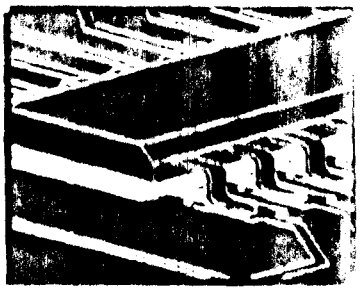

FMD-91

Failure Mode/Mechanism Distributions

1991

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Failure Mode/Mechanism Distributions

1991

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The intent of this document is to present failure mode distributions to be used in support of reliability analysis such as FMEAs and FMECAs when used in conjunction with accepted reliability prediction techniques such as MIL-HDBK-217 along with RACs Nonelectronic Parts Reliability Data (NPRD). The intent of these distributions is that they form a basis for a standard set of distributions to be used in the reliability engineering industry. The scope of this publication covers all electronic, mechanical and electromechanical parts or assemblies on which RAC has collected failure data.

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PREFACE

This document contains failure distribution data on a variety of electrical, mechanical, electromechanical and microwave parts and assemblies. This data was compiled from failure analysis reports, DoD maintenance data and published materials dealing with failure distributions. FMD-91 has been developed to assist in performance of reliability analyses such as Failure Mode, Effects and Criticality Analysis (FMECA).

This is the first document dealing exclusively with failure distributions published by the RAC. RAC plans to periodically update this book as new information is compiled. If RAC users maintain databases containing failure distributions or know of additional sources which present failure mode distributions, please contact the RAC technical inquiry hotline at (315) 337-9933.

The authors would like to express their sincere appreciation to those who contributed their time and effort to the preparation of this publication including Debbie Canning, Jill Race, Shirley Thomson, William Crowell, Jeanne Crowell and Pam Meus. Valuable technical assistance and direction was also provided by David Coit, Anthony Pettinato, Preston MacDiarmid and Steve Pemberton.

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1.0 BACKGROUND AND INTRODUCTION

A knowledge of part failure trends are necessary to successfully perform many reliability analysis techniques such as a Failure Mode, and Effects Analysis (FMEA). Quantification of the relative probability of occurrence for each potential failure mode or failure mode distribution, for a given part type is essential for the performance of a Failure Mode, Effects and Criticality Analysis (FMECA).

The intent of this document is to present failure distributions on parts and assemblies to be used in support of reliability analyses such as FMEAs and FMECAs. Data contained in this publication can be used to apportion an item's failure rate into modal elements by multiplying the failure rate by the percentage attributable to specific failure modes. The intent of these distributions is to provide a baseline set of probabilities to be used in the reliability engineering industry. These distributions will evolve as additional information is made available to the RAC.

The scope of this publication covers all electronic, mechanical and electromechanical parts or assemblies on which the RAC has collected failure mode data.

This document is organized into the following sections:

Section 1: Provides background on data collection, defines the data contained in Section 3, and presents a discussion allowing the user to accurately interpret the data.

Section 2: Presents a Users Guide to FMECA and explains how data contained in this document can support FMECAs.

Section 3: Presents the Failure Distribution Summary/Data Listings.

Section 4: Describes Data Sources used in this publication.

Part Index: The Part Index provides a comprehensive cross-reference to the data contained in Section 3. Each part category has been indexed on all pertinent words contained in the part description.

1.1 DATA COLLECTION

The data contained in this publication was collected from a variety of sources. All sources used are briefly described in Section 4. These sources can be grouped into the following major categories:

(1) Published Information. To aid in the RAC's data collection activities in support of this effort, a literature search was conducted which identified published sources presenting failure modes or failure mode distributions. Such sources are from periodicals, technical reports, and data compendiums.

(2) Maintenance Data. There are several government sponsored databases that were used in support of this publication. In these databases, a repair technician will typically record information regarding the cause of failure at the time the maintenance action was performed. The primary disadvantage of this data type is that the failure mode/mechanism can not be confirmed. Data of this type was only included when a reasonable degree of credibility existed in the source.

(3) Failure Analysis Reports. The RAC continually collects and analyzes failure mode/mechanism data from failure analysis activities. This data source is considered the most desirable because both the number of failures and the failure mode/mechanism can be confirmed.

The majority of information used in this document is from previously published reports. Maintenance data was the next most predominant followed by failure analysis reports. If the user would like to gain a more thorough understanding of the data sources used in this publication, Section 4 briefly summarizes all sources used. One particular problem in deriving the failure distributions in this document was the manner in which several data sources were merged together to yield a single distribution. Initial data analysis and summarization efforts included the use of various weighting schemes to rank the data in accordance with a combination of both the quality and quantity of data. While this methodology has merit, it was decided that individual data sources be weighted equally. The reasons for this approach are as follows:

1) A minimum degree of data quality and confidence must have been present in the data, otherwise it was discarded from the database. RAC only included that data for which there existed a reasonable degree of credibility. Therefore all data in this document meets a minimum level of confidence.

2) Many of the data sources exhibiting large quantities of part failures were deemed less credible than data sources with low numbers of part failures.

3) An adequate quantitative weighting scheme could not be developed. Quantity of failed parts could not be used because sources with large quantities of parts would overwhelm the data to the point that other sources would have no influence in the final distribution. Quantity of parts also could not be used for the reason cited in item #2 above.

1.2 DATA DEFINITIONS

The following discussion defines the variables contained in the data section (Section 3) and presents information allowing the user to better understand and interpret the data.

Section 3.0 of this publication contains failure distribution summaries. Figure 1-1 shows an example of "Diode, Rectifier" as shown in Section 3. The fields presented in this section are as follows:

- Part Description (Part Desc.)
- Failure Mode/Mechanism (Failure Mode/Mech)
- Normalized Distribution (Norm Dist.)
- Failure Distribution (Fail. Dist.)
- Number of Data Sources (Data Source(s))
- Failure Mode Details (Details)

Each one of these items is defined and discussed further in the following paragraphs to give a better understanding of how the data was categorized and summarized.

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Diode,Rectifier				Sources:4
	Shorted	54.9%	50.0%	Short (24994-000,20.0%) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:6) (25000-000,Qty:7) (25000-000,Qty:9), 1K ohm short (reverse) (25001-000,Qty:1), Hard Short (1 ohm) (25001-000,Qty:1), Short-Overstress (10722-000,Qty:2)
	Drift	31.9%	29.1%	Parameter Drift-General (25000-000,Qty:8) (25000-000,Qty:13) (25000-000,Qty:14), Parameter Drift-Insulation Res. (25000-000,Qty:6) (25000-000,Qty:6) (25000-000,Qty:6), Parameter Drift-Delta Ir (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:5) (25000-000,Qty:5) (25000-000,Qty:7) (25000-000,Qty:7) (25000-000,Qty:7) (25000-000,Qty:8) (25000-000,Qty:8) (25000-000,Qty:10) (25000-000,Qty:11) (25000-000,Qty:11) (25000-000,Qty:27) (25000-000,Qty:28) (25000-000,Qty:28) (25000-000,Qty:57), Parameter Drift-Delta R (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:6), Drift (24994-000,40.0%)
	Opened	9.5%	8.7%	Open (24994-000,20.0%) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2), Open-General (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:10) (25000-000,Qty:25), Open-Open Junction (25000-000,Qty:2)
	Corroded	2.3%	2.1%	Corrosion (25000-000,Qty:4) (25000-000,Qty:10) (25000-000,Qty:24)
	Intermittent Operation	0.6%	0.5%	Intermittent (25000-000,Qty:1) (25000-000,Qty:3), Intermittent-Noise (25000-000,Qty:6)
	Seal Failure	0.4%	0.4%	Leakage Seal (25000-000,Qty:1) (25000-000,Qty:3), Seal Leak (25000-000,Qty:3)
	Mechanical Damage	0.4%	0.3%	Mechanical Damage (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:3)
	Induced	------	8.3%	Severely Degraded (10722-000,Qty:1)
	Unknown	------	0.5%	Unknown (25000-000,Qty:3) (25000-000,Qty:6)

FIGURE 1-1: Data Format

PART DESCRIPTION

Data contained herein have been extracted from one or more individual data source. In cases where more than one source was utilized, the data was combined into a single listing of failure modes for each part type. The manner in which this combining occurred is presented in Section 1.4 "Data Summary Example." Since there can be several sources combined to derive a single distribution, the manner in which parts are described must be consistent between sources. Since these descriptions, as they are collected by the RAC, can vary significantly for a given part type, they were sometimes modified to insure commonality in part descriptions between sources so that data could be combined on similar part types in a consistent manner. Part descriptions were only changed when necessary to keep the intent and meaning of the original data source.

To obtain failure distributions for generic families of part types, special merges were performed on selected part types. For example, the summary for "Bearings" is a merge of all bearing data, regardless of specific type (i.e., ball, roller, sleeve). These summaries are contained within the data section and are denoted with the word ("Summary") next to the part description. For these entries, only the failure description and normalized failure distribution are presented since all data used in these summaries is presented below the summary level.

FAILURE MODE/MECHANISM

The Failure Mode/Mechanism field presents the categorized failure modes or mechanisms. For the purposes of this publication, a failure mode is defined as the observable consequence of failure where the failure mechanism is defined as the physical process which causes the failure. This field represents the failure modes as they were categorized by the RAC from the detailed failure description (presented in the Details field). During this classification process, the RAC reviewed all failure modes and mechanisms for a given part type and structured a generic list representative of all data sources.

NORMALIZED DISTRIBUTION

The Normalized Distribution is the Failure Distribution field (discussed in the next section) excluding the categories "Other" "Unknown" and "Induced." These percentages are included in the Failure Distribution field. (The category "Other" is defined and further discussed in the "Data Summary Example" section.)

Additionally, for some part types it may be preferable to normalize out the wearout failure causes when deriving modal failure rates for the performance of FMECAs. This is especially important if the source of failure rate data used is MIL-HDBK-217 since the failure rates derived from that document are typically representative of non-wearout type failures.

FAILURE DISTRIBUTION

The Failure Distribution Field represents a summary of the distribution of all categorized failure modes and mechanisms from all data sources for a particular part type. This distribution is representative of all categorized failure types, including "Other," "Unknown," and "Induced." This distribution was derived in the following manner:

1) Sources with known quantities of parts failing in a particular manner were converted to a percentage.

2) These percentages were combined with the other sources which had failure distributions reported by percentage alone.

As an example, consider the following illustration in TABLE 1-1.

TABLE 1-1: Example of Combining Data

	Source 1	Source 2	Source 3
Failure 1	60%	20%	Qty: 12
Failure 2	30%	60%	Qty: 4
Failure 3	10%	20%	Qty: 2

In this hypothetical example, Sources 1 and 2 reported the failure distribution in percentages while Source 3 reported a quantity of failed parts. To illustrate the combining procedure, Source 3 was converted into percentages. The percentage associated with each failure type was then summed for all three sources and the totals divided by the number of data sources which in this case was three. Numbers may have been rounded to insure that the distribution added to 100%. Table 1-2 illustrates this.

TABLE 1-2: Failure Distribution Results

	Source 1	Source 2	Source 3	Sum	Merged Failure Distribution
Failure 1	60%	20%	67%	147	49%
Failure 2	30%	60%	22%	112	37%
Failure 3	10%	20%	11%	41	14%

Where the term "NR" appears in this field, a failure event has been identified by the source but no percentage or quantity was given.

DATA SOURCES

This field represents the total number of data sources used in deriving the failure distribution. Each data source is briefly described in Section 4 of this report. Each source is uniquely identified with a five digit number followed by a three digit number (i.e., 24417-000). This number represents the RACs library file number.

FAILURE MODE DETAILS

The details field presents the detailed failure descriptions exactly as they were reported to RAC from each data source. This data is mapped to a failure mode/mechanism which was categorized by RAC engineers. Each detailed failure description is followed by the source code and quantity (or percentage) of devices failing in that manner. Each RAC categorized failure mode/mechanism can have many detailed entries from many data sources.

The detailed data is presented to give the user an understanding of the failures as they were reported, and to present the actual quantity or percentage of each specific failure by source.

1.3 DATA INTERPRETATION

1.3.1 HANDLING INDUCED FAILURES

Many of the data sources used to derive failure classifications were from field maintenance activities. As a result, many non-inherent or induced failures are included in the data. Maintenance data were identified and classified based on type failure classifications. Maintenance records with a Type HOW MAL code equal to 1 were initially classified as inherent failures while Type 2 codes were considered induced. In the context of this data, induced failures are considered to be non-inherent failures resulting from part misapplication, overstress, etc. RAC then reviewed this data to assure failure classifications were logical. The two failure distributions presented in this document are the Normalized Distribution (Norm Dist.) and Failure Distribution (Fail Dist.). The Normalized Distribution value excludes non-inherent failures while the Failure Distribution value includes all reported failure data. This allows the FMD-91 user to observe the failure distributions for each circumstance. Maintenance records which contained replacement of non-failed parts were discarded from the database.

1.3.2 HANDLING SOURCE REPORTING INCONSISTENCIES

The RAC has collected failure mode and mechanism information from approximately 50 different sources, each with its own unique way of presenting this information. In some cases, failure modes of assemblies were presented as constituent part failures of the assembly that has failed. In other cases, the actual failure mode of the assembly was presented. There are cases in which the failure mode classification may appear to be inconsistent since there may be two sources of data for a particular part, one presenting constituent part failure modes and the other actual failure modes of the assembly. However, in cases where the failure modes listed are a combination of consequences of failure and of constituent part failure, the user can customize this data to his particular needs by converting one to the other. An example of this situation is "Transformers" in which case one failure mode listed may be "Shorted" whereas another may be "Insulation" failure. "Short" is an observable mode of failure and the "Insulation" is the site or constituent component of failure. In this case, the user can discard the "Insulation" failure mode and re-normalize the distribution or, if there is enough confidence that the "Insulation" failure resulted in a "Short", the two percentages can be combined under

"Short". In any case, this would have to be accomplished based on a knowledge of the physical properties of the part/assembly and its related reliability issues. The RAC has attempted to make these listings consistent where possible, however in some cases these two different types of failure modes are presented to allow the user flexibility in tailoring the distributions to his particular needs.

Additionally, some failure modes presented may be redundant. For example, one failure mode may lead to another failure mode (ex. for Actuators, Corrosion can lead to Sticking/Binding). Also, there may be failure modes with the same meaning (ex. Shorted/No Operation). In general, the RAC has reported data as it was reported by the original data source. If the user wishes to merge these failure modes, it can be accomplished by simply combining the percentages as described below.

1.3.3 HANDLING VARIOUS LEVELS OF FAILURE REPORTING DETAIL

Some items may have failures listed that are not applicable to their generic category but rather are applicable to the specific part from which the data was collected. For this reason the user is cautioned to use the "Summary" data entries judiciously. If it is known that a failure mode is not applicable for a particular part, the data can be re-normalized by excluding the percentage associated with that failure mode.

There are a number of cases where failure modes listed are a subset of another failure mode listed. As an example, consider a bipolar transistor. "Open" may be one failure mode listed while "B-E Open," "Emitter Open," and "C-E Open" may be others. "Open" is listed simply because a significant amount of data did not identify the particular open junction or terminal site. The user has several options to address this situation if a consistent set of failure modes is desired. First, if the detailed open site is required, the percentage listed under "Open" can be applied proportionally to the more specific failure mechanisms. If that level of detail is not required, the user can add the percentages due to the specific failure modes to the generic "Open" category so that only a single "Open" category exists. A third option would be to derive a single "Open" category by adding the percentages of all "Opens" regardless of the "Open" site and apply that percentage in equal portions over all possible "Open" sites, even though all sites may not be listed herein. In this manner, all possible failure modes are accounted for.

1.3.4 RE-NORMALIZING TO REMOVE FAILURE MECHANISMS

Both failure mode and failure mechanism combinations may be presented for a particular part type. Therefore, a given failure distribution may contain a mixture of modes and mechanisms. In cases where the failure mode resulting from a specific failure mechanism is clear, the mechanism was categorized accordingly. In cases where the resulting mode is not known, the mechanism is kept separate and included with the modes. In these cases, the user is cautioned to interpret the data accurately. If a true failure mode distribution (not mode and mechanism) is needed in support of an FMECA, then the unwanted entries in the distribution, such as failure mechanisms, can be eliminated by deleting those entries and re-normalizing the distribution. Section 2.6.2.2 provides an example of how to re-normalize data in this publication to accommodate effective FMECA usage. RAC has provided a normalized set of failure mode distributions for use in a FMECA in Section 2.8. These numbers were derived subjectively from the data contained in Section 3 for commonly used part types using engineering judgment.

1.3.5 COMBINING DISTRIBUTIONS

Combining data in the manner previously described results in "average" failure mode distributions. While these distributions are intended to be used as baseline values, actual distributions can vary significantly as a function of many variables. Some of these variables include:

- Device maturity
- Time during the life cycle (early life, wearout periods)
- Application Environment
- Device Quality
- Manufacturing Process

1.3.6 EVALUATING SINGLE SOURCE DISTRIBUTIONS

In many cases, there is only one source of data for a particular part. For these, the resulting distribution is entirely dependent on a single data source and may not adequately represent industry averages. Although there is limited data to quantify an accurate average failure distribution, the data should identify the predominant failure trends for that part type.

1.3.7 EVALUATING APPLICATION SPECIFIC DISTRIBUTIONS

It should be noted that all failure distributions listed will not be applicable to all situations. This is because the data comprising these distributions was collected from a variety of component types, quality levels and environments. Therefore, the summary distributions represent observed averages and the actual distributions will vary depending on specific conditions. Also, failure distributions presented are entirely dependent upon the specific use conditions of the part/assembly. In these cases the failure mechanisms are often induced and are not inherent failure mechanisms for the device. In these instances, the failure distributions may have limited applicability to the "generic" family of part/assembly types and are presented to illustrate how such devices have failed in the past.

Wearout failures can occur in the entire population, and therefore can represent a very high percentage of all failures. Since the time period relative to the life cycle of the part over which this data was collected is not known and because failure distributions can change over time, the distributions presented herein represent an average over some typical usage time interval.

1.4 DATA SUMMARY EXAMPLE

As an example to illustrate the manner in which the data was summarized and combined, consider the entry for Fixed Capacitors shown in Figure 1-2.

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Capacitor,Fixed				Sources:5
	Shorted	48.9%	48.6%	Short-Dielectric strength (25000-000,Qty:1), Short (24990-000,80.0%) (24990-000,99.0%) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:17) (25027-000,Qty:1), Short-Ruptured/Cracked Dielectric (25016-000,NR)
	Opened	28.5%	28.4%	Open (24990-000,1.0%) (24990-000,20.0%) (25000-000,Qty:6) (25000-000,Qty:9), Open-Defective Termination (25016-000,NR), Open-Insufficient Lead To Element Attach-Internal (10722-000,Qty:1)
	Drift	21.9%	21.8%	Parameter Drift-Intermittent (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:6), Parameter Drift-Power Factor (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:6) (25000-000,Qty:6) (25000-000,Qty:6) (25000-000,Qty:7) (25000-000,Qty:20) (25000-000,Qty:57), Parameter Drift-Ger[illegible] (25000-000,Qty:1) (25000-000,Qty:2), Parameter Drift-Insulation Resistance (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:6) (25000-000,Qty:8) (25000-000,Qty:10) (25000-000,Qty:23) (25000-000,Qty:67), Parameter Drift-Delta C (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:6) (25000-000,Qty:11) (25000-000,Qty:32) (25000-000,Qty:53) (25000-000,Qty:72)
	Corroded	0.7%	0.7%	Corrosion (25000-000,Qty:14)
	Seal Failure	<0.1%	<0.1%	Seal Leakage (25000-000,Qty:1)
	Induced	------	0.3%	Mechanical Damage (25000-000,Qty:6)
	Unknown	------	0.2%	Unknown (25000-000,Qty:3)
	Other	------	0.0%	
	Change in Capac.		NR	Reduced Capacitance-Ruptured/Cracked Dielectric (25016-000,NR), Delamination, Reduced Capacitance-Impared Seal (25016-000,NR)
	High Dissipation Factor		NR	High Dissipation Factor-Defective Termination (25016-000,NR)
	Seal/Gasket Failure		NR	Low Insulation Resistance-Impared Seal (25016-000,NR)

FIGURE 1-2: Fixed Capacitor Failure Distribution

In this case there were five (5) individual sources which contained failure information on Fixed Capacitors. This data is representative only of sources which did not contain a further breakdown of specific Capacitor type. If a more specific description was available, it would be presented at a level with a more detailed description of the part type. The "Details" field describes the actual failure description as was supplied to the RAC. The first entry lists "Short-Dielectric Strength (25000 - 000, Qty: 1)". This indicates that source 25000-000 (described in Section 4) contains one part that failed "Short" due to the Dielectric Strength. The term "Shorted" under Failure Mode/Mech is the term the RAC assigned to the general category of failure description after reviewing all reported failures. In this case, "Shorted," "Opened" and "Drift" were determined by the RAC to be the predominant generic failure categories for Fixed Capacitors. All the quantitative data contained in the details column was then used to derive the failure distribution (Fail Dist.) using the methodology previously described.

The normalized failure distribution was then calculated by determining the predominant inherent failure classifications of the part. This was accomplished first by ignoring the data associated with the unknown and induced categories. The next step in this process was to discard all failure occurrences below a given percentage while insuring that no more than seven inherent failure classes appear under the normalized percentage. For example, if by ignoring failure classes occurring less than 1% of the time, less than seven (7) remain, 1% is used as the cut-off above which failures were included in the normalized percentage. If seven or more remain, the cut-off percentage was increased in increments of 1% until seven or less remained. The number seven was selected because consideration of greater than seven failure modes is impractical to perform FMECAs. If seven or less failure classes exist initially, then all were included. Failures that are below the cut-off percentage are listed under the generic category "Other." The cut-off percentage is listed next to the term "Other." Finally, by ignoring the "Induced," "Unknown," and "Other" failure entries, the normalized distribution can be derived. The normalized failure distribution was then calculated (following the previously described procedure) using only the reduced set of failure classes. In this example, "Shorted," "Opened," "Drift," "Corroded," and "Seal Failure" comprise the normalized failure distribution.

If the user requires more detail than is provided in the normalized distribution, the detailed failure distribution and specific source details can be consulted.

SECTION 2
FMECA USER GUIDE

2.0 INTRODUCTION

This section Provides information on conducting a Failure Mode, Effects and Criticality Analysis (FMECA) and illustrates how failure mode distributions presented in this document (FMD-91) could be used when performing an FMECA. This section was compiled primarily from the various MIL Standards governing FMECA. Every attempt has been made to simplify the wording of these standards to better support users performing an FMECA. Data tables at the end of this section have been derived from Section 3 summary tables to include only failure mode data. While the section 3 summary tables contain all the failure data contained in the RACs databases, much of it is not applicable to a FMECA. RAC engineers have re-normalized a number of part type distributions to remove failure mechanism data and combine similar failure descriptions to provide an example set of failure distributions specifically for FMECA. This procedure was performed with the goal to provide FMECA analysts with a list of widely used component and assembly failure mode distributions. However, additional data may be derived for components not contained in these summary tables or the example data contained in the summary tables may be re-computed by following the normalization procedure outlined in Sections 1.3.4 and 2.6.2.2.

2.1 FAILURE MODE, EFFECTS AND CRITICALITY ANALYSIS (FMECA) OVERVIEW

2.1.1 FAILURE MODE EFFECTS ANALYSIS (FMEA)

The FMEA is an analysis procedure by which each potential failure mode in a system is analyzed to determine the results or effects thereof on the system and to classify each potential failure mode according to its severity. The initial FMEA should be done early in the conceptual phase when design criteria, mission requirements, and preliminary designs are being developed to evaluate the design approach and to compare the benefits of competing design configurations.

The FMEA will provide quick visibility of the most obvious failure modes and identify potential single failure points, some of which can be eliminated with minimal design effort. As the mission and design definitions become more refined, the FMEA can be expanded to successively more detailed levels. When changes are made in system design to remove or reduce the impact of the identified failure modes, the FMEA must be repeated for the redesigned portions to ensure that all predictable failure modes in the new design are considered.

The analysis approach to be used for the FMEA will generally be dictated by variations in design complexity and the available data. There are two primary approaches for accomplishing an FMEA.

Functional Approach - recognizes that every item or combination of items is designed to perform a number of functions that can be classified as outputs.
Hardware Approach - lists individual hardware items and analyzes their possible failure modes.

For complex systems, a combination of the functional and hardware approaches may be considered. The FMEA may be performed as a hardware analysis, a functional analysis, or a combination analysis and is ideally initiated at the part, circuit or functional level and proceeds through increasing indenture levels until the FMEA for the system is complete.

2.1.2 CRITICALITY ANALYSIS (CA)

The CA is an analysis procedure for associating failure probabilities with each failure mode. Since the CA supplements the FMEA and is dependent upon information developed in that analysis, it should not be attempted without first completing the FMEA. The CA is probably most valuable for maintenance and logistic support oriented analyses since failure modes which have a high probability of occurrence (high criticality numbers) require investigation to identify changes which will reduce the potential impact on the maintenance and logistic support requirements for the system.

The analysis approach to be used for the CA will generally be dictated by the availability of specific configuration data and failure rate data. There are two approaches for accomplishing the CA. One is the qualitative approach which is appropriate only when failure rate data are not available. The preferred method is the quantitative approach which is utilized where failure rate data have been derived.

2.2 FMECA APPLICATION

A FMEA and CA when performed concurrently are referred to as a FMECA. The FMECA, if applied properly, can be one of the most beneficial and productive tasks in a well-structured reliability program. Since individual failure modes are listed and

evaluated in an orderly, organized fashion, the FMECA serves to verify design integrity, identify and quantify undesirable failure modes and document reliability risks.

Results of a FMECA can be used to provide the rationale for changes in operating procedures, maintenance strategies, and design to remove undesirable failure modes. Although the FMECA is an essential reliability task, it is a concurrent engineering tool which should be used to supplement and support other engineering tasks by identifying areas in which effort should be concentrated.

FMECA results not only provide design guidance, but can be used advantageously during maintenance planning analysis, logistics support analysis, survivability and vulnerability assessments, safety and hazards analysis, and for fault detection and isolation design. This coincident use of the FMECA must be considered by program management during FMECA planning and every effort made to prevent duplication of analyses by the various program elements which utilize FMECA results.

2.3 FMECA DESCRIPTION

An FMECA is a powerful tool to optimize the performance/life-cycle cost tradeoffs between mission reliability and basic reliability at the black box or subsystem level, where these tradeoffs are most appropriately analyzed and evaluated. Potential design weaknesses are determined by using functional block diagrams, reliability block diagrams, engineering schematics, and mission rules (mission functions, operational modes, environmental profiles, and times) to systematically identify the likely modes of failure, the possible effects of each failure (which may be different for each life/mission profile phase), and the criticality of each effect on safety, readiness, mission success, demand for maintenance/logistics support, or some other outcome of significance. A reliability criticality number may be assigned to each failure mode usually based on failure effect, severity and probability of occurrence. These numbers are sometimes used to establish corrective action priorities, but because of the subjective judgement required to establish them, they should be used only as indicators of relative priorities. The FMECA can also be used to confirm that new failure modes have not been introduced in transforming schematics into production drawings.

The initial FMECA should be done early in the conceptual phase, and because limited design definition may be available, only the more obvious failure modes may be identified. This can help identify many of the single failure points, some of which can be eliminated by simple design changes. As greater mission and design definitions are developed in the validation and full scale development phases, the analysis can be expanded to successively-more-detailed levels and ultimately to the part level.

The usefulness of the FMECA is dependent on the skill of the analyst, the available data, and the information the analyst provides as a result of the analysis. The FMECA format is tailorable and additional pertinent information such as, failure indication, anticipated environment under which the failure may be expected to occur, time available for operational corrective action, and the corrective action required could be included. The amount of detail and type of information supplied is a function of mission criticality. In general, engineering manpower should be focused on those potential failures which imperil the crew or preclude mission completion. FMECA results may suggest areas where the judicious use of redundancy can significantly improve mission reliability without unacceptable impact on basic reliability, and where other analyses such as electronic parts tolerance or sensitivity analyses be performed, or other provisions such as environmental protections be considered. Additionally, FMECA results can be used to provide rationale for operating procedures used to ameliorate undesirable failure modes and document residual risks.

2.4 FMEA ANALYSIS PROCESS

The following discrete steps should be completed when performing an FMEA.

- Define The System To Be Analyzed. A complete system definition which includes identification of internal and interface functions, expected performance at all indenture levels, system restraints, and failure definitions must be provided to the analyst. Functional narratives of the system should include descriptions of each mission in terms of system functions which are utilized during each mission, mission phase, and operational mode. Narratives should describe the service use profile, expected mission times and equipment utilization and the functions and outputs of each item.

- Construct Block Diagrams. Functional and reliability block diagrams which illustrate the operation, interrelationships, and interdependencies of functional entities should be obtained or constructed for each item configuration involved in the use of the system. All system interfaces should be indicated. A uniform numbering system to trace hierarchy by functional system breakdown order is necessary and will provide rapid traceability and tracking through all levels of indenture.

- Identify Potential Item and Interface Failure Modes. Define the effect of item and interface failure modes on the immediate item, system, and mission to be performed. All predictable failure modes for each indenture level analyzed should be identified and described. FMD-91 presents typical failure mode distributions for components and assemblies which have been derived from numerous data sources. Potential failure modes are determined by examination of item outputs identified in applicable block diagrams and schematics. Failure modes at the functional level shall be postulated on the basis of the stated requirements in the system definition narrative and the failure definitions included in the ground rules. The most probable causes associated with the postulated failure mode need be identified and described. If the failure mode has more than one cause, all probable independent causes for each failure mode should be identified and described. The analyst should also consider failure causes within adjacent indenture levels. For example, failure causes at the third indenture level should be considered when conducting a second indenture level analysis. Where a system function shown on the block diagram drawing is performed by a single replaceable module, a separate FMEA could be performed on the internal functions of the module, viewing the module as a system. The level of detail included in the FMEA is a function of the system complexity. A statement of work or contract requirement will typically define this level of detail. To assure that a complete analysis is performed, each failure mode and output function should be examined in relation to the following typical failure conditions:

  (a) Premature operation
  (b) Failure to operate at a prescribed time
  (c) Intermittent operation
  (d) Failure to cease operation at a prescribed time
  (e) Loss of output or failure during operation
  (f) Degraded output or operational capability
  (g) Other unique failure conditions based upon system characteristics and operational requirements or constraints.

The FMEA Worksheet in Figure 2-1 is commonly used when performing an FMEA.

FAILURE MODE AND EFFECTS ANALYSIS

SYSTEM _____ DATE _____
INDENTURE LEVEL _____ SHEET _____ OF _____
REFERENCE DRAWING _____ COMPILED BY _____
MISSION _____ APPROVED BY _____

					FAILURE EFFECTS						
ID NUMBER	ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE)	FUNCTION	FAILURE MODES AND CAUSES	MISSION PHASE/ OPERATIONAL MODE	LOCAL EFFECTS	NEXT HIGHER LEVEL	END EFFECTS	FAILURE DETECTION METHOD	COMPEN-SATING PROVISIONS	SEVERITY CLASS	REMARKS

FIGURE 2-1: FMEA Worksheet Format

2.5 ANALYZING FAILURE EFFECTS

2.5.1 OVERVIEW

When the above three steps have been considered, the consequences of each potential failure on item operation, function, or status can now be identified evaluated and recorded. Failure effects focus on the specific block diagram element which is affected by the failure under consideration. The failure under consideration may impact several indenture levels in addition to the one under investigation. Therefore, "local", "next higher level", and "end" effects need to be evaluated. When determining failure effects, mission objectives, maintenance requirements, and personnel and system safety should be considered.

