0,956
R1	NO,10	5	4	161	0,3694E+02	0,3845E+03			14,711	0,545
R1	NO,11	5	26	2767	0,8955E+02	0,3905E+04			20,197	0,603
R1	NO,12	4	147	35400	0,2051E+03	-,1297E+05			13,555	0,983
R1	NO,13	4	302	42618	0,8384E+02	-,1105E+05			17,487	0,942
R1	NO,14	4	283	32800	0,7898E+02	0,4025E+04			36,450	0,964
R1	NO,15	4	173	24920	0,1016E+03	0,2890E+04			23,277	0,991
R1	NO,16	4	251	33680	0,9700E+02	-,1058E+04			14,303	1,002
R1	NO,17	4	149	18240	0,7062E+02	0,2457E+04			20,211	0,933
R1	NO,18	4	142	41798	0,2966E+03	0,5760E+05			30,930	0,938
R1	NO,19	4	160	51440	0,1998E+03	0,2047E+05			22,794	0,835
R1	NO,20	4	448	46834	0,6992E+02	-,3549E+04			21,323	0,988

TABLE 4.3 (Cont'd)

LLOYD- LIPOW MODEL
GROUND SYSTEM
MICROWAVE
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	5	33	1122	0.3496E+02	0.6105E+03			22.347	0.6

LLOYD- LIPOW MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	11	34	11490	0.1880E+03	0.1616E+05			81.739	0.8
R1	NO. 2	11	17	4382	0.1628E+03	0.9858E+04			60.125	0.6
R1	NO. 3	12	30	18304	0.3661E+03	0.3194E+05			21.990	0.9
R1	NO. 4	12	7	9165	0.4078E+03	0.2692E+05			244.899	1.0
R1	NO. 5	12	4	714	0.9710E+02	0.1269E+04			22.215	0.3
R1	NO. 6	11	49	9663	0.1589E+02	0.9166E+04			16.619	0.9
R1	NO. 7	11	117	10809	0.8907E+02	-.2180E+05			4.601	0.3
R1	NO. 8	12	33	24804	0.5570E+03	-.9311E+06			20.588	0.8
R1	NO. 9	11	177	7849	0.1896E+02	0.2632E+03			50.529	0.9

TABLE 4.3 (Cont'd)

LLOYD- LIPOW MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	15	9425	0,4557E+03	0,8009E+05			28,048	0,830
R2	NO, 2	8	7	8246	0,7081E+03	0,1893E+06			44,562	0,836
R2	NO, 3	8	16	7570	0,3326E+03	0,[illegible]084E+05			22,319	0,845
R2	NO, 4	8	11	9425	0,8909E+03	0,1812E+06			10,688	0,771
R2	NO, 5	8	15	45376	0,1056E+04	0,5271E+06			37,334	0,859
R2	NO, 6	8	4	22037	0,3995E+04	0,4825E+07			45,659	0,811
R2	NO, 7	8	9	45059	0,1492E+04	0,5352E+06			9,688	0,339
R2	NO, 8	8	17	8979	0,6191E+03	-,4262E+06			18,599	0,727
R2	NO, 9	8	18	11916	0,5838E+03	0,4832E+05			6,712	0,864
R2	NO,10	8	11	17219	0,1472E+04	0,1930E+05			0,604	1,053
R2	NO,11	8	3	2237	-,2263E+02	-,1661E+07			3,052	0,032
R2	NO,12	8	4	2247	0,5887E+03	0,8690E+05			1,669	0,018
R2	NO,13	8	3	2332	0,8240E+03	0,1672E+06			2,864	0,030
R2	NO,14	8	3	1980	0,6538E+03	0,1149E+06			14,475	0,780
R2	NO,15	8	3	631	0,4355E+02	-,1017E+06			2,404	0,025
R2	NO,16	8	4	3492	0,8702E+03	-,7436E+05			1,651	0,601
R2	NO,17	8	11	4096	0,3995E+03	-,1286E+05			3,385	0,887
R2	NO,18	8	14	44314	0,2051E+04	0,4358E+06			21,541	0,360
R2	NO,19	8	9	45376	0,2417E+04	0,1792E+07			28,700	0,526
R2	NO,20	8	6	33328	0,1732E+04	-,9471E+06			18,813	1,167

TABLE 4.3 Cont"d)
LLOYD- LIPOW MODEL
GROUND SYSTEM
DISPLAY
FIELD
(CONTINUED)

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO,21	8	3	45221	0,1125E+05	0,6793E+07			25,752	0,43
R2	NO,22	8	16	45477	0,1573E+04	0,3133E+06			159,760	0,66
R2	NO,23	8	10	45261	0,3587E+04	0,2271E+07			9,284	0,31

LLOYD- LIPOW MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	5	3784	0,7003E+03	0,3438E+05			75,385	0,53
R3	NO, 2	2	12	6336	0,3394E+03	0,4662E+05			30,732	0,83
R3	NO, 3	2	8	4576	0,2844E+03	0,1013E+05			40,212	0,60

TABLE 4.3 (Cont'd)

LLOYD- LIPOW MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	105	2700	0,7006E+01	0,3201E+02			37,010	0,95
R2	NO, 2	8	100	3200	0,1370E+02	0,1119E+03			74,530	0,92
R2	NO, 3	8	50	3700	0,4000E+02	0,8488E+03			85,001	0,85
R2	NO, 4	8	33	3700	0,4259E+02	0,2642E+04			118,731	0,89
R2	NO, 5	8	16	2500	0,1183F+03	0,5799E+04			31,100	0,89

LLOYD- LIPOW MODEL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	7	17	2193	0,7289E+02	0,1482E+04			47,602	0,66
R3	NO, 2	7	32	2248	0,6252E+02	0,5324E+03			31,551	0,85
R3	NO, 3	7	12	3322	0,1521E+03	-,2839E+06			38,338	0,92
R3	NO, 4	2	384	3415	0,5408E+01	0,7000E+01			9,108	0,98
R3	NO, 5	2	211	4536	0,2186E+02	-,5605E+03			25,824	0,95
R3	NO, 6	1	6	4659	-,5261E+03	-,9525E+06			6,432	0,02
R3	NO, 7	1	21	6144	0,2171E+03	-,1189E+05			13,253	0,96

T A B L E 4.3 (Cont'd)

L L O Y D - L I P O W   M O D E L
G R O U N D   S Y S T E M
C O M P U T E R
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0,2285E+03	0,2101E+05			35,860	0,72
R1	NO, 2	11	33	5703	0,9256E+02	0,2274E+04			191,189	0,80
R1	NO, 3	12	16	9165	0,4802E+03	0,2941E+05			70,781	0,40
R1	NO, 4	15	19	11800	0,3941E+03	-,4475E+05			10,652	0,89
R1	NO, 5	12	35	18304	0,2453E+03	0,1669E+05			40,598	0,65
R1	NO, 6	16	5	2513	0,4322E+03	0,3738E+05			6,054	0,09
R1	NO, 7	15	9	11209	0,9382E+03	0,3044E+06			20,138	0,62
R1	NO, 8	15	7	18642	0,2988E+04	-,3581E+07			14,533	0,99
R1	NO, 9	15	9	16192	0,1158E+04	-,1801E+07			12,373	0,58
R1	NO,10	15	19	23495	0,1251E+04	0,5972E+06			19,496	0,47
R1	NO,11	15	10	15741	0,6926E+03	-,6152E+04			8,812	1,12
R1	NO,12	15	17	23572	0,1312E+04	0,5224E+06			13,525	0,68
R1	NO,13	15	20	15756	0,7240E+03	-,2245E+06			10,372	0,78
R1	NO,14	15	16	13960	0,7535E+03	-,3378E+05			4,098	1,00
R1	NO,15	15	34	23680	0,6039E+03	0,1552E+06			20,647	0,74
R1	NO,16	11	35	10323	0,2195E+03	0,1567E+05			13,788	0,86
R1	NO,17	12	41	24804	0,6024E+03	-,3544E+05			26,290	1,02
R1	NO,18	11	36	9833	0,3646E+03	-,4830E+04			15,922	1,02
R1	NO,19	11	35	12141	0,2439E+03	0,2829E+05			38,494	0,75

TABLE 4.3 (Cont'd)

LLOYD- LIPOW MODEL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	10	3965	C,2993E+03	0,1282E+04			228,169	0,85
R3	NO, 2	2	16	4576	0,1925E+03	0,8366E+04			96,132	0,50
R3	NO, 3	2	9	6336	0,5970E+03	-,2922E+06			6,188	0,42

LLOYD- LIPOW MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	46	4467	0,5285E+02	0,1555E+04			42,998	0,77
R1	NO, 2	14	12	2043	0,115[illegible]E+03	0,2765E+03			337,224	0,59
R1	NO, 3	14	43	11189	0,3404E+03	-,5315E+05			16,264	0,90
R1	NO, 4	14	45	10666	0,3041E+03	-,4332E+05			15,137	0,88
R1	NO, 5	14	9	2792	0,2334E+03	0,1294E+05			7,252	0,50

LLOYD- LIPOW MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	13	18	1540	0,6102E+02	0,3000E+03			14,291	1,05

TABLE 4.3 (Cont'd)

LLOYD- LIPOW MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	9	10	1726	0,6780E+02	0,1073E+03			2009,268	0,86
R3	NO, 2	9	25	2261	0,2741E+02	0,3915E+03			45,128	0,99
R3	NO, 3	9	24	2370	0,6497E+02	0,3246E+04			68,758	0,70
R3	NO, 4	9	3	3105	0,4106E+02	-,1154E+04			12,626	1,45
R3	NO, 5	2	74	3415	0,2547E+02	0,2678E+03			17,350	0,91
R3	NO, 6	2	67	4536	0,3004E+02	0,1273E+03			24,823	1,01
R3	NO, 7	1	5	8513	-,1629E+04	-,1552E+08			20,852	0,39
R3	NO, 8	1	4	6339	0,1581E+04	0,5126E+06			18,414	1,26

TABLE 4.3 (Cont'd)

LLOYD- LIPOW MODEL
GROUND SYSTEM
COMMUNICATIONS
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	4	14	35400	0,1017E+04	-,9658E+07			35,086	0,7[illegible]
R1	NO, 2	4	25	46840	0,1110E+04	-,3192E+07			33,904	0,8[illegible]
R1	NO, 3	4	11	51440	0,4466E+04	-,1534E+07			6,572	1,0[illegible]
R1	NO, 4	4	11	41798	-,7640E+04	-,5187E+09			14,985	0,2[illegible]
R1	NO, 5	4	16	33650	0,1466E+04	-,3700E+07			12,362	0,4[illegible]
R1	NO, 6	4	16	24920	0,1759E+04	0,6684E+06			13,524	0,4[illegible]
R1	NO, 7	4	16	32800	0,1947E+04	0,1822E+07			29,846	0,5[illegible]
R1	NO, 8	4	95	42000	0,4248E+03	0,1777E+06			30,752	0,7[illegible]
R1	NO, 9	4	4	46800	0,5489E+04	0,1029E+08			30,126	0,8[illegible]
R1	NO,10	4	36	47900	0,6584E+03	-,5776E+08			24,862	0,3[illegible]
R1	NO,11	4	23	46860	0,1496E+04	-,1470E+07			18,818	0,9[illegible]
R1	NO,12	4	3	42080	0,8380E+04	0,1705E+08			12,906	0,9[illegible]

LLOYD- LIPOW MODEL
GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	2	20	3415	0,1337E+03	0,2225E+04			7,423	0,94
R3	NO, 2	2	10	4536	0,4203E+03	0,3346E+05			33,882	0,32

TABLE 4.3 (Cont'd)

LLOYD- LIPOW MODEL
GROUND SYSTEM
SYSTEM-RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	16	24	2513	0,6828E+02	0,1547E+04			54,648	0,549
R1	NO, 2	11	178	6751	0,2614E+02	0,1811E+03			30,809	0,838
R1	NO, 3	12	170	24804	0,1318E+03	-,6623E+05			9,521	0,544
R1	NO, 4	11	244	7849	0,1600E+02	0,1888E+03			39,038	0,951
R1	NO, 5	11	114	4382	0,1516E+02	0,1438E+03			109,147	0,936
R1	NO, 6	12	148	18304	0,8439E+02	0,4150E+04			16,124	0,806
R1	NO, 7	12	57	9165	0,1022E+03	0,6127E+04			63,936	0,721
R1	NO, 8	11	200	7574	0,2364E+02	0,3132E+03			25,309	0,970

LLOYD- LIPOW MODEL
GROUND SYSTEM
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	14	2076	0,1128E+03	0,2752E+04			33,195	0,496
R3	NO, 2	1	53	5085	0,7155E+02	0,6408E+03			20,217	0,469

LLOYD- LIPOW MODEL
GROUND SYSTEM
SYSTEM-MICROWAVE
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	34	1122	0,3196E+02	0,5289E+03			23,441	0,694

TABLE 4.3 (Cont'd)