Local or Primary Effects - Local effects concentrate specifically on the impact an assumed failure mode has on the operation and function of the item in the indenture level under consideration. The consequences of each postulated failure affecting the item shall be described along with any second-order effects which result. The purpose of defining local effects is to provide a basis for evaluating compensating provisions and for recommending corrective actions. It is possible for the "local" effect to be the failure mode itself.

Next Higher Level or Secondary Effects - Next higher level effects concentrate on the impact an assumed failure has on the operation and function of the items in the next higher indenture level above the indenture level under consideration. The consequences of each postulated failure affecting the next higher indenture level shall be described. If analyzing a resistor on a circuit board, the effect that the failed resistor has on the cards function would be described at this level.

End or System Effects - End effects evaluate and define the total effect an assumed failure has on the operation, function, or status of the uppermost system. The end effect described may be the result of a multiple failure. For example, failure of a safety device may result in a catastrophic end effect only in the event that both the prime function goes beyond the limit for which the safety device is set and the safety device fails.

Failure Classification - Each failure mode should be evaluated in terms of the worst potential consequences which may result. A code will be assigned describing the worst possible incidence of this failure. This code is the severity classification code. Severity classifications are assigned to provide a qualitative measure of the worst potential consequences resulting from design error or item failure. A severity classification is assigned to each identified failure mode and each item analyzed in accordance with he loss statement below. Where it may not be possible to identify an item or a failure mode according to the loss statements in the four categories below, similar loss statements based upon loss of system inputs or outputs can be developed and included in the FMEA. Severity classification categories which are consistent with various military standards are defined as follows:

- **Category I** - Catastrophic - A failure which may cause death or weapon system loss.

- **Category II** - Critical - A failure which may cause severe injury, major property damage, or major system damage which will result in mission loss.

- **Category III** - Marginal - A failure which may cause minor injury, minor property damage, or minor system damage which will result in delay or loss of availability or mission degradation.

- **Category IV** - Minor - A failure not serious enough to cause injury, property damage, or system damage, but which will result in unscheduled maintenance or repair.

2.5.2 METHODS

After determining the item failure effects and severity class, the analyst should turn his focus from simply identifying problem areas to resolving them. To do this he should recommend ways to simplify the maintenance of failed items or identify system work-arounds to compensate for failures. The FMEA analyst should identify failure detection, isolation and compensation methods for each identified failure mode.

- Failure Detection Method - Describe the methods by which occurrence of a failure mode is detected by the operator or maintenance personnel. The failure detection means, such as visual or audible warning devices, automatic sensing devices, sensing instrumentation, other unique indications, or none, should also be identified here.

- Failure Isolation Method - Describe the most direct procedure that allows an operator or maintenance personnel to isolate the failure. An operator will know only the initial symptoms until further specific action is taken, such as performing a more detailed built-in-test (BIT). The failure being considered in the analysis may be of lesser importance or likelihood than another failure that could produce the same symptoms but must still be considered. Fault isolation procedures require a specific action or series of actions by an operator, followed by a check or cross reference either to instruments, control devices, circuit breakers, or combinations thereof. This procedure is followed until a satisfactory course of action is determined.

- Failure Compensation Method - Identify corrective design or other actions required to eliminate the failure or control the risk. This step is required to record the true behavior of the item in the presence of a failure. The analyst should describe design compensating provisions that will: (1) nullify the effects of a failure, (2) control or deactivate system items to halt generation or propagation of failure effects, or (3) activate backup or standby items or systems. Design compensating provisions can include redundant items that allow continued and safe operation, safety or relief devices such as monitoring or alarm provisions which permit effective operation or limit damage and alternative modes of operation such as backup or standby items or systems.

Compensating provisions which require operator action to circumvent or mitigate the effect of the postulated failure shall be described. The compensating provision that best satisfies the indication observed by an operator when the failure occurs shall be determined. This may require the investigation of an interface system to determine the most correct operator action. The consequences of any probable incorrect action by the

operator in response to an abnormal indication should be considered and the effects recorded along with the following:

(1) Identify effects of corrective actions or other system attributes, such as requirements for logistics support.

(2) Document the analysis and summarize the problems which could not be corrected by design and identify the special controls which are necessary to reduce the failure risk.

2.5.3 APPROACH

Variations in design complexity and available data will generally dictate the analysis approach to be used. There are two primary approaches for accomplishing an FMEA. One is the hardware approach which lists individual hardware items and analyzes their possible failure modes. The other is the functional approach which recognizes that every item is designed to perform a number of functions that can be classified as outputs. The outputs are listed and their failure modes analyzed. For complex systems, a combination of the functional and hardware approaches may be considered. The FMEA may be performed as a hardware analysis, a functional analysis, or a combination analysis and is ideally initiated at the part, assembly or functional level and proceeds through increasing indenture levels until the FMEA for the system is complete.

- Functional FMEA Approach - The functional approach is normally used when hardware items cannot be uniquely identified. Each identified failure mode is assigned a severity classification which can be utilized during design iterations to establish priorities for corrective actions. The functional FMEA should commence after the design process has delivered a functional block diagram of the system but has not yet identified a specific hardware implementation. It is the first FMEA to be performed and should be updated throughout the design iteration process or as corrective actions are implemented.

- Hardware FMEA Approach - The hardware approach is normally used when hardware items can be uniquely identified from schematics, drawings, and other engineering and design data. The hardware approach is normally utilized in a part level up fashion. Each identified failure mode is assigned a severity classification which will be utilized during design to establish priorities for corrective actions. The hardware FMEA should commence after the design process has delivered a schematic diagram with all system items or parts defined.

This is usually the final FMEA for the design but should be updated whenever design changes or corrective actions occur. This includes changes that occur following system deployment.

2.6 RANKING CRITICALITY

2.6.1 OVERVIEW

The purpose of the Criticality Analysis (CA) is to rank each potential failure mode identified by the FMEA according to the combined influence of severity classification and its probability of occurrence based upon the best available data. The CA is an analysis procedure whereby a relative measure of the significance of the effect of a failure mode on the successful operation of a system can be obtained. It is completed after the local, next higher level and end effects of a failure have been determined by the FMEA. The combined analysis is called Failure Mode, Effects and Criticality Analysis (FMECA).

2.6.2 CA ANALYSIS APPROACH

The analysis approach to be used for the CA will generally be dictated by the availability of specific configuration data and failure rate data. There are two approaches for accomplishing the CA. The qualitative approach is appropriate when specific failure rate data are not available. The failure probability levels, when used, should be modified as the system design evolves. As parts configuration data and failure rate data become available, criticality numbers should be calculated and incorporated in the analysis. This is referred to as the quantitative approach and is used when failure rate data becomes available.

2.6.2.1 QUALITATIVE APPROACH

Failure modes identified in the FMEA are assessed in terms of probability of occurrence levels, when specific parts configuration or failure rate data are not available. Individual failure mode probabilities of occurrence are grouped into distinct, logically defined levels, which establish the qualitative failure probability level for entry into the appropriate CA worksheet (Figure 2-2) column. Probability of occurrence levels are very subjective and may require indepth knowledge of the system to make an educated judgement. A good set of guidelines are defined as follows:

Level A - Frequent. A high probability of occurrence during the item operating time interval. High probability may be defined as a single failure mode probability greater than 0.20 of the overall probability of failure during the item operating time.

Level B - Reasonably probable. A moderate probability of occurrence during the item operating time interval. Probable may be defined as a single failure mode probability of occurrence which is more than 0.10 but less than 0.20 of the overall probability of failure during the item operating time.

Level C - Occasional. An occasional probability of occurrence during item operating time interval. Occasional probability may be defined as a single failure mode probability of occurrence which is more than 0.01 but less than 0.10 of the overall probability of failure during the item operating time.

Level D - Remote. An unlikely probability of occurrence during item operating time interval. Remote probability may be defined as a single failure mode probability of occurrence which is more than 0.001 but less than 0.01 of the overall probability of failure during the item operating time.

Level E - Extremely Unlikely. A failure whose probability of occurrence is essentially zero during the item operating time interval. Extremely unlikely may be defined as a single failure mode probability of occurrence which is less than 0.001 of the overall probability of failure during the item operating time.

2.6.2.2 QUANTITATIVE APPROACH

Failure modes identified in the FMEA are assessed and ranked in terms of a criticality number which is computed using failure rate and probability of occurrence data. The failure rate data source used for the quantitative approach to CA should be the same as that used during the reliability prediction. If a reliability prediction was not required or a failure rate data source has not been specified, failure rates may be derived from MIL-HDBK-217, NPRD-91 or some alternative reliability data source. The calculation of a criticality number or assignment of a probability of occurrence level and its documentation are accomplished by completing a CA worksheet. An example of a CA worksheet format is shown in Figure 2-2.

CRITICALITY ANALYSIS

SYSTEM _____ DATE _____
INDENTURE LEVEL _____ SHEET _____ OF _____
REFERENCE DRAWING _____ COMPILED BY _____
MISSION _____ APPROVED BY _____

ID NUMBER	ITEM/FUNCTIONAL IDENTIFICATION (NOMENCLATURE)	FUNCTION	FAILURE MODES AND CAUSES	MISSION PHASE/ OPERATIONAL MODE	SEVERITY CLASS.	FAILURE PROBABILITY FAILURE RATE DATA SOURCE	FAILURE EFFECT PROBABILITY (β)	FAILURE MODE RATIO (α)	FAILURE RATE (λ_p)	OP TIME (t)	FAILURE MODE CRIT # $C_m = \beta \alpha \lambda_p t$	ITEM CRIT # $C_r = \Sigma (C_m)$	REMARK

FIGURE 2-2: Criticality Analysis Worksheet

The following describe the data elements necessary to perform either a qualitative or quantitative criticality analysis:

Failure Probability/Failure Rate Data Source - When a qualitative CA is performed, failure modes are assessed in terms of probability of occurrence, the failure probability of occurrence level must be shown in this column. When failure rate data are available, a quantitative CA can be performed and criticality numbers may be calculated. In this case, the data source of the failure rates used in each calculation shall be listed in this column. When a failure probability is listed, the remaining columns are not required and the next step will be the construction of a criticality matrix (Figure 2-3).

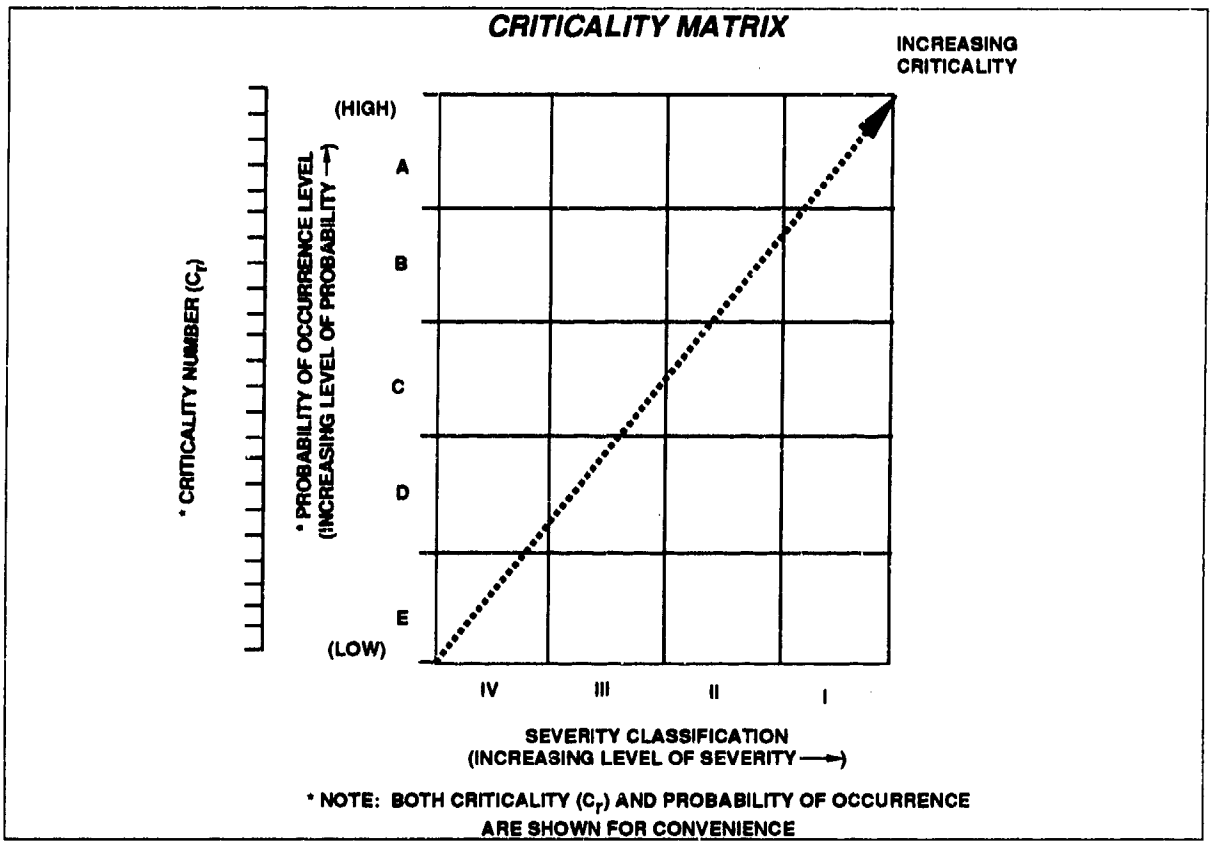

FIGURE 2-3: Criticality Matrix

Failure Effect Probability (β). The β values are the conditional probability that the failure effect will result in the identified criticality classification, given that the failure mode occurs. The β values represent the analyst's judgment as to the conditional probability the loss will occur and should be quantified in general accordance with the values in TABLE 2-1.

TABLE 2-1: Typical Failure Effect Probabilities (β)

FAILURE EFFECT	β VALUE
Actual Loss	1.00
Probable Loss	> 0.10 to < 1.00
Possible Loss	> 0 to 0.10
No Effect	0

Failure mode ratio (α) - The fraction of the part failure rate (λ_p) related to the particular failure mode under consideration shall be evaluated by the analyst and recorded here. The failure mode ratio is the probability expressed as a decimal fraction that the part or item will fail in the identified mode. FMD-91 provides

these probabilities for many component and assembly types. If all potential failure modes of a particular part or item are listed, the sum of the α values for that part or item will equal one. Individual failure mode multipliers may be derived from failure rate source data, from test and operational data or from FMD-91. If failure mode data are not available, the α values shall represent the analyst's judgement based upon an analysis of the item's functions.

To illustrate the manner in which data contained in this document can be used to derive failure mode distributions, consider a hypothetical circuit utilizing the following part types:

IC Digital, SSI/MSI
IC Digital, Memory, EAPROM

FMECA's require a distribution of only failure modes and not failure mechanisms/special cause failure types. Since many distributions contained in this document include failure mechanisms and special cause failure types, modification of existing distributions is required before useful FMECA distributions can be established. The process for re-normalizing FMD-91 failure distributions for application to FMECA is as follows:

- Determine which failure descriptions are detectable external to the item under analysis.
- Ignore all failure probabilities associated with items not meeting the criteria above.
- Equally distribute the ignored failure probabilities among the remaining FMECA applicable failure modes.

This procedure results in normalized failure mode distributions which total 100%. In a criticality analysis, it is important to have probabilities which total 100% because failure rate is an important weighting factor. To exclude portions of an item's failure rate would reduce that item's impact in the criticality rankings. Table 2-2 illustrates this process for the part types shown above (as listed in Section 3). Failure mode distributions applicable to FMECA's were derived using this process and are presented in Section 2.8.

TABLE 2-2: Re-normalizing FMD-91 Distributions

Part Type Failure Mode/Mech	Distribution from Section 3	Application to FMECA's	FMECA Distribution
IC Digital, SSI/MSI (Page 3-113)			
Output Stuck High	38.4	X	55.6
Open	18.7	X	27.1
Drift	13.2		--
Shorted	12.0	X	17.3
Electrical Overstress	7.7		--
Cracked/Fractured	7.4		--
Erroneous Output	2.5		
IC Digital, Memory, EAROM (Page 3-110)			
Contaminated	62.5		--
Output Stuck Low	12.5	X	50.0
Improper Memory Patterns	12.5	X	50.0
High Leakage Current	12.5		--

Integrated circuits are used in this example since they are one of the part types that have many entries of failure mechanisms mixed with failure modes.

Part failure rate (λ_p) - The part failure rate (λ_p) from the appropriate reliability prediction or failure rate data source such as NPRD-91 shall be listed.

Operating time (t) - The operating time in hours or the number of operating cycles of the item per mission shall be derived from the system definition and listed on the worksheet.

Failure mode criticality number (C_m) - The value of the failure mode criticality number (C_m) is calculated and listed on the worksheet. (C_m) is the portion of an items criticality number due to the single failure mode under investigation for a particular severity classification. For each particular failure mode severity classification, the (C_m) is calculated with the following formula:

$$C_m = \beta\alpha\lambda_p t$$

where:

C_m = Criticality number for failure mode.

β = Conditional probability of mission loss.

α = Failure mode ratio from FMD-91.

λ_p = Part failure rate from MIL-HDBK-217 or NPRD-91.

t = Duration of applicable mission phase usually expressed in hours or number of operating cycles.

Item criticality numbers (C_r) - The second criticality number calculation is for the item under analysis. Item criticality numbers (C_r) for each system item under investigation is calculated and listed on the worksheet. An item may be considered a component, circuit card, assembly or function depending on the detail of analysis or level of indenture which the FMECA is being performed. For a particular severity classification and mission phase, the (C_r) for an item is the sum of the failure mode criticality numbers, (C_m), under the severity classification and may also be calculated using the following formula:

$$C_r = \sum_{n=1}^{j} (\beta\alpha\lambda_p t)_n \qquad n = 1, 2, 3, \ldots j \qquad \text{or} \qquad C_r = \sum_{n=1}^{j} (C_m)_n$$

where:

C_r = Criticality number for the item.

n = The failure modes in the items that fall under a particular severity classification.

j = Last failure mode in the item under the severity classification.

2.6.3 CRITICALITY MATRIX

The criticality matrix provides a means of identifying and comparing each failure mode to all other failure modes with respect to severity . The matrix is constructed by inserting item or failure mode identification numbers in matrix locations representing the severity classification category and either the probability of occurrence level or the criticality number (C_r) for the item's failure modes. The resulting matrix display shows the

distribution of criticality of item failure modes and provides a tool for assigning corrective action priorities. As shown in Figure 2-3, the further along the diagonal line from the origin the failure mode is recorded, the greater the criticality and the more urgent the need for implementing corrective action. The example criticality matrix in Figure 2-3 illustrates how either the criticality number (C_r) or probability of occurrence level can be used for the vertical axis.

2.7 SUMMARY

The FMEA is an essential design evaluation procedure which should not be limited to the phase traditionally thought of as the design phase. The initial FMEA should be done early in the conceptual phase when design criteria, mission requirements, and conceptual designs are being developed to evaluate the design approach and to compare the benefits of competing design configurations. The FMEA will provide quick visibility of the more obvious failure modes and identify potential single failure points, some of which can be eliminated with minimal design effort. As the mission and design definitions become more refined, the FMEA can be expanded to successively more detailed levels. When changes are made in system design to remove or reduce the impact of the identified failure modes, the FMEA should be repeated for the redesigned portions to ensure that all predictable failure modes in the new design are considered.

The CA is a procedure for associating failure probabilities with each failure mode. Since the CA supplements the FMEA and is dependent upon information developed in that analysis, it should not be performed without the FMEA. The CA is valuable in maintenance and logistics support analyses since failure modes which have high criticality numbers require investigation to identify changes which will reduce the potential impact on maintenance and logistic support requirements for the system. Since the criticality numbers are established subjectively, they should be used judiciously as indicators of relative priorities.

2.8 NORMALIZED FAILURE MODE DISTRIBUTIONS FOR FMECA

Device Type	Failure Mode	Failure Mode Probability (α)
Accumulator	Leaking	.47
	Seized	.23
	Worn	.20
	Contaminated	.10
Actuator	Spurious Position Change	.36
	Binding	.27
	Leaking	.22
	Seized	.15
Adapter	Physical Damage	.33
	Out of Adjustment	.33
	Leaking	.33
Alarm	False Indication	.48
	Failure to Operate on Demand	.29
	Spurious Operation	.18
	Degraded Alarm	.05
Antenna	No Transmission	.54
	Signal Leakage	.21
	Spurious Transmission	.25
Battery, Lithium	Degraded Output	.78
	Startup Delay	.14
	Short	.06
	Open	.02
Battery, Lead Acid	Degraded Output	.70
	Short	.20
	Intermittent Output	.10
Battery, Rechargeable, Ni-Cd	Degraded Output	.72
	No Output	.28
Bearing	Binding/Sticking	.50
	Excessive Play	.43
	Contaminated	.07
Belt	Excessive Wear	.75
	Broken	.25
Blower Assembly	Bearing Failure	.45
	Sensor Failure	.16
	Blade Erosion	.15
	Out of Balance	.10
	Short Circuit	.07
	Switch Failure	.07

Table 2.8 represents RAC's interpretation of the data contained in Section 3.0 of this report. It is recommended that the reader understand the assumptions used to derive these probabilities prior to applying them in a FMECA. Users may perform their own normalization procedure of Section 3.0 data.

Device Type	Failure Mode	Failure Mode Probability (α)
Brake	Excessive Wear	.56
	Leaking	.23
	Scored	.11
	Corroded	.05
	Loose	.05
Bushing	Excessive Wear	.85
	Loose	.11
	Cracked	.04
Cable	Short	.45
	Excessive Wear	.36
	Open	.19
Capacitor, Aluminum, Electrolytic, Foil	Short	.53
	Open	.35
	Electrolyte Leak	.10
	Decrease in Capacitance	.02
Capacitor, Ceramic	Short	.49
	Change in Value	.29
	Open	.22
Capacitor, Mica/Glass	Short	.72
	Change in Value	.15
	Open	.13
Capacitor, Paper	Short	.63
	Open	.37
Capacitor, Plastic	Open	.42
	Short	.40
	Change in Value	.18
Capacitor, Tantalum	Short	.57
	Open	.32
	Change in Value	.11
Capacitor, Tantalum, Electrolytic	Short	.69
	Open	.17
	Change in Value	.14
Capacitor, Variable, Piston	Change in Value	.60
	Short	.30
	Open	.10
Chopper	Contact Failure	.48
	Short	.25
	Open	.25
	Coil Failure	.02
Circuit Breaker	Opens Without Stimuli	.51
	Does Not Open	.49
Clutch	Binding/Sticking	.56
	Slippage	.24
	No Movement	.20

Table 2.8 represents RAC's interpretation of the data contained in Section 3.0 of this report. It is recommended that the reader understand the assumptions used to derive these probabilities prior to applying them in a FMECA. Users may perform their own normalization procedure of Section 3.0 data.

Device Type	Failure Mode	Failure Mode Probability (α)
Coil	Short	.42
	Open	.42
	Change in Value	.16
Computer System	Hardware Failure	.57
	Software Failure	.43
Connector/Connection	Open	.61
	Poor Contact/Intermittent	.23
	Short	.16
Controller, Electromechanical	Erroneous Output	.75
	Loss of Control	.25
Counter Assembly	Inaccurate Count	.91
	Seized	.09
Crystal, Quartz	Open	.89
	No Oscillation	.11
Diode, General	Short	.49
	Open	.36
	Parameter Change	.15
Diode, Rectifier	Short	.51
	Open	.29
	Parameter Change	.20
Diode, SCR	Short	.98
	Open	.02
Diode, Small Signal	Parameter Change	.58
	Open	.24
	Short	.18
Diode, Thyristor	Failed Off	.45
	Short	.40
	Open	.10
	Failed On	.05
Diode, Triac	Failed Off	.90
	Failed On	.10
Diode, Zener, Voltage Reference	Parameter Change	.69
	Open	.18
	Short	.13
Diode, Zener, Voltage Regulator	Open	.45
	Parameter Change	.35
	Short	.20
Electric Motor, AC	Winding Failure	.31
	Bearing Failure	.28
	Fails to Run, After Start	.23
	Fails to Start	.18

Table 2.8 represents RAC's interpretation of the data contained in Section 3.0 of this report. It is recommended that the reader understand the assumptions used to derive these probabilities prior to applying them in a FMECA. Users may perform their own normalization procedure of Section 3.0 data.

Device Type	Failure Mode	Failure Mode Probability (α)
Fitting	Leaking	.90
	Contaminated	.05
	Scored	.05
Fuse	Fails to Open	.49
	Slow to Open	.43
	Premature Open	.08
Gasket/Seal	Leaking	1.00
Gear	Excessive Wear	.54
	Binding/Sticking	.46
Generator	Degraded Output	.60
	No Output	.22
	Fails to Run, After Start	.09
	Loss of Control	.09
Hybrid Device	Open Circuit	.51
	Degraded Output	.26
	Short Circuit	.17
	No Output	.06
Injector	Corroded	.87
	Deformed	.08
	Cracked/Fractured	.05
Inner Tube	Leaking	1.00
Keyboard Assembly	Spring Failure	.32
	Contact Failure	.30
	Connection Failure	.30
	Lock-up	.08
Lamp/Light	No Illumination	.67
	Loss of Illumination	.33
Liquid Crystal Display	Dim Rows	.39
	Blank Display	.22
	Flickering Rows	.20
	Missing Elements	.19
Mechanical Filter	Leaking	.67
	Clogged	.33
Meter	Faulty Indication	.51
	Unable to Adjust	.23
	Open	.14
	No Indication	.12
Microcircuit, Digital, Bipolar	Output Stuck High	.28
	Output Stuck Low	.28
	Input Open	.22
	Output Open	.22

Table 2.8 represents RAC's interpretation of the data contained in Section 3.0 of this report. It is recommended that the reader understand the assumptions used to derive these probabilities prior to applying them in a FMECA. Users may perform their own normalization procedure of Section 3.0 data.

Device Type	Failure Mode	Failure Mode Probability (α)
Microcircuit, Digital, MOS	Input Open	.36
	Output Open	.36
	Supply Open	.12
	Output Stuck Low	.09
	Output Stuck High	.08
Microcircuit, Interface	Output Stuck Low	.58
	Output Open	.16
	Input Open	.16
	Supply Open	.10
Microcircuit, Linear	Improper Output	.77
	No Output	.23
Microcircuit, Memory, Bipolar	Slow Transfer of Data	.79
	Data Bit Loss	.21
Microcircuit, Memory, MOS	Data Bit Loss	.34
	Short	.26
	Open	.23
	Slow Transfer of Data	.17
Microwave Amplifier	No Output	.90
	Limited Voltage Gain	.10
Microwave Antenna	No Transmission	1.00
Microwave Attenuator	Attenuation Increase	.90
	Insertion Loss	.10
Microwave Connector	High Insertion Loss	.80
	Open	.20
Microwave Detector	Power Loss	.90
	No Output	.10
Microwave, Diode	Open	.60
	Parameter Change	.28
	Short	.12
Microwave Filter	Center Frequency Drift	.80
	No Output	.20
Microwave Mixer	Power Decrease	.90
	Loss of Intermediate Frequency	.10
Microwave Modulator	Power Loss	.90
	No Output	.10
Microwave Oscillator	No Output	.80
	Untuned Frequency	.10
	Reduced Power	.10
Microwave VCO	No Output	.80
	Untuned Frequency	.15
	Reduced Power	.05

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Device Type	Failure Mode	Failure Mode Probability (α)
Microwave YIG	No Output Untuned Frequency Reduced Power	.80 .15 .05
Microwave Phase Shifter	Incorrect Output No Output	.90 .10
Microwave Polarizer	Change in Polarization	1.00
Optoelectronic LED	Open Short	.70 .30
Optoelectronic Sensor	Short Open	.50 .50
Pneumatic Actuator	Spurious Closing Spurious Opening	.54 .46
Power Supply	No Output Incorrect Output	.52 .48
Printed Wiring Assembly	Open Short	.76 .24
Pump, Centrifugal	No Output Degraded Output	.67 .33
Pump, Hydraulic	Leaking Improper Flow No Flow	.82 .12 .06
Regulator	Stuck Closed Stuck Open No Output Leaking Insufficient Output	.23 .23 .22 .22 .10
Relay	Fails to Trip Spurious Trip Short	.55 .26 .19
Resistor, Composition	Parameter Change Open Short	.66 .31 .03
Resistor, Fixed	Open Parameter Change Short	.84 .11 .05
Resistor, Fixed, Film	Open Parameter Change Short	.59 .36 .05
Resistor, Fixed, Wirewound	Open Parameter Change Short	.65 .26 .09
Resistor, Network	Open Short	.92 .08

Table 2.8 represents RAC's interpretation of the data contained in Section 3.0 of this report. It is recommended that the reader understand the assumptions used to derive these probabilities prior to applying them in a FMECA. Users may perform their own normalization procedure of Section 3.0 data.

Device Type	Failure Mode	Failure Mode Probability (α)
Resistor, Thermistor	Open	.63
	Parameter Change	.22
	Short	.15
Resistor, Variable	Open	.53
	Erratic Output	.40
	Short	.07
Rotary Switch	Improper Output	.53
	Contact Failure	.47
Screw	Loose	.67
	Excessive Wear	.33
Sensor	Erratic Output	.59
	Short	.20
	Open	.12
	No Output	.10
Software	Design Changes	.46
	Design Errors	.41
	User Error	.07
	Documentation Error	.06
Solenoid	Short	.52
	Slow Movement	.43
	Open	.05
Switch, Push-button	Open	.60
	Sticking	.33
	Short	.07
Switch, Thermal	Parameter Change	.63
	Open	.27
	No Control	.08
	Short	.02
Switch, Toggle	Open	.65
	Sticking	.19
	Short	.16
Synchro	Winding Failure	.45
	Bearing Failure	.33
	Brush Failure	.22
Tire	Leaking	.76
	Excessive Wear	.24
Transducer, Sensor	Out of Tolerance	.68
	False Response	.15
	Open	.12
	Short	.05

Table 2.8 represents RAC's interpretation of the data contained in Section 3.0 of this report. It is recommended that the reader understand the assumptions used to derive these probabilities prior to applying them in a FMECA. Users may perform their own normalization procedure of Section 3.0 data.

Device Type	Failure Mode	Failure Mode Probability (α)
Transformer	Open	.42
	Short	.42
	Parameter Change	.16
Transistor, Bipolar	Short	.73
	Open	.27
Transistor, FET	Short	.51
	Output Low	.22
	Parameter Change	.17
	Open	.05
	Output High	.05
Transistor, GaAs FET	Open	.61
	Short	.26
	Parameter Change	.13
Transistor, R.F.	Parameter Change	.50
	Short	.40
	Open	.10
Tube, Electron	Change in Parameter	.53
	Open	.25
	Unstable Output	.15
	Short	.07
Tube, Traveling Wave	Reduced Output Power	.71
	High Helix Current	.11
	Gun Failure	.09
	Open Helix	.09
Valve, Hydraulic	Leaking	.77
	Stuck Closed	.12
	Stuck Open	.11
Valve, Pneumatic	Leaking	.28
	Stuck Open	.20
	Stuck Closed	.20
	Spurious Opening	.16
	Spurious Closing	.16
Valve, Relief	Premature Open	.77
	Leaking	.23

Table 2.8 represents RAC's interpretation of the data contained in Section 3.0 of this report. It is recommended that the reader understand the assumptions used to derive these probabilities prior to applying them in a FMECA. Users may perform their own normalization procedure of Section 3.0 data.

The following list indicates how RAC derived the normalized failure mode distributions for FMECA presented in 2.8 by using the detailed data from Section 3.0. In some instances several failure mechanism descriptions from the Section 3.0 tables were combined and classified in terms of their most likely failure mode. For example, cracked/fractured and broken would be merged and classified as leaking for a liquid storage device like an accumulator. Also, certain failure descriptors which were deemed not applicable to a failure mode distribution were deleted and not considered at all. When items were deleted, the failure distributions from section 3.0 no longer add up to 100%. In these instances, the total percentage of remaining failure distribution used to compile the normalized failure mode distributions, depicted in this section, are indicated along with a description of the failures which were deleted. Also shown is the page number corresponding to the detailed failure distribution from section 3.0. The format for this list is part type, summary (if derived from a summary record), page number from section 3.0, percent remaining following deletions and deviations or assumptions used to derive the FMECA distribution:

Accumulator, (Summary), 3-1, 100%, Cracked/Fractured, Broken and leaking merged.

Actuator, (Summary), 3-2, 84.5%, Spurious position change and drift merged and aged/deteriorated and shorted deleted (not applicable to device).

Adapter, 3-4 100%, Seal/Gasket failure classified as leaking and broken classified as physical damage.

Alarm, (Summary), 3-4, 100%, No operation and fails to operate on demand merged and intermittent operation classified as spurious operation.

Antenna, 3-7, 91%, Broken and cracked/fractured merged and classified as no transmission. Intermittent operation and bent/dented/warped merged and classified as spurious transmission. Binding/sticking deleted.

Battery, Lithium, 3-10, 95%, Deleted leaking (not characteristic of normal failure).

Battery, Lead-Acid, 3-10, 90.9%, Deleted Cracked/Fractured (abuse related).

Battery, Ni-Cd, 3-10, 100%, No Change.

Bearing, (Summary), 3-11, 79.1%, Loss of lubrication merged into binding/sticking. Worn merged into excessive play. Out of adjustment and leaking deleted.

Belt, 3-15, 100%, No Change.

Blower Assembly, 3-15, 71.4%, Deleted Mechanical Failure.

Brake, 3-19, 70%, Deleted broken and out of adjustment (too generic).

Bushing, (Summary), 3-23, 90.7%, Merged worn with aged/deteriorated and classified as excessive wear. Merged excessive play into loose. Merged broken with cracked/fractured. Deleted out of adjustment.

Cable, 3-25, 100%, Merged cracked/fractured, worn, broken, and chaffed into excessive wear. Merged arcing/sparking into shorted.

Capacitor, Aluminum, Electrolytic, Foil, 3-29, 100%, No change.

Capacitor, Ceramic, 3-30, 94.5%, Drift classified as change in value. Contaminated (failure mechanism) and leaking deleted.

Capacitor, Mica/Glass, 3-31, 100%, Change in capacitance merged into change in value.

Capacitor, paper, 3-32, 100%, No change.

Capacitor, plastic, 3-33, 100%, Drift classified as change in value. Intermittent operation deleted.

Capacitor Tantalum, Electrolytic, (Summary) 3-34, 95.4%, Merge loss of capacitance and drift into change in value. Merge high leakage current into shorted. Delete intermittent operation.

Capacitor, Variable, Piston, 3-34, 100%, No change.

Chopper, 3-37, 100%, No change.

Circuit Breaker, 3-37, 53.8%, Delete degraded operation, cracked/fractured, broken and mechanical failure (abuse related).

Clutch, (Summary), 3-41, 86.2%, Merge worn, bearing failure and binding/sticking. Merge loss of torque and slipping and classify as slippage. Delete degraded output.

Coil, (Summary), 3-42, 90.8%, Merge insulation failure with short. Delete lead damage and wire failure (too generic).

Computer System, 3-45, 100%, No change.

Connector, (Summary), 3-45, 55.1%, Delete mechanical failure, mechanical damage, broken and insertion loss.

Controller, Electromechanical, 3-50, 100%, No change.

Counter Assembly, 3-51, 100%, Merge binding/sticking, slipping, excessive play, out of adjustment and out of synch and classify as inaccurate count.

Crystal, Quartz, 3-56, 100%, No change.

Diode, General, (Summary), 3-57, 82.0%, Delete Mechanical failure, intermittent operation, burned/charred and lead damage.

Diode, Rectifier, (Summary), 3-59, 91.2%, Delete diode failure, electrical overstress and corroded.

Diode, SCR, 3-61, 100%, No change.

Diode, Small Signal, (Summary), 3-61, 83.6%, Deleted intermittent operation, seal failure, change in resistance and cracked/fractured (not characteristic of normal failure).

Diode, Thyristor, (Summary), 3-62, 100%, No change

Diode, Triac, 3-62, 100%, No change.

Diode, Zener, Voltage, Reference, 3-63, 97.5%, Drift classified as parameter change. Intermittent operation and mechanical damage deleted.

Diode, Zener, Voltage, Regulator, 3-64, 100%, Drift classified as parameter change.

Electrical Motor, AC, (Summary), 3-67, 77.4%, Deleted mechanical failure and electrical failure (too generic).

Fitting, 3-77, 100%, Merged cracked/fractured, broken and aged/deteriorated into leaking.

Fuse, 3-78, 60.3%, Deleted blown fuse, opened, loss of power and mechanical failure.

Gasket/Seal, 3-80, 100%, Merge all failures listed into leaking.

Gear, 3-81, 96.4%, Merge worn, stripped and broken and classify as excessive wear. Merge jammed/stuck into binding/sticking. Delete displaced and noisy.

Generator, (Summary), 3-85, 82.8%, Merge drift into degraded operation. Delete shorted and worn.

Hybrid, 3-100, 91.5%, Delete broken. Merge improper output and degraded operation into degraded output.

Injector, 3-119, 100%, No change.

Inner Tube, 3-119, 100%, Merge all failures listed into leaking.

Keyboard, 3-121, 74.1%, Merge wiring & connection failure into connection failure. Delete mechanical failure.

Lamp, 3-121, 92.3%, Merge lamp failure, opened and no output and classify as no illumination. Merge worn into loss of illumination. Delete burned/charred (external cause) and broken.

Liquid Crystal Display, 3-132, 84.8%, Merge zebra strip and missing rows and classify as missing elements. Classify IC failures as blank display. Delete manufacturing defects.

Mechanical Filter, (Summary), 3-133, 80.1%, Merge improper flow into clogged. Delete loss of control.

Meter, 3-134, 86.2%, Merge spurious/false operation and drift and classify as faulty indication. Delete broken.

Microcircuit, Digital, Bipolar, 3-107, 100%, No change.

Microcircuit, Digital, MOS, 3-109, 100%, No change.

Microcircuit, Interface, 3-115, 100%, Microcircuit Interface equals IC, linear, line driver.

Microcircuit, Linear, 3-114, 98.2%, Merge drift with degraded operation and classify as improper output. Merge opened and shorted into no output. Delete mechanical failure.

Microcircuit, Memory, Bipolar, 3-107, 100%, Degraded operation classified as slow transfer of data.

Microcircuit, Memory, MOS, 3-110, 94.4%, Delete mechanical failure. Degraded operation classified as slow transfer of data.

Microwave, Amplifier, 3-6, 100%, Drift classified as limited voltage gain.

Microwave, Antenna, 3-7, 100%, Connection failure classified as no transmission.

Microwave, Attenuator, 3-8, 50%, Delete overheated.

Microwave, Connector, 3-49, 100%, No changes.

Microwave, Detector, 3-57, 100%, Diode failure broken into constituent failure elements.

Microwave, Diode, (Summary), 3-58, 83.3%, Delete intermittent operation.

Microwave, Filter, 3-66, 100%, No changes.

Microwave, Mixer, 3-138, 100%, Diode failure broken into constituent failure elements.

Microwave, Modulator, 3-138, 100%, No changes.

Microwave, Oscillator, 3-143, 100%, No changes.

Microwave, VCO, 3-143, 100%, No changes.

Microwave, YIG, 3-144, 100%, No changes

Microwave, Phase Shifter, 3-138, 100%, No output broken into constituent failure elements.

Microwave, Polarizer, 3-138, 100%, No changes.

Optoelectronic, LED, 3-143, 100%, No changes.

Optoelectronic, Sensor, 3-143, 100%, No changes.

Pneumatic, Actuator, (Summary), 3-151, 100%, No changes.

Power Supply, (Summary), 3-154, 49.1%, Delete fails to transfer, distribution system malfunction, generation system malfunction and connector failure. Merge degraded operation and incorrect voltage and classify as incorrect output.

Printed Wiring Assembly, 3-156, 73.7%, Merge open plated through hole into opened. Delete IC, Resistor, Semiconductor and Capacitor failures.

Pump, Centrifugal, (Summary), 3-159, 100%, Merge fails during operation and fails to start and classify as no output.

Pump, Hydraulic, (Summary), 3-163, 89.8%, Merge cracked/fractured into leaking. Merge out of spec. into improper flow. Delete noisy and intermittent operation. Classify no operation as no flow.

Relay, (Summary), 3-168 100%, Classify intermittent operation as spurious trip. Merge contact failure, high contact resistance and fails to close and classify as fails to trip.

Regulator, 3-167, 92%, Delete incorrect voltage.

Resistor, Fixed, 3-176, 92.2%, Delete broken and mechanical failure. Classify change in resistance as parameter change.

Resistor, Composition, 3-178, 72.3%, Delete moisture intrusion (failure mechanism), broken and lead defects. Classify drift as parameter change.

Resistor, Fixed, Film, 3-178, 87.9%, Delete film imperfections, substrate defects (failure mechanism) and lead damage. Classify drift as parameter change.

Resistor, Fixed, Wirewound, 3-179, 77.2%, Delete wire failure, corroded (failure mechanism), mechanical failure and lead defects. Classify drift as parameter change.

Resistor, Network, 3-180, 81.9%, Delete broken and intermittent operation.

Resistor, Thermistor, 3-181, 85.1%, Delete moisture intrusion (failure mechanism), mechanical failure and non-uniform resistance material. Classify drift as parameter change.

Resistor, Variable, (Summary), 3-181, 96%, Merge spurious/false operation, high contact resistance, intermittent operation and drift and classify as erratic output. Delete mechanical failure.

Rotary Switch, 3-186, 100%, No change.

Screw, 3-187, 100%, No change.

Sensor, (Summary), 3-193, 92.4%, Merge degraded output and intermitent operation and classify as erratic output. Delete mechanical failure.

Software, 3-205, 100%, No change.

Solenoid, 3-205, 100%, Merge binding/sticking and spring failure and classify as slow movement.

Switch, Pushbutton, 3-219, 100%, Classify contaminated as sticking.

Switch, Thermal, 3-221, 72.8%, Delete mechanical failure. Merge degraded operation and drift and classify as parameter change. Merge no output and loss of control and classify as no control.

Switch, Toggle, 3-221, 52.5%, Delete mechanical failure and intermittent operation. Merge contact failure into opened. Merge spring failure into sticking.

Synchro, 3-222, 100%, No change.

Tire, (Summary), 3-227, 92.1%, Delete broken, stripped and loose. Merge cut/scarred/punctured into leaking. Merge aged/deteriorated into worn.

Transducer, Sensor, (Summary), 3-229, 88.3%, Delete burned/charred (caused externally). Merge out of adjustment and out of spec. into out of tolerance. Merge spurious/false operation and intermittent operation into false response.

Transformer, (Summary), 3-231 89.7%, Merge degraded output and drift and classify as parameter change.

Transistor, Bipolar, (Summary), 3-247, 100%, Merge base-emitter shorted and collector-emitter shorted into shorted. Merge emitter opened into opened.

Transistor, FET, (Summary), 3-248, 100%, Merge gate-source shorted into shorted.

Transistor, GaAs FET, 3-250, 92%, Delete VT extraction.

Transistor, R.F., 3-251 100%, No change.

Tube, Electron, 3-253, 87.8%, Delete noisy, contaminated and leaking.

Tube, Traveling Wave, 3-253, 91.5%, Delete mechanical failure, noise/oscillations and poor focus.

Valve, Hydraulic, (Summary), 3-258, 100%, Merge closed into stuck closed. Merge opened into stuck open.

Valve, Pneumatic, (Summary), 3-263, 77.9%, Delete broken.

Valve, Relief, (Summary), 3-267, 75.3%, Delete drift, mechanical failure and open-close (not logical).

SECTION 3
FAILURE DISTRIBUTION SUMMARIES

Part Desc.	Failure Mode/Mech.	Norm Dist.	Fail Dist.	Data Source(s)/Details
Accelerator				Sources:1
	Mechanical Failure	71.2%	71.2%	Mechanical (24992-000,71.4%)
	Electrical Failure	28.8%	28.8%	Electrical (24992-000,28.9%)
Accelerometer				Sources:1
	Leaking	51.7%	50.5%	Leaking (20609-000,Qty:1,426)
	Out of Spec.	38.5%	37.6%	Out of Tolerance (20609-000,Qty:1,060)
	Binding/Sticking	9.7%	9.4%	Sticking (20609-000,Qty:266)
	Spurious/False Operation	0.1%	0.1%	Erratic (20609-000,Qty:4)
	Unknown	------	2.3%	Unknown (20609-000,Qty:66)
Accumulator (Summary)				
	Leaking	33.3%		
	Seized	23.0%		
	Worn	20.3%		
	Broken	9.7%		
	Contaminated	9.3%		
	Cracked/Fractured	4.3%		
Accumulator				Sources:1
	Leaking	28.3%	22.3%	Leaking (20609-000,Qty:78)
	Seized	25.0%	19.7%	Seized (20609-000,Qty:69)
	Worn	22.1%	17.4%	Worn Out (20609-000,Qty:61)
	Broken	10.5%	8.3%	Broken (20609-000,Qty:29)
	Contaminated	10.1%	8.0%	Contaminated (20609-000,Qty:28)
	Cracked/Fractured	4.0%	3.1%	Cracked/Fractured (20609-000,Qty:11)
	Unknown	------	21.1%	Unknown (20609-000,Qty:74)
Accumulator,Hydraulic				Sources:1
	Leaking	75.9%	66.7%	Leaking (20609-000,Qty:22)
	Cracked/Fractured	6.9%	6.1%	Cracked/Fractured (20609-000,Qty:2)
	No Operation	6.9%	6.1%	No Operation (20609-000,Qty:2)
	Breach	3.4%	3.0%	Breach (20609-000,Qty:1)
	Out of Spec.	3.4%	3.0%	Out Of Specification (20609-000,Qty:1)
	Stuck Closed	3.4%	[illegible]	Stuck Closed (20609-000,Qty:1)
	Unknown	------	12.1%	Unknown (20609-000,Qty:4)

Part Desc. / Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Actuator (Summary)			
Binding/Sticking	22.4%		
Seal/Gasket Failure	18.5%		
Spurious Position Change	17.9%		
Seized	12.9%		
Drift	12.9%		
Aged/Deteriorated	10.3%		
Shorted	5.2%		
Actuator			Sources:4
Aged/Deteriorated	50.8%	35.6%	Requires Overhaul (19542-000,6.7%), Deteriorated/Aged - Seized (25101-000,Qty:1)
Spurious Position Change	33.3%	23.3%	Catastrophic-Spurious Position Change (18175-000,70.0%)
Cable Failure	6.4%	4.5%	Cable Insulation Frayed (19542-000,6.7%), Cable Sleeve Needs Fixing (19542-000,6.7%)
Switch Failure	3.2%	2.2%	Thermal Switch Found to be Defective (19542-000,6.7%)
Out of Adjustment	3.2%	2.2%	Requires Adjustment of TM (19542-000,6.7%)
Mechanical Failure	3.2%	2.2%	Bearing & Brake Rusted (19542-000,6.7%)
Induced	------	16.7%	Improper Configuration Should be -2 (19542-000,6.7%), Improper Connector Installed (19542-000,6.7%), Safety Wire Bracket Broken (19542-000,6.7%), Degraded - Premature Or Delayed Actuation (18175-000,30.0%)
Unknown	------	13.3%	Unknown (19542-000,40.0%)
Other	------	0.0%	
Reduced Output		NR	Reduction in Output Force or Stroke (25036-000,NR)
Jammed/Stuck		NR	Jamming-Contamination (25036-000,NR)
No Output		NR	No Output-Contamination (25036-000,NR)
Actuator,Assembly			Sources:1
Binding/Sticking	100.0%	100.0%	Corroded-Binding/Sticking (25101-000,Qty:1), Binding/Sticking (25101-000,Qty:1)
Actuator,Downstream Pressure			Sources:1
Spurious Position Change	100.0%	70.0%	Catastrophic-Spurious Position Change (18175-000,70.0%)
Induced	------	30.0%	Degraded - Premature Or Delayed Actuation (18175-000,30.0%)
Actuator,External Pressure			Sources:1
Spurious Position Change	100.0%	70.0%	Catastrophic-Spurious Position Change (18175-000,70.0%)
Induced	------	30.0%	Degraded - Premature Or Delayed Actuation (18175-000,30.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Actuator, Fluid Head				Sources:1
	Spurious Position Change	100.0%	70.0%	Catastrophic-Spurious Position Change (18175-000,70.0%)
	Induced	------	30.0%	Degraded - Premature Or Delayed Actuation (18175-000,30.0%)
Actuator, Gravity				Sources:1
	Spurious Position Change	100.0%	70.0%	Catastrophic-Spurious Position Change (18175-000,70.0%)
	Induced	------	30.0%	Degraded - Premature Or Delayed Actuation (18175-000,30.0%)
Actuator, Piston, Cylinder				Sources:1
	Seal/Gasket Failure	79.5%	71.7%	Leaks and Seal Failure (24996-000,66.0%)
	Body/Head Joint Failure	10.8%	9.8%	Failure of Body/Head Joint (24996-000,9.0%)
	Piston Rod Failure	6.0%	5.4%	Failure and Piston Rod (24996-000,5.0%)
	Cylinder Body Failure	3.6%	3.3%	Failure of Cylinder Body (24996-000,3.0%)
	Unknown	------	9.8%	Unknown (24996-000,9.0%)
Actuator, Solenoid				Sources:1
	Binding/Sticking	40.0%	20.0%	Binding (20609-000,Qty:2)
	Shorted	40.0%	20.0%	Short (20609-000,Qty:2)
	Burned/Charred	20.0%	10.0%	Burned (20609-000,Qty:1)
	Unknown	------	50.0%	Unknown (20609-000,Qty:1) (20609-000,Qty:4)
Actuator, Temp Regulator				Sources:1
	Spurious Position Change	100.0%	65.0%	Catastrophic-Spurious Position Change (18175-000,65.0%)
	Induced	------	35.0%	Degraded - Premature Or Delayed Actuation (18175-000,35.0%)
Actuator, Transmit Force				Sources:1
	Seized	50.0%	50.0%	Stopped (24992-000,50.0%)
	Drift	50.0%	50.0%	Drift (24992-000,50.0%)
Actuator, Upstream Pressure				Sources:1
	Spurious Position Change	100.0%	70.0%	Catastrophic-Spurious Position Change (18175-000,70.0%)
	Induced	------	30.0%	Degraded - Premature Or Delayed Actuation (18175-000,30.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Adapter				Sources:1
	Out of Adjustment	33.3%	25.0%	Out Of Adjustment - Inop/Unserviceable (25101-000,Qty:1)
	Seal/Gasket Failure	33.3%	25.0%	Seals Worn - Loose (25101-000,Qty:1)
	Broken	33.3%	25.0%	Broken/Damaged (25101-000,Qty:1)
	Induced	------	25.0%	Overtorqued - Leaking Nitrogen (25101-000,Qty:1)
Adapter,Fire Control				Sources:1
	Out of Adjustment	50.0%	42.9%	Out Of Adjustment - Out Of Synch (25101-000,Qty:1), Out Of Adjustment - Inaccurate (25101-000,Qty:2)
	Worn	16.7%	14.3%	Worn - Inaccurate (25101-000,Qty:1)
	Loose	16.7%	14.3%	Vibration - Loose (25101-000,Qty:1)
	Broken	16.7%	14.3%	Broken/Damaged (25101-000,Qty:1)
	Unknown	------	14.3%	Unknown (25101-000,Qty:1)
Adapter,Kit				Sources:1
	Out of Adjustment	90.9%	90.9%	Out Of Adjustment - Inaccurate (25101-000,Qty:14), Out Of Adjustment - Found In TI/PMCS/Insp (25101-000,Qty:6)
	Inaccurate	4.5%	4.5%	No Failure - Inaccurate (25101-000,Qty:1)
	Loose	4.5%	4.5%	Loose Nut(s) - Found In TI/PMCS/Insp (25101-000,Qty:1)
Adapter,Trunnion				Sources:1
	Out of Synch.	63.6%	58.3%	Out Of Synch (25101-000,Qty:2) (25101-000,Qty:5)
	Out of Adjustment	36.4%	33.3%	Out Of Adjustment - Inaccurate (25101-000,Qty:3), Out Of Adjustment (25101-000,Qty:1)
	Unknown	------	8.3%	Unknown (25101-000,Qty:1)
Alarm (Summary)				
	Spurious/False Operation	48.3%		
	Intermittent Operation	18.0%		
	No Operation	18.0%		
	Fails to Op. on Demand	10.5%		
	Degraded Operation	5.2%		
Alarm,Annunciator,Basic				Sources:2
	Spurious/False Operation	50.0%	50.0%	False Alarms (24996-000,40.0%) (24997-000,40.0%)
	Intermittent Operation	25.0%	25.0%	Intermittent Operation (24996-000,20.0%) (24997-000,20.0%)
	No Operation	25.0%	25.0%	Fails To Operate (24996-000,20.0%) (24997-000,20.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Alarm,Annunciator,Module				Sources:1
	Fails to Op. on Demand	52.3%	15.0%	Catastrophic-Fails To Operate On Demand (18175-000,45.0%)
	Spurious/False Operation	40.7%	11.7%	Catastrophic-Operates Spurious Or False Response (18175-000,35.0%)
	Degraded Operation	7.0%	2.0%	Degraded (18175-000,3.0%) (18175-000,3.0%)
	Unknown	------	68.7%	Unknown (18175-000,12.0%) (18175-000,97.0%) (18175-000,97.0%)
	Induced	------	2.7%	Degraded-Operates At Low Intensity (18175-000,5.0%), Degraded-Erroneous Indication (18175-000,3.0%)
Alarm,Annunciator,Module,Isolating				Sources:1
	Fails to Op. on Demand	70.0%	70.0%	Catastrophic-Fails To Operate On Demand (18175-000,70.0%)
	Spurious/False Operation	30.0%	30.0%	Catastrophic-Operates Spurious Or False Response (18175-000,30.0%)
Alarm,Annunciator,Module,Relay				Sources:1
	Spurious/False Operation	56.8%	46.0%	Catastrophic-Operates Spurious Or False Response (18175-000,46.0%)
	Fails to Op. on Demand	38.3%	31.0%	Catastrophic-Fails To Operate On Demand (18175-000,31.0%)
	Degraded Operation	4.9%	4.0%	Degraded (18175-000,4.0%)
	Unknown	------	19.0%	Unknown (18175-000,19.0%)
Alarm,Annunciator,Module,Solid State (Visual)				Sources:1
	Spurious/False Operation	58.8%	55.0%	Catastrophic-Operates Spurious Or False Response (18175-000,55.0%) (18175-000,55.0%)
	Degraded Operation	23.5%	22.0%	Degraded (18175-000,22.0%) (18175-000,22.0%)
	Fails to Op. on Demand	17.6%	16.5%	Catastrophic-Fails To Operate On Demand (18175-000,16.0%) (18175-000,17.0%)
	Unknown	------	6.5%	Unknown (18175-000,6.0%) (18175-000,7.0%)
Alarm,Annunciator,Multiple or Sequence				Sources:2
	Spurious/False Operation	50.0%	40.0%	False Alarms (24996-000,40.0%) (24997-000,40.0%)
	Intermittent Operation	25.0%	20.0%	Intermittent Operation (24996-000,20.0%) (24997-000,20.0%)
	No Operation	25.0%	20.0%	Failure to Operate (24996-000,20.0%) (24997-000,20.0%)
	Unknown	------	20.0%	Unknown (24996-000,20.0%) (24997-000,20.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Alarm,Buzzer,Annunciator Module				Sources:1
	Degraded Operation	49.0%	49.0%	Degraded (18175-000,49.0%)
	Fails to Op. on Demand	29.0%	29.0%	Catastrophic-Fails To Operate On Demand (18175-000,29.0%)
	Spurious/False Operation	22.0%	22.0%	Catastrophic-Operates Spurious Or False Response (18175-000,22.0%)
Amplifier (Summary)				
	Shorted	50.0%		
	No Output	45.0%		
	Drift	5.0%		
Amplifier,Microwave				Sources:1
	No Output	90.0%	90.0%	Degraded transistor performance, no output (25015-000,90.0%)
	Drift	10.0%	10.0%	Passive component drift, limited voltage gain (25015-000,10.0%)
Amplifier,Wideband,GaAs FET				Sources:1
	Shorted	100.0%	100.0%	Short (25001-000,Qty:1)
Annunciator				Sources:1
	Degraded Operation	60.3%	25.3%	Degraded (18175-000,16.0%) (18175-000,20.0%) (18175-000,40.0%)
	Fails to Op. on Demand	23.0%	9.7%	Catastrophic-Fails To Operate On Demand (18175-000,29.0%)
	Spurious/False Operation	16.7%	7.0%	Catastrophic-Operates Spurious Or False Response (18175-000,21.0%)
	Unknown	------	58.0%	Unknown (18175-000,4.0%) (18175-000,5.0%) (18175-000,10.0%) (18175-000,75.0%) (18175-000,80.0%)
Annunciator,Solid State				Sources:1
	Spurious/False Operation	50.0%	50.0%	Catastrophic-Operates Spurious Or False Response (18175-000,50.0%)
	Fails to Op. on Demand	33.0%	33.0%	Catastrophic-Fails To Operate On Demand (18175-000,33.0%)
	Out of Spec.	17.0%	17.0%	Catastrophic-Out Of Limits (18175-000,17.0%)
Antenna (Summary)				
	Connection Failure	39.3%		
	Broken	19.8%		
	Leaking	11.8%		
	Cracked/Fractured	9.8%		
	Bent/Dented/Warped	9.2%		
	Binding/Sticking	5.5%		
	Intermittent Operation	4.6%		

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Antenna				Sources:4
	Broken	32.6%	16.8%	Broken (20609-000,Qty:2) (25464-000,Qty:53)
	Leaking	19.4%	10.0%	Leaking Internal or External (25464-000,Qty:41)
	Cracked/Fractured	16.2%	8.3%	Cracked/Fractured (20609-000,Qty:4), Cracked (25464-000,Qty:2)
	Bent/Dented/Warped	15.2%	7.8%	Distorted (20609-000,Qty:2), Bent (20609-000,Qty:2)
	Binding/Sticking	9.0%	4.6%	Binding (20609-000,Qty:1), Binding Stuck or Jammed (25464-000,Qty:11)
	Intermittent Operation	7.6%	3.9%	Intermittent (20609-000,Qty:2)
	Unknown	------	37.3%	Unknown (19542-000,100.0%) (20609-000,Qty:2)
	Other (<%7)	------	11.2%	
	Worn		3.4%	Worn, Chaffed, Frayed, or Torn (25464-000,Qty:14)
	Corroded		3.4%	Corroded Mild/Moderate (25464-000,Qty:14)
	Out of Spec.		2.0%	Out Of Specification (20609-000,Qty:1)
	Shorted		2.0%	Short (20609-000,Qty:1)
	Loose		0.2%	Loose,Damaged,or Missing Har (25464-000,Qty:1)
	High Volt. or Standing Wave		0.2%	High Voltage or Standing Wave (25464-000,Qty:1)
	Hardware Failure		NR	Power Loss (Hardware) (24997-000,NR)
	Output Distortion		NR	Pattern Distortion (24997-000,NR)
	Transmission Loss		NR	Transmission Loss (Atmosphere) (24997-000,NR)
	Feeder Failure		NR	Feeder Malfunction (24997-000,NR) (24997-000,NR)
	Mechanical Failure		NR	Mechanical Malfunction-Pedestal (24997-000,NR)
	Loss of Control		NR	Control Malfunction (24997-000,NR)
	Radiation Element Failure		NR	Radiation Elements (24997-000,NR)
Antenna,Microwave				Sources:1
	Connection Failure	100.0%	100.0%	Connection Deficency, No Transmission (25015-000,100.0%)
Arm,Link				Sources:1
	Loose	25.0%	16.7%	Worn - Loose (25101-000,Qty:1)
	Cracked/Fractured	25.0%	16.7%	Cracked (25101-000,Qty:1)
	Broken	25.0%	16.7%	Out Of Adjustment - Broken/Damaged (25101-000,Qty:1)
	Out of Adjustment	25.0%	16.7%	No Failure - Out Of Adjustment (25101-000,Qty:1)
	Induced	------	33.3%	Caused By Other Failure-Cracked (25101-000,Qty:2)

Part Desc. / Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Arm,Recoil Mechanism			Sources:1
Out of Adjustment	60.9%	45.2%	Out Of Adjustment - Fnd In TI/PMCS/INSP (25101-000,Qty:13), Out Of Adjustment - Out Of Synch (25101-000,Qty:1)
Aged/Deteriorated	21.7%	16.1%	Deterioration/Aged - Broken/Damaged (25101-000,Qty:5)
Broken	13.0%	9.7%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:2)
Cracked/Fractured	4.3%	3.2%	Cracked (25101-000,Qty:1)
Induced	------	25.8%	Caused By Other Failure-Fnd In TI/PMCS/INSP (25101-000,Qty:2), Broken/Damaged (25101-000,Qty:3), Improper Maintenance - Broken/Damaged (25101-000,Qty:1), Part Struck/Damaged - Cracked (25101-000,Qty:2)
Attenuator,Fixed,Microwave			Sources:1
Overheated	50.0%	50.0%	Overheated (25015-000,Qty:1) (25015-000,Qty:27) (25015-000,10.0%) (25015-000,11.0%)
Attenuation Increase	45.0%	45.0%	Attenuation Increase (25015-000,90.0%)
Insertion Loss	5.0%	5.0%	Insertion Loss (25015-000,10.0%)
Attenuator,Microwave			Sources:1
Induced	------	<0.1%	Burnout-Electrical Overstress (24417-001,NR)
Other	------	100.0%	
Mechanical Overstress		NR	Mechanical Overstress (24417-001,NR)
Attenuator,Microwave,Voltage Controlled			Sources:1
Attenuation Increase	80.0%	80.0%	Increased Attenuation (Resistive burn out) (25015-000,80.0%)
Diode Failure	20.0%	20.0%	Degraded Diode (25015-000,20.0%)
Axel			Sources:2
Chaffed	58.3%	43.8%	Chaffed (20609-000,Qty:7)
Mechanical Damage	33.3%	25.0%	Damaged (19542-000,50.0%)
Bent/Dented/Warped	8.3%	6.3%	Distorted (20609-000,Qty:1)
Unknown	------	25.0%	Unknown (19542-000,50.0%)
Ball Screw (Summary)			
Binding/Sticking	20.8%		
Out of Adjustment	20.8%		
Broken	20.8%		
Corroded	16.7%		
Bearing Failure	12.5%		
Bent/Dented/Warped	4.2%		
Creep	4.2%		