LLOYD-LIPOW MODEL
GROUND SYSTEM
SYSTEM-MICROWAVE
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	17	407	0,2486E+02	0,1694E+03			[illegible]0,459	0,913
R1	NO, 2	5	54	3031	0,3966E+02	0,7068E+03			17,758	0,875
R1	NO, 3	5	32	1373	0,6533E+02	0,7199E+03			26,896	0,926
R1	NO, 4	5	48	7124	0,8094E+02	0,6096E+04			53,582	0,898
R1	NO, 5	5	44	2662	0,5976E+02	0,5923E+03			16,926	0,970
R1	NO, 6	4	135	42076	0,2945E+03	0,1429E+05			9,879	0,983
R1	NO, 7	4	323	46856	0,9405E+02	0,1273E+04			24,472	1,002
R1	NO, 8	4	299	47896	0,1386E+03	0,1100E+05			43,094	0,911
R1	NO, 9	4	201	46798	0,1141E+03	-,4932E+04			21,184	1,001
R1	NO,10	5	5	161	0,2767E+02	0,1552E+03			10,662	0,915
R1	NO,11	5	29	2767	0,7784E+02	0,2725E+04			18,359	0,719
R1	NO,12	4	183	35400	0,1706E+03	-,2745E+05			15,923	0,935
R1	NO,13	4	477	42618	0,5712E+02	-,1261E+04			14,084	0,993
R1	NO,14	4	360	32800	0,6487E+02	0,2972E+04			36,838	0,964
R1	NO,15	4	203	24920	0,9073E+02	0,2388E+04			20,290	0,986
R1	NO,16	4	302	33680	0,8608E+02	-,3646E+04			12,315	0,974
R1	NO,17	4	181	41794	0,2391E+03	0,3673E+05			31,685	0,931
R1	NO,18	4	184	51440	0,1931E+03	0,1921E+05			19,426	0,817
R1	NO,19	4	546	46840	0,5888E+02	-,6616E+04			21,108	0,945
R1	NO,20	4	184	18240	0,5832E+02	0,1502E+04			20,064	0,964

T A B L E 4.3 (Cont'd)
A R O E F M O D E L
G R O U N D S Y S T E M
A N T E N N A
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	12	7	18304	0,1213E+04	0,6058E+03			26,673	0,634
R1	NO, 2	12	3	24804	0,5307E+04	0,1765E+04			27,315	0,574
R1	NO, 3	5	3	2767	0,1641E+03	-,9257E+03			10,695	0,344
R1	NO, 4	5	9	3032	0,1302E+03	0,5398E+02			44,449	0,941
R1	NO, 5	5	6	1373	0,1914E+03	0,4257E+02			3,942	0,031
R1	NO, 6	5	6	7124	0,6081E+03	0,3087E+03			66,511	0,656
R1	NO, 7	5	4	2663	0,5099E+03	-,2027E+02			13,164	1,506
R1	NO, 8	5	7	407	0,5964E+02	0,2170E+02			12,831	0,488
R1	NO, 9	4	18	42080	0,2798E+04	0,1458E+04			14,791	0,253
R1	NO,10	4	14	46800	0,2193E+04	0,5618E+03			33,320	1,102
R1	NO,11	4	23	47900	0,1630E+04	0,4769E+03			22,156	0,996
R1	NO,12	4	41	46860	0,7437E+03	-,2131E+04			26,967	0,702
R1	NO,13	4	73	46840	0,4828E+03	-,2564E+03			19,574	0,942
R1	NO,14	4	13	51440	0,1141E+04	-,5231E+05			25,365	0,606
R1	NO,15	4	28	31798	0,1155E+04	0,6826E+03			38,487	0,741
R1	NO,16	4	33	18240	0,3221E+03	-,2097E+03			26,580	0,994
R1	NO,17	4	35	33680	0,1003E+04	-,7604E+03			13,196	0,699
R1	NO,18	4	14	24920	0,1015E+04	-,1372E+04			15,528	0,613
R1	NO,19	4	61	32800	0,4522E+03	0,3313E+03			32,241	0,733
R1	NO,20	4	80	42000	0,3184E+03	0,6740E+02			8,891	0,972
R1	NO,21	4	22	35400	0,1116E+04	-,5560E+04			15,648	0,187

TABLE 4.3 (Cont'd)

A R O E F   M O D E L
G R O U N D   S Y S T E M
A N T E N N A
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	4	3038	0,2687E+03	0,1125E+03			44,975	0,6
R3	NO, 2	1	5	5085	0,4662E+03	0,3254E+02			13,881	0,1
R3	NO, 3	18	4	3822	0,1865E+03	-,4079E+02			8,927	1,2

A R O E F   M O D E L
G R O U N D   S Y S T E M
R A D A R
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	16	16	2513	0,7425E+02	0,4276E+02			54,180	0,6
R1	NO, 2	12	99	24804	0,2334E+03	-,1310E+03			9,257	0,8
R1	NO, 3	11	70	6751	0,6319E+02	0,1999E+02			44,826	0,6
R1	NO, 4	12	34	9165	0,1867E+03	0,1504E+03			25,668	0,7
R1	NO, 5	12	4	714	0,1337E+03	0,4682E+02			22,578	0,9
R1	NO, 6	12	77	18304	0,2031E+03	0,6871E+02			10,732	0,9
R1	NO, 7	11	71	4382	0,2771E+02	0,2416E+02			58,074	0,8
R1	NO, 8	11	129	7574	0,4052E+02	-,6749E+01			23,252	1,0

TABLE 4.3 (Cont'd)
AROEF MODEL
GROUND SYSTEM
RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	28	6369	0,1296E+03	0,3647E+02			24,804	0,654
R3	NO, 2	1	3	2076	0,3499E+03	0,6621E+02			18,557	0,369
R3	NO, 3	18	18	3822	0,1773E+03	0,6881E+02			22,687	0,609
R3	NO, 4	18	12	5370	0,2673E+03	-,2940E+04			8,283	0,057
R3	NO, 5	18	11	4650	0,4914E+03	0,1821E+03			7,842	0,223

T A B L E 4.3 (Cont'd)

A R O E F M O D E L
G R O U N D S Y S T E M
M I C R O W A V E
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	4	114	42078	0,3397E+03	0,6578E+02			9,884	0,96
R1	NO, 2	4	259	46860	0,1057E+03	0,4717E+02			26,359	1,00
R1	NO, 3	4	240	47899	0,1408E+03	0,1198E+03			48,788	0,94
R1	NO, 4	4	183	46798	0,1166E+03	-,1545E+02			19,955	1,02
R1	NO, 5	5	10	407	0,4013E+02	0,1064E+02			18,014	0,96
R1	NO, 6	5	40	2663	0,6299E+02	0,1961E+02			14,081	0,96
R1	NO, 7	5	26	1373	0,3549E+02	-,7616E+03			11,994	0,18
R1	NO, 8	5	42	7124	0,8049E+02	0,6528E+02			38,489	0,93
R1	NO, 9	5	45	3032	0,5208E+02	0,1694E+02			15,613	0,95
R1	NO,10	5	4	161	0,3696E+02	0,1321E+02			12,555	0,47
R1	NO,11	5	26	2767	0,8827E+02	0,5834E+02			18,504	0,54
R1	NO,12	4	147	35400	0,2020E+03	-,5965E+02			12,904	0,99
R1	NO,13	4	302	42618	0,8188E+02	-,9547E+02			16,652	0,96
R1	NO,14	4	283	32800	0,7364E+02	0,5150E+02			32,991	0,98
R1	NO,15	4	173	24920	0,4830E+02	0,2738E+02			22,485	1,00
R1	NO,16	4	251	33680	0,9547E+02	-,9224E+01			14,268	1,01
R1	NO,17	4	149	18240	0,6840E+02	0,3776E+02			18,769	0,93
R1	NO,18	4	142	41798	0,2824E+03	0,2195E+03			30,815	0,94
R1	NO,19	4	160	51440	0,1932E+03	0,1368E+03			22,075	0,79
R1	NO,20	4	448	46834	0,6815E+02	-,3987E+02			20,217	1,00

TABLE 4.3 (Cont'd)

A R O E F   M O D E L
G R O U N D   S Y S T E M
M I C R O W A V E
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	33	1122	0,3411E+02	0,2286E+0			21,265	0,57

A R O E F   M O D E L
G R O U N D   S Y S T E M
D I S P L A Y
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0,1544E+03	0,1171E+03			57,431	0,83
R1	NO, 2	11	17	4382	0,1461E+03	0,9051E+02			43,936	0,57
R1	NO, 3	12	30	18304	0,3538E+03	0,9684E+02			20,583	0,99
R1	NO, 4	12	7	9165	0,2032E+03	0,9426E+02			69,094	1,15
R1	NO, 5	12	4	714	0,1001E+03	0,2883E+02			14,862	0,29
R1	NO, 6	11	49	9663	0,1582E+03	0,8792E+02			15,638	0,94
R1	NO, 7	11	117	10809	0,9022E+02	-,1719E+03			4,477	0,43
R1	NO, 8	12	33	24804	0,6020E+03	-,6941E+03			16,311	0,88
R1	NO, 9	11	177	7849	0,1668E+02	0,1370E+02			40,797	0,98

TABLE 4.3 (Cont'd)
AROEF MODEL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	15	9425	0,4329E+03	0,1840E+03			24,919	0,819
R2	NO, 2	8	7	8246	0,6226E+03	0,3027E+03			33,534	0,83[illegible]
R2	NO, 3	8	16	7570	0,3189E+03	0,1275E+03			19,818	0,833
R2	NO, 4	8	11	9425	0,8835E+03	0,2159E+03			10,253	0,751
R2	NO, 5	8	15	45376	0,9535E+03	0,5130E+03			32,782	0,864
R2	NO, 6	8	4	22037	0,3631E+04	0,1603E+04			31,967	0,766
R2	NO, 7	8	9	45059	0,1524E+04	0,5598E+03			9,022	0,343
R2	NO, 8	8	17	8979	0,6093E+03	-,5812E+03			18,543	0,803
R2	NO, 9	8	18	11916	0,5816E+03	0,8310E+02			6,570	0,857
R2	NO,10	8	11	17219	0,1472E+04	0,1293E+02			0,599	1,053
R2	NO,11	8	3	2237	0,3502E+03	-,1660E+04			1,407	0,007
R2	NO,12	8	4	2247	0,6075E+03	0,2050E+03			0,902	0,006
R2	NO,13	8	3	2332	0,8732E+03	0,3211E+03			1,646	0,011
R2	NO,14	8	3	1980	0,6523E+03	0,2181E+03			13,208	0,702
R2	NO,15	8	3	631	0,1155E+03	-,3712E+03			1,116	0,005
R2	NO,16	8	4	3492	0,8706E+03	-,8176E+02			1,655	0,612
R2	NO,17	8	11	4096	0,3990E+03	-,3210E+02			3,426	0,893
R2	NO,18	8	14	44314	0,2059E+04	0,5130E+03			15,036	0,266
R2	NO,19	8	9	45376	0,2376E+04	0,1204E+04			21,739	0,462

TABLE 4.3 (Cont'd)

A R O E F   M O D E L
G R O U N D   S Y S T E M
D I S P L A Y
F I E L D
(C O N T I N U E D)

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO,20	8	6	33328	0,1750E+04	-,3539E+03			18,448	1,187
R2	NO,21	8	5	45221	0,1132E+05	0,1838E+04			18,692	0,371
R2	NO,22	8	16	45477	0,1271E+04	0,4668E+03			77,545	0,669
R2	NO,23	8	10	45261	0,3679E+04	0,1230E+04			8,651	0,340

A R O E F   M O D E L
G R O U N D   S Y S T E M
D I S P L A Y
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	5	3784	0,6481E+03	0,1318E+03			45,129	0,442
R3	NO, 2	2	12	6336	0,3181E+03	0,1500E+03			26,776	0,817
R3	NO, 3	2	8	4576	0,2778E+03	0,7821E+02			28,427	0,531

TABLE 4.3 (Cont'd

A R D E F   M O D E L
G R O U N D   S Y S T E M
D I S P L A Y
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	7	17	2193	0,6796E+02	0,3519E+02			39,598	0,626
R3	NO, 2	7	32	2248	0,6010E+02	0,1808E+02			28,944	0,872
R3	NO, 3	7	12	3322	0,2185E+03	-,5122E+03			29,009	0,976
R3	NO, 4	2	384	3415	0,5370E+01	0,1221E+01			8,750	0,987
R3	NO, 5	2	211	4536	0,2086E+02	-,2411E+02			23,418	1,005
R3	NO, 6	1	6	4659	0,4379E+02	-,2174E+04			8,227	0,047
R3	NO, 7	1	21	6144	0,2147E+03	-,5275E+02			13,189	0,978

A R D E F   M O D E L
G R O U N D   S Y S T E M
D I S P L A Y
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	105	2700	0,6255E+01	0,4644E+01			31,425	0,978
R2	NO, 2	8	100	3200	0,1106E+02	0,9863E+01			50,476	0,980
R2	NO, 3	8	50	3700	0,3218E+02	0,2705E+02			59,622	0,902
R2	NO, 4	8	33	3700	0,2399E+02	0,4742E+02			70,154	1,028
R2	NO, 5	8	16	2500	0,1113E+03	0,4869E+02			28,942	0,887

TABLE 1.3 (Cont'd)

AROEF MODEL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	11	34	11490	0.2167E+03	0.1308E+03			29.314	0.677
R1	NO. 2	11	33	5703	0.6125E+02	0.4203E+02			100.452	0.936
R1	NO. 3	12	16	9165	0.4578E+03	0.1590E+03			39.132	0.330
R1	NO. 4	15	19	11800	0.3904E+03	-.1118E+03			10.669	0.910
R1	NO. 5	12	35	18304	0.2331E+03	0.1303E+03			29.435	0.594
R1	NO. 6	16	5	2513	0.4552E+03	0.1542E+03			6.695	0.122
R1	NO. 7	15	9	11209	0.9177E+03	0.3948E+03			17.295	0.567
R1	NO. 8	15	7	18642	0.2931E+04	-.1152E+04			14.343	1.019
R1	NO. 9	15	9	16192	0.1186E+04	-.1124E+04			12.445	0.601
R1	NO.10	15	19	23495	0.1235E+04	0.6514E+03			17.319	0.387
R1	NO.11	15	10	15741	0.6815E+03	-.2603E+02			8.844	1.131
R1	NO.12	15	17	23572	0.1298E+04	0.4394E+03			13.009	0.649
R1	NO.13	15	20	15756	0.7206E+03	-.2797E+03			10.535	0.799
R1	NO.14	15	16	13960	0.7522E+03	-.4585E+02			4.099	1.002
R1	NO.15	15	34	23680	0.5905E+03	0.2912E+03			19.633	0.704
R1	NO.16	11	35	10323	0.2159E+03	0.7310E+02			12.638	0.858
R1	NO.17	12	41	24804	0.6090E+03	0.2933E+03			23.038	1.072
R1	NO.18	11	36	9833	0.3576E+03	-.1981E+02			15.305	1.037
R1	NO.19	11	35	12141	0.2284E+03	0.1475E+03			32.599	0.724

TABLE 4.3 (Cont'd)

AROEF MODEL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	10	3965	0,2232E+03	0,1677E+02			106,968	0,952
R3	NO, 2	2	16	6576	0,1700E+03	0,9316E+02			60,604	0,458
R3	NO, 3	2	9	6336	0,6077E+03	-,3793E+03			6,225	0,436

AROEF MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	46	4467	0,4843E+02	0,3951E+02			35,043	0,740
R1	NO, 2	14	12	2043	0,9850E+02	0,4398E+01			77,191	0,596
R1	NO, 3	14	43	11189	0,3344E+03	-,1565E+03			16,342	0,932
R1	NO, 4	14	45	10466	0,2998E+03	-,1404E+03			15,141	0,916
R1	NO, 5	14	9	2792	0,2331E+03	0,6234E+02			6,890	0,463

AROEF MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	13	18	1540	0,5977E+02	0,4296E+01			13,273	1,060

TABLE 4.3 (Cont'd)

AROEF MODEL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	9	10	1726	0,1599E+02	0,4387E+01			215,406	1,272
R3	NO, 2	9	25	2261	0,2282E+02	0,1203E+02			29,010	0,999
R3	NO, 3	9	24	2370	0,5436E+02	0,6494E+02			53,350	0,711
R3	NO, 4	9	3	3105	0,4111E+02	-,2304E+02			12,443	1,470
R3	NO, 5	2	74	3415	0,2403E+02	0,1052E+02			15,941	0,916
R3	NO, 6	2	67	4536	0,2867E+02	0,1331E+01			23,463	1,030
R3	NO, 7	1	5	8513	0,3158E+03	-,7535E+04			14,685	0,303
R3	NO, 8	1	4	6339	0,1533E+04	0,3524E+03			16,905	1,283

TABLE 4.3 (Cont'd)

AROEF MODEL
GROUND SYSTEM
COMMUNICATIONS
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	4	14	35400	0,1346E+04	-,3132E+04			28,294	0,812
R1	NO, 2	4	25	46840	0,1135E+04	-,1586E+04			30,715	0,870
R1	NO, 3	4	11	51440	0,4450E+04	-,3486E+03			6,619	1,054
R1	NO, 4	4	11	41798	0,1403E+04	-,5334E+05			19,261	0,235
R1	NO, 5	4	16	33680	0,1507E+04	-,1757E+04			12,689	0,499
R1	NO, 6	4	16	24920	0,1778E+04	0,6470E+03			12,776	0,451
R1	NO, 7	4	16	32800	0,1877E+04	0,1271E+04			26,436	0,451
R1	NO, 8	4	95	42000	0,4102E+03	0,6428E+03			26,866	0,683
R1	NO, 9	4	4	46800	0,5243E+04	0,2310E+04			27,105	0,809
R1	NO,10	4	36	47900	0,1299E+04	-,1663E+05			24,827	0,823
R1	NO,11	4	23	46860	0,1511E+04	-,5430E+03			17,568	0,966
R1	NO,12	4	3	42080	0,8496E+04	0,2712E+04			12,676	0,940

AROEF MODEL
GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	2	20	3415	0,1332E+03	0,1691E+02			7,277	0,940
R3	NO, 2	2	10	4526	0,4206E+03	0,1609E+03			21,907	0,274

T A B L E 4.3 (Cont'd)
A R O E F M O D E L
G R O U N D S Y S T E M
S Y S T E M - R A D A R
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	16	24	2513	0,6317E+02	0,3949E+02			40,823	0,459
R1	NO, 2	11	178	6751	0,2513E+02	0,1327E+02			25,941	0,799
R1	NO, 3	12	170	24804	0,1333E+03	-,3214E+03			9,081	0,619
R1	NO, 4	11	244	7649	0,1475E+02	0,1212E+02			34,328	0,975
R1	NO, 5	11	114	4382	0,1099E+02	0,1101E+02			67,890	1,031
R1	NO, 6	12	148	18304	0,8287E+02	0,6347E+02			15,130	0,768
R1	NO, 7	12	57	9165	0,9070E+02	0,9183E+02			49,660	0,697
R1	NO, 8	11	200	7574	0,2269E+02	0,1272E+02			23,493	0,980

A R O E F M O D E L
G R O U N D S Y S T E M
S Y S T E M - R A D A R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	14	2076	0,1109E+03	0,4393E+02			23,330	0,392
R3	NO, 2	1	53	5085	0,7106E+02	0,2141E+02			13,083	0,361

A R O E F M O D E L
G R O U N D S Y S T E M
S Y S T E M - M I C R O W A V E
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	34	1122	0,3106E+02	0,2093E+02			22,923	0,630

T A B L E 4.3 (Cont'd)
A R O E F M O D E L
G R O U N D S Y S T E M
S Y S T E M = M I C R O W A V E
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	17	407	0,2432E+02	0,8133E+01			19,527	0,924
R1	NO, 2	5	54	3031	0,3871E+02	0,1894E+02			16,501	0,861
R1	NO, 3	5	32	1373	0,6341E+02	0,2066E+02			24,731	0,972
R1	NO, 4	5	48	7124	0,6969E+02	0,7455E+02			43,597	0,926
R1	NO, 5	5	44	2662	0,5888E+02	0,1701E+02			16,409	1,005
R1	NO, 6	4	135	42076	0,2927E+03	0,4845E+02			9,832	0,983
R1	NO, 7	4	323	46856	0,9043E+02	0,7615E+01			23,252	1,020
R1	NO, 8	4	299	47896	0,1286E+03	0,1096E+03			39,917	0,918
R1	NO, 9	4	201	46798	0,1091E+03	-,4216E+02			19,168	1,017
R1	NO,10	5	5	161	0,2734E+02	0,5869E+01			9,835	0,900
R1	NO,11	3	29	2767	0,7679E+02	0,4437E+02			17,432	0,682
R1	NO,12	4	183	35400	0,1669E+03	-,1420E+03			14,955	0,975
R1	NO,13	4	477	42618	0,5629E+02	-,1943E+02			13,951	1,000
R1	NO,14	4	360	32800	0,6057E+02	0,4671E+02			33,858	0,989
R1	NO,15	4	203	24920	0,8841E+02	0,2703E+02			19,758	0,998
R1	NO,16	4	302	33680	0,8504E+02	-,3467E+02			12,127	0,903
R1	NO,17	4	181	41794	0,2270E+03	0,1737E+03			31,596	0,937
R1	NO,18	4	184	51440	0,1883E+03	0,1343E+03			19,065	0,772
R1	NO,19	4	546	46840	0,5761E+02	-,8101E+02			20,056	0,961
R1	NO,20	4	184	18240	0,5652E+02	0,2593E+02			18,586	0,972

TABLE 4.3 (Cont'd)
SIMPLE EXPONENTIAL
GROUND SYSTEM
ANTENNA
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	12	7	18304	0,6002E+03	0,9676E-04			14,929	0,251
R1	NO, 2	12	3	24804	0,1205E+04	0,8816E-04			19,462	0,078
R1	NO, 3	5	3	2767	0,1705E+04	-,1412E-02			9,986	0,296
R1	NO, 4	5	9	3032	0,5530E+02	0,6424E-03			15,018	0,050
R1	NO, 5	5	6	1373	0,4196E+02	0,1758E-02			55,120	1,671
R1	NO, 6	5	6	7124	0,1446E+03	0,3283E-03			14,748	0,154
R1	NO, 7	5	4	2663	0,4856E+03	0,5261E-04			13,094	1,403
R1	NO, 8	5	7	407	0,2644E+02	0,2696E-02			26,584	0,960
R1	NO, 9	4	18	42080	0,1467E+04	0,1816E-04			21,409	0,663
R1	NO,10	4	14	46800	0,1573E+04	0,1559E-04			20,684	0,688
R1	NO,11	4	23	47900	0,1202E+04	0,1229E-04			13,547	0,518
R1	NO,12	4	41	46860	0,8208E+03	0,4954E-05			22,665	1,049
R1	NO,13	4	73	46840	0,4211E+03	0,8516E-05			11,516	0,780
R1	NO,14	4	13	51440	0,2268E+05	-,3959E-04			28,626	0,755
R1	NO,15	4	28	31798	0,5703E+03	0,3112E-04			22,157	0,377
R1	NO,16	4	33	18240	0,2877E+03	0,2864E-04			23,251	0,822
R1	NO,17	4	35	33680	0,1399E+04	-,1431E-04			8,519	0,535
R1	NO,18	4	14	24920	0,1733E+04	-,3678E-04			17,158	[illegible]
R1	NO,19	4	61	32800	0,2525E+03	0,3106E-04			16,299	0,294
R1	NO,20	4	80	42000	0,2793E+03	0,8843E-05			8,604	0,607
R1	NO,21	4	22	35400	0,2412E+04	-,1979E-04			23,758	0,720

TABLE 4.3 (Cont'd)

SIMPLE EXPONENTIAL
GROUND SYSTEM
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	4	3038	0,6716E+02	0,1101E-02			15,373	0,085
R3	NO, 2	1	5	5085	0,3380E+02	0,1305E-02			113,363	2,425
R3	NO, 3	18	4	3822	0,2436E+03	-,3342E-03			0,264	1,060

SIMPLE EXPONENTIAL
GROUND SYSTEM
RADAR
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	16	16	2513	0,2317E+02	0,9653E-03			36,401	0,561
R1	NO, 2	12	99	24804	0,2699E+03	-,1045E-04			9,413	0,763
R1	NO, 3	11	70	6751	0,2730E+02	0,2504E-03			52,523	0,477
R1	NO, 4	12	34	9165	0,1133E+03	0,1096E-03			18,829	0,416
R1	NO, 5	12	4	714	0,7350E+02	0,1159E-02			10,938	0,171
R1	NO, 6	12	77	18304	0,1803E+03	0,1199E-04			10,966	0,939
R1	NO, 7	11	71	4382	0,1275E+02	0,4615E-03			16,287	0,187
R1	NO, 8	11	129	7574	0,3277E+02	0,7483E-04			10,783	0,925

TABLE 4.3 (Cont'd)

SIMPLE EXPONENTIAL
GROUND SYSTEM
RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	1	28	6369	0,6864E+02	0,2327E-03			26,387	0,320
R3	NO, 2	1	3	2076	0,4030E+02	0,2039E-02			52,178	0,848
R3	NO, 3	18	18	3822	0,9008E+02	0,3104E-03			25,024	0,683
R3	NO, 4	18	12	5370	0,2000E+04	-,3002E-03			10,340	0,235
R3	NO, 5	18	11	4650	0,2936E+03	0,1272E-03			20,333	0,848

TABLE 4.3 (Cont'd)

SIMPLE EXPONENTIAL
GROUND SYSTEM
MICROWAVE
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	4	114	42078	0,3038E+03	0,5079E-05			6,913	0,680
R1	NO, 2	4	259	46860	0,7469E+02	0,2034E-04			8,512	0,105
R1	NO, 3	4	240	47899	0,7313E+02	0,2723E-04			18,118	0,205
R1	NO, 4	4	183	46798	0,8900E+02	0,2165E-04			8,683	0,173
R1	NO, 5	5	10	407	0,3352E+02	0,4321E-03			20,848	1,133
R1	NO, 6	5	40	2663	0,6077E+02	-,4914E-05			16,739	1,039
R1	NO, 7	5	26	1373	0,3609E+03	-,1457E-02			12,011	0,167
R1	NO, 8	5	42	7124	0,4664E+02	0,2045E-03			11,478	0,082
R1	NO, 9	5	45	3032	0,4265E+02	0,1340E-03			11,675	0,672
R1	NO,10	5	4	161	0,1947E+02	0,4540E-02			2,332	0,012
R1	NO,11	5	26	2767	0,5333E+02	0,2991E-03			15,866	0,375
R1	NO,12	4	147	35400	0,2276E+03	-,7561E-05			12,840	0,851
R1	NO,13	4	302	42618	0,7168E+02	0,1133E-04			11,379	0,850
R1	NO,14	4	283	32800	0,4807E+02	0,3145E-04			12,962	0,141
R1	NO,15	4	173	24920	0,7726E+02	0,2460E-04			12,553	0,558
R1	NO,16	4	251	33680	0,8217E+02	0,1189E-04			9,887	0,686
R1	NO,17	4	149	18240	0,5056E+02	0,4772E-04			8,329	0,132
R1	NO,18	4	142	41798	0,1623E+03	0,1758E-04			17,936	0,422
R1	NO,19	4	160	51440	0,1285E+03	0,2048E-04			11,668	0,210
R1	NO,20	4	[illegible]	46834	0,5400E+02	0,1389E-04			8,629	0,348

TABLE 4.3 (Cont'd)