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Battery (continued)				
	Induced	------	4.0%	K-1 Miswired (19542-000,20.0%)
	Other (<%7)	------	8.7%	
	Unstable Operation		5.7%	Unstable (24992-000,28.6%)
	Opened		2.0%	Catastrophic Open (24990-000,10.0%)
	Contaminated		1.0%	Contamination (24992-000,4.8%)
Battery,Lithium				Sources:1
	Degraded Operation	74.0%	74.0%	Degraded (20609-000,74.0%)
	Startup Delay	13.0%	13.0%	Large Startup Delay (20609-000,13.0%)
	Shorted	6.0%	6.0%	Short (20609-000,6.0%)
	Leaking	5.0%	5.0%	Leaking (20609-000,5.0%)
	Opened	2.0%	2.0%	Open (20609-000,2.0%)
Battery,Non-Rechargeable,Lead Acid				Sources:1
	Out of Spec.	63.6%	43.8%	Out of Specification (20609-000,Qty:7)
	Shorted	18.2%	12.5%	Short (20609-000,Qty:2)
	Cracked/Fractured	9.1%	6.3%	Cracked/Fractured (20609-000,Qty:1)
	Intermittent Operation	9.1%	6.3%	Intermittent (20609-000,Qty:1)
	Unknown	------	31.3%	Unknown (20609-000,Qty:5)
Battery,Rechargeable,Ni-Cd				Sources:3
	Degraded Output	72.0%	72.0%	Degraded - Low Output Given Challenge (18175-000,NR) (18175-000,NR), Degraded - Low Output During Test (18175-000,71.0%) (18175-000,73.0%)
	No Output	28.0%	28.0%	Degraded - No Output During Test (18175-000,27.0%) (18175-000,29.0%)
	Unknown	------	<0.1%	Unknown (18175-000,NR) (18175-000,NR)
	Other	------	0.0%	
	Loss of Volt.		NR	Loss of Voltage, End of Life (24996-000,NR) (24997-000,NR)
	Shorted		NR	Internal Short (24996-000,NR) (24997-000,NR)
	Opened		NR	Internal Open Circuits (24996-000,NR) (24997-000,NR)
	Mechanical Failure		NR	Mechanical Failure (24996-000,NR) (24997-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Ball Screw,Assembly				Sources:1
	Binding/Sticking	29.4%	16.1%	Binding/Sticking (25101-000,Qty:2), Part Struck/Damaged-Binding/Sticking (25101-000,Qty:1), Seized/Frozen (25101-000,Qty:1), Worn/Stripped-Binding/Sticking (25101-000,Qty:1)
	Broken	23.5%	12.9%	Broken/Damaged (25101-000,Qty:1), Broken/Separated (25101-000,Qty:2), Broken/Separated-Broken/Damaged (25101-000,Qty:1)
	Corroded	23.5%	12.9%	Corroded-Binding/Sticking (25101-000,Qty:4)
	Bearing Failure	17.6%	9.7%	Bearing Failure-Seized (25101-000,Qty:1), Bearing Failure (25101-000,Qty:2)
	Bent/Dented/Warped	5.9%	3.2%	Warped/Bent (25101-000,Qty:1)
	Induced	------	29.0%	Abnormal Operation (25101-000,Qty:1), Lack Of Maintenance - Binding/Sticking (25101-000,Qty:2), Lack Of Lubrication - Binding/Sticking (25101-000,Qty:1), Lack Of Maintenance - Seized (25101-000,Qty:2), Lack Of Maintenance (25101-000,Qty:3)
	Unknown	------	16.1%	Unknown (25101-000,Qty:1) (25101-000,Qty:4)
Ball Screw,Equipment Assembly				Sources:1
	Out of Adjustment	71.4%	41.7%	Out Of Adjustment (25101-000,Qty:5)
	Creep	14.3%	8.3%	Creep (25101-000,Qty:1)
	Broken	14.3%	8.3%	Accident-Broken/Damaged (25101-000,Qty:1)
	Induced	------	25.0%	Improper Adjustment (25101-000,Qty:1), Lack Of Lubrication (25101-000,Qty:2)
	Unknown	------	16.7%	Unknown (25101-000,Qty:2)
Battery (Summary)				
	Degraded Output	28.2%		
	Worn	23.0%		
	No Output	16.3%		
	Connector Failure	13.8%		
	Shorted	11.0%		
	Leaking	7.7%		
Battery				Sources:5
	Degraded Operation	22.9%	20.0%	Degraded (20609-000,Qty:5)
	Worn	22.9%	20.0%	Wearout (24991-000,100.0%)
	Connector Failure	13.7%	12.0%	Connector Panel Defective (19542-000,20.0%), Connector Pins Shorted (19542-000,20.0%), Connector Shorted (19542-000,20.0%)
	No Output	13.1%	11.4%	No Output (24992-000,57.1%)
	Degraded Output	11.5%	10.0%	Low Output (24990-000,50.0%)
	Shorted	9.2%	8.0%	Shorted VR1-3 To Chassis (19542-000,20.0%), Catastrophic Short (24990-000,20.0%)
	Leaking	6.8%	5.9%	Leak (24990-000,20.0%) (24992-000,9.5%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Battery,Storage				Sources:1
	Degraded Output	83.2%	81.5%	Degraded - Low Output Given Challenge (18175-000,1.0%) (18175-000,1.0%), Degraded - Low Output During Test (18175-000,80.0%) (18175-000,81.0%)
	No Output	16.8%	16.5%	Degraded - No Output During Test (18175-000,16.0%) (18175-000,17.0%)
	Unknown	------	2.0%	Unknown (18175-000,1.0%) (18175-000,1.0%) (18175-000,1.0%) (18175-000,1.0%)
Battery,Storage,Lead Acid,Float Service				Sources:1
	Degraded Output	83.0%	83.0%	Degraded - Low Output Given Challenge (18175-000,NR), Degraded - Low Output During Test (18175-000,83.0%)
	No Output	17.0%	17.0%	Degraded - No Output During Test (18175-000,17.0%)
	Unknown	------	<0.1%	Unknown (18175-000,NR)
Battery,Storage,Lead Acid,Stationary Float				Sources:1
	Degraded Output	97.4%	95.5%	Degraded - Low Output Given Challenge (18175-000,3.0%) (18175-000,3.0%), Degraded - Low Output During Test (18175-000,5.0%) (18175-000,90.0%) (18175-000,90.0%)
	No Output	2.6%	2.5%	Degraded - No Output During Test (18175-000,5.0%)
	Unknown	------	2.0%	Unknown (18175-000,1.0%) (18175-000,1.0%) (18175-000,1.0%) (18175-000,1.0%)
Bearing (Summary)				
	Binding/Sticking	30.3%		
	Worn	30.3%		
	Leaking	17.4%		
	Loss of Lubrication	9.4%		
	Contaminated	5.5%		
	Excessive Play	3.6%		
	Out of Adjustment	3.5%		
Bearing				Sources:8
	Worn	45.1%	32.6%	Blower Bearing Worn Out (19542-000,4.2%), Worn (24990-000,60.0%), Worn Out (20609-000,Qty:94), Metal Fatigue and Wear (24996-000,70.0%), Worn-End In TI/PMSC/INSP (25101-000,Qty:1), Worn, Chaffed, Frayed, or Torn (25464-000,Qty:2)
	Binding/Sticking	16.9%	12.2%	Binding (20609-000,Qty:21) (24990-000,40.0%) (24996-000,20.0%), Sticking (20609-000,Qty:9), Seized (20609-000,Qty:3), Jammed (20609-000,Qty:3), Seized/Frozen-Loose (25101-000,Qty:1)
	Excessive Play	11.0%	7.9%	Excessive Play (19542-000,12.5%) (25101-000,Qty:1), Worn-Excessive Play (25101-000,Qty:1) (25101-000,Qty:1)
	Loss of Lubrication	10.7%	7.7%	Lubrication Dried Out (19542-000,4.2%), Loss Or Deterioration Of Lubrication (24993-000,45.0%), Loss Of Lubrication (20609-000,Qty:16)
	Loose	9.9%	7.1%	Loose,Damaged,or Missing Har (25464-000,Qty:2)
	Contaminated	6.3%	4.6%	Contamination (24993-000,30.0%), Pitted (20609-000,Qty:6)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Bearing (continued)				
	Unknown	------	18.9%	Unknown (19542-000,4.2%) (19542-000,4.2%) (19542-000,4.2%) (19542-000,4.2%) (19542-000,45.8%) (20609-000,Qty:144) (24993-000,10.0%) (25101-000,Qty:1)
	Induced	------	1.3%	Defective (19542-000,4.2%), Misalignment (24993-000,5.0%)
	Other (<%4)	------	7.7%	
	Seized		2.0%	Seized (25101-000,Qty:1)
	Aged/Deteriorated		1.8%	Requires Overhaul (19542-000,12.5%)
	Scored		1.4%	Scored (20609-000,Qty:8), Scoring (24996-000,7.0%)
	Corroded		1.1%	Corrosion (24993-000,5.0%) (24996-000,3.0%)
	Brinelling		0.7%	Brinelling (24993-000,5.0%)
	Excessive Vibration		0.3%	Vibrating (20609-000,Qty:6)
	Bent/Dented/Warped		0.2%	Dented (20609-000,Qty:3), Bent (20609-000,Qty:1)
	Clogged/Clogging		0.1%	Clogged (20609-000,Qty:3)
	Cracked/Fractured		<0.1%	Cracked/Fractured (20609-000,Qty:1)
	Creep		NR	Creeping/Spin-Improper Fit Between Bearing & Shaft (25036-000,NR)
	Scuffing		NR	Hard Lines or Scuffing (25036-000,NR)
	Spalling		NR	Spalling-Poor Lubrication (25036-000,NR), Spalling-Fatigue (25036-000,NR), Spalling-Wearout (25036-000,NR)
Bearing,Antifriction				Sources:1
	Binding/Sticking	98.7%	98.7%	Binding Stuck or Jammed (25464-000,Qty:1,748)
	Worn	0.6%	0.6%	Worn, Chaffed, Frayed, or Torn (25464-000,Qty:10)
	Broken	0.5%	0.5%	Broken (25464-000,Qty:9)
	Leaking	0.2%	0.2%	Leaking Internal or External (25464-000,Qty:4)
Bearing,Ball				Sources:1
	Binding/Sticking	22.2%	6.7%	Part Missing/Loose-Binding/Sticking (25101-000,Qty:1), Binding/Sticking (25101-000,Qty:1)
	Corroded	22.2%	6.7%	Corroded-Noisy (25101-000,Qty:1) (25101-000,Qty:1)
	Excessive Play	11.1%	3.3%	Worn-Excessive Play (25101-000,Qty:1)
	Seized	11.1%	3.3%	Seized/Frozen-Inop Man Elevation (25101-000,Qty:1)
	Worn	11.1%	3.3%	Worn-Fnd In TI/PMCS/INSP (25101-000,Qty:1)
	Bearing Failure	11.1%	3.3%	Bearing Failure-Noisy (25101-000,Qty:1)
	Out of Adjustment	11.1%	3.3%	Out Of Adjustment - Abnormal Operation (25101-000,Qty:1)
	Induced	------	60.0%	Lack Of Lubrication-Noisy (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1), Lack Of Lubrication-Handwheel Spin (25101-000,Qty:1), Improper Maintenance - Noisy (25101-000,Qty:1), Lack Of Lubrication-Inop Man Elevation (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Bearing,Ball (continued)				
	Induced (continued)			
				(25101-000,Qty:1), Lack Of Lubrication-Corroded (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2), Caused By Other Failure-Corroded (25101-000,Qty:1), Lack Of Maintenance - Noisy (25101-000,Qty:1) (25101-000,Qty:2), Lack Of Maintenance-Inop Man Elevation (25101-000,Qty:1), Lack Of Maintenance - Inop/Unserviceable (25101-000,Qty:1), Lack Of Maintenance - Inop Man Traverse (25101-000,Qty:1)
	Unknown	------	10.0%	Unknown (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1)
Bearing,Roller				Sources:2
	Leaking	50.0%	50.0%	Leaking Liquid (23038-004,Qty:1)
	Out of Adjustment	25.0%	25.0%	Out Of Adjustment-Excessive Play (25101-000,Qty:1)
	Seized	25.0%	25.0%	Seized (25101-000,Qty:1)
Bearing,Roller,Taper				Sources:1
	Out of Adjustment	90.0%	78.3%	Out Of Adjustment (25101-000,Qty:3) (25101-000,Qty:15)
	Worn	5.0%	4.3%	Worn-Abnormal Operation (25101-000,Qty:1)
	Binding/Sticking	5.0%	4.3%	Binding/Sticking (25101-000,Qty:1)
	Induced	------	13.0%	Abnormal Operation (25101-000,Qty:1), Lack Of Maintenance - Bearing Failure (25101-000,Qty:1), Lack Of Maintenance-Fnd In TI/PMCS/INSP (25101-000,Qty:1)
Bearing,Sleeve				Sources:1
	Worn	40.0%	31.6%	Worn Out (25101-000,Qty:4), Worn-Fnd In TI/PMSC/INSP (25101-000,Qty:2)
	Excessive Play	26.7%	21.1%	Worn-Excessive Play (25101-000,Qty:4)
	Broken	13.3%	10.5%	Broken/Damaged (25101-000,Qty:1), Shaft Broken-Binding/Sticking (25101-000,Qty:1)
	Bushing Failure	6.7%	5.3%	Worn Bushing-Fnd In TI/PMSC/INSP (25101-000,Qty:1)
	Seized	6.7%	5.3%	Unknown-Seized (25101-000,Qty:1)
	Aged/Deteriorated	6.7%	5.3%	Deteriorated/Aged-Fnd In TI/PMSC/INSP (25101-000,Qty:1)
	Induced	------	15.8%	Improper Maintenance-Inop Man Elevation (25101-000,Qty:1), Dropped-Fnd In TI/PMCS/INSP (25101-000,Qty:1), Fell Off Or Lost-Missing (25101-000,Qty:1)
	Unknown	------	5.3%	Unknown (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Bearing, Sleeve, Trunnion				Sources:1
	Bushing Failure	41.7%	27.8%	Worn Bushing - Out Of Synch (25101-000,Qty:2), Worn Bushing - Inop Man Elevation (25101-000,Qty:3)
	Out of Synch.	25.0%	16.7%	Out Of Synch (25101-000,Qty:1) (25101-000,Qty:2)
	Broken	16.7%	11.1%	Broken/Separated-Out Of Synch (25101-000,Qty:2)
	Binding/Sticking	8.3%	5.6%	Gears Binding - Out Of Synch (25101-000,Qty:1)
	Worn	8.3%	5.6%	Worn Out (25101-000,Qty:1)
	Induced	------	33.3%	Lack Of Lubrication - Out Of Synch (25101-000,Qty:5), Lack Of Lubrication - Worn Out (25101-000,Qty:1)
Bell, Annunciator Module				Sources:1
	Degraded Operation	49.0%	49.0%	Degraded (18175-000,49.0%)
	Fails to Op. on Demand	38.0%	38.0%	Catastrophic-Fails To Operate On Demand (18175-000,38.0%)
	Spurious/False Operation	13.0%	13.0%	Catastrophic-Operates Spurious Or False Response (18175-000,13.0%)
Bellows				Sources:3
	Cracked/Fractured	40.0%	25.0%	Cracked (19542-000,50.0%)
	Aged/Deteriorated	30.0%	18.8%	Deteriorated/Aged-Cracked (25101-000,Qty:1), Deteriorated/Aged-Inop/Unserviceable (25101-000,Qty:2), Deteriorated/Aged-Broken/Damaged (25101-000,Qty:1), Deteriorated (25101-000,Qty:2)
	Cut/Scarred/Punctured	20.0%	12.5%	Cut/Scarred (25101-000,Qty:4)
	Burst/Ruptured	5.0%	3.1%	Breaking or Bursting (24996-000,NR), Part Struck/Damaged-Punctured (25101-000,Qty:1)
	Broken	5.0%	3.1%	Broken/Damaged (25101-000,Qty:1)
	Unknown	------	25.0%	Unknown (19542-000,50.0%)
	Induced	------	12.5%	Item Abuse/Neglect-Cut/Scarred (25101-000,Qty:2), Part Struck/Damaged-Cut/Scarred (25101-000,Qty:2)
	Other	------	0.0%	
	Leaking		NR	Leaks (24996-000,NR)
Belt (Summary)				
	Worn	75.0%		
	Broken	25.0%		

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Belt				Sources:1
	Worn	75.0%	30.0%	Worn Out (19542-000,30.0%)
	Broken	25.0%	10.0%	Broken (19542-000,10.0%)
	Induced	------	60.0%	Due to Excessive Use (19542-000,60.0%)
Blower (Summary)				
	Bearing Failure	46.6%		
	Mechanical Failure	23.6%		
	Electrical Failure	8.0%		
	Sensor Failure	7.3%		
	Blade Erosion	6.7%		
	Out of Balance	4.6%		
	Shorted	3.1%		
Blower,Fan Assembly				Sources:4
	Bearing Failure	32.0%	25.9%	Bearings Worn Out (19542-000,15.8%), Excessive Vibrations & Bearings Loose (19542-000,5.3%), Noisy Due To Defective Bearings (19542-000,5.3%), Brinelled Bearings (24417-000,NR), Bearing Failure (24996-000,NR) (24997-000,NR) Bearing Failures (24996-000,25.4%)
	Mechanical Failure	28.6%	23.0%	Mechanical Failure (24996-000,NR) (24997-000,NR), Housing Breakage (24996-000,7.6%), Other Mechanical Failure (24996-000,38.3%)
	Sensor Failure	11.5%	9.2%	Defective Sensor (19542-000,18.4%)
	Blade Erosion	10.6%	8.5%	Blade Erosion (24996-000,17.0%)
	Out of Balance	7.3%	5.9%	Foundation Imbalance (24996-000,11.7%)
	Shorted	4.9%	4.0%	Excessive Current Has Shorted (19542-000,2.6%), Short (19542-000,5.3%)
	Switch Failure	4.9%	3.9%	Defective Switch (19542-000,2.6%), Switch Is Loose (19542-000,2.6%), Switch Not Working (19542-000,2.6%)
	Unknown	------	11.9%	Unknown (19542-000,23.7%) (24997-000,NR)
	Induced	------	6.6%	Has Excessive Vibrations & Mount Is Loose (19542-000,5.3%), Improper Installation (19542-000,2.6%), Reverse Wiring (19542-000,2.6%), Switch Not Properly Installed (19542-000,2.6%), Operation With One Phase Disconnected (24417-000,NR), Prolonged Operation at Low Temperatures (24417-000,NR), Damage by Foreign Objects (24417-000,NR)
	Other (<%3)	------	1.3%	
	Motor Failure		1.3%	Motor Damaged (19542-000,2.6%), Motor Failure (24996-000,NR) (24997-000,NR)
	Bolt & Nut Failure		NR	Nut & Bolt Failure (24997-000,NR)
	Winding Failure		NR	Open Windings (24417-000,NR)

Part Desc. / Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Blower,Minature			Sources:1
Bearing Failure	66.0%	66.0%	Bearing Failure (13591-000,66.0%)
Electrical Failure	20.3%	20.3%	Electric Failure (General) (13591-000,20.3%)
Mechanical Failure	3.7%	13.7%	Mechanical Failure (General) (13591-000,13.7%)
Body Assembly			Sources:1
Induced	------	100.0%	Overtorqued - Stripped (25101-000,Qty:1)
Body Assembly,Breech Block			Sources:1
Binding/Sticking	66.7%	40.0%	Dropped - Binding/Sticking (25101-000,Qty:2)
Misfire	33.3%	20.0%	Lack of Maintenance - Misfire (25101-000,Qty:1)
Induced	------	40.0%	Improper Install - Imp Assembly/Install (25101-000,Qty:1), Lack of Maintenance - Binding/Sticking (25101-000,Qty:1)
Body Assembly,Breech Ring			Sources:1
Out of Synch.	100.0%	5.4%	Out of Synch (25101-000,Qty:1) (25101-000,Qty:2)
Induced	------	91.1%	Improper Maintenance Corroded (25101-000,Qty:51)
Unknown	------	3.6%	Unknown (25101-000,Qty:2)
Boiler,Fossil Fueled			Sources:1
Unknown	------	<0.1%	Unknown (24996-000,NR)
Other	------	100.0%	
Leaking		NR	Tube Leaks (24996-000,NR)
Economizer Failure		NR	Economizer Failure (24996-000,NR)
Refractory Failure		NR	Refractory Failure (24996-000,NR)
Loss of Control		NR	Control Failure (24996-000,NR)
Bolt (Summary)			
Broken	79.1%		
Aged/Deteriorated	11.6%		
Worn	4.7%		
Stripped	2.3%		
Binding/Sticking	2.3%		