SIMPLE EXPONENTIAL
GROUND SYSTEM
MICROWAVE
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	33	1122	0,2006E+02	0,6940E-03			18,811	0,636

SIMPLE EXPONENTIAL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	34	11490	0,6449E+02	0,1779E-03			18,040	0,192
R1	NO, 2	11	17	4382	0,5585E+02	0,4447E-03			19,152	0,250
R1	NO, 3	12	30	18304	0,2727E+03	0,3848E-04			13,925	0,620
R1	NO, 4	12	7	9165	0,7098E+02	0,3351E-03			22,678	0,026
R1	NO, 5	12	4	714	0,2386E+02	0,3833E-02			40,316	0,589
R1	NO, 6	11	49	9663	0,1107E+03	0,5641E-04			18,608	0,613
R1	NO, 7	11	117	10809	0,1071E+03	-,1929E-04			6,991	0,820
R1	NO, 8	12	33	24804	0,6905E+03	-,2694E-05			14,593	1,031
R1	NO, 9	11	177	7849	0,9964E+01	0,2275E-03			7,917	0,080

TABLE 4.3 (Cont'd)
SIMPLE EXPONENTIAL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	15	9425	0,2671E+03	0,9704E-04			7,198	0,064
R2	NO, 2	8	7	8246	0,2996E+03	0,1704E-03			7,978	0,031
R2	NO, 3	8	16	7570	0,2060E+03	0,1137E-03			4,527	0,033
R2	NO, 4	8	11	9425	0,6695E+03	0,3810E-04			5,989	0,315
R2	NO, 5	8	15	45376	0,5412E+03	0,4704E-04			12,869	0,081
R2	NO, 6	8	4	22037	0,1414E+04	0,6187E-04			4,258	0,006
R2	NO, 7	8	9	45059	0,9012E+03	0,4867E-04			19,680	0,936
R2	NO, 8	8	17	8979	0,1217E+04	-,9588E-04			10,178	0,341
R2	NO, 9	8	18	11916	0,5000E+03	0,2169E-04			2,747	0,146
R2	NO,10	8	11	17219	0,1454E+04	0,1110E-05			0,602	0,802
R2	NO,11	8	3	2237	0,2586E+04	-,5717E-03			4,751	0,086
R2	NO,12	8	4	2247	0,3275E+03	0,2738E-03			8,737	0,307
R2	NO,13	8	3	2332	0,3305E+03	0,4026E-03			10,959	0,328
R2	NO,14	8	3	1980	0,3417E+03	0,3223E-03			5,152	0,087
R2	NO,15	8	3	631	0,5943E+03	-,1698E-02			4,397	0,092
R2	NO,16	8	4	3492	0,9787E+03	-,3155E-04			0,947	0,197
R2	NO,17	8	11	4096	0,4377E+03	-,2965E-04			2,255	0,407
R2	NO,18	8	14	44314	0,8970E+03	0,3907E-04			42,226	0,924
R2	NO,19	8	9	45376	0,9738E+03	0,4620E-04			20,750	0,269
R2	NO,20	8	6	33328	0,2129E+04	-,1951E-04			17,894	1,158

TABLE 4.3 (Cont'd)
SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM-INFRARED
FIELD
(CONTINUED)

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO,21	8	3	45221	0,1099E+04	0,6754E-04			59,142	1,060
R2	NO,22	8	16	45477	0,2986E+03	0,6672E-04			59,368	0,745
R2	NO,23	8	10	45261	0,1911E+04	0,2382E-04			29,312	1,150

TABLE 4.3 (Cont'd)

SIMPLE EXPONENTIAL
GROUND SYSTEM
DISPLAY
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	5	3784	0,8625E+02	0,6900E-03			44,178	0,65
R3	NO, 2	2	12	6336	0,1848E+03	0,1735E-03			10,635	0,10
R3	NO, 3	2	8	4576	0,9665E+02	0,5297E-03			38,635	0,3

SIMPLE EXPONENTIAL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	8	105	2700	0,4154E+01	0,8101E-03			9,774	0,15
R2	NO, 2	8	100	3200	0,3829E+01	0,6295E-03			13,815	0,10
R2	NO, 3	8	50	3700	0,1428E+02	0,5414E-03			15,405	0,14
R2	NO, 4	8	33	3700	0,1239E+02	0,6798E-03			41,393	0,27
R2	NO, 5	8	16	2500	0,6973E+02	0,3501E-03			12,890	0,18

TABLE 4.3 (Cont'd)

SIMPLE EXPONENTIAL
GROUND SYSTEM
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	7	17	2193	0,2755E+02	0,9102E-03			23,283	0,45[illegible]
R3	NO, 2	7	32	2248	0,3935E+02	0,3193E-03			25,207	0,7[illegible]7
R3	NO, 3	7	12	3322	0,3763E+03	-,1058E-03			27,377	1,058
R3	NO, 4	2	384	3415	0,4608E+01	0,1361E-03			4,537	0,180
R3	NO, 5	2	211	4536	0,3357E+02	-,2246E-03			18,708	0,473
R3	NO, 6	1	6	4659	0,4168E+04	-,2292E-02			5,746	0,025
R3	NO, 7	1	21	6144	0,2290E+03	-,1077E-04			13,414	1,045

TABLE 4.3 (Cont'd)

SIMPLE EXPONENTIAL
GROUND SYSTEM
COMPUTER
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	11	34	11490	0.1164E+03	0.1097E-03			13.661	0.115
R1	NO. 2	11	33	5703	0.1755E+02	0.5031E-03			31.172	0.414
R1	NO. 3	12	16	9165	0.9802E+02	0.2564E-03			57.393	0.579
R1	NO. 4	15	19	11800	0.4477E+03	-.2256E-04			10.055	0.918
R1	NO. 5	12	35	18304	0.1104E+03	0.1135E-03			32.786	0.564
R1	NO. 6	16	5	2513	0.1568E+03	0.6219E-03			26.812	1.000
R1	NO. 7	15	9	11209	0.5164E+03	0.8365E-04			5.461	0.051
R1	NO. 8	15	7	18642	0.4567E+04	-.2597E-04			11.253	0.793
R1	NO. 9	15	9	16192	0.1761E+04	-.2602E-04			15.873	0.871
R1	NO.10	15	19	23495	0.6790E+03	0.3564E-04			15.840	0.481
R1	NO.11	15	10	15741	0.6430E+03	0.1807E-04			10.405	0.950
R1	NO.12	15	17	23572	0.9297E+03	0.2119E-04			5.037	0.165
R1	NO.13	15	20	15756	0.8137E+03	-.7763E-05			11.819	0.965
R1	NO.14	15	16	13960	0.7656E+03	-.7863E-06			4.391	1.070
R1	NO.15	15	34	23480	0.3903E+03	0.3040E-04			6.050	0.150
R1	NO.16	11	35	10323	0.1623E+03	0.5768E-04			3.844	0.054
R1	NO.17	12	41	24804	0.4650E+03	0.1688E-04			20.205	0.995
R1	NO.18	11	36	9833	0.4697E+03	-.4277E-04			11.062	0.689
R1	NO.19	11	35	12141	0.1224E+03	0.1032E-03			11.081	0.125

TABLE 4.3 (Cont'd)

S I M P L E   E X P O N E N T I A L
G R O U N D   S Y S T E M
C O M P U T E R
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	17	10	3965	0,3470E+02	0,7167E-03			114,149	0,382
R3	NO, 2	2	16	4576	0,3749E+02	0,6120E-03			36,365	0,866
R3	NO, 3	2	9	6336	0,8553E+03	-,5535E-04			8,645	0,611

S I M P L E   E X P O N E N T I A L
G R O U N D   S Y S T E M
C O M P U T E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	11	46	4467	0,2507E+02	0,3679E-03			16,455	0,176
R1	NO, 2	14	12	2043	0,1282E+02	0,1716E-02			135,839	1,366
R1	NO, 3	14	43	11189	0,4780E+03	-,4464E-04			11,052	0,497
R1	NO, 4	14	45	10666	0,4242E+03	-,4627E-04			8,758	0,406
R1	NO, 5	14	9	2792	0,1717E+03	0,1809E-03			2,346	0,047

S I M P L E   E X P O N E N T I A L
G R O U N D   S Y S T E M
C O M P U T E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	13	18	1540	0,6584E+02	-,2057E-03			12,582	1,000

TABLE 4.3 (Cont'd)

SIMPLE EXPONENTIAL
GROUND SYSTEM
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	9	10	1726	0,1748E+01	0,3039E-02			66,764	0,727
R3	NO, 2	9	25	2261	0,1431E+02	0,9096E-03			6,670	0,037
R3	NO, 3	9	24	2370	0,2155E+02	0,7536E-03			10,254	0,158
R3	NO, 4	9	3	3105	0,7393E+02	-,3286E-02			12,368	1,424
R3	NO, 5	2	74	3415	0,1829E+02	0,2634E-03			2,763	0,066
R3	NO, 6	2	67	4536	0,2197E+02	0,2348E-03			11,643	0,221
R3	NO, 7	1	5	8513	0,7830E+04	-,3266E-03			18,899	0,485
R3	NO, 8	1	4	6339	0,1092E+04	0,6972E-04			17,440	1,336

TABLE 4.3 (Cont'd)

SIMPLE EXPONENTIAL
GROUND SYSTEM
COMMUNICATIONS
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	4	14	35400	0,1885E+04	-,1032E-05			27,667	1,107
R1	NO, 2	4	25	46840	0,1151E+04	0,7833E-05			26,675	1,017
R1	NO, 3	4	11	51440	0,4780E+04	-,1897E-05			6,318	1,001
R1	NO, 4	4	11	61798	0,5960E+05	-,6089E-04			14,797	0,230
R1	NO, 5	4	16	33680	0,2562E+04	-,2495E-04			11,194	0,465
R1	NO, 6	4	16	24920	0,1110E+04	0,2350E-04			23,367	0,960
R1	NO, 7	4	16	32800	0,8675E+03	0,3347E-04			17,283	0,295
R1	NO, 8	4	95	42000	0,2127E+03	0,[illegible]540E-04			26,249	0,737
R1	NO, 9	4	4	46800	0,2310E+04	0,3503E-04			14,129	0,201
R1	NO,10	4	36	47900	0,1067E+05	-,4437E-04			15,747	0,249
R1	NO,11	4	23	46860	0,1520E+04	0,2330E-05			16,451	1,065
R1	NO,12	4	3	42080	0,4215E+04	0,3049E-04			13,323	1,012

SIMPLE EXPONENTIAL
GROUND SYSTEM
COMMUNICATIONS
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	2	20	3415	0,1250E+03	0,2825E-04			7,464	1,007
R3	NO, 2	2	10	4536	0,1271E+03	0,4087E-03			37,318	1,330

TABLE 4.3 (Cont'd)

SIMPLE EXPONENTIAL
GROUND SYSTEM
SYSTEM-RADAR
FIELD

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	16	24	2513	0.2342E+02	0.7941E-03			29.870	0.606
R1	NO. 2	11	178	6751	0.1622E+02	0.1478E-03			14.676	0.187
R1	NO. 3	12	170	24804	0.1468E+03	-.3126E-05			9.517	0.979
R1	NO. 4	11	244	7849	0.9377E+01	0.1824E-03			7.130	0.062
R1	NO. 5	11	114	4382	0.5227E+01	0.5711E-03			16.360	0.120
R1	NO. 6	12	148	18304	0.6005E+02	0.4184E-04			8.802	0.218
R1	NO. 7	12	57	9165	0.3020E+02	0.2015E-03			22.660	0.315
R1	NO. 8	11	200	7574	0.1599E+02	0.1242E-03			7.951	0.100

SIMPLE EXPONENTIAL
GROUND SYSTEM
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO. 1	1	14	2076	0.4413E+02	0.8193E-03			26.479	0.639
R3	NO. 2	1	53	5085	0.4378E+02	0.1900E-03			30.034	0.658

SIMPLE EXPONENTIAL
GROUND SYSTEM
SYSTEM-MICROWAVE
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO. 1	5	34	1122	0.1858E+02	0.7184E-03			17.849	0.582

TABLE 4.3 (Cont'd)
SIMPLE EXPONENTIAL
GROUND SYSTEM
SYSTEM-MICROWAVE
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	5	17	407	0,2017E+02	0,5234E-03			20,852	1,067
R1	NO, 2	5	54	3031	0,2793E+02	0,2391E-03			6,618	0,111
R1	NO, 3	5	32	1373	0,8364E+02	-,3743E-03			24,281	0,789
R1	NO, 4	5	48	7124	0,3829E+02	0,2171E-03			12,902	0,110
R1	NO, 5	5	44	2662	0,6059E+02	-,5071E-04			18,860	0,985
R1	NO, 6	4	135	42076	0,2574E+03	0,5878E-05			6,045	0,493
R1	NO, 7	4	323	46856	0,6792E+02	0,1671E-04			8,484	0,201
R1	NO, 8	4	299	47896	0,7278E+02	0,2248E-04			17,406	0,277
R1	NO, 9	4	201	46798	0,8461E+02	0,2037E-04			9,101	0,214
R1	NO,10	5	5	161	0,1977E+02	0,2673E-02			5,396	0,218
R1	NO,11	5	29	2767	0,5220E+02	0,2422E-03			15,053	0,436
R1	NO,12	4	183	35400	0,1988E+03	-,1042E-04			15,573	0,805
R1	NO,13	4	477	42618	0,4669E+02	0,1305E-04			6,245	0,351
R1	NO,14	4	360	32800	0,3892E+02	0,3130E-04			13,481	0,143
R1	NO,15	4	203	24926	0,7155E+02	0,2076E-04			11,031	0,626
R1	NO,16	4	302	33680	0,7733E+02	0,7627E-05			9,556	0,892
R1	NO,17	4	181	41794	0,1451E+03	0,1775E-04			19,099	0,442
R1	NO,18	4	184	51440	0,1303E+03	0,1698E-04			11,301	0,257
R1	NO,19	4	546	46840	0,4716E+02	0,1215E-04			9,601	0,513
R1	NO,20	4	184	18240	0,4334E+02	0,4258E-04			10,268	0,218