Part Desc. / Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Bolt,Machine			Sources:1
Broken	70.1%	59.6%	Broken Bolt(s) (25101-000,Qty:1) (25101-000,Qty:1), Part Struck/Damaged-Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:8), Broken/Damaged (25101-000,Qty:23)
Aged/Deteriorated	11.6%	8.8%	Deteriorated/Aged - Broken Bolt(s) (25101-000,Qty:3), Deteriorated/Aged-Broken/Damaged (25101-000,Qty:2)
Worn	4.7%	3.5%	Worn-loose (25101-000,Qty:1), Worn-Inop/Unserviceable (25101-000,Qty:1)
Binding/Sticking	2.3%	1.8%	Binding/Sticking (25101-000,Qty:1)
Stripped	2.3%	1.8%	Stripped (25101-000,Qty:1)
Induced	------	22.3%	Improper Maintenance - Binding/Sticking (25101-000,Qty:1), Improper Maintenance - Found In TI/PMCS/Insp (25101-000,Qty:1), Lack of Maintenance-Metal On Mag Plug (25101-000,Qty:1), Overtorqued-Stripped (25101-000,Qty:1), Caused By Other Failure-Broken/Damaged (25101-000,Qty:1), Improper Maintenance-Broken/Damaged (25101-000,Qty:1), Improper Maintenance - Stripped (25101-000,Qty:1), Lack Of Maintenance - Loose (25101-000,Qty:1), Improper Installation-Broken/Damaged (25101-000,Qty:1), Improper Installation-Broken Bolt(s) (25101-000,Qty:1), Vibration-Missing (25101-000,Qty:1), Operator Error-Broken Bolt(s) (25101-000,Qty:1), Lack Of Maintenance - Fnd In TI/PMCS/INSP (25101-000,Qty:1)
Unknown	------	1.8%	Unknown (25101-000,Qty:1)
Bolt,Ribbed Shoulder			Sources:1
Induced	------	100.0%	Improper Maintenance-Broken/Damaged (25101-000,Qty:1), Lack Of Maintenance - Loose Bolt(s) (25101-000,Qty:1), Lack Of Maintenance-Skips (25101-000,Qty:1), Overtorqued-Broken/Damaged (25101-000,Qty:1)
Bracket			Sources:1
Broken	63.6%	50.0%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2) (25101-000,Qty:3)
Binding/Sticking	9.1%	7.1%	Binding/Sticking (25101-000,Qty:1)
Aged/Deteriorated	9.1%	7.1%	Deteriorated/Aged - Broken/Damaged (25101-000,Qty:1)
Excessive Play	9.1%	7.1%	Worn - Excessive Play (25101-000,Qty:1)
Bent/Dented/Warped	9.1%	7.1%	Warped/Bent - Broken/Damaged (25101-000,Qty:1)
Induced	------	14.3%	Caused By Other Failure-Cracked (25101-000,Qty:1), Stolen - Missing (25101-000,Qty:1)
Unknown	------	7.1%	Unknown (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Bracket,Assembly				Sources:1
	Cracked/Fractured	45.3%	36.9%	Cracked Weld-Broken/Damaged (25101-000,Qty:5), Cracked Weld-Cracked (25101-000,Qty:9), Cracked Weld-Found In TI/PMCS/INSP (25101-000,Qty:1), Cracked (25101-000,Qty:2) (25101-000,Qty:3), Vibration - Cracked (25101-000,Qty:3), Part Struck/Damaged - Cracked (25101-000,Qty:1)
	Broken	39.6%	32.3%	Vibration - Broken/Damaged (25101-000,Qty:2), Broken/Damaged (25101-000,Qty:7), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:7), Part Struck/Damaged - Fnd In TI/PMCS/INSP (25101-000,Qty:1), Part Struck/Damaged - Inop/Unserviceable (25101-000,Qty:2), Part Struck/Damaged - Out Of Synch (25101-000,Qty:1)
	Bent/Dented/Warped	13.2%	10.8%	Collapsed/Bent (25101-000,Qty:1) (25101-000,Qty:6)
	Bond/Beam Failure	1.9%	1.5%	Poor Bonding - Broken/Damaged (25101-000,Qty:1)
	Induced	------	16.9%	Caused By Other Failure-Cracked (25101-000,Qty:1), Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:5), Operator Error - Collapsed/Bent (25101-000,Qty:1), Part Struck/Damaged - Binding/Sticking (25101-000,Qty:4)
	Unknown	------	1.5%	Unknown (25101-000,Qty:1)
Bracket,Body Assembly				Sources:1
	Cracked/Fractured	75.0%	60.0%	Cracked (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2) (25101-000,Qty:9), Cracked Weld-Cracked (25101-000,Qty:8), Cracked Weld-Creep (25101-000,Qty:1), Vibration - Cracked (25101-000,Qty:2)
	Cut/Scarred/Punctured	9.4%	7.5%	Cut/Scarred (25101-000,Qty:2), Worn - Cut/Scarred (25101-000,Qty:1)
	Loose	6.3%	5.0%	Loose Screw(s) - Loose (25101-000,Qty:1), Loose (25101-000,Qty:1)
	Stripped	3.1%	2.5%	Stripped (25101-000,Qty:1)
	Broken	3.1%	2.5%	Broken/Damaged (25101-000,Qty:1)
	Leaking	3.1%	2.5%	Leaking Hydraulic Oil (25101-000,Qty:1)
	Induced	------	20.0%	Caused By Other Failure-Worn Out (25101-000,Qty:1), Caused By Other Failure-Cracked (25101-000,Qty:1), Improper Maintenance - Noisy (25101-000,Qty:1), Lack Of Maintenance - Stripped (25101-000,Qty:1), Overtorqued - Stripped (25101-000,Qty:2), Overtorqued - Loose (25101-000,Qty:1), Missing (25101-000,Qty:1)
Bracket,Draw Bar				Sources:1
	Broken	78.6%	64.7%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:3), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1), Vibration - Broken/Damaged (25101-000,Qty:3), Broken/Separated - Broken/Damaged (25101-000,Qty:1)
	Cracked/Fractured	14.3%	11.8%	Cracked/Split-Broken/Damaged (25101-000,Qty:2)
	Stripped	7.1%	5.9%	Stripped (25101-000,Qty:1)
	Induced	------	17.6%	Improper Maintenance - Broken/Damaged (25101-000,Qty:1), Item Abuses/Neglect - Broken/Damaged (25101-000,Qty:1), Overtorqued - Stripped (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Bracket,Eye				Sources:1
	Broken	66.7%	66.7%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:2) (25101-000,Qty:3)
	Worn	22.2%	22.2%	Worn Out (25101-000,Qty:2)
	Loose	11.1%	11.1%	Worn - Loose (25101-000,Qty:1)
Bracket,Level Vial				Sources:1
	Aged/Deteriorated	100.0%	100.0%	Deteriorated/Aged - Inop/Unserviceable (25101-000,Qty:1)
Bracket,Recoil Ind				Sources:1
	Broken	85.0%	65.4%	Broken/Damaged (25101-000,Qty:7) (25101-000,Qty:9), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1)
	Cracked/Fractured	5.0%	3.8%	Part Struck/Damaged - Cracked (25101-000,Qty:1)
	Misfire	5.0%	3.8%	Misfire (25101-000,Qty:1)
	Bent/Dented/Warped	5.0%	3.8%	Collapsed/Bent (25101-000,Qty:1)
	Unknown	------	15.4%	Unknown (25101-000,Qty:1) (25101-000,Qty:3)
	Induced	------	7.7%	Part Struck/Damaged - Missing (25101-000,2.0%), Stolen - Missing (25101-000,Qty:1), Unknown - Missing (25101-000,Qty:1)
Bracket,Stop Ring				Sources:1
	Binding/Sticking	100.0%	100.0%	Binding/Sticking (25101-000,Qty:1)
Bracket,Strip Body				Sources:1
	Worn	75.0%	75.0%	Worn Out (25101-000,Qty:3)
	Cracked/Fractured	25.0%	25.0%	Cracked/Split-Broken/Damaged (25101-000,Qty:1)
Bracket,Susp Lock				Sources:1
	Broken	100.0%	9.1%	Broken/Damaged (25101-000,Qty:1)
	Induced	------	90.9%	Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:10)
Brake				Sources:2
	Worn	39.5%	26.4%	Brake Discs Worn Out (19542-000,2.3%), Parts Are Worn Out (19542-000,2.3%), Worn Out (19542-000,2.3%) (20609-000,Qty:990)
	Out of Adjustment	27.9%	18.6%	Excessive Gap (19542-000,18.6%), Needs Adjustment (19542-000,18.6%)
	Leaking	16.2%	10.8%	Leaking (20609-000,Qty:467)
	Scored	7.4%	4.9%	Scored (20609-000,Qty:212)
	Corroded	3.5%	2.4%	Brakes Corroded (19542-000,4.7%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Brake (continued)				
	Loose	3.4%	2.3%	Brake Pad Bushings Screw Loose (19542-000,2.3%), Screw Loose (19542-000,2.3%)
	Broken	2.1%	1.4%	Parts Broken (19542-000,2.3%), Broken (20609-000,Qty:11)
	Unknown	------	21.4%	Unknown (19542-000,20.9%) (20609-000,Qty:473)
	Induced	------	9.3%	Assembly Screw Too Tight (19542-000,2.3%), Improper Adjustment (19542-000,7.0%), Improper Positioning (19542-000,4.7%), Improperly Installed (19542-000,2.3%), Lock Screw Needs Replacement (19542-000,2.3%)
	Other (<%3)	------	2.4%	
	Terminal Connection Failure		1.2%	Recrimp Terminal D&C Required (19542-000,2.3%)
	Cable Failure		1.2%	Brake Cable Too Short (19542-000,2.3%)
	Burned/Charred		<0.1%	Burned (20609-000,Qty:4)
Brake,Assembly				Sources:2
	Bearing Failure	100.0%	100.0%	Bearing Seized-Contamination/Corrosion (10722-000,Qty:1)
	Other	------	0.0%	
	Leaking		NR	Hydraulic & Pneumatic Hose and Actuator Leaks (24996-000,NR)
	Worn Linings		NR	Hydraulic & Pneumatic Worn Linings (24996-000,NR)
	Contaminated		NR	Hydraulic & Pneumatic Contaminated Linings (24996-000,NR), Mechanical Contaminated Linings (24996-000,NR)
	Mechanical Failure		NR	Mechanical Actuator Failure (24996-000,NR)
	Worn		NR	Mechanical Worn Linings (24996-000,NR)
Brake,Friction,Material				Sources:1
	Induced	------	<0.1%	Neglect (25036-000,NR)
	Unknown	------	<0.1%	Unknown (25036-000,NR)
	Other	------	100.0%	
	Hot Spotting		NR	Heat Spotting (25036-000,NR)
	Crazing		NR	Crazing (25036-000,NR)
	Scored		NR	Scoring (25036-000,NR)
	Fade		NR	Fade (25036-000,NR)
	Metal Pickup		NR	Metal Pick-up (25036-000,NR)
	Grabbing		NR	Grab (25036-000,NR)
	Out of Adjustment		NR	Misalignment (25036-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Brake,Lever Group				Sources:1
	Worn	80.0%	66.7%	Worn - Inop/Unserviceable (25101-000,Qty:4)
	Stripped	20.0%	16.7%	Stripped Gear/Spline (25101-000,Qty:1)
	Induced	------	16.7%	Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1)
Brake,Motor				Sources:1
	Bearing Failure	100.0%	100.0%	Seized Bearing-Rust Contamination (10722-000,Qty:1)
Brake,Rake				Sources:1
	Bent/Dented/Warped	100.0%	100.0%	Collapsed/Bent (25101-000,Qty:1)
Brake,Rod				Sources:1
	Broken	41.2%	36.8%	Broken/Damaged (25101-000,Qty:3) (25101-000,Qty:10), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1)
	Aged/Deteriorated	38.2%	34.2%	Deteriorated/Aged - Broken/Damaged (25101-000,Qty:13)
	Out of Adjustment	8.8%	7.9%	Brakes Not Adjusted (25101-000,Qty:1), Out Of Adjustment (25101-000,Qty:2)
	Worn	5.9%	5.3%	Worn - Broken/Damaged (25101-000,Qty:1), Worn/Stripped - Inop/Unserviceable (25101-000,Qty:1)
	Corroded	2.9%	2.6%	Corroded-Broken/Damaged (25101-000,Qty:1)
	Bent/Dented/Warped	2.9%	2.6%	Collapsed/Bent (25101-000,Qty:1)
	Induced	------	10.5%	Missing (25101-000,Qty:1), Fell Off or Lost - Missing (25101-000,Qty:1), Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1), Operator Error - Broken/Damaged (25101-000,Qty:1)
Brake,Shoe,Assembly				Sources:1
	Worn	100.0%	100.0%	Worn - Inop/Unserviceable (25101-000,Qty:2)
Brake,Shoe,Lining				Sources:1
	Worn	66.7%	40.0%	Worn Out (25101-000,Qty:2)
	Out of Adjustment	33.3%	20.0%	Brakes Not Adjusted (25101-000,Qty:1)
	Unknown	------	40.0%	Unknown (25101-000,Qty:2)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Brake,Strut,Shoe Lining				Sources:1
	Bent/Dented/Warped	100.0%	50.0%	Warped/Bent - Inop/Unserviceable (25101-000,Qty:1)
	Induced	------	50.0%	Fell Off or Lost - Missing (25101-000,Qty:1)
Breech,Block Group				Sources:1
	Worn	83.3%	52.6%	Worn Out (25101-000,Qty:5), Worn - Inop/Unserviceable (25101-000,Qty:3), Worn - Worn Out (25101-000,Qty:2)
	Misfire	8.3%	5.3%	Vibration - Misfire (25101-000,Qty:1)
	Loose	8.3%	5.3%	Part Missing/Loose - Misfire (25101-000,Qty:1)
	Induced	------	36.8%	Fell Off or Lost - Misfire (25101-000,Qty:7)
Breech,Mechanism				Sources:2
	Worn	44.4%	40.0%	Worn Out (25101-000,Qty:1), Worn - Inop/Unserviceable (25101-000,Qty:1), Worn - Worn Out (25101-000,Qty:1), Worn - Abnormal Operation (25101-000,Qty:1)
	Corroded	11.1%	10.0%	Corroded-Inop/Sluggish Breech (25101-000,Qty:1)
	Bushing Failure	11.1%	10.0%	Worn Bushing - Loose (25101-000,Qty:1)
	Broken	11.1%	10.0%	Broken/Damaged (25101-000,Qty:1)
	Spring Failure	11.1%	10.0%	Spring Weak - Inop/Sluggish Breech (25101-000,Qty:1)
	Bent/Dented/Warped	11.1%	10.0%	Collapsed/Bent (25101-000,Qty:1)
	Unknown	------	10.0%	Unknown (25101-000,Qty:1)
Breech,Mechanism,Assembly				Sources:1
	Seized	50.0%	33.3%	Lack of Maintenance - Locked (25101-000,Qty:1)
	Binding/Sticking	50.0%	33.3%	Binding/Sticking (25101-000,Qty:1)
	Induced	------	33.3%	Lack Of Maintenance - Binding/Sticking (25101-000,Qty:1)
Breech,Mechanism,Handle				Sources:1
	Spring Failure	75.0%	75.0%	Spring Weak - Inop/Sluggish Breech (25101-000,Qty:3)
	No Operation	25.0%	25.0%	Inop/Sluggish Breech (25101-000,Qty:1)
Brush				Sources:2
	Out of Adjustment	36.4%	33.4%	Needs Adjustment (19542-000,66.7%)
	Cracked/Fractured	18.2%	16.7%	Cracked/Fractured (20609-000,Qty:2)
	Out of Spec.	18.2%	16.7%	Out of Specification (20609-000,Qty:2)
	Shorted	18.2%	16.7%	Short (19542-000,33.3%)
	Worn	9.1%	8.3%	Worn Out (20609-000,Qty:1)
	Unknown	------	8.3%	Unknown (20609-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Brush,Electrical,Contact				Sources:1
	Broken	75.0%	75.0%	Broken (25464-000,Qty:3)
	Leaking	25.0%	25.0%	Leaking Internal or External (25464-000,Qty:1)
Buffer Assembly				Sources:1
	Cracked/Fractured	55.6%	48.4%	Cracked/Split-Leaking Hydraulic Oil (25101-000,Qty:1), Cracked/Split-Inop/Unserviceable (25101-000,Qty:1), Cracked/Split-Cut/Scarred (25101-000,Qty:1), Cracked (25101-000,Qty:11), Part Struck/Damaged - Cracked (25101-000,Qty:1)
	Leaking	29.6%	25.8%	Leaking Hydraulic Oil (25101-000,Qty:2) (25101-000,Qty:2), Internal Failure - Leaking Hydraulic Oil (25101-000,Qty:1) (25101-000,Qty:2), Part Struck/Damaged - Leaking Fluid (25101-000,Qty:1)
	Binding/Sticking	7.4%	6.5%	Seized (25101-000,Qty:1), Binding/Sticking (25101-000,Qty:1)
	Cut/Scarred/Punctured	3.7%	3.2%	Cut/Scraped (25101-000,Qty:1)
	Broken	3.7%	3.2%	Part Struck/Damaged - Inop/Unserviceable (25101-000,Qty:1)
	Induced	------	9.7%	Slams Into Battery (25101-000,Qty:1), Improper Maintenance - Inop/Unserviceable (25101-000,Qty:1), Operator Error - Leaking Hydraulic Oil (25101-000,Qty:1)
	Unknown	------	3.2%	Unknown (25101-000,Qty:1)
Buffer Assembly,Body Group				Sources:1
	Seal/Gasket Failure	57.1%	57.1%	Seals Worn - Leaking Hydraulic Oil (25101-000,Qty:1) (25101-000,Qty:3)
	Spring Failure	42.9%	42.9%	Spring Weak - Inop/Unserviceable (25101-000,Qty:1), Spring Weak - Leaking Hydraulic Oil (25101-000,Qty:1), Spring Weak - Abnormal Operation (25101-000,Qty:1), Spring Weak - Broken/Damaged (25101-000,1.0%)
Bushing (Summary)				
	Worn	73.5%		
	Out of Adjustment	9.3%		
	Loose	5.4%		
	Excessive Play	4.7%		
	Aged/Deteriorated	3.9%		
	Broken	1.6%		
	Cracked/Fractured	1.6%		
Bushing				Sources:1
	Worn	100.0%	83.3%	Worn Out (19542-000,83.3%)
	Unknown	------	16.7%	Unknown (19542-000,16.7%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Bushing,Machine				Sources:1
	Loose	50.0%	50.0%	Vibration - Loose (25101-000,Qty:1), Loose Screw(s) - Misfire (25101-000,Qty:1)
	Corroded	25.0%	25.0%	Corroded-Seized (25101-000,Qty:1)
	Misfire	25.0%	25.0%	Vibration - Misfire (25101-000,Qty:1)
Bushing,Plunger				Sources:1
	Out of Adjustment	44.4%	35.3%	Out of Adjustment (25101-000,Qty:8), Out of Adjustment - Out of Adjustment (25101-000,Qty:1), Out of Adjustment - Collapsed/Bent (25101-000,Qty:1), Out of Adjustment - Found in TI/PMCS/Insp (25101-000,Qty:1), Vibration - Out Of Adjustment (25101-000,Qty:1)
	Excessive Play	18.5%	14.7%	Loose (25101-000,Qty:1), Worn - Excessive Play (25101-000,Qty:4)
	Worn	18.5%	14.7%	Worn - Out Of Adjustment (25101-000,Qty:4), Worn - Misfire (25101-000,Qty:1)
	Loose	11.1%	8.8%	Loose Screw(s) - Excessive Play (25101-000,Qty:2), Part Missing/Loose - Found in TI/PMCS/Insp (25101-000,Qty:1)
	Broken	7.4%	5.9%	Broken/Damaged (25101-000,Qty:1), Out of Adjustment - Broken/Damaged (25101-000,Qty:1)
	Induced	------	20.6%	Improper Install - Found In TI/PMCS/Insp (25101-000,Qty:4), Improper Maintenance - Broken/Damaged (25101-000,Qty:1), Lack of Maintenance - Collapsed/Bent (25101-000,Qty:2)
Bushing,Sleeve				Sources:1
	Worn	64.7%	51.2%	Worn - Missing (25101-000,Qty:1), Worn Bushing - Missing (25101-000,Qty:1), No Failure - Worn Out (25101-000,Qty:1), Loose Nut(s) - Inop/Unserviceable (25101-000,Qty:1), Worn Out (25101-000,Qty:1) (25101-000,Qty:4), Worn Bushing - Excessive Play (25101-000,Qty:1) (25101-000,Qty:7), Loose (25101-000,Qty:1), Worn - Loose (25101-000,Qty:1), Worn Bushing - Fnd In TI/PMCS/INSP (25101-000,Qty:3)
	Aged/Deteriorated	14.7%	11.6%	Deteriorated/Aged - Broken/Damaged (25101-000,Qty:4), Deteriorated/Aged - Inop/Unserviceable (25101-000,Qty:1)
	Cracked/Fractured	5.9%	4.7%	Cracked (25101-000,Qty:2)
	Loose	5.9%	4.7%	Loose Screw(s) - Excessive Play (25101-000,Qty:1), Out of Adjustment - Loose (25101-000,Qty:1)
	Cut/Scarred/Punctured	2.9%	2.3%	No Failure - Cut/Scarred (25101-000,Qty:1)
	Excessive Play	2.9%	2.3%	Excessive Play (25101-000,Qty:1)
	Out of Synch.	2.9%	2.3%	Out Of Synch (25101-000,Qty:1)
	Induced	------	16.3%	Improper Install - Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1), Missing (25101-000,Qty:1), Improper Maintenance - Missing (25101-000,Qty:1), Item Abuse/Neglect - Missing (25101-000,Qty:1), Fell Off Or Lost - Missing (25101-000,Qty:2)
	Unknown	------	4.7%	Unknown (25101-000,Qty:1) (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Cable (Summary)				
	Shorted	34.0%		
	Broken	25.6%		
	Opened	22.9%		
	Cracked/Fractured	5.1%		
	Arcing/Sparking	4.4%		
	Worn	4.2%		
	Mechanical Failure	3.6%		
Cable				Sources:2
	Shorted	31.5%	28.8%	Short (20609-000,Qty:3), Cable Shorted From Pin 6 To Pin 25 (10722-000,Qty:1), Cable Shorted-Solder Bridge Vendor Defect (10722-000,Qty:1)
	Opened	19.2%	17.5%	Opened (20609-000,Qty:4), Open Circuits (10722-000,Qty:1)
	Cracked/Fractured	15.1%	13.8%	Cracked/Fractured (20609-000,Qty:1), Fractured Stranded Wire (10722-000,Qty:1)
	Arcing/Sparking	13.7%	12.5%	Arcing (20609-000,Qty:10)
	Worn	9.6%	8.8%	Worn Out (20609-000,Qty:7)
	Broken	8.2%	7.5%	Broken (20609-000,Qty:6)
	Chaffed	2.7%	2.5%	Frayed (20609-000,Qty:1), Chaffed (20609-000,Qty:1)
	Unknown	------	8.8%	Unknown (20609-000,Qty:1) (20609-000,Qty:6)
Cable Assembly				Sources:2
	Opened	69.0%	50.0%	Open Paths-Mask/Etch Process Flaws (10722-000,Qty:1), Open-Fractured Path (10722-000,Qty:1), Seven Open Wires (10722-000,Qty:1), Circuit Opens-Cracked Foil, Misaligned Pins (10722-000,Qty:6)
	Broken	19.7%	14.3%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:5), Broken/Separated - Inop/Unserviceable (25101-000,Qty:1) (25101-000,Qty:7)
	Wire Failure	4.2%	3.1%	Wire Harness Damaged - Inop/Unserviceable (25101-000,Qty:3)
	Aged/Deteriorated	4.2%	3.1%	Deteriorated - Broken Cable(s) (25101-000,Qty:2), Deteriorated/Aged - Broken/Damaged (25101-000,Qty:1)
	Worn	1.4%	1.0%	Worn - Broken/Damaged (25101-000,Qty:1)
	Loose	1.4%	1.0%	Loose Wire(s) - Inop/Unserviceable (25101-000,Qty:1)
	Induced	------	23.5%	Fell Off or Lost - Missing (25101-000,Qty:1) (25101-000,Qty:2) (25101-000,Qty:2) (25101-000,Qty:8), Missing (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1), Fell Off or Lost (25101-000,Qty:2), Improper Alignment - Broken/Damaged (25101-000,Qty:1), Improper Installation - Inop/Unserviceable (25101-000,Qty:2), Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1), Safety Wire/Key Failure - Broken/Damaged (25101-000,Qty:1)
	Unknown	------	4.1%	Unknown (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Cable,Electrical,Power				Sources:2
	Opened	55.0%	55.0%	Open Circuit (24996-000,90.0%), Open Circuit and Other (24997-000,18.0%)
	Shorted	45.0%	45.0%	Short to Ground (24996-000,9.0%), Short to Power (24996-000,1.0%), Short Circuit(Insulation Failure) to Gr. or power (24997-000,72.0%)
Cable,Fiber Optic				Sources:1
	Induced	------	100.0%	Parallel Construction (23413-000,Qty:6), Contractor Activity (23413-000,Qty:1), Backhoe Digging (23413-000,Qty:3), Gunshot (23413-000,Qty:2), Hurricane (23413-000,Qty:3), Flood Damage (23413-000,Qty:1), Ice Crush (23413-000,Qty:1), Vandalism (23413-000,Qty:1)
Cable,Flex				Sources:1
	Opened	100.0%	100.0%	Pin 47 Open-Excessive Axial Force On Pin (10722-000,Qty:1), Elect. Opens At Pins 38 And 54-Flex Tape Etch Out (10722-000,Qty:1), Opens-Vendor Process Flaws (10722-000,Qty:2)
Cable,Harness				Sources:1
	Opened	30.6%	30.6%	Open (24992-000,30.6%)
	Shorted	30.6%	30.6%	Short (24992-000,30.6%)
	Mechanical Failure	20.5%	20.5%	Mechanical (24992-000,20.5%)
	Overheated	18.3%	18.3%	Overheat (24992-000,18.3%)
Cable,Printed Wiring				Sources:1
	Cracked/Fractured	100.0%	100.0%	Fractured Paths-Faulty Bend Operation (10722-000,Qty:5)
Cable,Strap,Loop				Sources:1
	Broken	66.7%	66.7%	Part Struck/Damaged - Broken/Damaged (25101-000,Qty:2)
	Aged/Deteriorated	33.3%	33.3%	Deteriorated/Aged - Broken/Damaged (25101-000,Qty:1)
Cable,Wire				Sources:2
	Broken	100.0%	50.0%	Wire Fracture-Low Frequency Cyclic Overstress (10722-000,Qty:1), Broken-Cyclic Overstress (10722-000,Qty:1)
	Induced	------	50.0%	Part Struck/Damaged - Missing (25101-000,Qty:6)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Cable,Wire,CiCoil				Sources:1
	Wire Failure	100.0%	100.0%	Wire Failed In Tension-Mechanical Overstress (10722-000,Qty:1)
Cable,Wire,Core				Sources:1
	Broken	87.2%	86.2%	Broken (25464-000,Qty:150)
	Worn	4.7%	4.6%	Worn, Chaffed, Frayed, or Torn (25464-000,Qty:8)
	Lamp Failure	2.3%	2.3%	Burned Out or Defective Lamp, (25464-000,Qty:4)
	Contact Failure	1.7%	1.7%	Contact/Conn Defect (25464-000,Qty:3)
	Binding/Sticking	1.7%	1.7%	Binding, Stuck or Jammed 25464-000,Qty:3)
	Leaking	1.2%	1.1%	Leaking Internal or External (25464-000,Qty:2)
	Loose	1.2%	1.1%	Loose, Damaged, or Missing Har (25464-000,Qty:2)
	Other (<%2)	------	1.1%	
	Cracked/Fractured		0.6%	Cracked (25464-000,Qty:1)
	Cut/Scarred/Punctured		0.6%	Cut (25464-000,Qty:1)
Cable,Wire,Electrical,Low Power, Signal				Sources:2
	Shorted	87.1%	87.1%	W/Terminals: Short to Ground (24996-000,45.0%), W/Terminals: Short to Power (24996-000,30.0%), W/Out Terminals :Short to Ground (24996-000,70.0%), W/Out Terminals :Short to Power (24996-000,30.0%), With Terminals: Short to Ground (24997-000,45.0%), With Terminals: Short to Power (24997-000,30.0%), Without Terminals: Short to Ground (24997-000,70.0%), Without Terminals: Short to Power (24997-000,30.0%)
	Connector Failure	6.2%	6.2%	With Terminals: Conductor breakage @ Terminal (24997-000,25.0%)
	Broken	6.2%	6.2%	W/Terminals: Conductor Breakage @ Terminal (Open) (24996-000,25.0%)
	Opened	0.5%	0.5%	W/Out Terminals :Open and Other (24996-000,1.0%), Without Terminals: Open and Other (24997-000,1.0%)
Cable,Wire,Stranded				Sources:1
	Cracked/Fractured	100.0%	100.0%	Fracture-Cyclic Fatigue (10722-000,Qty:1)
Cable,Wire,Tensile				Sources:1
	Wire Failure	100.0%	100.0%	Wire Fractured-Tensile Loading (10722-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Capacitor				Sources:8
	Shorted	32.8%	29.5%	Low Z (24991-000,67.0%), Short (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:2) (17867-000,Qty:3) (17867-000,Qty:5) (24417-000,NR) (24992-000,13.5%) (24997-000,NR), Short-Dielectric Crack (10722-000,Qty:1), Short-Improper Installation On Board (10722-000,Qty:2), Low Insulation Resistance (24417-000,NR), High Leakage Current (electrolytic styles) (24417-000,NR), Short-Crack In Element (10722-000,Qty:1), Short-Reflowed End Cap Solder (10722-000,Qty:1), Low Insulation resistance (24997-000,NR)
	Broken	24.3%	21.9%	Broken Leads-Copper Fatigue (25001-000,Qty:1), Broken/Damaged (17867-000,Qty:1) (17867-000,Qty:1), Broken (25464-000,Qty:178)
	Intermittent Operation	17.8%	16.0%	Unstable (24992-000,77.5%), Intermittent (17867-000,Qty:1) (17867-000,Qty:1) (24417-000,NR), Loose Element & Fractured Interconnects-Vibration (10722-000,Qty:1)
	Opened	8.1%	7.3%	High Z (24991-000,33.0%), Open (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:2) (24417-000,NR) (24992-000,4.0%) (24997-000,NR)
	Change in Capac.	7.9%	7.1%	Out Of Tolerance (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:3) (17867-000,Qty:5) (17867-000,Qty:6), Out Of Tolarance (17867-000,Qty:2), Capacitance Drift (24417-000,NR), Capacitance Incorrect (25464-000,Qty:162)
	Worn	6.1%	5.5%	Worn/Chaffed/Frayed/Torn (25464-000,Qty:199)
	Leaking	2.9%	2.6%	Leaky (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:4) (17867-000,Qty:5), Leaking (25464-000,Qty:15)
	Induced	------	7.6%	Engineering Problem (17867-000,Qty:1) (17867-000,Qty:10), Weak/Low Performance (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:3) (17867-000,Qty:4) (17867-000,Qty:5), Performance Variatio (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:2) (17867-000,Qty:10), Wrong Value (17867-000,Qty:1), Performance Variation (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:2) (17867-000,Qty:2) (17867-000,Qty:2), Noisy (17867-000,Qty:1) (17867-000,Qty:1)
	Unknown	------	0.2%	Unknown (17867-000,Qty:1) (25464-000,Qty:4)
	Other (<%3)	------	2.2%	
	Drift		0.9%	Drift (24992-000,2.5%), Fails to Tune or Drifts (25464-000,Qty:5), Fluctuates, Unstable or Errati (25464-000,Qty:14)
	Noisy		0.8%	Noisy (24992-000,2.5%) (25464-000,Qty:15)
	Oscillating		0.1%	Oscillating (17867-000,Qty:1)
	Cracked/Fractured		0.1%	Cracked (25464-000,Qty:5)
	Loose		<0.1%	Loose/Damaged/Missing (25464-000,Qty:2)
	Lamp Failure		<0.1%	Burned Out Or Defective Lamp, (25464-000,Qty:2)
	Burst/Ruptured		<0.1%	Burst/Ruptured (25464-000,Qty:1)
	Dielectric Breakdown		NR	Dielectric Breakdown (24417-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Capacitor (continued)				
Other (continued)				
Change in Value			NR	Change in Value (24997-000,NR)
Capacitor,Aluminum (Summary)				
Shorted		49.3%		
Opened		14.0%		
Seal Failure		15.4%		
Drift		1.3%		
Capacitor,Aluminum,Electrolytic				Sources:1
Shorted		38.0%	38.0%	Short (25038-000,38.0%)
Seal Failure		31.0%	31.0%	Electrolyte Loss/Seal (25038-000,31.0%)
Opened		31.0%	31.0%	Open (25038-000,31.0%)
Capacitor,Aluminum,Electrolytic,Foil				Sources:5
Shorted		53.4%	49.3%	Short-Ruptured/Cracked Dielectric (25016-000,NR), High Disipation Factor-Defective Termination (25016-000,NR), High Disipation Factor-Impared Seal (25016-000,NR), Low Z (24991-000,70.0%), Short (24993-000,30.0%) (24997-000,33.0%), Excessive Leakage Current (24993-000,15.0%)
Opened		35.0%	32.3%	Open-Defective Termination (25016-000,NR), High Z (24991-000,30.0%), Open (24993-000,40.0%) (24997-000,27.0%)
Seal Failure		9.7%	9.0%	Electrolyte leakage and seals (24997-000,27.0%)
Drift		1.8%	1.7%	Low Capacitance-Impared Seal (25016-000,NR), Decrease In Capacitance (24993-000,5.0%), Decrease In Capacitance-Vaporization of Electrolyt (24417-000,NR)
Unknown		------	7.7%	Unknown (24993-000,10.0%) (24997-000,13.0%)
Capacitor,Fixed				Sources:5
Shorted		48.9%	48.6%	Short-Dielectric strength (25000-000,Qty:1), Short (24990-000,80.0%) (24990-000,99.0%) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:17) (25027-000,Qty:1), Short-Ruptured/Cracked Dielectric (25016-000,NR)
Opened		28.5%	28.4%	Open (24990-000,1.0%) (24990-000,20.0%) (25000-000,Qty:6) (25000-000,Qty:9), Open-Defective Termination (25016-000,NR), Open-Insufficient Lead To Element Attach-Internal (10722-000,Qty:1)
Drift		21.9%	21.8%	Parameter Drift-Intermittent (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:6), Parameter Drift-Power Factor (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:6) (25000-000,Qty:6) (25000-000,Qty:7) (25000-000,Qty:20) (25000-000,Qty:57), Parameter Drift-General (25000-000,Qty:1) (25000-000,Qty:2), Parameter Drift-Insulation Resistance (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:6) (25000-000,Qty:8) (25000-000,Qty:10) (25000-000,Qty:23) (25000-000,Qty:67), Parameter Drift-Delta C (25000-000,Qty:2) (25000-000,Qty:2)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Capacitor,Fixed (continued)				
	Drift (continued)			(25000-000,Qty:3) (25000-000,Qty:6) (25000-000,Qty:11) (25000-000,Qty:32) (25000-000,Qty:53) (25000-000,Qty:72)
	Corroded	0.7%	0.7%	Corrosion (25000-000,Qty:14)
	Seal Failure	<0.1%	<0.1%	Seal Leakage (25000-000,Qty:1)
	Induced	------	0.3%	Mechanical Damage (25000-000,Qty:6)
	Unknown	------	0.2%	Unknown (25000-000,Qty:3)
	Other	------	0.0%	
	Change in Capac.		NR	Reduced Capacitance-Ruptured/Cracked Dielectric (25016-000,NR), Delamination, Reduced Capacitance-Impared Seal (25016-000,NR)
	High Disipation Factor		NR	High Dissipation Factor-Defective Termination (25016-000,NR)
	Seal/Gasket Failure		NR	Low Insulation Resistance-Impared Seal (25016-000,NR)
Capacitor,Fixed,Ceramic				Sources:10
	Shorted	46.7%	41.1%	Short (24417-000,NR) (24992-000,75.0%) (24993-000,50.0%) (24994-000,35.0%) (24997-000,20.0%) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:8) (25000-000,Qty:8) (25000-000,Qty:10) (25000-000,Qty:10) (25000-000,Qty:23) (25000-000,Qty:23) (25000-000,Qty:26) (25000-000,Qty:26), Short - Dielectric Strength (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:8), Short - Flashover (25000-000,Qty:13), Short-Dielectric Strength (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:8), Short-Flashover (25000-000,Qty:13), Low Z (24991-000,50.0%), Short-Overstress (10722-000,Qty:1), Short/Leaky-Cracked Dielectric (10722-000,Qty:1), Shorted/Leaky-Cracked Dielectric (10722-000,Qty:2), Resistive Short Between Plates (10722-000,Qty:1), Low insulation resistance (24997-000,14.1%), Short (Dielectric Breakdown) (25038-000,49.0%)
	Drift	26.7%	23.6%	Parameter Drift - change in C (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:5) (25000-000,Qty:8) (25000-000,Qty:9) (25000-000,Qty:15) (25000-000,Qty:32), Parameter Drift - Power Factor (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:5) (25000-000,Qty:6) (25000-000,Qty:10) (25000-000,Qty:10) (25000-000,Qty:10), Parameter Drift - Insul. Resis (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:6) (25000-000,Qty:8) (25000-000,Qty:9) (25000-000,Qty:15) (25000-000,Qty:17) (25000-000,Qty:29) (25000-000,Qty:32), Parameter Drift - general (25000-000,Qty:2), Parameter Drift-General (25000-000,Qty:2), Parameter Drift-Delta C (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:5) (25000-000,Qty:8) (25000-000,Qty:9) (25000-000,Qty:10) (25000-000,Qty:15) (25000-000,Qty:32), Parameter Drift-Power Factor (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:5) (25000-000,Qty:6) (25000-000,Qty:10) (25000-000,Qty:10) (25000-000,Qty:10), Parameter Drift-Insulation Resistance (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:6) (25000-000,Qty:8) (25000-000,Qty:9) (25000-000,Qty:15)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Capacitor,Fixed,Ceramic (continued)				
	Drift (continued)			
				(25000-000,Qty:17) (25000-000,Qty:29) (25000-000,Qty:32),
	Opened	21.1%	18.6%	Open (24417-000,NR) (24992-000,25.0%) (24993-000,5.0%) (24994-000,20.0%) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:8) (25000-000,Qty:8) (25000-000,Qty:8) (25000-000,Qty:8) (25038-000,18.0%), High Z (24991-000,50.0%), Plate Open-Thin Metallization (10722-000,Qty:2) (10722-000,Qty:2), Open Circuit (24997-000,5.0%)
	Contaminated	4.2%	3.7%	Drift Surface Contamination (25038-000,4.0%), Low Insulation Resistance Surf. Contam. (25038-000,29.0%)
	Leaking	1.3%	1.1%	Leaky At High Temperature (10722-000,Qty:1)
	Induced	------	11.3%	Mechanical Damage (25000-000,Qty:8) (25000-000,Qty:8), Damaged (25027-000,Qty:1)
	Unknown	------	[illegible].6%	Unknown (24993-000,5.0%)
Capacitor,Fixed,Chip				Sources:1
	Opened	100.0%	100.0%	Open-Fractured (25001-000,Qty:3)
Capacitor,Fixed,Glass				Sources:1
	Shorted	60.0%	60.0%	Short (24994-000,60.0%)
	Opened	35.0%	35.0%	Open (24994-000,35.0%)
	Drift	5.0%	5.0%	Drift (24994-000,5.0%)
Capacitor,Fixed,Mica,Dipped				Sources:1
	Opened	65.0%	65.0%	Open (24994-000,65.0%)
	Drift	20.0%	20.0%	Drift (24994-000,20.0%)
	Shorted	15.0%	15.0%	Short (24994-000,15.0%)
Capacitor,Fixed,Mica/Glass				Sources:3
	Shorted	71.8%	70.0%	Short (24993-000,70.0%), Short-Dielectric Breakdown (24417-000,NR), Short(Dielectric Breakdown, Silver Migration) (25038-000,87.5%)
	Opened	12.8%	12.5%	Open (24993-000,15.0%) (25038-000,12.5%)
	Change in Capac.	10.3%	10.0%	Change in C -Moisture Absorption- (25038-000,25.0%)
	Change in Value	5.1%	5.0%	Change in Value (24993-000,10.0%)
	Unknown	------	2.5%	Unknown (24993-000,5.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Capacitor,Fixed,Paper				Sources:2
	Shorted	63.2%	60.0%	Short-Ruptured/Cracked Dielectric (25016-000,NR), Short (24993-000,30.0%) (24993-000,30.0%)
	Opened	36.8%	35.0%	Open-Defective Termination (25016-000,NR), Open (24993-000,5.0%) (24993-000,65.0%)
	Unknown	------	5.0%	Unknown (24993-000,5.0%) (24993-000,5.0%)
	Other	------	0.0%	
	High Disipation Factor		NR	High Disipation Factor-Defective Termination (25016-000,NR)
	Seal/Gasket Failure		NR	Low Insulation Resistance-Impaired Seal (25016-000,NR)
Capacitor,Fixed,Paper/Plastic				Sources:4
	Opened	38.3%	37.9%	Open (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:3) (25000-000,Qty:7) (25000-000,Qty:10) (25000-000,Qty:32) (25038-000,47.0%), High Z (24991-000,59.0%)
	Drift	33.3%	32.9%	Parameter Drift-Delta C (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:4) (25000-000,Qty:5) (25000-000,Qty:6) (25000-000,Qty:8) (25000-000,Qty:11) (25000-000,Qty:11) (25000-000,Qty:21) (25000-000,Qty:24) (25000-000,Qty:27), Parameter Drift-Intermittent or Noise (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:5), Parameter Drift- Power Factor (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:6) (25000-000,Qty:12) (25000-000,Qty:23), Parameter Drift-General (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:44), Parameter Drift-Insulation Resistance (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:5) (25000-000,Qty:10) (25000-000,Qty:12) (25000-000,Qty:22) (25000-000,Qty:23) (25000-000,Qty:40) (25000-000,Qty:42), Capacitance Drift (24417-000,NR), Instability with Temperature (24417-000,NR), Capacitance Shift (25038-000,42.0%)
	Shorted	25.8%	25.5%	Short-Dielectric Strength (25000-000,Qty:1) (25000-000,Qty:3) (25000-000,Qty:9) (25000-000,Qty:11), Short-Dielectric strength (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:11), Short-Flashover (25000-000,Qty:6) (25000-000,Qty:61), Short (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:5) (25000-000,Qty:6) (25000-000,Qty:6) (25000-000,Qty:20) (25000-000,Qty:22) (25038-000,11.0%), Low Z (24991-000,41.0%), High Dissipation Factor (24417-000,NR), Low Insulation Resistance (24417-000,NR)
	Corroded	2.2%	2.1%	Corrosion (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:40)
	Seal Failure	0.4%	0.4%	Seal Leakages (25000-000,Qty:1) (25000-000,Qty:8)
	Induced	------	0.7%	Mechanical Damage (25000-000,Qty:5) (25000-000,Qty:9), Part Struck/Damaged - Broken/Damaged (25000-000,Qty:1)
	Unknown	------	0.5%	Unknown (25000-000,Qty:10)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Capacitor,Fixed,Plastic				Sources:3
	Shorted	41.7%	39.3%	Short (24990-000,50.0%) (24994-000,35.0%) (24997-000,11.0%), Low I.R. (24997-000,10.0%), High Dissipation factor (24997-000,10.0%)
	Opened	40.6%	38.3%	Open (24990-000,50.0%) (24994-000,15.0%) (24997-000,47.0%)
	Drift	17.7%	16.7%	Drift (24994-000,50.0%)
	Induced	------	5.7%	Quality defects (24997-000,16.0%)
Capacitor,Fixed,Polycarb				Sources:1
	Shorted	60.0%	60.0%	Short (24992-000,60.0%)
	Opened	40.0%	40.0%	Open (24992-000,40.0%)
Capacitor,Fixed,Tantalum				Sources:4
	Shorted	52.6%	50.4%	Short (24992-000,60.0%) (24993-000,35.0%) (24997-000,31.0%) (25000-000,Qty:2) (25000-000,Qty:14) (25000-000,Qty:30) (25000-000,Qty:91), Excessive Leakage Current (24993-000,10.0%), High leakage current (24997-000,15.0%)
	Opened	29.3%	28.1%	Open (24992-000,40.0%) (24993-000,35.0%) (24997-000,10.5%) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:6) (25000-000,Qty:6), High Impedance & other (24997-000,17.5%)
	Drift	10.8%	10.4%	Para. Drift- Power Factor (25000-000,Qty:1) (25000-000,Qty:48), Para. Drift- Delta C (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:12), Para. Drift- Insulation Res. (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:5) (25000-000,Qty:18), Para. Drift- Delta R (25000-000,Qty:1), Decrease In Capacitance (24993-000,5.0%)
	Intermittent Operation	7.1%	6.8%	Intermittent (24997-000,26.0%) (25000-000,Qty:1) (25000-000,Qty:2)
	Corroded	0.2%	0.2%	Misc.- Corrosion (25000-000,Qty:2)
	Unknown	------	4.2%	Unknown (24993-000,15.0%) (25000-000,Qty:2) (25000-000,Qty:3)
Capacitor,Fixed,Tantalum,Slug				Sources:2
	Shorted	100.0%	100.0%	Short-External Overstress (10722-000,Qty:1)
	Other	------	0.0%	
	Opened		NR	Open (24417-000,NR)
	Loss of Capacitance		NR	Loss of Capacitance (24417-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Capacitor,Tantalum (Summary)				
	Shorted	61.9%		
	Opened	16.0%		
	Drift	11.3%		
	Intermittent Operation	4.6%		
	High Leakage Current	4.1%		
	Loss of Capacitance	2.2%		
Capacitor,Tantalum,Electrolytic,Foil				Sources:4
	Shorted	42.0%	42.0%	Low Z (24991-000,70.0%), Short (24994-000,10.0%) (25038-000,31.0%), Leakage Current (25038-000,15.0%)
	Opened	23.3%	23.3%	High Z (24991-000,30.0%), Open (24994-000,40.0%)
	Drift	16.7%	16.7%	Drift (24994-000,50.0%), Decrease In Capacitance-Vaporization of Electrolyt (24417-000,NR)
	Intermittent Operation	12.2%	12.2%	Intermittent/Open (25038-000,36.5%)
	Loss of Capacitance	5.8%	5.8%	Loss of Electrolyte (High Impedance) (25038-000,17.5%)
Capacitor,Tantalum,Electrolytic,Solid				Sources:6
	Shorted	67.3%	67.3%	Short-Ruptured/Cracked Dielectric (25016-000,NR), High Disipation Factor-Defective Termination (25016-000,NR), Low Insulaution Resistance-Impared Seal (25016-000,NR), Low Z (24991-000,83.0%), Short (24994-000,55.0%) (25038-000,31.0%), Shorted Dielectric (24417-000,NR), Short-Faulty Cap/Overstress (10722-000,Qty:1)
	Opened	14.5%	14.5%	Open-Defective Termination (25016-000,NR), High Z (24991-000,17.0%), Open (24994-000,5.0%) (25038-000,36.0%), Open Internal Connections (24417-000,NR)
	Drift	10.0%	10.0%	Drift (24994-000,40.0%)
	High Leakage Current	8.3%	8.3%	High Leakage Current (25038-000,33.0%)
	Other	------	0.0%	
	Intermittent Operation		NR	Intermittent Internal Connections (24417-000,NR)
Capacitor,Variable,Air Dielectric				Sources:1
	Intermittent Operation	100.0%	100.0%	Intermitent-Crack (25001-000,Qty:1)
Capacitor,Variable,Parallel Plate				Sources:1
	Leaking	100.0%	100.0%	Won't Hold Charge (25027-000,Qty:3)
Capacitor,Variable,Piston				Sources:1
	Drift	60.0%	60.0%	Drift (24994-000,60.0%)
	Shorted	30.0%	30.0%	Short (24994-000,30.0%)
	Opened	10.0%	10.0%	Open (24994-000,10.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Carriage,Stake				Sources:1
	Broken	88.9%	80.0%	Broken/Damaged (25101-000,Qty:4), Oversize - Broken/Damaged (25101-000,Qty:1), Broken/Separated - Inop/Unserviceable (25101-000,Qty:3)
	Bent/Dented/Warped	11.1%	10.0%	Warped/Bent - Broken/Damaged (25101-000,Qty:1)
	Unknown	------	10.0%	Unknown (25101-000,Qty:1)
Case,Carrying				Sources:1
	Cracked/Fractured	23.5%	16.7%	Cracked (25101-000,Qty:1), Vibration - Cracked (25101-000,Qty:3)
	Out of Adjustment	23.5%	16.7%	Out Of Adjustment - Inop Man Elevation (25101-000,Qty:2), Out Of Adjustment - Noisy (25101-000,Qty:2)
	Broken	23.5%	16.7%	Broken/Damaged (25101-000,Qty:4)
	Worn	17.6%	12.5%	Worn - Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:2)
	Battery Failure	5.9%	4.2%	Batteries Boiling (25101-000,Qty:1)
	Binding/Sticking	5.9%	4.2%	Vibration - Binding/Sticking (25101-000,Qty:1)
	Induced	------	29.2%	Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:2), Improper Maintenance - Broken/Damaged (25101-000,Qty:3), Overtorqued - Inop Man Elevation (25101-000,Qty:1), Improper Installation - Broken/Damaged (25101-000,Qty:1)
Case,Collimator				Sources:1
	Cracked/Fractured	80.0%	66.7%	Cracked/Split-Cracked (25101-000,Qty:1), Cracked (25101-000,Qty:2) (25101-000,Qty:5)
	Broken	20.0%	16.7%	Broken/Damaged (25101-000,Qty:1), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1)
	Induced	------	16.7%	Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1)
Cathode Ray Tube				Sources:1
	Induced	------	<0.1%	Focusing Degradation (22540-000,NR)
	Other	------	100.0%	
	Mechanical Overstress		NR	Mechanical Overstress (22540-000,NR)
	Seal/Gasket Failure		NR	Degradation of Seals (22540-000,NR)
Cathode Ray Tube,Display Monitor				Sources:1
	Out of Spec.	71.4%	38.5%	Out of Tolerance (20609-000,Qty:5)
	Broken	28.6%	15.4%	Broken (20609-000,Qty:2)
	Unknown	------	46.2%	Unknown (20609-000,Qty:6)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Cathode Ray Tube,Display Unit				Sources:2
	Power Supply Failure	46.0%	46.0%	Power Supply (24996-000,46.0%) (24997-000,46.0%)
	Loss of Control	34.0%	34.0%	Control and Misc. (24996-000,34.0%) (24997-000,34.0%)
	Performance Degradation	20.0%	20.0%	C.R. Tube (24996-000,20.0%) (24997-000,20.0%), CR Tubes-Loss of Trace, Decline in Illumination (24996-000,NR) (24997-000,NR), LED's-Decline in Illumination, Fail to Light (24996-000,NR) (24997-000,NR), Liquid Crystal-Decline in Illumination,Instability (24996-000,NR) (24997-000,NR), Vacuum Fluorescent-Fail to Light (24996-000,NR) (24997-000,NR), Plasma-Loss of Illumination (24996-000,NR) (24997-000,NR)
	Other	------	0.0%	
	Open Filament		NR	Incandescent-Open Filament, Intermittent (24996-000,NR) (24997-000,NR)
Chain				Sources:1
	Bent/Dented/Warped	100.0%	20.0%	Collapsed/Bent (25101-000,Qty:1)
	Induced	------	40.0%	Item Abuse/Neglect - Collapsed/Bent (25101-000,Qty:1), Fell Off Or Lost - Missing (25101-000,Qty:1)
	Unknown	------	40.0%	Unknown (25101-000,Qty:2)
Charger				Sources:1
	Degraded Output	73.8%	48.0%	Degraded - Low Output (18175-000,29.0%) (18175-000,29.0%), Degraded - High Output (18175-000,6.0%) (18175-000,6.0%), Degraded - Erratic Output (18175-000,13.0%) (18175-000,13.0%)
	No Output	26.2%	17.0%	Catastrophic-No Output (18175-000,34.0%)
	Unknown	------	35.0%	Unknown (18175-000,18.0%) (18175-000,18.0%) (18175-000,34.0%)
Charger,Rectifier-Stationary,Ferro-Resonant				Sources:1
	Degraded Output	100.0%	52.0%	Degraded - Low Output (18175-000,37.0%), Degraded - High Output (18175-000,3.0%), Degraded - Erratic Output (18175-000,12.0%)
	Unknown	------	48.0%	Unknown (18175-000,13.0%) (18175-000,35.0%)
Charger,Rectifier-Stationary,Magnetic Amplifier				Sources:1
	Degraded Output	100.0%	48.0%	Degraded - Low Output (18175-000,27.0%), Degraded - High Output (18175-000,1.0%), Degraded - Erratic Output (18175-000,20.0%)
	Unknown	------	52.0%	Unknown (18175-000,21.0%) (18175-000,31.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Charger,Rectifier-Stationary,Silicon Controlled				Sources:1
	Degraded Output	100.0%	45.0%	Degraded - Low Output (18175-000,24.0%), Degraded - High Output (18175-000,14.0%), Degraded - Erratic Output (18175-000,7.0%)
	Unknown	------	55.0%	Unknown (18175-000,20.0%) (18175-000,35.0%)
Charger,Stationary				Sources:1
	Degraded Output	58.5%	48.0%	Degraded - Low Output (18175-000,29.0%), Degraded - High Output (18175-000,6.0%), Degraded - Erratic Output (18175-000,13.0%)
	No Output	41.5%	34.0%	Catastrophic-No Output (18175-000,34.0%)
	Unknown	------	18.0%	Unknown (18175-000,18.0%)
Chopper				Sources:2
	Contact Failure	47.5%	47.5%	Contact Failure (24993-000,95.0%)
	Shorted	25.0%	25.0%	Short (24992-000,50.0%)
	Opened	25.0%	25.0%	Open (24992-000,50.0%)
	Coil Failure	2.5%	2.5%	Coil Failure (24993-000,5.0%)
Circuit Breaker (Summary)				
	Opens Without Command	29.1%		
	Does Not Open	27.5%		
	Cracked/Fractured	11.6%		
	Degraded Operation	8.7%		
	Broken	8.7%		
	Mechanical Failure	8.4%		
	Intermittent Operation	6.0%		
Circuit Breaker				Sources:15
	Opens Without Command	27.7%	17.3%	Spurious Open (24990-000,45.0%), Open (22540-000,38.0%) (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:1) (23038-005,Qty:1) (24992-000,35.0%) (24992-000,38.0%), Catastrophic-Opens Without Command (18175-000,1.0%) (18175-000,1.0%) (18175-000,2.0%) (18175-000,2.0%) (18175-000,3.0%) (18175-000,3.0%) (18175-000,4.0%) (18175-000,4.0%) (18175-000,12.0%), Catastrophic-Fails To Carry Current (18175-000,1.0%) (18175-000,1.0%) (18175-000,1.0%) (18175-000,1.0%) (18175-000,1.0%), Catastrphoic-Opens Without Command (18175-000,2.0%), Catastrphoic-Fails To Carry Current (18175-000,1.0%), Catastrophic-Does Not Close On Command (18175-000,14.0%), Premature Opening (24996-000,42.0%), Open Circuit (24997-000,38.0%), Premature trip (24997-000,16.0%)
	Does Not Open	26.2%	16.4%	Fails to Open (24990-000,40.0%), Close (24992-000,65.0%), Short (22540-000,38.0%) (24992-000,38.0%) (24997-000,16.0%), Catastrophic-Does Not Open On Command (18175-000,3.0%) (18175-000,6.0%) (18175-000,6.0%) (18175-000,6.0%) (18175-000,7.0%) (18175-000,7.0%) (18175-000,9.0%) (18175-000,9.0%) (18175-000,19.0%), Catastrophic-Breakdown Across Open Pole-Intern (18175-000,1.0%) (18175-000,1.0%) (18175-000,1.0%) (18175-000,2.0%) (18175-000,2.0%) (18175-000,4.0%) (18175-000,6.0%), Catastrophic-Breakdown Across Open Pole-Extern (18175-000,1.0%) (18175-000,4.0%),