TABLE 4.4

DUANE MODEL
AIRBORNE
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	25	6	1584	0,2174E+01	0,6946E+03	0,8818E+00	0,1023E+00	39,107	1,543
R2	NO, 2	27	29	1400	0,7570E+00	0,1941E+02	0,5826E+00	0,4037E-01	13,459	0,171
R2	NO, 3	27	8	400	0,6583E+00	0,1699E+02	0,3833E+00	0,9155E-01	32,080	2,248
R2	NO, 4	27	21	1200	0,5372E+00	0,4150E+01	0,3936E+00	0,1144E+00	23,559	0,304
R2	NO, 5	27	52	6000	0,6237E+00	0,1063E+02	0,5048E+00	0,6239E+00	24,760	0,506

DUANE MODEL
AIRBORNE
RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	162	4988	0,6964E+00	0,3350E+01	0,6231E+00	0,4763E+00	15,003	0,459
R2	NO, 2	27	43	1000	0,4867E+00	0,4400E+00	0,3841E+00	0,4577E+00	25,172	0,147
R2	NO, 3	25	382	2176	0,4967E+00	0,1377E-01	0,4631E+00	0,2343E+01	16,945	0,145
R2	NO, 4	25	315	3984	0,9724E+00	0,1074E+02	0,8999E+00	0,2896E+01	18,804	1,133
R2	NO, 5	27	27	400	0,5994E+00	0,1637E+01	0,4377E+00	0,4094E+00	25,533	0,987
R2	NO, 6	27	42	1300	0,4727E+00	0,4788E+00	0,3719E+00	0,4720E+00	25,418	0,136

TABLE 4.4 (Cont'd)

DUANE MODEL
AIRBORNE
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	13	1100	0,8415E+00	0,5219E+02	0,5069E+00	0,1018E+00	19,834	2,240
R2	NO, 2	27	6	400	0,8102E+00	0,3072E+02	0,3946E+00	0,6752E-01	29,073	1,213
R2	NO, 3	25	50	3992	0,7205E+00	0,1750E+02	0,5933E+00	0,6704E+00	28,468	4,423
R2	NO, 4	27	13	800	0,7219E+00	0,2291E+02	0,4348E+00	0,5084E-01	20,727	0,333
R2	NO, 5	27	63	4996	0,8261E+00	0,3315E+02	0,6838E+00	0,1525E+00	10,283	0,446
R2	NO, 6	25	11	1200	0,6506E+00	0,3009E+02	0,3680E+00	0,6256E-01	24,523	0,160

DUANE MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	5	536	0,9185E+00	0,9294E+02	0,4472E+00	0,7170E-01	53,123	3,680
R1	NO, 2	23	3	785	0,6816E+00	0,1566E+03	0,2504E+00	0,9462E-01	65,848	841,714
R1	NO, 3	23	3	521	0,1362E+01	0,2326E+03	0,5006E+00	0,1179E+00	73,785	52,324
R1	NO, 4	21	9	500	0,6268E+00	0,1502E+02	0,3244E+00	0,1376E+00	28,574	0,376
R1	NO, 5	21	10	760	0,4134E+00	0,2898E+01	0,2573E+00	0,9430E-01	30,304	0,163

TABLE 4.4 (Cont'd)

DUANE MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	26	3	407	0,6742E+00	0,7978E+02	0,2477E+00	0,1492E+00	68,149	4,944
R2	NO, 2	27	77	3994	0,9333E+00	0,3803E+02	0,7886E+00	0,2648E+00	35,878	0,603
R2	NO, 3	27	12	400	0,9625E+00	0,3026E+02	0,5633E+00	0,5074E-01	20,227	4,059
R2	NO, 4	27	27	1400	0,8499E+00	0,2897E+02	0,6206E+00	0,2787E-01	12,381	0,408
R2	NO, 5	27	14	800	0,7650E+00	0,2541E+02	0,4725E+00	0,4269E-01	17,752	0,431

DUANE MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	3	500	0,6427E+00	0,9050E+02	0,2362E+00	0,8508E-01	82,228	0,700
R1	NO, 2	21	7	760	0,5091E+00	0,1663E+02	0,2834E+00	0,4156E-01	35,060	0,07

DUANE MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	7	782	0,5524E+00	0,2309E+02	0,3075E+00	0,4362E-01	32,258	0,37
R3	NO, 2	20	11	767	0,5561E+00	0,1029E+02	0,3550E+00	0,1023E+00	25,462	0,160

TABLE 4.4 (Cont'd)

DUANE MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	10	760	0,6074E+00	0,1716E+02	0,3780E+00	0,8561E-01	30,116	0,196

DUANE MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	4	767	0,3481E+00	0,1429E+02	0,1519E+00	0,1246E+00	55,885	0,027
R3	NO, 2	20	6	782	0,4320E+00	0,1236E+02	0,2271E+00	0,1893E+00	51,248	5,729

DUANE MODEL
AIRBORNE
LASER XMTR/RCVR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	17	760	0,5400E+00	0,4001E+01	0,3804E+00	0,8444E-01	22,964	0,368
R1	NO, 2	21	10	500	0,6601E+00	0,1528E+02	0,4108E+00	0,7190E-01	31,184	0,219

TABLE 4.4 (Cont'd)

DUANE MODEL
AIRBORNE
LASER XMTR/RCVR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	14	782	0,5255E+00	0,5155E+01	0,3555E+00	0,2034E+00	27,630	0,24
R3	NO, 2	20	15	767	0,4692E+00	0,2388E+01	0,3222E+00	0,8878E-01	20,634	0,05

DUANE MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	5	711	0,2546E+01	0,3778E+03	0,1239E+01	0,1719E+00	45,637	1,08
R1	NO, 2	23	5	785	0,1397E+01	0,248:E+03	0,4879E+00	0,1357E+00	44,329	9,62
R1	NO, 3	23	8	536	0,2087E+01	0,1979E+03	0,10:7E+01	0,4789E-01	38,648	2,87

DUANE MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	65	2500	0,5206E+00	0,8233E+00	0,4397E+00	0,16:5E+00	13,259	0,02

TABLE 1.4 (Cont'd)

DUANE MODEL
AIRBORNE
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	103	798	0,5368E+00	0,1420E+00	0,4653E+00	0,5025E+00	18,988	0,125
R2	NO, 2	27	127	1097	0,6152E+00	0,4173E+00	0,5418E+00	0,3751E+00	14,589	0,141
R2	NO, 3	27	65	399	0,5483E+00	0,1972E+00	0,4554E+00	0,6722E+00	23,697	0,422
R2	NO, 4	25	347	1192	0,6152E+00	0,8851E-01	0,5716E+00	0,3981E+00	10,174	0,060
R2	NO, 5	27	316	2500	0,6990E+00	0,6639E+00	0,6470E+00	0,1458E+00	6,482	0,030
R2	NO, 6	25	371	3981	0,9267E+00	0,6721E+01	0,8632E+00	0,3756E+01	20,566	1,295

DUANE MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	27	760	0,4521E+00	0,5183E+00	0,3448E+00	0,6238E-01	18,207	0,025
R1	NO, 2	21	19	500	0,6286E+00	0,4621E+01	0,4242E+00	0,5857E-01	14,391	0,115

DUANE MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	17	767	0,5269E+00	0,3544E+01	0,3712E+00	0,6920E-01	20,557	0,048
R3	NO, 2	20	17	782	0,5151E+00	0,3196E+01	0,3629E+00	0,2094E+00	27,446	0,184

TABLE 4.4 (Cont'd)

DUANE MODEL
AIRBURNE
SYSTEM-INFRARED
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	17	536	0,1269E+01	0,5746E+02	0,8312E+00	0,2330E+00	30,776	0,844
R1	NO, 2	23	11	785	0,8859E+00	0,5240E+02	0,5012E+00	0,2471E+00	30,826	2,159
R1	NO, 3	23	5	521	0,1668E+01	0,1985E+03	0,5823E+00	0,7828E-01	59,181	27,805
R1	NO, 4	23	9	711	0,2088E+01	0,2483E+03	0,1081E+01	0,4844E-01	36,773	11,888

T A B L E 4.4 (Cont'd)
D U A N E M O D E L
A I R B O R N E
S Y S T E M - I N F R A R E D
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	24	3	227	0,1523E+01	0,1103E+03	0,5596E+00	0,1190E+00	65,395	28,268
R3	NO, 2	24	3	344	0,8545E+00	0,9511E+02	0,3140E+00	0,8733E-01	70,232	6,582
R3	NO, 3	24	3	789	0,5173E+00	0,9437E+02	0,1901E+00	0,1034E+00	72,626	1,277
R3	NO, 4	24	4	411	0,1319E+01	0,1437E+03	0,5759E+00	0,8041E-01	54,768	45,863
R3	NO, 5	24	3	433	0,1598E+01	0,2178E+03	0,5873E+00	0,1097E+00	65,903	71,869
R3	NO, 6	24	3	472	0,9026E+00	0,1397E+03	0,3316E+00	0,1025E+00	67,747	13,316
R3	NO, 7	24	8	1056	0,6122E+00	0,3537E+02	0,3565E+00	0,3973E-01	30,321	0,159
R3	NO, 8	24	3	324	0,1398E+01	0,1476E+03	0,5136E+00	0,1042E+00	68,533	8,528
R3	NO, 9	24	3	440	0,4901E+00	0,4677E+02	0,1801E+00	0,1594E+00	69,681	1,089
R3	NO,10	24	4	519	0,9761E+00	0,1254E+03	0,4261E+00	0,1948E+00	164,596	1,392
R3	NO,11	24	4	349	0,8459E+00	0,6777E+02	0,3692E+00	0,4889E-01	74,719	0,924
R3	NO,12	24	3	255	0,1660E+01	0,1315E+03	0,6098E+00	0,8978E-01	66,032	16,040
R3	NO,13	24	3	390	0,8599E+00	0,1087E+03	0,3159E+00	0,1318E+00	69,109	18,376
R3	NO,14	24	4	563	0,1010E+01	0,1427E+03	0,4409E+00	0,5619E-01	57,527	5,814
R3	NO,15	24	3	307	0,4456E+00	0,2609E+02	0,1637E+00	0,1676E+00	69,345	2,698
R3	NO,16	24	3	345	0,8151E+00	0,8963E+02	0,2995E+00	0,1224E+00	76,033	6,54
R3	NO,17	24	3	705	0,1278E+01	0,2984E+03	0,4694E+00	0,1345E+00	70,116	7,61
R3	NO,18	24	4	448	0,5889E+00	0,4255E+02	0,2570E+00	0,5886E-01	68,016	0,13
R3	NO,19	24	4	529	0,9255E+00	0,1183E+03	0,4040E+00	0,4556E-01	54,890	5,32
R3	NO,20	24	4	354	0,1170E+01	0,1083E+03	0,5108E+00	0,1065E+00	53,246	22,89

TABLE 4.4 (Cont'd)
DUANE MODEL
AIRBORNE
SYSTEM-INFRARED
FIELD
(CONTINUED)

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO,21	24	4	'71	0,7329E+00	0,1012E+03	0,3199E+00	0,1465E+00	54,898	1,53
R3	NO,22	24	3	314	0,6311E+00	0,5506E+02	0,2319E+00	0,9101E-01	64,774	10,47
R3	NO,23	24	4	378	0,1569E+01	0,1563E+03	0,6850E+00	0,6324E-01	53,286	36,35
R3	NO,24	24	4	385	0,6000E+00	0,3819E+02	0,2619E+00	0,5961E-01	57,160	0,34
R3	NO,25	24	3	477	0,8239E+00	0,1257E+03	0,3027E+00	0,8507E-01	83,072	2,09
R3	NO,26	24	3	393	0,5328E+00	0,5000E+02	0,1958E+00	0,1656E+00	74,420	0,33

DUANE MODEL
AIRBORNE
SYSTEM=VISUAL SCAN
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	22	29	766	0,6521E+00	0,4383E+01	0,4828E+00	0,2534E+00	13,456	0,26
R2	NO, 2	22	41	549	0,8310E+00	0,6293E+01	0,6514E+00	0,6209E-01	13,468	0,32

TABLE 4.4 Cont'd

IBM MODEL
AIRBORNE
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	25	6	1584	0,3490E-02	0,5960E-07	0,1000E+00		19,773	1,56
R2	NO, 2	27	29	1400	0,2217E-01	0,1805E+01	0,7785E-07		45,885	1,72
R2	NO, 3	27	8	400	0,3324E-01	0,5831E+01	0,3543E-06		37,190	2,43
R2	NO, 4	27	21	1200	0,1037E-01	0,1117E+02	0,7259E-02		4,228	0,01

IBM MODEL
AIRBORNE
RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	162	4988	0,4002E-01	0,4823E+03	0,5960E-07		35,725	2,01
R2	NO, 2	27	43	1000	0,1114E-01	0,3135E+02	0,7735E-02		4,096	0,00
R2	NO, 3	25	382	2176	0,9423E-01	0,2130E+03	0,3465E-02		7,587	0,01
R2	NO, 4	25	315	3984	0,9246E-01	0,5960E-07	0,5324E+00		14,787	1,23
R2	NO, 5	27	27	400	0,3725E-08	0,2974E+02	0,7383E-02		6,949	0,08
R2	NO, 6	27	42	1300	0,8150E-02	0,3102E+02	0,6248E-02		3,478	0,00

TABLE 4.4 (Cont'd)

IBM MODEL
AIRBORNE
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 2	27	8	400	0,1792E-01	0,1589E+01	0,3562E+01		16,641	0,50
R2	NO, 4	27	13	800	0,1424E-01	0,2364E+01	0,3472E+01		17,481	0,26
R2	NO, 5	27	63	4996	0,1456E-01	0,2111E+01	0,5960E-07		17,045	1,39
R2	NO, 6	25	11	1200	0,1145E-01	0,1293E+00	0,2244E-04		100,652	2,02

IBM MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	5	536	0,1610E-01	0,8690E-01	0,5215E-07		11,259	1,60
R1	NO, 4	21	9	500	0,2328E-09	0,8908E+01	0,8072E-02		8,040	0,02
R1	NO, 5	21	10	760	0,2369E-01	0,1410E+00	0,6153E-07		272,903	3,23

TABLE 4.4 (Cont'd)

IBM MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 2	27	77	3994	0,1876E-01	0,5960E-07	0,8217E+03		49,281	1,0
R2	NO, 3	27	12	400	0,2953E-01	0,1086E+01	0,1682E+01		11,209	2,1
R2	NO, 4	27	27	1-00	0,2064E-01	0,1134E+00	0,1543E-05		28,854	1,8
R2	NO, 5	27	14	600	0,2083E-01	0,1257E+00	0,4248E-05		43,886	2,1

IBM MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 2	21	7	760	0,.250E-01	0,1245E+00	0,6862E-07	-	286,445	2,5

IBM MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	7	782	0,1452E-01	0,1788E-06	0,1923E-06		138,997	2,4
R3	NO, 2	20	11	767	0,1408E-02	0,9548E+01	0,6661E-02		20,508	0,0

TABLE 4.4 (Cont'd)

I B M   M O D E L
A I R B O R N E
L A S E R   R E C E I V E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	10	760	0,1865E-01	0,2279E+01	0,1155E-06		126,718	1,6

I B M   M O D E L
A I R B O R N E
L A S E R   R E C E I V E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	4	767	0,6131E-02	0,4602E+00	0,7221E+01		157,302	0,3
R3	NO, 2	20	6	782	0,3235E-01	0,5087E+00	0,2901E-06		34,014	1,6

I B M   M O D E L
A I R B O R N E
L A S E R   X M T R / R C V R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	17	760	0,3010E-01	0,2615E+00	0,2008E-05		193,259	1,8
R1	NO, 2	21	10	500	0,2273E-01	0,1272E+01	0,2729E+00		7,943	0,0

I B M   M O D E L
A I R B O R N E
L A S E R   X M T R / R C V R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	14	782	0,2643E-01	0,5087E-02	0,1039E-02		123,885	2,8
R3	NO, 2	20	15	767	0,2393E-01	0,2540E+00	0,2248E-04		352,388	2,8

TABLE 4.4 (Cont'd)

IBM MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	5	711	0,6417E-02	0,5960E-07	0,1000E+00		27,413	1,66
R1	NO, 2	23	5	785	0,6618E-02	0,1753E+00	0,1000E+00		16,927	1,62
R1	NO, 3	25	8	536	0,1294E-01	0,5960E-07	0,1000E+00		15,434	1,40

IBM MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	65	2500	0,2297E-01	0,1743E+02	0,1525E-01		4,700	0,00

IBM MODEL
AIRBORNE
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	103	798	0,6225E-01	0,5570E+02	0,1016E-01		3,555	0,00
R2	NO, 2	27	127	1097	0,4964E-01	0,7079E+02	0,4715E-02		1,947	0,00
R2	NO, 3	27	65	399	0,2513E+00	0,1397E+02	0,3015E-06		66,764	2,51
R2	NO, 4	25	347	1192	0,1930E+00	0,1260E+03	0,6601E-02		2,374	0,00
R2	NO, 5	27	316	2500	0,1196E+00	0,4061E+02	0,1239E-01		3,820	0,01
R2	NO, 6	25	371	3981	0,1131E+00	0,5960E-07	0,4664E+00		14,162	1,16

T A B L E 4.4 (Cont'd)
I B M M O D E L
A I R B O R N E
S Y S T E M - L A S E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	27	760	0,5114E-01	0,3343E+00	0,1988E-04		312,782	2,23
R1	NO, 2	21	19	500	0,4936E-01	0,2822E+01	0,2470E-06		84,117	2,11

I B M M O D E L
A I R B O R N E
S Y S T E M - L A S E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	17	767	0,2419E-01	0,5602E-01	0,2013E-06		306,990	2,44
R3	NO, 2	20	17	782	0,3132E-01	0,3286E-01	0,2814E-06		132,819	2,84

I B M M O D E L
A I R B O R N E
S Y S T E M - I N F R A R E D
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	17	536	0,3305E-01	0,5960E-07	0,1000E+00		20.105	1,1[illegible]

TABLE 4.4 (Cont'd)

I B M   M O D E L
A I R B O R N E
S Y S T E M - I N F R A R E D
F I E L D

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 4	24	4	411	0,9204E-02	0,4406E+00	0,4496E+00		11,352	2,101
R3	NO, 7	24	8	1056	0,9611E-02	0,1550E+01	0,2881E-06		143,409	2,367
R3	NO,10	24	4	519	0,7345E-02	0,5960E-07	0,4670E+00		188,242	1,704
R3	NO,11	24	4	349	0,8772E-02	0,1000E+01	0,1352E+00		2,230	0,008
R3	NO,14	24	4	563	0,7177E-02	0,5803E+00	0,2018E+01		7,078	0,246
R3	NO,18	24	4	448	0,4742E-02	0,1800E+01	0,2064E-01		6,883	0,026
R3	NO,19	24	4	529	0,8250E-02	0,5818E+00	0,6742E+00		3,055	0,041
R3	NO,20	24	4	354	0,1414E-01	0,6687E+02	0,6240E-07		13,665	1,561
R3	NO,21	24	4	671	0,7870E-02	0,4081E+00	0,3530E-06		83,685	3,319
R3	NO,23	24	4	378	0,1183E-01	0,5960E-07	0,1079E+03		14,755	1,972
R3	NO,24	24	4	385	0,1371E-01	0,1168E+03	0,6029E-07		226,571	3,187

I B M   M O D E L
A I R B O R N E
S Y S T E M - V I S U A L   S C A N
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	22	29	766	0,5310E-01	0,2119E+00	0,4723E-06		56,109	1,546
R2	NO, 2	22	41	549	0,7882E-01	0,1683E+00	0,1502E-04		32,674	1,722

TABLE 4.4 (Cont'd)

EXPONENTIAL MODEL
AIRBORNE
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	25	6	1584	0,3545E+03	0,1000E+00	0,1000E+00		30,562	1,25
R2	NO, 2	27	29	1400	0,5193E+02	0,7181E+00	0,1733E-02		5,938	0,03
72	NO, 4	27	21	1200	0,1931E+03	0,9409E+00	0,2190E-03		4,661	0,01
R2	NO, 5	27	52	6000	0,7429E+02	0,9053E+00	0,3421E-02		19,038	0,31

EXPONENTIAL MODEL
AIRBORNE
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	13	1100	0,5938E+02	0,3725E-08	0,3812E-01		11,497	1,09
R2	NO, 3	25	50	3992	0,5130E+02	0,1000E+00	0,1535E+02		12,919	1,02
R2	NO, 4	27	13	800	0,3944E+03	0,9482E+00	0,1505E-03		5,029	0,02
R2	NO, 5	27	63	4996	0,6544E+02	0,6572E+00	0,3371E-02		8,408	0,30
R2	NO, 6	25	11	1200	0,1181E+03	0,8580E-00	0,1591E-02		10,350	0,05

TABLE 4.4 (Cont'd)

EXPONENTIAL MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 2	27	77	3994	0,5413E+02	0,9595E+00	0,4524E-02		6,828	0,06
R2	NO, 1	27	12	400	0,2675E+02	0,5960E-07	0,5708E-01		8,851	1.103
R2	NO, 4	27	27	1400	0,4026E+02	0,1118E-07	0,5219E-01		21,264	1,041
R2	NO, 5	27	14	800	0,1742E+03	0,8715E+00	0,3244E-03		2,730	0,011

EXPONENTIAL MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 2	21	7	760	0,1192E+03	0,9534E+00	0,2269E-02		8,370	0,008

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EXPONENTIAL MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	7	782	0,1192E+03	0,8929E+00	0,1859E-02		15,625	0,05
R3	NO, 2	20	11	767	0,7755E+03	0,9846E+00	0,1051E-03		18,069	0,03

TABLE 4.4 (Cont'd)

EXPONENTIAL MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	10	760	0,5842E+02	0,9295E+00	0,6325E-02		12,028	0,08

EXPONENTIAL MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	4	767	0,6993E+03	0,9950E+00	0,4037E-03		7,486	0,0
R3	NO, 2	20	6	782	0,2633E+02	0,8240E+02	0,4077E+02		24,448	1,25

EXPONENTIAL MODEL
AIRBORNE
LASER XMTR/RCVR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 2	20	15	767	0,1152E+03	0,9640E+00	0,7464E-03		15,090	0,01

EXPONENTIAL MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	5	711	0,2008E+03	0,1000E+00	0,1000E+00		39,031	1,33

TABLE 4.4 (Cont'd)

EXPONENTIAL MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R2	NO, 1	27	65	2500	0,3358E+02	0,9083E+00	0,1203E-02		5,869	0,

EXPONENTIAL MODEL
AIRBORNE
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R2	NO, 5	27	316	2500	0,6481E+01	0,7392E+00	0,1716E-02		10,534	0,
R2	NO, 6	25	371	3981	0,9695E+01	0,1735E+03	0,7893E+02		16,225	1.

EXPONENTIAL MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	HBAR	R
R1	NO, 1	21	27	760	0,2802E+02	0,9524E+00	0,2608E-02		7,130	0,
R1	NO, 2	21	19	500	0,3064E+02	0,8225E+00	0,2798E-02		8,239	0.

EXPONENTIAL MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R3	NO, 1	20	17	767	0,6773E+02	0,9487E+00	0,1525E-02		12,151	0

TABLE 4.4 (Cont'd)

EXPONENTIAL MODEL
AIRBORNE
SYSTEM-INFRARED
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	17	536	0,3700E+02	0,3135E+02	0,3678E+01		32,100	1,0
R1	NO, 2	23	11	785	0,5264E+02	0,1000E+00	0,1469E+03		18,657	1,1

EXPONENTIAL MODEL
AIRBORNE
SYSTEM-INFRARED
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 7	24	8	1056	0,1558E+03	0,9047E+00	0,1465E-02		6,498	0,0
R3	NO,10	24	4	519	0,1457E+03	0,2647E+01	0,6456E-01		12,197	0,2
R3	NO,11	24	4	349	0,9001E+02	0,9466E+00	0,8264E-02		2,093	0,0
R3	NO,14	24	4	563	0,1260E+03	0,7642E+00	0,6222E-02		6,700	0,2
R3	NO,18	24	4	448	0,1151E+03	0,1009E+01	0,6347E-02		18,597	0,0
R3	NO,19	24	4	529	0,1072E+03	0,7952E+00	0,7862E-02		2,657	0,0
R3	NO,20	24	4	354	0,7000E+02	0,4751E+02	0,1000E+00		11,610	1,4
R3	NO,23	24	4	378	0,9100E+02	0,1000E+00	0,3724E+03		12,055	1,[illegible]
R3	NO,24	24	4	385	0,1277E+03	0,9445E+00	0,3031E-02		7,381	0,0

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EXPONENTIAL MODEL
AIRBORNE
SYSTEM-VISUAL SCAN
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	22	29	766	0,1814E+02	0,8196E+00	0,1072E-01		7,958	0,[illegible]
R2	NO, 2	22	41	549	0,1814E+02	0,6394E+00	0,1668E-02		9,610	0,[illegible]

TABLE 4.4 (Cont'd)

LLOYD- LIPOW MODEL
AIRBORNE
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	25	6	1584	-,4012E+02	-,3772E+06			20,559	0,32[illegible]
R2	NO, 2	27	29	1400	0,3993E+02	0,7155E+03			28,317	0,63[illegible]
R2	NO, 3	27	8	400	0,2747E+02	0,2220E+03			17,090	0,83[illegible]
R2	NO, 4	27	21	1200	0,2728E+02	0,3379E+03			38,012	0,77[illegible]
R2	NO, 5	27	52	6000	0,7523E+02	0,3438E+04			26,735	0,41[illegible]

LLOYD- LIPOW MODEL
AIRBORNE
RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	162	4988	0,2051E+02	0,1928E+03			19,929	0,91[illegible]
R2	NO, 2	27	43	1000	0,9757E+01	0,5387E+02			49,546	0,90[illegible]
R2	NO, 3	25	382	2176	0,2357E+01	0,4265F+01			48,997	0,94[illegible]
R2	NO, 4	25	315	3984	0,1174E+02	-,6967E+03			15,137	0,69[illegible]
R2	NO, 5	27	27	400	0,7558E+01	0,1910E+02			16,948	0,93[illegible]
R2	NO, 6	27	42	1300	0,1245E+02	0,8613E+02			52,597	0,90[illegible]

TABLE 4.4 Cont'd)