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Circuit Breaker (continued)				
Does Not Open (continued)				
				Catastrophic-Closes Without Command (18175-000,1.0%) (18175-000,1.0%) (18175-000,1.0%) (18175-000,1.0%) (18175-000,1.0%) (18175-000,1.0%), Catastrophic-Does Not Break The Current (18175-000,1.0%) (18175-000,1.0%) (18175-000,1.0%) (18175-000,1.0%), Catastrophic-Breakdown Between Poles-Exter (18175-000,1.0%) (18175-000,6.0%), Catastrphoic-Does Not Open On Command (18175-000,5.0%), Catastrphoic- Does Not Break The Current (18175-000,1.0%), Catastrphoic-Breakdown To Earth (Internal) (18175-000,1.0%), Catastrphoic-Breakdown Across Open Pole (Intern) (18175-000,2.0%), Catastrphoic-Breakdown Across Open Pole (Extern) (18175-000,1.0%), Catastrophic-Breakdown To Earth-Inter (18175-000,1.0%) (18175-000,1.0%), Catastrophic-Breakdown To Earth-Extern (18175-000,1.0%), Shorted/Grounded (23038-002,Qty:1) (23038-002,Qty:1)
	Degraded Operation	19.3%	12.1%	Degraded (18175-000,32.0%) (18175-000,67.0%) (18175-000,68.0%) (18175-000,69.0%) (18175-000,70.0%) (18175-000,70.0%) (18175-000,71.0%) (18175-000,72.0%) (18175-000,75.0%) (18175-000,78.0%) (20609-000,Qty:9), Weak (23038-004,Qty:1)
	Cracked/Fractured	10.6%	6.6%	Broken/Fractured (23038-001,Qty:2) (23038-001,Qty:3) (23038-001,Qty:3) (23038-002,Qty:1) (23038-006,Qty:3), Cracked (23038-004,Qty:2), Broken Fractured (23038-006,Qty:1)
	Broken	8.3%	5.2%	Broken (23038-002,Qty:3) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:10) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:2) (23038-005,Qty:3) (23038-005,Qty:4)
	Mechanical Failure	8.0%	5.0%	Mechanical Failure Of Tripping Device (24993-000,70.0%)
	Unknown	------	11.4%	Unknown (18175-000,NR) (23038-001,Qty:3) (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:3) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:3) (23038-004,Qty:9) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:2) (23038-005,Qty:2) (23038-005,Qty:3) (23038-005,Qty:3) (24993-000,30.0%) (24997-000,19.0%)
	Induced	------	2.1%	Caused By Other Dev. (23038-001,Qty:1) (23038-001,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1), Overload (23038-001,Qty:1) (23038-004,Qty:1), Wrong Part (23038-004,Qty:1) (23038-004,Qty:3)
	Other (<%5)	------	23.9%	
	Loss of Control		3.1%	Control Inoperative (23038-001,Qty:1) (23038-002,Qty:1) (23038-003,Qty:1) (23038-004,Qty:1) (23038-006,Qty:1)
	Intermittent Operation		3.0%	Unstable (22540-000,19.0%) (24992-000,19.0%), Intermittent (23038-004,Qty:1) (24997-000,11.0%)
	Burred		2.9%	Burred/Charred (23038-003,Qty:1) (23038-003,Qty:1)
	No Operation		2.6%	Failures In Operation (24996-000,32.0%)
	Fails to Close		1.8%	Fails to Close (24990-000,5.0%) (24996-000,5.0%), Catastrophic-Does Not Close On Command (18175-000,NR) (18175-000,10.0%) (18175-000,13.0%) (18175-000,13.0%) (18175-000,13.0%) (18175-000,15.0%) (18175-000,16.0%) (18175-000,18.0%) (18175-000,25.0%), Catastrophic-Does Not Make The Current (18175-000,1.0%) (18175-000,1.0%) (18175-000,1.0%) (18175-000,2.0%), Catastrphoic-Does Not Close On Command (18175-000,15.0%)
	Contact Failure		1.5%	Contact Defective (23038-001,Qty:1) (23038-002,Qty:1),

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Circuit Breaker (continued)				
Other (continued)				
				Contact/Conn Defect (23038-006,Qty:1)
	Seized		1.5%	Seized (23038-002,Qty:3), Bind/Friction/Seized (23038-002,Qty:2)
	Worn		1.4%	Worn Excessively (23038-001,Qty:1) (23038-004,Qty:8)
	Lamp Failure		1.4%	No Indicating Light (23038-003,Qty:1)
	Arcing/Sparking		1.2%	Arcing And Damage (24990-000,10.0%), Arcing (22540-000,5.0%) (24992-000,5.0%)
	Loss of Power		0.6%	Electrical Pwr Loss (23038-001,Qty:1) (23038-001,Qty:1)
	No Output		0.6%	No Output (23038-001,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1)
	Insulation Failure		0.4%	Insulation Breakdown (23038-002,Qty:1) (23038-004,Qty:1)
	Bent/Dented/Warped		0.4%	Dented (23038-005,Qty:2)
	Drift		0.3%	Fluctuates Unstable (23038-002,Qty:1)
	Jammed/Stuck		0.3%	Jammed (23038-002,Qty:1)
	Incorrect Voltage		0.3%	Incorrect Voltage (23038-002,Qty:1)
	Burned/Charred		0.3%	Burned/Charred (23038-004,Qty:2)
	Blown Fuse		0.2%	Fuse Blown (23038-005,Qty:1)
	Breakdown Between Poles		<0.1%	Catastrophic-Breakdown Between Poles-Exter (18175-000,1.0%), Catastrophic-Breakdown Across Open Pole-Intern (18175-000,2.0%)
	Breakdown to Earth		<0.1%	Catastrophic-Breakdown To Earth-Extern (18175-000,1.0%)
Circuit Breaker,Magnetic				Sources:1
	Stuck Open	38.8%	33.2%	Stuck Open (20609-000,Qty:62)
	No Movement	18.1%	15.5%	No Movement (20609-000,Qty:29)
	Noisy	11.9%	10.2%	Noisy (20609-000,Qty:19)
	Intermittent Operation	10.6%	9.1%	Intermittent (20609-000,Qty:17)
	Stuck Closed	10.0%	8.6%	Stuck Closed (20609-000,Qty:14), Short (20609-000,Qty:2)
	Out of Adjustment	5.6%	4.8%	Out of Adjustment (20609-000,Qty:9)
	Cracked/Fractured	5.0%	4.3%	Cracked/Fractured (20609-000,Qty:8)
	Unknown	------	7.0%	Unknown (20609-000,Qty:13)
	Other (<%5)	------	7.5%	
	Spurious/False Operation		3.2%	False Response (20609-000,Qty:6)
	Out of Spec.		1.6%	Out of Specification (20609-000,Qty:3)
	Improper Timing		1.1%	Improper Timing (20609-000,Qty:2)
	Seized		0.5%	Seized (20609-000,Qty:1)
	Breach		0.5%	Breach (20609-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Circuit Breaker,Magnetic (continued)				
Other (continued)				
	Arcing/Sparking		0.5%	Arcing (20609-000,Qty:1)
Circuit Breaker,Power Switch				Sources:2
	Stuck Open	33.8%	16.2%	Stuck Open (20609-000,Qty:21)
	No Movement	17.7%	8.5%	No Movement (20609-000,Qty:11)
	Connector Failure	13.1%	6.3%	Connector Defective (19542-000,12.5%)
	Out of Adjustment	9.7%	4.6%	Out of Adjustment (20609-000,Qty:6)
	Stuck Closed	9.7%	4.6%	Stuck Closed (20609-000,Qty:6)
	Intermittent Operation	8.0%	3.8%	Intermittent (20609-000,Qty:5)
	Seized	8.0%	3.8%	Seized (20609-000,Qty:5)
	Unknown	------	33.6%	Unknown (19542-000,62.5%) (20609-000,Qty:3)
	Induced	------	12.5%	Improper Connections (19542-000,25.0%)
	Other (<%6)	------	6.2%	
	Unstable Operation		2.3%	Unstable (20609-000,Qty:3)
	Shorted		1.5%	Short (20609-000,Qty:2)
	Cracked/Fractured		1.5%	Cracked/Fractured (20609-000,Qty:2)
	Overheated		0.8%	Overheated (20609-000,Qty:1)
Circuit Breaker,Thermal				Sources:1
	Stuck Open	66.7%	66.7%	Stuck Open (20609-000,Qty:2)
	Shorted	33.3%	33.3%	Short (20609-000,Qty:1)
Clamp,Hose				Sources:1
	Worn	50.0%	50.0%	Worn - Broken/Damaged (25101-000,Qty:1)
	Stripped	50.0%	50.0%	Stripped (25101-000,Qty:1)
Clamp,Shaft				Sources:1
	Bent/Dented/Warped	33.3%	33.3%	Warped/Bent - Inop Man Elevation (25101-000,Qty:1)
	Out of Adjustment	33.3%	33.3%	Out Of Adjustment - Binding/Sticking (25101-000,Qty:1)
	Corroded	33.3%	33.3%	No Failure - Corroded (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Clutch (Summary)				
	Worn	17.5%		
	Binding/Sticking	17.1%		
	No Movement	16.5%		
	Bearing Failure	13.9%		
	Degraded Output	13.8%		
	Slipping	11.8%		
	Loss of Torque	9.3%		
Clutch				Sources:3
	Worn	33.3%	33.3%	Worn Out (20609-000,Qty:4), Mechanical Types-Wear (24996-000,NR)
	No Movement	31.3%	31.2%	Antenna Fails to Rotate (19542-000,62.5%)
	Out of Adjustment	12.5%	12.5%	Needs Adjustment (19542-000,25.0%)
	Displaced	8.3%	8.3%	Displaced (20609-000,Qty:1)
	Jammed/Stuck	8.3%	8.3%	Jammed (20609-000,Qty:1)
	Degraded Output	6.3%	6.2%	Antenna Moves Slowly (19542-000,12.5%)
	Other	------	0.0%	
	Mechanical Failure		NR	Mechanical Types-Mechanical Slippage (24996-000,NR), Mechanical Types-Failure of Actuating Mechanisms (24996-000,NR)
	Connection Failure		NR	Magnetic Types-Faulty Connections (24996-000,NR)
Clutch Assembly				Sources:1
	Broken	100.0%	25.0%	Broken/Separated - Inop Man Elevation (25101-000,Qty:1)
	Induced	------	75.0%	Improper Maintenance - Noisy (25101-000,Qty:1), Lack Of Lubrication - Noisy (25101-000,Qty:2)
Clutch,Magnetic				Sources:1
	Bearing Failure	60.0%	52.9%	Bearing Wear (24993-000,45.0%)
	Loss of Torque	40.0%	35.3%	Loss Of Torque Due To Internal Mechanical Degrad (24993-000,15.0%), Loss Of Torque Due To Coil Failure (24993-000,15.0%)
	Unknown	------	11.8%	Unknown (24993-000,10.0%)
Clutch,Mechanical				Sources:1
	Binding/Sticking	55.0%	55.0%	Bind (24990-000,55.0%)
	Slipping	45.0%	45.0%	Slip (24990-000,45.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Clutch, Reverse Lock				Sources:1
	Degraded Output	52.2%	46.2%	Internal Failure - Abnormal Operation (25101-000,Qty:12)
	Creep	17.4%	15.4%	Internal Failure - Creep (25101-000,Qty:1), Worn - Creep (25101-000,Qty:3)
	Binding/Sticking	13.0%	11.5%	Internal Failure - Binding/Sticking (25101-000,Qty:3)
	Skipping	8.7%	7.7%	Skips (25101-000,Qty:2)
	No Operation	4.3%	3.8%	Inop Man Elevation (25101-000,Qty:1)
	Corroded	4.3%	3.8%	Corroded-Creep (25101-000,Qty:1)
	Unknown	------	11.5%	Unknown (25101-000,Qty:3)
Coil (Summary)				
	Opened	37.9%		
	Shorted	23.5%		
	Drift	14.8%		
	Insulation Failure	14.6%		
	Lead Damage	4.8%		
	Wire Failure	4.5%		
Coil				Sources:9
	Opened	42.6%	40.1%	Open (24990-000,75.0%) (24992-000,10.0%) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:53), Open-Starved solder joint (25001-000,Qty:1), Open Winding (24993-000,25.0%), Opened (20609-000,Qty:55), Open Magnet Wire (10722-000,Qty:1), Open-Broken Winding Wires (25038-000,NR)
	Drift	18.6%	17.5%	Parameter Drift-Delta L (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:3), Parameter Drift-Delta Q (25000-000,Qty:1), Parameter Drift-Delta R (25000-000,Qty:1) (25000-000,Qty:4) (25000-000,Qty:6) (25000-000,Qty:16) (25000-000,Qty:16) (25000-000,Qty:31), Parameter Drift-Insulation Resistance (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:19), Parameter Drift-General (25000-000,Qty:7) (25000-000,Qty:58), Drift (20609-000,Qty:66) (24992-000,26.7%)
	Shorted	18.5%	17.4%	Short Dielectric Strength (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:4), Short - General (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:4), Short (10722-000,Qty:2) (20609-000,Qty:8) (24990-000,25.0%) (24992-000,48.3%), Short-Insulation Breakdown (25038-000,NR)
	Insulation Failure	11.4%	10.7%	Insulation Deterioration (24993-000,75.0%)
	Lead Damage	6.1%	5.7%	Fractured/Damaged Leads-Mold Pinch (10722-000,Qty:2)
	Dielectric Breakdown	1.4%	1.4%	Breakdown Between Winding and Core or Case Surface (25016-000,NR), Dielectric Breakdown (24992-000,10.0%)
	Unstable Operation	1.4%	1.4%	Unstable (24992-000,10.0%)
	Unknown	------	3.8%	Unknown (20609-000,Qty:40) (25000-000,NR) (25000-000,Qty:13)
	Other (<%2)	------	1.9%	
	Intermittent Operation		0.9%	Intermittent (20609-000,Qty:7) (25000-000,Qty:2) (25000-000,Qty:5)

Part Desc. / Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Coil (continued)			
Other (continued)			
Seal Failure		0.5%	Seal Leak (25000-000,Qty:2) (25000-000,Qty:8)
Mechanical Damage		0.3%	Mechnical Damage (25000-000,Qty:1) (25000-000,Qty:6)
Leaking		0.2%	Leaking (20609-000,Qty:2)
Loss of Q		NR	Radical Decrease or Loss of Q (25016-000,NR)
Change in Value		NR	Radical Decrease or Loss of Inductance (25016-000,NR)
Change in Resistance		NR	Decrease of Insul. Resis. Between Winding and Core (25016-000,NR), Change in DC Resistance of Winding (25016-000,NR)
Winding Failure		NR	Open or Short Circuit in Winding (25016-000,NR)
Broken		NR	Broken Lead (25038-000,NR)
Coil,Radio Frequency			Sources:3
Shorted	38.5%	36.4%	Short (24997-000,72.0%), Shorted Turns (24417-002,NR)
Insulation Failure	24.4%	23.0%	Insulation Breakdown (25038-000,14.0%), Insulation Deterioration (25038-000,32.0%)
Wire Failure	19.6%	18.5%	Wire over-stress (25038-000,37.0%)
Opened	17.6%	16.6%	Open Circuit (24997-000,16.0%), Open Terminations (24417-002,NR), Faulty Leads (25038-000,17.0%)
Induced	------	2.8%	Quality Defects (24997-000,5.5%), Degradation of Q (24417-002,NR)
Unknown	------	2.8%	Unknown (24997-000,5.5%)
Collimator			Sources:1
Moisture Intrusion	100.0%	23.5%	Internal Moisture (25101-000,Qty:4)
Unknown	------	41.2%	Unknown (25101-000,Qty:1) (25101-000,Qty:6)
Induced	------	35.3%	Lack Of Maintenance - Internal Moisture (25101-000,Qty:2) (25101-000,Qty:4)
Compressor			Sources:1
Seal/Gasket Failure	32.4%	29.0%	Leaks from Gaskets and Seals (24996-000,28.0%)
Bearing Failure	29.5%	26.4%	Bearings Failure (24996-000,25.5%)
Valve Failure	20.8%	18.7%	Valves Failure (24996-000,18.0%)
Cooling Failure	9.2%	8.3%	Cooling Failure-If Water Cooled (24996-000,8.0%)
Impeller Failure	8.1%	7.3%	Impeller Failure (24996-000,7.0%)
Unknown	------	10.4%	Unknown (24996-000,10.0%)