LLOYD- LIPOW MODEL
AIRBORNE
DISPLAY
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	13	1100	0,6355E+02	0,8442E+03			10,161	0,8
R2	NO, 2	27	8	400	0,3792E+02	0,4674E+03			20,187	0,7
R2	NO, 3	25	50	3992	0,4942E+02	-,1464E+04			11,027	0,8
R2	NO, 4	27	13	800	0,4448E+02	0,7814E+03			29,452	0,70
R2	NO, 5	27	63	4996	0,6519E+02	0,1665E+04			11,355	0,5
R2	NO, 6	25	11	1200	0,7739E+02	0,1899E+04			43,514	0,4

LLOYD- LIPOW MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	5	536	0,2825E+02	-,7350E+04			15,839	0,6
R1	NO, 2	23	3	785	0,1065E+03	0,1092E+04			0,048	0,0
R1	NO, 3	23	3	521	0,1689E+03	0,6360E+04			10,948	1,0
R1	NO, 4	21	9	500	0,3341E+02	0,3960E+03			38,447	0,8
R1	NO, 5	21	10	760	0,2698E+02	0,1836E+03			81,733	0,7

TABLE 4.4 (Cont'd)
LLOYD- LIPOW MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	26	3	407	0,8454E+02	0,2229E+04			27,340	0,7
R2	NO, 2	27	77	3994	0,5310E+02	0,5927E+03			29,028	0,4
R2	NO, 3	27	12	400	0,2823E+02	0,1304E+03			8,240	0,8
R2	NO, 4	27	27	1400	0,4361E+02	0,7338E+03			18,627	0,7
R2	NO, 5	27	14	800	0,4281F+02	0,6797E+03			20,134	0,6

LLOYD- LIPOW MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	3	500	0,1177E+03	0,1632E+04			6,403	0,0
R1	NO, 2	21	7	760	0,6479E+02	0,7218E+03			98,138	0,5

LLOYD- LIPOW MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	7	782	0,5505E+02	0,4952E+03			37,150	0,6
R3	NO, 2	20	11	767	0,3584E+02	0,2063E+03			48,793	0,8

TABLE 4.4 (Cont'd)

LLOYD- LIPOW MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R[illegible]
R1	NO, 1	21	10	760	0,4990E+02	0,5216E+03			52,570	0,[illegible]

LLOYD- LIPOW MODEL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R[illegible]
R3	NO, 1	20	4	767	0,9842E+02	0,6891E+03			320,260	0,[illegible]
R3	NO, 2	20	6	782	0,3069E+02	0,2287E+03			21,363	0,[illegible]

LLOYD- LIPOW MODEL
AIRBORNE
LASER XMTR/RCVR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R[illegible]
R1	NO, 1	21	17	760	0,2733E+02	0,1778E+03			88,303	0,[illegible]
R1	NO, 2	21	10	500	0,3435E+02	0,1734E+03			41,543	0,[illegible]

TABLE (Cont'd)

LLOYD- LIPOW MODEL
AIRBORNE
LASER XMTR/RCVR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	14	782	0,2605E+02	0,2317E+03			44,052	0,833
R3	NO, 2	20	15	767	0,2452E+02	0,9126E+02			106,781	0,824

LLOYD- LIPOW MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	5	711	-,2324E+03	-,2046E+06			25,436	0,326
R1	NO, 2	23	5	785	0,1146E+03	-,1212E+05			12,712	0,812
R1	NO, 3	23	8	536	0,3538E+02	-,1731E+05			17,557	0,533

LLOYD- LIPOW MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	65	2500	0,2036E+02	0,1705E+03			85,868	0,78

TABLE 4.4 (Cont'd)

LLOYD- LIPOW MODEL
AIRBORNE
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	103	798	0,3749E+01	0,9260E+01			45,169	0,91
R2	NO, 2	27	127	1097	0,5033E+01	0,1634E+02			33,223	0,90
R2	NO, 3	27	65	399	0,2876E+01	0,4326E+01			28,526	0,92
R2	NO, 4	25	347	1192	0,2025E+01	0,3183E+01			39,450	0,92
R2	NO, 5	27	316	2500	0,5645E+01	0,2028E+02			36,490	0,84
R2	NO, 6	25	371	3981	0,9243E+01	-,8033E+03			13,800	0,58

LLOYD- LIPOW MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	27	760	0,1343E+02	0,4172E+02			132,175	0,71
R1	NO, 2	21	19	500	0,1651E+02	0,8371E+02			35,575	0,56

LLOYD- LIPOW MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	17	767	0,2669E+02	0,1011E+03			109,543	0,76
R3	NO, 2	20	17	782	0,2163E+02	0,2032E+03			50,533	0,84

TABLE 4.4 Cont'd
L L O Y D - L I P O W   M O D E L
A I R B O R N E
S Y S T E M - I N F R A R E D
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	FBAR	
R1	NO, 1	23	17	536	0,5775E+01	-,6889E+04			32,368	0
R1	NO, 2	23	11	785	0,4496E+02	-,1660E+04			16,578	0
R1	NO, 3	23	5	521	0,1047E+03	-,1650E+04			14,027	1
R1	NO, 4	23	9	711	0,7034E+02	-,1528E+05			10,730	0

TABLE 4.4 (Cont'd)
LLOYD- LIPOW MODEL
AIRBORNE
SYSTEM-INFRARED
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	24	3	227	0,3106E+02	-,3899E+04			8,058	0,4
R3	NO, 2	24	3	344	0,8643E+02	0,1810E+04			2,147	0,0
R3	NO, 3	24	3	789	0,1283E+03	0,1890E+04			9,951	0,1
R3	NO, 4	24	4	411	0,9197E+02	0,7309E+03			10,528	1,4
R3	NO, 5	24	3	433	0,8761E+02	-,8876E+04			4,651	0,3
R3	NO, 6	24	3	472	0,1125E+03	0,3061E+04			12,122	0,8
R3	NO, 7	24	8	1056	0,8721E+02	0,1807E+04			51,924	0,5
R3	NO, 8	24	3	324	-,6699E+02	-,2467E+05			4,776	0,0
R3	NO, 9	24	3	440	0,7952E+02	0,1511E+04			55,978	0,4
R3	NO,10	24	4	519	0,1515E+03	0,2280E+04			12,836	0,2
R3	NO,11	24	4	349	0,7854E+02	0,9743E+03			13,828	0,1
R3	NO,12	24	3	255	0,1684E+02	-,8411E+04			10,404	0,4
R3	NO,13	24	3	390	0,2071E+02	-,5631E+04			12,661	0,6
R3	NO,14	24	4	563	0,1253E+03	0,4017E+04			9,045	0,2
R3	NO,15	24	3	307	0,4019E+02	0,4565E+03			38,038	0,3
R3	NO,16	24	3	345	-,1495E+03	-,2103E+05			13,679	0,2
R3	NO,17	24	3	705	-,1493E+03	-,1067E+06			15,522	0,4
R3	NO,18	24	4	448	0,8948E+02	0,9161E+03			103,874	0,5
R3	NO,19	24	4	529	0,1078E+03	0,2953E+04			4,541	0,0
R3	NO,20	24	4	354	0,7342E+02	0,6017E+03			11,465	1,3

TABLE 4.4 (Cont'd)

L L O Y D - L I P O W   M O D E L
A I R B O R N E
S Y S T E M - I N F R A R E D
F I E L D
(C O N T I N U E D)

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO,21	24	4	671	0,1211E+03	0,4669E+04			36,147	0,84
R3	NO,22	24	3	314	0,5061E+02	0,6440E+03			4,194	0,06
R3	NO,23	24	4	378	0,7728E+02	-,2513E+04			10,246	1,02
R3	NO,24	24	4	385	0,6003E+02	0,4844E+03			36,393	0,58
R3	NO,25	24	3	477	0,1331E+03	0,3239E+04			1,327	0,00
R3	NO,26	24	3	393	0,1056E+03	0,2097E+04			77,101	0,33

L L O Y D - L I P O W   M O D E L
A I R B O R N E
S Y S T E M - V I S U A L   S C A N
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	22	29	766	0,1655E+02	0,5342E+02			27,943	0,57
R2	NO, 2	22	41	549	0,1135E+02	0,5999E+02			19,749	0,71

TABLE 4.4 (Cont'd)

A R O E F M O D E L
A I R B O R N E
A N T E N N A
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	25	6	1584	0,1277E+03	-,9178E+03			15,395	0,2
R2	NO, 2	27	29	1400	0,3855E+02	0,2328E+02			25,809	0,5
R2	NO, 3	27	8	400	0,2671E+02	0,8531E+01			15,156	0,8
R2	NO, 4	27	21	1200	0,2532E+02	0,1485E+02			31,730	0,7
R2	NO, 5	27	52	6000	0,7453E+02	0,8388E+02			21,558	0,3

A R O E F M O D E L
A I R B O R N E
R A D A R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	162	4983	0,1999E+02	0,1095E+02			18,807	0,9
R2	NO, 2	27	43	1000	0,8461E+01	0,5850E+01			36,972	0,9
R2	NO, 3	25	382	2176	0,2119E+01	0,2311E+01			41,701	0,9
R2	NO, 4	25	315	3984	0,1156E+02	-,4295E+02			14,915	1,1
R2	NO, 5	27	27	400	0,7295E+01	0,2174E+01			15,193	0,9
R2	NO, 6	27	42	1300	0,1068E+02	0,7525E+01			37,846	0,9

TABLE 4.4 (Cont'd)

A R O E F   M O D E L
A I R B O R N E
D I S P L A Y
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE[illegible]
R2	NO, 1	27	13	1100	0,6297[illegible]+02	0,1412E+02			9,788	0,[illegible]
R2	NO, 2	27	8	400	0,3688E+02	0,1396E+02			17,468	0,[illegible]
R2	NO, 3	25	50	3992	0,4[illegible]00E+02	-,2718[illegible]+02			10,854	0,[illegible]
R2	NO, 4	27	13	800	0,4248E+02	0,2102E+02			25,449	0,[illegible]
R2	NO, 5	27	63	4996	0,6497E+02	0,3435E+02			10,531	0,[illegible]
R2	NO, 6	25	11	1200	0,7374E+02	0,3900E+02			32,577	0,[illegible]

A R O E F   M O D E L
A I R B O R N E
C O M P U T E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE[illegible]
R1	NO, 1	23	5	536	0,4098E+02	-,8871E+02			13,763	0,[illegible]
R1	NO, 2	23	3	785	0,1067E+03	0,1106E+02			0,024	0,[illegible]
R1	NO, 3	23	3	521	0,1680E+03	0,4284E+02			10,531	0,[illegible]
R1	NO, 4	21	9	500	0,3058E+02	0,1376E+02			28,281	0,[illegible]
R1	NO, 5	21	10	760	0,2274E+02	0,1126E+02			46,945	0,[illegible]

TABLE 4.4 (Cont'd)

AROEF MODEL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R2	NO, 1	26	3	407	0,8291E+02	0,3625E+02			24,248	0,
R2	NO, 2	27	77	3994	0,5192E+02	0,2451E+02			18,475	0,
R2	NO, 3	27	12	400	0,2804E+02	0,4632E+01			8,002	0,
R2	NO, 4	27	27	1400	0,4269E+02	0,1829E+02			17,745	0,
R2	NO, 5	27	14	900	0,4195E+02	0,1946E+02			17,109	0,

AROEF MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R1	NO, 1	21	3	500	0,1258E+03	0,3303E+02			4,304	0
R1	NO, 2	21	7	760	0,5774E+02	0,2268E+02			50,560	0

AROEF MODEL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R3	NO, 1	20	7	782	0,5397E+02	0,1762E+02			25,197	0
R3	NO, 2	20	11	767	0,3318E+02	0,1091E+02			32,440	0

TABLE 4.4 (Cont'd)

A R O E F   M O D E L
A I R B O R N E
L A S E R   R E C E I V E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR
R1	NO, 1	21	10	760	0,4816E+02	0,2023E+02			32,503

A R O E F   M O D E L
A I R B O R N E
L A S E R   R E C E I V E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR
R3	NO, 1	20	4	767	0,5977E+02	0,1679E+02			88,338
R3	NO, 2	20	6	782	0,2982E+02	0,8416E+01			19,740

A R O E F   M O D E L
A I R B O R N E
L A S E R   X M T R / R C V R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR
R1	NO, 1	21	17	760	0,2404E+02	0,1235E+02			56,456
R1	NO, 2	21	10	500	0,3391E+02	0,1082E+02			25,949

TABLE 4.4 (Cont'd)

AROEF MODEL
AIRBORNE
LASER XMTR/RCVR
IN-HOUSE

		SYSNO	NO.FAIL	HOURS	P1	P2	P3	P4	RBAR	
R3	NO. 1	20	14	782	0.2364E+02	0.1160E+02			31.415	0.
R3	NO. 2	20	15	767	0.2006E+02	0.7626E+01			53.872	0.

TABLE 4.4 (Cont'd)
AROEF MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R1	NO, 1	23	5	711	0,2676E+02	-,9102E+03			17,326	0
R1	NO, 2	23	5	785	0,1177E+03	-,7729E+02			12,566	0
R1	NO, 3	23	8	536	0,5290E+02	-,1550E+03			15,226	0

AROEF MODEL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R2	NO, 1	27	65	2500	0,1713E+02	0,1341E+02			64,902	0

AROEF MODEL
AIRBORNE
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R2	NO, 1	27	103	798	0,3376E+01	0,2736E+01			37,765	0
R2	NO, 2	27	127	1097	0,4718E+01	0,3586E+01			29,524	0
R2	NO, 3	27	65	399	0,2708E+01	0,1484E+01			25,260	0
R2	NO, 4	25	347	1192	0,1876E+01	0,1925E+01			35,443	0
R2	NO, 5	27	316	2500	0,5310E+01	0,5368E+01			33,955	0
R2	NO, 6	25	371	3981	0,9197E+01	-,5555E+02			14,139	1

TABLE 4.4 (Cont'd)

AROEF MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R1	NO, 1	21	27	760	0,1055E+02	0,5952E+01			79,665	0,
R1	NO, 2	21	19	500	0,1593E+02	0,8150E+01			26,637	0,

AROEF MODEL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R3	NO, 1	20	17	767	0,2220E+02	0,8085E+01			59,711	0
R3	NO, 2	20	17	782	0,1688E+02	0,1066E+02			36,524	0

AROEF MODEL
AIRBORNE
SYSTEM-INFRARED
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R1	NO, 1	23	17	536	0,1887E+02	-,1279E+03			23,146	0
R1	NO, 2	23	11	785	0,4522E+03	-,2779E+02			15,830	0
R1	NO, 3	23	5	521	0,1037E+03	-,1416E+02			14,137	1
R1	NO, 4	23	9	711	0,7619E+02	-,1297E+03			11,508	0

TABLE 4.4 (Cont'd)
AROEF MODEL
AIRBORNE
SYSTEM-INFRARED
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R3	NO, 1	24	3	227	0,3923E+02	-,5642E+02			7,325	0,
R3	NO, 2	24	3	344	0,9192E+02	0,3386E+02			0,968	0,
R3	NO, 3	24	3	789	0,1361E+03	0,3534E+02			9,916	0,
R3	NO, 4	24	4	411	0,9111E+02	0,7594E+01			10,384	1,
R3	NO, 5	24	3	433	0,9390E+02	-,6660E+02			4,347	0,
R3	NO, 6	24	3	472	0,1144E+03	0,3648E+02			11,930	0,
R3	NO, 7	24	8	1056	0,8295E+02	0,3631E+02			31,768	0,
R3	NO, 8	24	3	324	0,1610E+02	-,2639E+03			1,980	0,
R3	NO, 9	24	3	440	0,7582E+02	0,3375E+02			36,464	0,
R3	NO,10	24	4	519	0,1571E+03	0,3777E+02			12,837	0,
R3	NO,11	24	4	349	0,8270E+02	0,2586E+02			9,625	0,
R3	NO,12	24	3	255	0,3514E+02	-,1060E+03			10,642	0,
R3	NO,13	24	3	390	0,3482E+02	-,7707E+02			11,514	0,
R3	NO,14	24	4	563	0,1293E+03	0,4674E+02			7,857	0,
R3	NO,15	24	3	307	0,4013E+02	0,1930E+02			30,163	0,
R3	NO,16	24	3	345	0,1736E+01	-,3490E+03			8,811	0,
R3	NO,17	24	3	705	0,3097E+02	-,5553E+03			12,350	0,
R3	NO,18	24	4	448	0,8055E+02	0,2316E+02			53,116	0,
R3	NO,19	24	4	529	0,1122E+03	0,4092E+02			3,647	0,
R3	NO,20	24	4	354	0,7241E+02	0,7992E+01			11,704	1,

TABLE 4.4 (Cont'd)

A R O E F   M O D E L
A I R B O R N E
S Y S T E M - I N F R A R E D
F I E L D
(C O N T I N U E D)

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R3	NO,21	24	4	671	0,1123E+03	0,4756E+02			27,900	0
R3	NO,22	24	3	314	0,5329E+02	0,1948E+02			2,900	0
R3	NO,23	24	4	378	0,7696E+02	-,2896E+02			10,496	1
R3	NO,24	24	4	385	0,5965E+02	0,1744E+02			22,723	C
R3	NO,25	24	3	477	0,1437E+03	0,4807E+02			0,016	0
R3	NO,26	24	3	393	0,9917E+02	0,4016E+02			41,938	0

A R O E F   M O D E L
A I R B O R N E
S Y S T E M - V I S U A L   S C A N
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR
R2	NO, 1	22	29	766	0,1624E+02	0,6124E+01			20,581
R2	NO, 2	22	41	549	0,1117E+02	0,6857E+01			18,812

TABLE 4.4 (Cont'd)

SIMPLE EXPONENTIAL
AIRBORNE
ANTENNA
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	25	6	1584	0,7144E+03	-,7251E-03			19,535	0,5
R2	NO, 2	27	29	1400	0,2104E+02	0,7516E-03			11,594	0,2
R2	NO, 3	27	8	400	0,1743E+02	0,2430E-02			4,390	0,0
R2	NO, 4	27	21	1200	0,1354E+02	0,1453E-02			6,833	0,0
R2	NO, 5	27	52	6000	0,3685E+02	0,2497E-03			35,232	0,8

SIMPLE EXPONENTIAL
AIRBORNE
RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	27	162	4988	0,1462E+02	0,1568E-03			6,571	0,1
R2	NO, 2	27	43	1000	0,4843E+01	0,1805E-02			7,929	0,0
R2	NO, 3	25	382	2176	0,1237E+01	0,9077E-03			14,150	0,2
R2	NO, 4	25	315	3984	0,1680E+02	-,1863E-03			12,396	0,4
R2	NO, 5	27	27	400	0,5296E+01	0,2385E-02			4,885	0,0
R2	NO, 6	27	42	1300	0,6003E+01	0,1472E-02			8,494	0,0

TABLE 4.4 (Cont'd)

S I M P L E   E X P O N E N T I A L
A I R B O R N E
D I S P L A Y
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R2	NO, 1	27	13	1100	0,5011E+02	0,3781E-03			7,773	0.
R2	NO, 2	27	8	400	0,2213E+02	0,2060E-02			3,321	0.
R2	NO, 3	25	50	3992	0,5370E+02	-,3861E-04			12,072	0.
R2	NO, 4	27	13	800	0,2314E+02	0,1358E-02			5,691	0.
R2	NO, 5	27	63	4996	0,4975E+02	0,9812E-04			10,145	0.
R2	NO, 6	25	11	1200	0,2731E+02	0,1456E-02			21,150	0.

S I M P L E   E X P O N E N T I A L
A I R B O R N E
C O M P U T E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R1	NO, 1	23	5	536	0,1077E+03	-,2291E-02			16,180	0.
R1	NO, 2	23	3	785	0,9229E+02	0,3778E-03			0,924	0.
R1	NO, 3	23	3	521	0,1070E+03	0,8579E-03			5,944	0.
R1	NO, 4	21	9	500	0,1602E+02	0,2595E-02			6,760	0.
R1	NO, 5	21	10	760	0,8080E+01	0,4028E-02			29,270	0.

TABLE 4.4 (Cont'd)

SIMPLE EXPONENTIAL
AIRBORNE
COMPUTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R2	NO, 1	26	3	407	0,3248E+02	0,3680E-02			12,364	0,
R2	NO, 2	27	77	3994	0,2898E+02	0,2258E-03			40,855	1,
R2	NO, 3	27	12	400	0,2302E+02	0,8219E-03			3,702	0,
R2	NO, 4	27	27	1400	0,2918E+02	0,4804E-03			6,623	0,
R2	NO, 5	27	14	800	0,2470E+02	0,1155E-02			5,099	0,

SIMPLE EXPONENTIAL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R1	NO, 1	21	3	500	0,1857E+02	0,5866E-02			32,714	0,
R1	NO, 2	21	7	760	0,1290E+02	0,3659E-02			32,903	0,

TABLE 4.4 (Cont'd)

SIMPLE EXPONENTIAL
AIRBORNE
LASER TRANSMITTER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R3	NO, 1	20	7	782	0,1964E+02	0,2928E-02			29,427	0.
R3	NO, 2	20	11	767	0,1494E+02	0,2303E-02			25,729	0.

SIMPLE EXPONENTIAL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R1	NO, 1	21	10	760	0,1376E+02	0,3238E-02			31,731	0,

SIMPLE EXPONENTIAL
AIRBORNE
LASER RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	R
R3	NO, 1	20	4	767	0,8095E+01	0,4480E-02			35,063	0.
R3	NO, 2	20	6	782	0,2002E+02	0,2628E-02			16,361	0.

TABLE 4.4 (Cont'd)

S I M P L E   E X P O N E N T I A L
A I R B O R N E
L A S E R   X M T R / R C V R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	21	17	760	0,6779E+01	0,3521E-02			34,147	0,7
R1	NO, 2	21	10	500	0,1012E+02	0,4665E-02			38,006	0,8

S I M P L E   E X P O N E N T I A L
A I R B O R N E
L A S E R   X M T R / R C V R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	14	782	0,1229E+02	0,2201E-02			13,370	0,0
R3	NO, 2	20	15	767	0,7025E+01	0,3090E-02			44,769	0,1

S I M P L E   E X P O N E N T I A L
A I R B O R N E
I N F R A R E D   R E C E I V E R
I N - H O U S E

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	5	711	0,9025E+03	-,3250E-02			22,776	0,4
R1	NO, 2	23	5	785	0,1618E+03	-,2197E-03			16,094	1,2
R1	NO, 3	23	8	536	0,1454E+03	-,1385E-02			15,960	0,7

TABLE 4.4 (Cont'd)

SIMPLE EXPONENTIAL
AIRBORNE
INFRARED RECEIVER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R2	NO, 1	27	65	2500	0,6645E+01	0,9951E-03			27,044	0

SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM-RADAR
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R2	NO, 1	27	103	798	0,1975E+01	0,2040E-02			8,294	0
R2	NO, 2	27	127	1097	0,2975E+01	0,1111E-02			5,248	0
R2	NO, 3	27	65	399	0,1808E+01	0,3312E-02			5,028	0
R2	NO, 4	25	347	1192	0,1128E+01	0,1138E-02			10,941	0
R2	NO, 5	27	316	2500	0,3074E+01	0,4945E-03			21,769	0
R2	NO, 6	25	371	3981	0,1312E+02	-,1747E-03			13,277	0

SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R1	NO, 1	21	27	760	0,3105E+01	0,4172E-02			41,249	0
R1	NO, 2	21	19	500	0,7472E+01	0,3098E-02			20,309	0

TABLE 4.4 (Cont'd)

SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM-LASER
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO, 1	20	17	767	0,7221E+01	0,2855E-02			42,785	0,1
R3	NO, 2	20	17	782	0,9762E+01	0,2289E-02			7,767	0,0

SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM-INFRARED
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R1	NO, 1	23	17	536	0,4616E+02	-,1118E-02			27,639	0,9
R1	NO, 2	23	11	785	0,5108E+02	0,4042E-04			17,829	1,1
R1	NO, 3	23	5	521	0,1072E+03	0,7252E-04			15,511	1,3
R1	NO, 4	23	9	711	0,1881E+03	-,1188E-02			8,682	0,2

TABLE 4.4 (Cont'd)
SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM-INFRARED
FIELD

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	
R3	NO, 1	24	3	227	0,9881E+02	-,3422E-02			10,045	0
R3	NO, 2	24	3	344	0,3319E+02	0,4068E-02			12,135	0
R3	NO, 3	24	3	789	0,1568E+02	0,6827E-02			18,864	0
R3	NO, 4	24	4	411	0,7689E+02	0,5532E-03			8,461	0
R3	NO, 5	24	3	433	0,1667E+03	-,1091E-02			6,669	0
R3	NO, 6	24	3	472	0,5717E+02	0,2222E-02			13,067	1
R3	NO, 7	24	8	1056	0,2731E+02	0,1830E-02			23,964	0
R3	NO, 8	24	3	324	0,4789E+03	-,1060E-01			5,140	0
R3	NO, 9	24	3	440	0,1636E+02	0,6543E-02			10,872	0
R3	NO,10	24	4	519	0,1753E+02	0,4962E-02			26,420	0
R3	NO,11	24	4	349	0,2004E+02	0,5041E-02			31,215	0
R3	NO,12	24	3	255	0,1973E+03	-,6581E-02			9,955	0
R3	NO,13	24	3	390	0,1131E+03	-,4122E-02			13,830	0
R3	NO,14	24	4	563	0,5949E+02	0,1731E-02			12,761	0
R3	NO,15	24	3	307	0,1007E+02	0,1152E-01			16,060	0
R3	NO,16	24	3	345	0,1569E+04	- 3284E-01			11,048	0
R3	NO,17	24	3	705	0,8487E+03	-,4792E-02			14,716	0
R3	NO,18	24	4	448	0,1198E+02	0,5863E-02			25,003	0
R3	NO,19	24	4	529	0,5127E+02	0,1973E-02			12,273	0
R3	NO,20	24	4	354	0,6133E+02	0,6031E-03			10,657	1

TABLE 4.4 (Cont'd)
SIMPLE EXPONENTIAL
GROUND SYSTEM
DISPLAY
FIELD
(CONTINUED)

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R3	NO,21	24	4	671	0,5013E+02	0,1794E-02			11,661	0,074
R3	NO,22	24	3	314	0,2155E+02	0,6013E-02			9,022	0,238
R3	NO,23	24	4	378	0,1178E+03	-,1227E-02			9,761	0,845
R3	NO,24	24	4	385	0,1469E+02	0,5782E-02			39,472	0,366
R3	NO,25	24	3	477	0,3221E+02	0,4106E-02			21,296	0,667
R3	NO,26	24	3	393	0,1571E+02	0,5930E-02			11,535	0,007

SIMPLE EXPONENTIAL
AIRBORNE
SYSTEM-VISUAL SCAN
IN-HOUSE

		SYSNO	NO,FAIL	HOURS	P1	P2	P3	P4	RBAR	RE
R2	NO, 1	22	29	766	0,8622E+01	0,1888E-02			26,263	0,611
R2	NO, 2	22	41	549	0,7372E+01	0,1315E-02			10,326	0,253