Part Desc. / Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Computer Peripheral,Disk Drive,Comp Tape			Sources:1
Connection Failure	50.5%	4.7%	Loose Connection (19542-000,4.7%) (19542-000,4.7%)
IC Failure	24.7%	2.3%	Defective IC (19542-000,2.3%) (19542-000,2.3%)
Data Loss	24.7%	2.3%	Data Lost From Tapes (19542-000,2.3%) (19542-000,2.3%)
Unknown	------	65.1%	Unknown (19542-000,65.1%) (19542-000,65.1%)
Induced	------	25.6%	Defective (19542-000,25.6%) (19542-000,25.6%)
Computer Peripheral,Track Ball			Sources:1
Lamp Failure	50.3%	9.7%	Defective Lamp (19542-000,9.7%)
Connector Failure	16.6%	3.2%	Loose Connector (19542-000,3.2%)
IC Failure	16.6%	3.2%	Defective IC (19542-000,3.2%)
Diode Failure	16.6%	3.2%	Defective Diode (19542-000,3.2%)
Induced	------	71.0%	Defective Component (19542-000,67.7%), Improper Soldering Inside (19542-000,3.2%)
Unknown	------	9.7%	Unknown (19542-000,3.2%) (19542-000,6.5%)
Computer,Mass Memory			Sources:1
Software Failure	38.4%	24.7%	Won't Accept Certain Programs (19542-000,1.0%), Won't Load (19542-000,19.8%), Won't Record (19542-000,4.0%)
Sensor Failure	24.7%	15.8%	Defective Sensor (19542-000,14.9%), Defective Vacuum Chamber Sensor (19542-000,1.0%)
No Rewind	15.3%	9.9%	Won't Rewind (19542-000,9.9%)
IC Failure	10.7%	6.9%	Defective IC (19542-000,6.9%)
Transistor Failure	6.2%	4.0%	Defective Transistor (19542-000,3.0%), Defective Transistor in Servo Assembly (19542-000,1.0%)
Motor Failure	4.7%	3.0%	Capstan Motor Defective (19542-000,1.0%), Capstan Motor Jammed (19542-000,1.0%), Defective Motor Assembly (19542-000,1.0%)
Unknown	------	12.8%	Unknown (19542-000,1.0%) (19542-000,1.0%) (19542-000,2.0%) (19542-000,8.9%)
Induced	------	6.0%	Cable Wires Switched (19542-000,1.0%), Defective Soldering on IC (19542-000,2.0%), MTC Defective (19542-000,1.0%), Q1 & Q2 Improperly Oriented (19542-000,1.0%), Wrong Fuse Was Installed (19542-000,1.0%)
Other (<%4)	------	16.9%	
Power Supply Failure		2.0%	Defective Power Supply (19542-000,1.0%), Power Supply Defective (19542-000,1.0%)
Disc Failure		2.0%	Defective Disc (19542-000,1.0%), Floppy Drive One Is Defective (19542-000,1.0%)
Capacitor Failure		2.0%	Defective Capacitor (19542-000,2.0%)
Connection Failure		2.0%	Bad Solder Joints On Connector Pins (19542-000,1.0%), Connector Pins Have Broken (19542-000,1.0%)
Read/Write Head Failure		1.0%	Read/Write Head Is Defective (19542-000,1.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Computer,Mass Memory (continued)				
Other (continued)				
	Cable Failure		1.0%	Ribbon Cable Broken (19542-000,1.0%)
	Servo Amp Failure		1.0%	Servo Amp Defective (19542-000,1.0%)
	Connector Failure		1.0%	Two Pins Shorted on Connector (19542-000,1.0%)
	Pin Damage		1.0%	Pins 1 & 3 Are Damaged (19542-000,1.0%)
	Blown Fuse		1.0%	Fuse Blown (19542-000,1.0%)
	Loss of Control		1.0%	Defective Control System (19542-000,1.0%)
	Check Valve Failure		1.0%	Defective Check Valve (19542-000,1.0%)
	Reel Hub Assbly Failure		1.0%	Bad Reel Hub Assembly (19542-000,1.0%)
Computer,System				Sources:1
	Hardware Failure	57.2%	50.1%	Hardware (24997-000,50.0%)
	Software Failure	42.8%	37.4%	Software (24997-000,37.4%)
	Induced	------	12.5%	Operator (24997-000,12.5%)
Computer,System,Large				Sources:1
	Hardware Failure	57.2%	50.1%	Hardware (24996-000,50.0%)
	Software Failure	42.8%	37.4%	Software (24996-000,37.4%)
	Induced	------	12.5%	Operator (24996-000,12.5%)
Connection,Solder				Sources:2
	Opened	66.7%	50.0%	Open (24994-000,100.0%)
	Broken	33.3%	25.0%	Break (24990-000,50.0%)
	Unknown	------	20.0%	Unknown (24990-000,40.0%)
	Induced	------	5.0%	No Solder (24990-000,10.0%)
	Other	------	0.0%	
	Shorted		NR	Short (24994-000,NR)
	Drift		NR	Drift (24994-000,NR)
Connector (Summary)				
	Opened	33.6%		
	Mechanical Damage	25.1%		
	Intermittent Operation	12.6%		
	Shorted	9.0%		
	Mechanical Failure	7.3%		
	Broken	6.4%		
	Insertion Loss	6.1%		

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Connector				Sources:17
	Opened	39.0%	29.2%	Open Circuit (24990-000,60.0%) (24996-000,32.0%) (24997-000,32.0%), High Z (24991-000,33.0%) (24991-000,80.0%) (24991-000,94.0%) (24991-000,100.0%) (24991-000,100.0%), Open (24992-000,21.5%) (24992-000,36.0%) (25038-000,36.0%), Contact Resistance (24992-000,5.4%) (24996-000,9.0%) (24997-000,9.0%) (25038-000,9.0%), Contaminated (24992-000,9.0%), Connect Defective (23038-001,Qty:1), Corroded (20609-000,Qty:7) (23038-002,Qty:1) (23038-002,Qty:4) (23038-004,Qty:1), Contact Defective (23038-002,Qty:1), Dirty (23038-002,Qty:1), Contact/Conn Defect (23038-004,Qty:1) (23038-005,Qty:1) (23038-006,Qty:1) (25464-000,Qty:40), Opened (20609-000,Qty:407), Open Pin (4, 20)-No Solder Used Only Crimped (10722-000,Qty:2), Opens-Mishandling (10722-000,Qty:5), Open-Fracture In The Flex Tape Conductor (10722-000,Qty:1), Open Circuit-Wire Fract. Adjacent To Solder Joint (10722-000,Qty:1), Open Wires-Mechanical Stress (10722-000,Qty:6), Open-Cracked Copper Paths (10722-000,Qty:1), Corroded Mild/Moderate (25464-000,Qty:3)
	Mechanical Damage	26.1%	19.6%	Mechanical Damage (24992-000,24.0%) (25038-000,24.0%), Broken/Fractured (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:4) (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:2) (23038-002,Qty:2) (23038-006,Qty:1) (23038-006,Qty:1) (23038-006,Qty:1) (23038-006,Qty:1), Bent/Dented Start (23038-001,Qty:1), Cut/Torn (23038-001,Qty:1), Broked/Fractured (23038-001,Qty:1), Cracked (23038-001,Qty:1) (23038-006,Qty:1) (25464-000,Qty:8), Broken (23038-002,Qty:3) (23038-002,Qty:3) (23038-002,Qty:3) (23038-002,Qty:4) (23038-003,Qty:1) (23038-003,Qty:1) (23038-003,Qty:1) (23038-003,Qty:1) (23038-003,Qty:1) (23038-003,Qty:1) (23038-003,Qty:2) (23038-003,Qty:2) (23038-003,Qty:2) (23038-004,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:2) (23038-005,Qty:2) (23038-005,Qty:3) (25464-000,Qty:367), Weld Cracked (23038-002,Qty:1), Stripped (23038-003,Qty:1) (23038-00[illegible] Qty:2), Distorted (23038-005,Qty:1), Connector Fractured-Mechanical Overstress (10722-000,Qty:1), Damaged Connector (25027-000,Qty:1)
	Intermittent Operation	17.5%	13.1%	Intermittent (20609-000,Qty:326) (23038-006,Qty:1) (24990-000,20.0%) (24992-000,22.0%) (24996-000,20.0%) (24997-000,20.0%) (25038-000,22.0%), Intermittent Connection (25027-000,Qty:1) (25027-000,Qty:12), Intermittent or Open Circuit (24996-000,NR) (24997-000,NR)
	Shorted	10.8%	8.1%	Short (20609-000,Qty:8) (24990-000,10.0%) (24992-000,9.0%) (24992-000,19.1%) (24996-000,NR) (24996-000,7.0%) (24997-000,NR) (24997-000,NR) (24997-000,7.0%) (25038-000,9.0%), Low Z (24991-000,NR) (24991-000,NR) (24991-000,0.1%) (24991-000,20.0%) (24991-000,67.0%), Shorts (Poor Sealing) (24993-000,30.0%), Shorted/Grounded (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:2) (23038-002,Qty:1) (23038-002,Qty:2) (23038-003,Qty:1) (23038-003,Qty:1) (23038-003,Qty:1) (23038-005,Qty:1) (23038-006,Qty:1), Shorted Pin (25027-000,Qty:1)
	Mechanical Failure	6.6%	4.9%	Mechanical Failure Of Solder Joints (24993-000,25.0%), Miscellaneous Mechanical Failures (24993-000,15.0%), Mechanical Failure (24996-000,NR) (24996-000,22.0%) (24997-000,NR) (24997-000,22.0%), Mechanical Failure and Coupling Problems (24997-000,NR)
	Induced	------	4.8%	Damaged For Test Pur (23038-001,Qty:1), Missing (23038-001,Qty:1) (23038-002,Qty:1) (23038-002,Qty:4) (23038-003,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-006,Qty:1). (23038-006,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Connector (continued)				
Induced (continued)				
				(23038-006,Qty:4), Miswired (23038-001,Qty:1), Chipped/Nicked (23038-002,Qty:1), Chipped (23038-002,Qty:1), Cannibalize (23038-002,Qty:1), Missing; Maintenance (23038-002,Qty:2), Wrong Part (23038-004,Qty:1), Wet (23038-005,Qty:1), Caused By Other Dev. (23038-005,Qty:1)
Unknown		------	4.0%	Unknown (20609-000,Qty:15) (20609-000,Qty:75) (23038-001,Qty:1) (23038-001,Qty:2) (23038-001,Qty:3) (23038-002,Qty:1) (23038-002,Qty:2) (23038-002,Qty:2) (23038-003,Qty:1) (23038-003,Qty:1) (23038-004,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:2) (23038-006,Qty:1) (24996-000,NR) (24997-000,NR) (24997-000,NR)
Other (<%4)		------	16.3%	
	Change in Resistance		2.4%	High Resistance (24990-000,10.0%), Degradation Of Insulation Resistance (24993-000,20.0%), Poor Contact Resistance (24993-000,10.0%), High and Erratic Contact Resistance (24997-000,NR)
	Worn		2.1%	Worn Excessively (23038-002,Qty:1) (23038-002,Qty:1) (23038-004,Qty:2) (23038-005,Qty:1) (23038-005,Qty:4), Worn Out (20609-000,Qty:10), Worn, Chaffed, Frayed, or Torn (25464-000,Qty:4)
	Loose		2.0%	Loose (23038-001,Qty:1) (23038-001,Qty:2) (23038-002,Qty:1) (23038-002,Qty:2) (23038-002,Qty:2) (23038-005,Qty:1) (23038-006,Qty:2), Loose, Damaged, or Missing Har (25464-000,Qty:21)
	Drift		1.6%	Fluctuates/Unstable (23038-001,Qty:1) (23038-001,Qty:3) (23038-004,Qty:1) (23038-006,Qty:1), Fail To Tune/Drift (23038-002,Qty:2), Fluctuates, Unstable or Errati (25464-000,Qty:4)
	Audio Fault/Failure		1.6%	Audio Faulty (23038-001,Qty:1) (23038-002,Qty:1) (23038-003,Qty:3) (23038-005,Qty:1) (23038-005,Qty:3)
	Spurious/False Operation		1.2%	Faulty Reading (23038-001,Qty:1) (23038-002,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1)
	Coupling Failure		1.2%	Coupling Problems (24996-000,10.0%) (24997-000,10.0%)
	Dielectric Breakdown		1.0%	Dielectric Breakdown (24992-000,33.8%)
	Unstable Operation		0.7%	Unstable (23038-001,Qty:1) (24992-000,20.2%)
	Incorrect Voltage		0.6%	Incorrect Voltage (23038-001,Qty:1) (23038-004,Qty:1)
	Loss of Control		0.6%	Control Inoperative (23038-003,Qty:1) (23038-006,Qty:1)
	Burred		0.5%	Burred (23038-004,Qty:1)
	Insulation Failure		0.4%	Insulation Breakdown (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:1)
	Brittle		0.2%	Brittle (23038-003,Qty:1)
	Shafting		0.1%	Shafting (23038-001,Qty:1)
	Arcing/Sparking		<0.1%	Arcing (20609-000,Qty:6)
	Binding/Sticking		<0.1%	Binding (20609-000,Qty:4), Binding, Stuck or Jammed (25464-000,Qty:1)
	Burned/Charred		<0.1%	Burned (20609-000,Qty:4)
	Degraded Operation		<0.1%	Weak (20609-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Connector (continued)				
Other (continued)				
	Leaking		<0.1%	Leaking (20609-000,Qty:1)
	Clogged/Clogging		<0.1%	Clogged (20609-000,Qty:1)
Connector,Circular				Sources:2
Induced		------	<0.1%	Cocked Pins (13933-000,NR)
Other		------	100.0%	
	Bent/Dented/Warped		NR	Bent Pins (13933-000,NR)
	Broken		NR	Broken Pins (13933-000,NR)
	Opened		NR	Open Contacts-Contamination (13933-000,NR)
	Change in Resistance		NR	High Resistance Contacts-Contamination (13933-000,NR)
	Mechanical Damage		NR	Damage to Contact Retaining Mechanism (24417-000,NR)
Connector,Circular,Multicontact				Sources:2
Mechanical Failure		62.9%	61.7%	Gross Mechanical Failures (24996-000,64.5%), Gross Mech. Failures Coupling & Mismating Problem (24997-000,64.5%)
Mismating Problems		22.5%	22.1%	Coupling & Mismating Problems (24996-000,64.5%)
Change in Resistance		5.4%	5.3%	High Contact or Erratic Resistance (24996-000,5.5%) (24997-000,5.5%)
Intermittent Operation		4.9%	4.8%	Intermittent or Open Circuit (24996-000,5.0%) (24997-000,5.0%)
Shorted		4.4%	4.3%	Short (24996-000,4.5%) (24997-000,4.5%)
Unknown		------	1.9%	Unknown (24996-000,2.0%) (24997-000,2.0%)
Connector,Coaxial,F.R.R.F.				Sources:2
Flashover		66.5%	44.2%	Terminations (24996-000,44.0%) (24997-000,44.0%)
Mismating Problems		16.6%	11.1%	Mismating (24996-000,11.0%) (24997-000,11.0%)
Cross Failure		8.5%	5.6%	Cross Failure (24996-000,5.6%) (24997-000,5.6%)
Contaminated		8.5%	5.6%	Contamination (24996-000,5.6%) (24997-000,5.6%)
Unknown		------	33.5%	Unknown (24996-000,33.3%) (24997-000,33.3%)
Connector,Filter				Sources:1
Shorted		100.0%	100.0%	Short-Severe External Electrical Overstress (10722-000,1.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Connector,Flex				Sources:1
	Shorted	100.0%	100.0%	Short-Shorted Due To Misplacement Of Pin 18 (10722-000,Qty:1)
Connector,Microwave				Sources:1
	Insertion Loss	80.0%	80.0%	High Insertion Loss (High VSWR) (25015-000,80.0%)
	Opened	20.0%	20.0%	Open (25015-000,20.0%)
Connector,PWB				Sources:3
	Broken	66.7%	66.7%	Broken/Damaged (17867-000,Qty:1) (17867-000,Qty:1)
	Bent/Dented/Warped	33.3%	33.3%	Bent Pin Replaced (17867-000,Qty:1), Bent Pin-Misalignment (13740-000,NR)
	Unknown	------	<0.1%	Unknown (24996-000,NR)
	Other	------	0.0%	
	Mechanical Overstress		NR	Insertion/Withdrawl Stress Damage (13740-000,NR)
	Corroded		NR	Corrosion (13740-000,NR)
	Change in Resistance		NR	High or Erratic Contact Resistance (24996-000,NR)
	Shorted		NR	Short (24996-000,NR)
	Mechanical Failure		NR	Mechanical Failure and Coupling Problems (24996-000,NR)
Connector,Pin				Sources:1
	Broken	100.0%	100.0%	Broken Strands-Tensile Failure (10722-000,Qty:1)
Connector,Receptacle,Electrical				Sources:1
	Pin Damage	66.7%	66.7%	Damaged Pin (25027-000,Qty:1) (25027-000,Qty:2) (25027-000,Qty:3)
	Broken	33.3%	33.3%	Broken Pins (25027-000,Qty:1) (25027-000,Qty:2)
Connector,Rectangular,Multicontact				Sources:2
	Unknown	------	<0.1%	Unknown (24996-000,NR) (24997-000,NR)
	Other	------	100.0%	
	Intermittent Operation		NR	Intermittent or Open Circuit (24996-000,NR) (24997-000,NR)
	Mechanical Failure		NR	Mechanical Failure and Coupling Problems (24996-000,NR) (24997-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Connector,Socket				Sources:3
	Contact Failure	47.6%	43.3%	Contact Failure (24993-000,30.0%), High Contact Resistance-Contacts Pitted (10722-000,Qty:2)
	Mechanical Failure	14.6%	13.3%	Mechanical Failure Of Solder Joints (24993-000,25.0%), Miscellaneous Mechanical Failures (24993-000,15.0%)
	Out of Spec.	12.7%	11.5%	Out of Tolerance (20609-000,Qty:9)
	Aged/Deteriorated	11.0%	10.0%	Material Deterioration (24993-000,30.0%)
	Bent/Dented/Warped	9.9%	9.0%	Distorted (20609-000,Qty:7)
	Cracked/Fractured	4.2%	3.8%	Cracked/Fractured (20609-000,Qty:3)
	Unknown	------	9.0%	Unknown (20609-000,Qty:7)
Contact,Post & Wire				Sources:1
	Broken	100.0%	100.0%	Break-Cyclic Fatigue (10722-000,Qty:1)
Controller,Electromechanical				Sources:1
	Erroneous Output	75.0%	63.0%	Level Setting Failure(Erroneous Reading) (24996-000,37.0%), Meter or Gauge Failure to Indicate (24996-000,26.0%)
	Loss of Control	25.0%	21.0%	Control Circuit Failure-Open (24996-000,21.0%)
	Unknown	------	16.0%	Unknown (24996-000,16.0%)
Conveyor System,Belt System				Sources:1
	Belt Failure	50.0%	50.0%	Belt Failure (24996-000,50.0%)
	Idler Failure	40.0%	40.0%	Idler Failures (24996-000,40.0%)
	Motor Failure	6.5%	6.5%	Motor Failure (24996-000,6.5%)
	Drive Pulley Failure	3.5%	3.5%	Drive Pulley Failure (24996-000,3.5%)
Cooling Coil				Sources:1
	Leaking	100.0%	80.0%	Leaking (20609-000,Qty:12)
	Unknown	------	20.0%	Unknown (20609-000,Qty:3)
Counter				Sources:1
	Out of Adjustment	45.7%	28.1%	Out Of Adjustment - Inaccurate (25101-000,Qty:1) (25101-000,Qty:11), Out Of Adjustment - Excessive Play (25101-000,Qty:1), Out Of Adjustment - Skips (25101-000,Qty:1), Out Of Adjustment - Incomplete (25101-000,Qty:1), Out Of Adjustment - Inop/Unserviceable (25101-000,Qty:1)
	Binding/Sticking	20.0%	12.3%	Binding/Sticking (25101-000,Qty:1), Internal Failure - Binding/Sticking (25101-000,Qty:1) (25101-000,Qty:3), No Failure - Binding/Sticking (25101-000,Qty:2)
	Skipping	14.3%	8.8%	Internal Failure - Skips (25101-000,Qty:1) (25101-000,Qty:2), Skips (25101-000,Qty:1), Worn - Skips

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Counter (continued)				
	Skipping (continued)			
				(25101-000,Qty:1)
	Excessive Play	8.6%	5.3%	Internal Failure - Excessive Play (25101-000,Qty:1), Excessive Play (25101-000,Qty:1), No Failure - Excessive Play (25101-000,Qty:1)
	Worn	5.7%	3.5%	Worn - Inaccurate (25101-000,Qty:1), Worn - Inop/Unserviceable (25101-000,Qty:1)
	Degraded Output	5.7%	3.5%	Internal Failure - Abnormal Operation (25101-000,Qty:2)
	Induced	------	17.5%	Improper Installation - Imp Assembly/Installation (25101-000,Qty:1), Lack Of Maintenance - Binding/Sticking (25101-000,Qty:3), Improper Installation - Inop/Unserviceable (25101-000,Qty:1), Internal Failure - Inaccurate (25101-000,Qty:2) (25101-000,Qty:3)
	Unknown	------	12.3%	Unknown (25101-000,Qty:1) (25101-000,Qty:6)
	Other (<%4)	------	8.8%	
	Stripped		1.8%	Worn/Stripped - Inop/Unserviceable (25101-000,Qty:1)
	Aged/Deteriorated		1.8%	Deteriorated/Aged - Leaking Nitrogen (25101-000,Qty:1)
	Broken		1.8%	Internal Failure - Broken/Damaged (25101-000,Qty:1)
	Seal Failure		1.8%	Seals Worn - Inop/Unserviceable (25101-000,Qty:1)
	Seized		1.8%	Internal Failure - Seized (25101-000,Qty:1)
Counter Assembly				Sources:1
	Binding/Sticking	30.2%	21.7%	Internal Failure - Binding/Sticking (25101-000,Qty:3) (25101-000,Qty:9), Binding/Sticking (25101-000,Qty:1)
	Skipping	18.6%	13.3%	Skips (25101-000,Qty:1) (25101-000,Qty:2), Internal Failure - Skips (25101-000,Qty:1) (25101-000,Qty:3), No Failure - Skips (25101-000,Qty:1)
	Excessive Play	16.3%	11.7%	Excessive Play (25101-000,Qty:1) (25101-000,Qty:1), Internal Failure - Excessive Play (25101-000,Qty:1) (25101-000,Qty:3), Part Missing/Loose - Excessive Play (25101-000,Qty:1)
	Out of Adjustment	14.0%	10.0%	Out Of Adjustment - Inaccurate (25101-000,Qty:1) (25101-000,Qty:2), Out Of Adjustment - Out Of Adjustment (25101-000,Qty:1), Out Of Adjustment - Fire Extinguishers (25101-000,Qty:1), Out Of Adjustment - Excessive Play (25101-000,Qty:1)
	Out of Synch.	11.6%	8.3%	Internal Failure - Out Of Synch (25101-000,Qty:4), Out Of Synch (25101-000,Qty:1)
	Seized	9.3%	6.7%	Internal Failure - Seized (25101-000,Qty:1) (25101-000,Qty:2), Out Of Adjustment - Seized (25101-000,Qty:1)
	Unknown	------	15.0%	Unknown (25101-000,Qty:2) (25101-000,Qty:7)
	Induced	------	13.3%	Internal Failure - Inaccurate (25101-000,Qty:1) (25101-000,Qty:1), Lack Of Maintenance - Binding/Sticking (25101-000,Qty:4), Wrong Part - Imp Assembly/Install (25101-000,Qty:1), Item Abuse/Neglect - Binding/Sticking (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Counter,Differential				Sources:1
	Out of Adjustment	93.3%	87.5%	Out Of Adjustment - Inaccurate (25101-000,Qty:10), Out Of Adjustment - Fnd In TI/PMCS/INSP (25101-000,Qty:4)
	Stripped	6.7%	6.3%	Worn/Stripped - Inop/Unserviceable (25101-000,Qty:1)
	Induced	------	6.3%	Improper Adjustment - Inaccurate (25101-000,Qty:1)
Counter,Reset				Sources:1
	Out of Adjustment	33.3%	20.0%	Out Of Adjustment - Abnormal Operation (25101-000,Qty:1)
	Excessive Play	33.3%	20.0%	No Failure - Excessive Play (25101-000,Qty:1)
	Binding/Sticking	33.3%	20.0%	Internal Failure - Binding/Sticking (25101-000,Qty:1)
	Unknown	------	40.0%	Unknown (25101-000,Qty:2)
Coupling				Sources:3
	Leaking	55.6%	33.3%	Leak (24992-000,100.0%)
	Worn	16.7%	10.0%	Worn Out (20609-000,Qty:6)
	Broken	11.1%	6.7%	Broken (20609-000,Qty:4)
	Arcing/Sparking	5.6%	3.3%	Arcing (20609-000,Qty:2)
	Opened	5.6%	3.3%	Opened (20609-000,Qty:2)
	Burned/Charred	2.8%	1.7%	Burned (20609-000,Qty:1)
	Loose	2.8%	1.7%	Loose (20609-000,Qty:1)
	Unknown	------	40.0%	Unknown (19542-000,100.0%) (20609-000,Qty:4)
Coupling,Shaft				Sources:1
	Worn	38.7%	31.6%	Worn - Fire Extinguishers (25101-000,Qty:1), Worn - Inop/Unserviceable (25101-000,Qty:1) (25101-000,Qty:3), Worn - Loose (25101-000,Qty:5), Worn - Found In TI/PMCS/Insp (25101-000,Qty:1) (25101-000,Qty:1)
	Out of Adjustment	32.3%	26.3%	Out Of Adjustment - Binding/Sticking (25101-000,Qty:4), Out Of Adjustment - Inop Man Elevation (25101-000,Qty:3), Out Of Adjustment - Abnormal Operation (25101-000,Qty:1), Out Of Adjustment - Out Of Synch (25101-000,Qty:1), Out Of Adjustment - Skips (25101-000,Qty:1)
	Excessive Play	22.6%	18.4%	Worn - Excessive Play (25101-000,Qty:6), Worn Shaft/Keyway - Excessive Play (25101-000,Qty:1)
	Binding/Sticking	6.5%	5.3%	Binding/Sticking (25101-000,Qty:2)
	Induced	------	13.2%	Caused By Other Failure-Loose (25101-000,Qty:1), Improper Maintenance - Binding/Sticking (25101-000,Qty:1), Improper Maintenance - Inop Man Elevation (25101-000,Qty:2), Lack Of Lubrication - Binding/Sticking (25101-000,Qty:1)
	Unknown	------	5.3%	Unknown (25101-000,Qty:1) (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Cover Assembly				Sources:1
	Broken	100.0%	70.0%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:6)
	Induced	------	30.0%	Lack Of Maintenance - Internal Moisture (25101-000,Qty:3)
Cover,Access				Sources:1
	Broken	100.0%	20.8%	Broken/Damaged (25101-000,Qty:3) (25101-000,Qty:6), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:3), Part Struck/Damaged - Inop Man Elevation (25101-000,Qty:1), Part Struck/Damaged - Inop/Unserviceable (25101-000,Qty:1)
	Unknown	------	75.0%	Unknown (25101-000,Qty:1) (25101-000,Qty:5)
	Induced	------	4.2%	Improper Maintenance - Broken/Damaegd (25101-000,Qty:1). Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:2)
Cover,Aiming Post				Sources:1
	Worn	100.0%	50.0%	Deteriorated/Aged - Worn Out (25101-000,Qty:1)
	Unknown	------	50.0%	Unknown (25101-000,Qty:1)
Cover,Bore Brush				Sources:1
	Worn	75.0%	42.9%	Worn Out (25101-000,Qty:3)
	Aged/Deteriorated	25.0%	14.3%	Deteriorated/Aged - Inop/Unserviceable (25101-000,Qty:1)
	Unknown	------	42.9%	Unknown (25101-000,Qty:3)
Cover,Breech				Sources:1
	Worn	100.0%	80.0%	Worn Out (25101-000,Qty:3), Worn - Deteriorated (25101-000,Qty:5)
	Unknown	------	20.0%	Unknown (25101-000,Qty:2)
Cover,Hinged				Sources:1
	Broken	100.0%	50.0%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:2)
	Induced	------	50.0%	Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:2), Item Abuse/Neglect - Collapsed/Bent (25101-000,Qty:1)
Cover,Overall				Sources:1
	Aged/Deteriorated	100.0%	65.2%	Deteriorated/Aged - Inop/Unserviceable (25101-000,Qty:15)
	Unknown	------	34.8%	Unknown (25101-000,Qty:2) (25101-000,Qty:6)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Cover,Protective				Sources:1
	Broken	92.2%	78.3%	Broken/Damaged (25101-000,Qty:9) (25101-000,Qty:25), Oversize - Broken/Damaged (25101-000,Qty:1), Poor Design - Broken/Damaged (25101-000,Qty:11), Broken/Separated-Missing (25101-000,Qty:1)
	Aged/Deteriorated	7.8%	6.7%	Deteriorated/Aged - Broken/Damaged (25101-000,Qty:4)
	Unknown	------	8.3%	Unknown (25101-000,Qty:1) (25101-000,Qty:4)
	Induced	------	6.7%	Missing (25101-000,Qty:3), Fell Off Or Lost - Missing (25101-000,Qty:1)
Cover,Shaft				Sources:1
	Out of Adjustment	75.0%	42.9%	Out Of Adjustment - Abnormal Operation (25101-000,Qty:1), Out Of Adjustment - Binding/Sticking (25101-000,Qty:2)
	Excessive Vibration	25.0%	14.3%	Vibration - Handwheel Spin (25101-000,Qty:1)
	Induced	------	42.9%	Improper Install - Broken/Damaged (25101-000,Qty:1), Item Abuse/Neglect - Cracked (25101-000,Qty:1), Overtorqued - Inop Man Elevation (25101-000,Qty:1)
Cover,Telescope				Sources:1
	Worn	100.0%	17.2%	Worn - Inop/Unserviceable (25101-000,Qty:4), Worn - Worn Out (25101-000,Qty:1)
	Induced	------	48.3%	Fell Off Or Lost - Missing (25101-000,Qty:8), Missing (25101-000,Qty:2) (25101-000,Qty:3), Stolen - Missing (25101-000,Qty:1)
	Unknown	------	34.5%	Unknown (25101-000,Qty:10)
Cover,Telescope,Mount				Sources:1
	Cracked/Fractured	100.0%	22.2%	Cracked (25101-000,Qty:1) (25101-000,Qty:1)
	Induced	------	77.8%	Fell Off Or Lost - Missing (25101-000,Qty:3), Missing (25101-000,Qty:1) (25101-000,Qty:3)
Cradle Assembly,Gun				Sources:1
	Cracked/Fractured	97.8%	88.0%	Vibration - Cracked (25101-000,Qty:1) (25101-000,Qty:36), Cracked Weld-Cracked (25101-000,Qty:4), Internal Failure - Cracked (25101-000,Qty:1), No Failure - Cracked (25101-000,Qty:1), Cracked (25101-000,Qty:1)
	Broken	2.2%	2.0%	Broken Damaged (25101-000,Qty:1)
	Induced	------	10.0%	Caused By Other Failure-Collapsed/Bent (25101-000,Qty:1), Improper Maintenance - Collapsed/Bent (25101-000,Qty:1), Improper Maintenance - Broken/Damaged (25101-000,Qty:2), Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Crank Assembly				Sources:1
	Broken	75.0%	66.7%	Broken/Damaged (25101-000,Qty:6)
	Worn	25.0%	22.2%	Worn - Inop/Unserviceable (25101-000,Qty:2)
	Induced	------	11.1%	Wrong Part - Broken/Damaged (25101-000,Qty:1)
Crank,Shaft				Sources:1
	Broken	100.0%	40.0%	Bracket Broken (19542-000,40.0%)
	Unknown	------	60.0%	Unknown (19542-000,60.0%)
Crystal (Summary)				
	Opened	30.5%		
	No Operation	26.9%		
	Broken	21.5%		
	Drift	6.7%		
	Incorrect Current	5.4%		
	Cracked/Fractured	4.5%		
	Noisy	4.5%		
Crystal				Sources:3
	No Operation	50.0%	50.0%	Not Operable-Wafer Fractured (10722-000,Qty:1)
	Opened	16.7%	16.7%	Open (24992-000,33.3%) (25016-000,NR)
	Drift	12.5%	12.5%	Drift (24992-000,25.0%)
	Noisy	8.4%	8.4%	Jitter (25016-000,NR), Noisy (24992-000,16.7%)
	Cracked/Fractured	8.4%	8.4%	Crack (24992-000,16.7%)
	Unstable Operation	4.2%	4.2%	Unstable (24992-000,8.3%)
	Other	------	0.0%	
	Spurious/False Operation		NR	Spurious Response (25016-000,NR)
	Shorted		NR	Short (25016-000,NR)
Crystal,Oscillator				Sources:1
	No Operation	100.0%	100.0%	Not Functional (10722-000,Qty:1)
Crystal,Piezoelectric				Sources:1
	Broken	80.0%	80.0%	Broken (25464-000,Qty:4)
	Incorrect Current	20.0%	20.0%	Current Incorrect (25464-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Crystal,Quartz				Sources:4
	Opened	88.9%	80.0%	Opens (24993-000,80.0%)
	No Oscillation	11.1%	10.0%	No Oscillations (24993-000,10.0%), Failure to Oscillate (24997-000,NR)
	Unknown	------	10.0%	Unknown (24993-000,10.0%)
	Other	------	0.0%	
	Connection Failure		NR	Poor Electrical Connections (22540-000,NR)
	Mechanical Overstress		NR	Excessive Internal Mechanical Stresses (24417-000,NR), Excessive Internal Mechanical Stress (22540-000,NR)
	Contaminated		NR	Increased Internal Resist-Excessive Contamination (24417-000,NR), Excessive Contamination (22540-000,NR)
	Seal/Gasket Failure		NR	Poor Seal (22540-000,NR)
	Drift		NR	Frequency Drift-Poor Seal (24417-000,NR), Frequency Shifts (24997-000,NR), Frequency Drift (22540-000,NR)
	Bent/Dented/Warped		NR	Bent or Damaged Pins (24997-000,NR)
	Intermittent Operation		NR	Intermittent Operation-Poor Electrical Connection (24417-000,NR), Intermittent (24997-000,NR)
Cylinder				Sources:2
	Leaking	50.0%	45.0%	Leak (24992-000,50.0%), Internal Failure - Leaking Hydraulic Oil (25101-000,Qty:1) (25101-000,Qty:1)
	Cracked/Fractured	27.8%	25.0%	Mechanical, Fracture, Etc. (24992-000,50.0%)
	Loose	11.1%	10.0%	No Failure - Loose (25101-000,Qty:1)
	Contaminated	11.1%	10.0%	Contaminated Fluid - Slams Into Battery (25101-000,Qty:1)
	Unknown	------	10.0%	Unknown (25101-000,Qty:1)
Delay Line				Sources:2
	Degraded Operation	52.0%	52.0%	DC Level Or Distorted Square Wave Output (10722-000,Qty:13)
	Solder Joint Failure	20.0%	20.0%	Failure Of The 90 NS Tap-Cracked Solder Joint (10722-000,Qty:1), Solder Joints Fractured (10722-000,Qty:1), 4 Of 40 Capacitor Solder Joints Fractured (10722-000,Qty:1), 15 NS Shift in Signal At Tap 30-Cracked Cap. Solde (10722-000,Qty:2)
	Wire Failure	20.0%	20.0%	Open Magnet Wires (10722-000,Qty:1), Open In Internal Wire-Mechanical Overstress (10722-000,Qty:1), Erratic Operation-Fractured Wires (10722-000,Qty:2), Magnet Wire Fractured At Pin 1 (10722-000,Qty:1)
	Opened	4.0%	4.0%	Electrical Open-Tensile Failure (10722-000,Qty:1)
	Output Stuck High	4.0%	4.0%	High On All Output Taps (10722-000,Qty:1)
	Other	------	0.0%	
	Transducer Seperation		NR	Seperation of the Transducer from the Blank (24417-002,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Detector, Microwave				Sources:1
	Diode Failure	100.0%	100.0%	Diode Failure, No Output (25015-000,10.0%), Diode Failure, Power Loss (25015-000,90.0%)
Detector, Smoke, Alarm				Sources:1
	Erroneous Alarm	70.0%	70.0%	Erroneous Alarm (24996-000,70.0%)
	Loss of Power	15.0%	15.0%	Battery or Power Failure (24996-000,15.0%)
	No Operation	15.0%	15.0%	Failure to Operate (24996-000,15.0%)
Differential Assy				Sources:1
	Out of Adjustment	100.0%	100.0%	Gear Binding - Out Of Adjustment (25101-000,Qty:1)
Diode (Summary)				
	Shorted	40.1%		
	Opened	29.7%		
	Drift	12.2%		
	Mechanical Failure	5.4%		
	Intermittent Operation	4.6%		
	Burned/Charred	4.0%		
	Lead Damage	4.0%		
Diode				Sources:11
	Shorted	41.4%	38.7%	Short-Physical junction damage (25001-000,Qty:1), Short (10722-000,Qty:1) (24990-000,15.0%) (24992-000,12.5%) (24992-000,30.0%) (24993-000,75.0%) (24997-000,16.0%) (25014-000,Qty:10), Increase in Reverse Leakage (at any temperature) (25016-000,NR), High Reverse (24990-000,60.0%), Low Z (24991-000,7.0%) (24991-000,20.0%) (24991-000,54.0%), High Leakage Current (10722-000,Qty:1), Short-Improper Die Stack Bonding (24417-000,NR), Shorted Wire (24417-000,NR), Intermittent Short-Intern Mobile Conduct Particle (10722-000,Qty:1), Short Circuited (10722-000,Qty:1), Short-Externally Overstressed (10722-000,Qty:11), Low Reverse Breakdown (10722-000,Qty:1), Short-Recrystallization/Thermal Runaway (10722-000,Qty:1), High Electrical Leakage (10722-000,Qty:1)
	Opened	28.6%	26.8%	Open (24990-000,25.0%) (24992-000,62.5%) (24992-000,70.0%) (25014-000,Qty:12) (25027-000,Qty:1) (25027-000,Qty:1), Wire Bond (25014-000,Qty:2), Lifted Wire (25014-000,Qty:1), Increase in Forward Voltage Drop (25016-000,NR), High Z (24991-000,46.0%) (24991-000,93.0%), Open Circuits (24993-000,6.0%), Open Wire (24417-000,NR), Open Winding Between Pins 10 And 11 (10722-000,Qty:1), Coil Pin 16-20 Open (10722-000,Qty:1), Open Circuit (24997-000,45.0%)
	Mechanical Failure	8.3%	7.8%	Broken Wire (25014-000,Qty:1), Cracked Die (24417-000,NR) (25014-000,Qty:4), Cracked Glass Case (25014-000,Qty:10), Package (25014-000,Qty:1), Dislocations (24417-000,NR), Fracture-Overtorquing (10722-000,Qty:9), Broken (25027-000,Qty:1) (25027-000,Qty:1), Glass Body Fractured-Mechanical Overstress (10722-000,Qty:1), Mechanical or Quality Defects (24997-000,12.0%)
	Lead Damage	6.8%	6.4%	Lead Fractures-Faulty Welds & Leads In Weld Area (10722-000,Qty:45), Lead Fractured-Mechanical Overstress (10722-000,Qty:2)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Diode (continued)				
	Burned/Charred	5.1%	4.8%	Burned (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1)
	Drift	5.0%	4.7%	Degraded (25014-000,Qty:8), Drift (21992-000,12.5%), Out Of Spec-Conductive Material Bridging Case (10722-000,Qty:1), Parameter Change (24997-000,25.0%)
	Intermittent Operation	4.8%	4.5%	Intermittent (24417-000,NR) (25014-000,Qty:21), Intermittent Circuits (24993-000,18.0%)
	Unknown	------	5.4%	Unknown (24991-000,80.0%) (24993-000,1.0%) (25014-000,Qty:7) (25014-000,Qty:13)
	Other (<%2)	------	1.0%	
	Die/Attachment Failure		0.4%	Die Lifted (24417-000,NR), High Forward Voltage-Faulty Die Attachment (10722-000,Qty:3)
	Contaminated		0.2%	Contamination (24417-000,NR) (25014-000,Qty:2)
	Whisker Alignment		0.2%	Whisker Alignment (25014-000,Qty:2)
	Diode Failure		0.1%	Open Diode-Manufacturing Defect (10722-000,Qty:1)
	Metal Precipition		NR	Metal Precipitation (24417-000,NR)
	External Lead Seperation		NR	External Lead Seperation (24417-000,NR)
	Poor Solderability		NR	Poor Solderability (24417-000,NR)
	Seal Failure		NR	Loss of Hermetic Seal (24417-000,NR)
	Oxide Defects		NR	Ion Migration Through and Across the Oxide (24417-000,NR), Hole Trapping in the Oxide (24417-000,NR), Holes in the Oxide (24417-000,NR)
	Decrease in Inverse Volt.		NR	Decrease in Working Inverse Voltage (25016-000,NR)
Diode,Diode Array				Sources:1
	Shorted	100.0%	100.0%	Short-Al Particle (10722-000,Qty:1), Short-Extra Loose Die In Cavity (10722-000,Qty:1), Shorted-Al Silver Shorting Dice (10722-000,Qty:1)
Diode,Microwave (Summary)				
	Opened	50.2%		
	Drift	23.3%		
	Intermittent Operation	16.7%		
	Shorted	9.8%		
Diode,Microwave				Sources:3
	Drift	70.0%	70.0%	Drift (24994-000,70.0%), Parameter Change (24997-000,NR)
	Opened	20.0%	20.0%	Open (24417-000,NR) (24994-000,20.0%), Open Circuit (24997-000,NR)
	Shorted	10.0%	10.0%	Short (24417-000,NR) (24994-000,10.0%) (24997-000,NR)
	Unknown	------	<0.1%	Unknown (24997-000,NR)
	Induced	------	<0.1%	3db Degradation (24417-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Diode,Microwave,Impatt				Sources:1
	Induced	------	<0.1%	Degradation-Migration (25037-000,NR)
	Other	------	100.0%	
	Shorted		NR	Short (25037-000,NR)
Diode,Microwave,Point Contact				Sources:1
	Opened	80.5%	80.5%	High Z (24991-000,63.0%) (24991-000,98.0%)
	Shorted	19.5%	19.5%	Low Z (24991-000,2.0%) (24991-000,37.0%)
Diode,Microwave,Step Recovery				Sources:1
	Intermittent Operation	50.0%	50.0%	Intermittent Fail-One Of Two Gold Bonds Was Broken (10722-000,Qty:1)
	Opened	50.0%	50.0%	Electrically Open-Bond Not Attached To Die (10722-000,Qty:1)
Diode,Rectifier (Summary)				
	Shorted	46.1%		
	Opened	26.6%		
	Drift	18.5%		
	Diode Failure	4.9%		
	Electrical Overstress	2.5%		
	Corroded	1.4%		
Diode,Rectifier				Sources:4
	Shorted	54.9%	50.0%	Short (24994-000,20.0%) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:6) (25000-000,Qty:7) (25000-000,Qty:9), 1K ohm short (reverse) (25001-000,Qty:1), Hard Short (1 ohm) (25001-000,Qty:1), Short-Overstress (10722-000,Qty:2)
	Drift	31.9%	29.1%	Parameter Drift-General (25000-000,Qty:8) (25000-000,Qty:13) (25000-000,Qty:14), Parameter Drift-Insulation Res. (25000-000,Qty:6) (25000-000,Qty:6) (25000-000,Qty:6), Parameter Drift-Delta Ir (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:5) (25000-000,Qty:5) (25000-000,Qty:7) (25000-000,Qty:7) (25000-000,Qty:7) (25000-000,Qty:8) (25000-000,Qty:8) (25000-000,Qty:10) (25000-000,Qty:11) (25000-000,Qty:11) (25000-000,Qty:27) (25000-000,Qty:28) (25000-000,Qty:28) (25000-000,Qty:57), Parameter Drift-Delta R (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:6), Drift (24994-000,40.0%)
	Opened	9.5%	8.7%	Open (24994-000,20.0%) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2), Open-General (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:10) (25000-000,Qty:25), Open-Open Junction (25000-000,Qty:2)
	Corroded	2.3%	2.1%	Corrosion (25000-000,Qty:4) (25000-000,Qty:10) (25000-000,Qty:24)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Diode,Rectifier (continued)				
	Intermittent Operation	0.6%	0.5%	Intermittent (25000-000,Qty:1) (25000-000,Qty:3), Intermittent-Noise (25000-000,Qty:6)
	Seal Failure	0.4%	0.4%	Leakage Seal (25000-000,Qty:1) (25000-000,Qty:3), Seal Leak (25000-000,Qty:3)
	Mechanical Damage	0.4%	0.3%	Mechanical Damage (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:3)
	Induced	------	8.3%	Severely Degraded (10722-000,Qty:1)
	Unknown	------	0.5%	Unknown (25000-000,Qty:3) (25000-000,Qty:6)
Diode,Rectifier,Bridge				Sources:1
	Shorted	100.0%	100.0%	Short-2 Diodes Overstressed (10722-000,Qty:1)
Diode,Rectifier,Bridge,Three Phase				Sources:1
	Diode Failure	100.0%	100.0%	Diode Shorted-Poor Die Attach/Wrong Diode (10722-000,Qty:1), Shorted Internal Diode-Overstress (10722-000,Qty:1)
Diode,Rectifier,High Power				Sources:4
	Opened	59.1%	59.1%	Open-Melted wire bond & die metal. (25001-000,Qty:1), Open Circuit (24996-000,42.5%) (24997-000,42.5%)
	Shorted	34.8%	34.8%	Impaired Reverse Blocking Ability (24417-000,NR), Short (24996-000,57.5%) (24997-000,57.5%)
	Drift	6.1%	6.1%	Parameter Change (24996-000,10.0%) (24997-000,10.0%)
Diode,Rectifier,High Voltage				Sources:2
	Electrical Overstress	100.0%	100.0%	Out Of Tolerance High-Overstress (10722-000,Qty:1)
	Other	------	0.0%	
	Thermal Fatique/Stress		NR	Thermal Fatigue (24417-000,NR)
Diode,Rectifier,Low Power				Sources:1
	Shorted	60.0%	60.0%	Short (24994-000,60.0%)
	Opened	40.0%	40.0%	Open (24994-000,40.0%)
	Other	------	0.0%	
	Drift		NR	Drift (24994-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Diode,SCR				Sources:1
	Shorted	98.0%	98.0%	Short (24990-000,98.0%)
	Opened	2.0%	2.0%	Open (24990-000,2.0%)
Diode,Small Signal (Summary)				
	Drift	48.3%		
	Opened	19.8%		
	Shorted	15.5%		
	Intermittent Operation	8.8%		
	Change in Resistance	3.2%		
	Cracked/Fractured	3.2%		
	Seal Failure	1.1%		
Diode,Small Signal				Sources:2
	Drift	72.7%	40.0%	Drift (24994-000,80.0%)
	Cracked/Fractured	9.1%	5.0%	Crack In Die Causing Degradation (10722-000,Qty:1)
	Shorted	9.1%	5.0%	Short (24994-000,10.0%)
	Opened	9.1%	5.0%	Open (24994-000,10.0%)
	Induced	------	45.0%	Degraded Junctions-Overvoltage EOS (10722-000,Qty:9)
Diode,Small Signal,General Purpose				Sources:1
	Drift	31.2%	28.0%	Parameter Drift- General (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:4) (25000-000,Qty:42) (25000-000,Qty:50), Parameter Drift- Delta C (25000-000,Qty:6), Parameter Drift- Delta Ir (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:7) (25000-000,Qty:10) (25000-000,Qty:31), Parameter Drift- Delta R (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:11) (25000-000,Qty:17)
	Opened	30.3%	27.2%	Open (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:28) (25000-000,Qty:57) (25000-000,Qty:100)
	Shorted	19.6%	17.6%	Short (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:119)
	Intermittent Operation	13.9%	12.5%	Intermittent-General (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:43), Intermittent-Noise (25000-000,Qty:45)
	Seal Failure	2.8%	2.5%	Seal Leak (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:15)
	Mechanical Damage	2.3%	2.1%	Mechanical Damage (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:4) (25000-000,Qty:9)
	Unknown	------	10.3%	Unknown (25000-000,Qty:33) (25000-000,Qty:42)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Diode,Small Signal,Switching				Sources:3
	Drift	40.0%	40.0%	Drift (24994-000,80.0%)
	Opened	17.5%	17.5%	Open (10722-000,Qty:1) (24994-000,10.0%)
	Shorted	17.5%	17.5%	Short (24994-000,10.0%), Short-Sliver/Copper Bridging Die Edge To Anode Stu (10722-000,Qty:1)
	Intermittent Operation	12.5%	12.5%	Intermittent Anode Contact (10722-000,Qty:1)
	Change in Resistance	12.5%	12.5%	High Resistance-Wrong Die (10722-000,Qty:1)
	Other	------	0.0%	
	Mechanical Overstress		NR	Mechanical Stresses (24417-000,NR)
	Thermal Fatique/Stress		NR	Thermal Stress (24417-000,NR)
Diode,Thyristor (Summary)				
	Failed Off	45.0%		
	Shorted	40.0%		
	Opened	10.0%		
	Failed On	5.0%		
Diode,Thyristor				Sources:2
	Failed Off	45.0%	45.0%	Failed Off (24991-000,90.0%)
	Shorted	40.0%	40.0%	Short (24994-000,80.0%)
	Opened	10.0%	10.0%	Open (24994-000,20.0%)
	Failed On	5.0%	5.0%	Failed On (24991-000,10.0%)
	Other	------	0.0%	
	Drift		NR	Drift (24994-000,NR)
Diode,Thyristor,PUT				Sources:1
	Failed Off	90.0%	90.0%	Failed Off (24991-000,90.0%)
	Failed On	10.0%	10.0%	Failed On (24991-000,10.0%)
Diode,Thyristor,Triac				Sources:1
	Failed Off	90.0%	90.0%	Failed Off (24991-000,90.0%)
	Failed On	10.0%	10.0%	Failed On (24991-000,10.0%)
Diode,Transorb				Sources:1
	Shorted	100.0%	100.0%	Short-Overstress (10722-000,Qty:1), Short (10722-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Diode,Zener (Summary)				
	Opened	35.2%		
	Shorted	33.5%		
	Drift	24.2%		
	High Leakage Current	4.4%		
	Unstable Operation	1.8%		
	Intermittent Operation	0.7%		
	Mechanical Damage	0.2%		
Diode,Zener				Sources:4
	Shorted	52.2%	47.0%	Short (24990-000,50.0%) (24992-000,40.0%) (24997-000,15.7%), Low Z (24991-000,83.0%)
	Opened	38.1%	34.3%	Open (24990-000,50.0%) (24992-000,60.0%), High Z (24991-000,17.0%), Open Circuits (24997-000,10.5%)
	High Leakage Current	6.9%	6.2%	Excessive Leakage Current (24997-000,26.0%)
	Unstable Operation	2.8%	2.5%	Instability (24997-000,10.5%)
	Unknown	------	6.3%	Unknown (24997-000,26.3%)
	Induced	------	3.7%	Quality Defects (24997-000,15.7%)
Diode,Zener,Voltage Reference				Sources:3
	Drift	67.7%	67.7%	Parameter Drift-General (25000-000,Qty:1) (25000-000,Qty:16) (25000-000,Qty:25), Parameter Drift-Delta Ir (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1), Parameter Drift-Delta Vz (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:5) (25000-000,Qty:8) (25000-000,Qty:9) (25000-000,Qty:12), Parameter Drift-Delta R (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:5), Parameter Drift-Insulation Resistance (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1), Drift (24994-000,70.0%)
	Opened	16.8%	16.8%	Open-General (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:3) (25000-000,Qty:12), Open-Open Junction (25000-000,Qty:4), Open (24417-000,NR) (24994-000,20.0%)
	Shorted	13.0%	13.0%	Short (24417-000,NR) (24994-000,10.0%) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:6) (25000-000,Qty:14), Short-Shorted Junction (25000-000,Qty:1)
	Intermittent Operation	1.9%	1.9%	Intermittent (25000-000,Qty:1) (25000-000,Qty:5)
	Mechanical Damage	0.6%	0.6%	Mechanical Damage (25000-000,Qty:2)
	Other	------	0.0%	
	Thermal Fatique/Stress		NR	Thermal Stress (24417-000,NR)
	Mechanical Overstress		NR	Mechanical Stress (24417-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Diode,Zener,Voltage Regulator				Sources:3
	Opened	45.0%	45.0%	High Z (24991-000,70.0%), Open (24994-000,20.0%)
	Drift	35.0%	35.0%	Drift (24994-000,70.0%)
	Shorted	20.0%	20.0%	Low Z (24991-000,30.0%), Short (24994-000,10.0%)
	Other	------	0.0%	
	High Leakage Current		NR	Reverse Current Failures (24417-000,NR), Zener Impedance Failures (24417-000,NR)
Disk, Burst				Sources:1
	Cracked/Fractured	87.5%	87.5%	Fracture (24992-000,87.5%)
	Closed	12.5%	12.5%	Closed (24992-000,12.5%)
Drum				Sources:1
	Binding/Sticking	70.0%	30.5%	Drum Sticks (19542-000,30.4%)
	Out of Adjustment	30.0%	13.1%	Drum Out Of Alignment (19542-000,8.7%), Not Properly Aligned (19542-000,4.3%)
	Unknown	------	26.2%	Unknown (19542-000,26.1%)
	Induced	------	4.3%	Damaged Due to Overspeed & Many Impacts (19542-000,4.3%)
	Other (<%8)	------	25.9%	
	Opened		4.3%	Has Open Tach Winding (19542-000,4.3%)
	Servo Amp Failure		4.3%	Servo Amp Found To Be Defective (19542-000,4.3%)
	Bearing Failure		4.3%	Drum Has Excessive Weight Bearing Damage (19542-000,4.3%)
	Connector Failure		4.3%	Connector P-4 Defective (19542-000,4.3%)
	Broken		4.3%	Bracket Broken (19542-000,4.3%)
	Bad Rotation		4.3%	Bad Rotation After Drop Test (19542-000,4.3%)
Duct				Sources:1
	Needs Replacement	57.1%	40.0%	Used Up Needs Replacement (19542-000,40.0%)
	Cracked/Fractured	42.9%	30.0%	Cracked (19542-000,30.0%)
	Unknown	------	20.0%	Unknown (19542-000,20.0%)
	Induced	------	10.0%	Improperly Installed (19542-000,10.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Duct,Heater,Air				Sources:1
	No Operation	80.0%	80.0%	Catastrophic-Failed to Heat (18175-000,80.0%)
	Overheated	20.0%	20.0%	Catastrophic-Overheated (18175-000,20.0%)
Duct,Tray,Wireway				Sources:2
	Induced	------	<0.1%	Flashover (24996-000,NR) (24997-000,NR)
	Other	------	100.0%	
	Insulation Failure		NR	Insulation Failure (24996-000,NR) (24997-000,NR)
	Mechanical Failure		NR	Mechanical Failure (24996-000,NR) (24997-000,NR)
Dynamotor				Sources:1
	Drift	62.5%	62.5%	Drift (24992-000,62.5%)
	Opened	25.0%	25.0%	Open (24992-000,25.0%)
	Shorted	12.5%	12.5%	Short (24992-000,12.5%)
Eccentric				Sources:1
	Out of Synch.	75.0%	75.0%	Out Of Synch (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:7)
	Out of Adjustment	16.7%	16.7%	Out Of Adjustment - Inaccurate (25101-000,Qty:1), Out Of Adjustment - Out Of Synch (25101-000,Qty:1)
	Loose	8.3%	8.3%	Loose Nut(s) - Fnd In TI/PMCS/INSP (25101-000,Qty:1)
Elect Power Dist.				Sources:1
	Worn	51.1%	51.1%	Worn, Chaffed, Frayed, or Torn (25464-000,Qty:24)
	Broken	46.8%	46.8%	Broken (25464-000,Qty:22)
	Contact Failure	2.1%	2.1%	Contact/Conn Defect (25464-000,Qty:1)
Elect Rectifying Equ				Sources:1
	Broken	73.9%	73.9%	Broken (25464-000,Qty:17)
	Binding/Sticking	4.3%	4.3%	Binding Stuck or Jammed (25464-000,Qty:1)
	Contact Failure	4.3%	4.3%	Contact/Conn Defect (25464-000,Qty:1)
	Incorrect Current	4.3%	4.3%	Current Incorrect (25464-000,Qty:1)
	Loose	4.3%	4.3%	Loose,Damaged,or Missing Har (25464-000,Qty:1)
	Leaking	4.3%	4.3%	Leaking Internal or External (25464-000,Qty:1)
	Drift	4.3%	4.3%	Fluctuates, Unstable or Errati (25464-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Disc.	Fail Dist.	Data Source(s)/Details
Electrical Filter (Summary)				
	Drift	35.9%		
	Broken	25.1%		
	Shorted	23.1%		
	Diode Failure	7.2%		
	Opened	5.1%		
	Lamp Failure	3.6%		
Electrical Filter,EMI				Sources:2
	Shorted	81.8%	81.8%	Short-Excessive Solder (10722-000,Qty:2), Failure Of Insulation Resistance (10722-000,Qty:1), Short-Severely Overstressed (10722-000,Qty:2), 1.8 Ohm Short Lead To Case-Electrical Overstress (10722-000,Qty:1), IR Failure-Contamination Of Interior Glass Seal (10722-000,Qty:2), Short (10722-000,Qty:1) (24417-000,NR)
	Capacitor Failure	9.1%	9.1%	Capacitor-Mechanical Overstress (10722-000,Qty:1)
	Change in Resistance	9.1%	9.1%	Resistance Was Variable-Poor Solder Connection (10722-000,Qty:1)
	Other	------	0.0%	
	Opened		NR	Open-Poor Solder Joint (24417-000,NR)
	Insertion Loss		NR	Low Insertion Loss-Open Capacitor (24417-000,NR), Low Insertion Loss-Shorted Inductor (24417-000,NR), Low Insertion Loss-Poor Solder Joint (24417-000,NR), Low Insertion Loss (24417-000,NR), Low Insertion Loss-Lossy Capacitor (24417-000,NR)
Electrical Filter,Feed-Thru				Sources:1
	Opened	66.7%	66.7%	Opens-Insufficient Support Of Coil In Assemblies (10722-000,Qty:2)
	Change in Capac.	33.3%	33.3%	Low Capacitance Value Lead To Case (10722-000,Qty:1)
Electrical Filter,Microwave				Sources:1
	Drift	80.0%	80.0%	Center Frequency Drift (25015-000,80.0%)
	Diode Failure	20.0%	20.0%	Diode Failure, No Output (25015-000,20.0%)
Electrical Filter,Network				Sources:1
	Broken	70.0%	70.0%	Broken (25464-000,Qty:7)
	Drift	20.0%	20.0%	Fluctuates, Unstable or Errati (25464-000,Qty:2)
	Lamp Failure	10.0%	10.0%	Burned Out Or Defective Lamp, (25464-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Electrical Motor (Summary)				
	Rough Operation	22.4%		
	Winding Failure	21.3%		
	Binding/Sticking	21.1%		
	Bearing Failure	20.9%		
	Opened	14.3%		
Electrical Motor				Sources:5
	Binding/Sticking	34.4%	18.9%	Binding, Stuck or Jammed (25464-000,Qty:578)
	Fails to Run,After Start	19.7%	10.8%	Catastrophic-Fails To Run Once Started (18175-000,31.0%) (18175-000,77.0%)
	Opened	18.1%	9.9%	Has Open Tach-Winding (19542-000,7.7%), Open (24992-000,42.0%)
	Brush Failure	10.9%	6.0%	Failed - Brush (24990-000,15.0%), Performance (Degraded) - Brush (24990-000,15.0%)
	Drift	9.9%	5.4%	Drift (24992-000,27.0%), Fluctuates, Unstable or Errati (25464-000,Qty:1)
	Arcing/Sparking	6.9%	3.8%	Arc (24992-000,19.0%)
	Unknown	------	19.1%	Unknown (18175-000,16.0%) (18175-000,16.0%) (19542-000,7.7%) (19542-000,7.7%) (19542-000,61.5%) (25464-000,Qty:2) (25464-000,Qty:15)
	Induced	------	8.4%	Failed - Lube (24990-000,15.0%), Performance (Degraded) - Commutator (24990-000,5.0%), Performance (Degraded) - Lube (24990-000,15.0%), Degraded - Hunts For Correct Position (18175-000,2.0%), Degraded - Fails To Position Correctly (18175-000,2.0%), Degraded - Shaft Fails To Run At Rated Speed (18175-000,3.0%), Degraded - Shaft Fails To Turn At Rated Speed (18175-000,7.0%)
	Other (<%6)	------	17.6%	
	Switch Failure		3.1%	Switch Defective (19542-000,15.4%)
	Stator Failure		3.0%	Failed - Stator (24990-000,15.0%)
	Shorted		2.4%	Short (24992-000,12.0%)
	Fails to Op. on Demand		2.3%	Catastrophic-Fails To Operate On Demand (18175-000,23.0%)
	Fails to Position		2.3%	Catastrophic-Fails To Position Properly (18175-000,23.0%)
	Rotor Failure		2.0%	Failed - Rotor (24990-000,10.0%)
	Cummutator Failure		2.0%	Failed - Commutator (24990-000,10.0%)
	Worn		0.4%	Worn, Chaffed, Frayed or Torn (25464-000,Qty:13)
	Broken		<0.1%	Broken (25464-000,Qty:3)
Electrical Motor,AC (Summary)				
	Winding Failure	24.3%		
	Bearing Failure	21.3%		
	Fails to Run,After Start	18.1%		
	Mechanical Failure	16.6%		
	Fails to Start	13.7%		
	Electrical Failure	6.0%		

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Electrical Motor, AC				Sources:4
	Winding Failure	24.3%	18.4%	Under 200 H.P. (Winding Fail) (24996-000,35.0%), Over 200 H.P. (Windings and Ties) (24996-000,44.0%), Open Windings-Defective Wire (24417-001,NR), Winding Failure (24997-000,35.0%)
	Bearing Failure	21.3%	16.1%	Under 200 H.P. (Bearings) (24996-000,50.0%), Brinelled or Damaged Bearings-Shock Loads (24417-001,NR), Bearing Failure-Misapplication (24417-001,NR), Bearing Failure (24997-000,50.0%)
	Fails to Run, After Start	18.1%	13.7%	Catastrophic-Fails To Run Once Started (18175-000,41.0%)
	Mechanical Failure	16.6%	12.6%	Over 200 H.P. (All Mechanical) (24996-000,27.0%), Other and Mechanical (24997-000,15.0%), Mechanical Failure (24997-000,36.0%)
	Fails to Start	13.7%	10.3%	Catastrophic-Fails To Start (18175-000,31.0%)
	Electrical Failure	6.0%	4.5%	Electrical Failure (24997-000,28.0%)
	Unknown	------	17.5%	Unknown (18175-000,21.0%) (24996-000,14.0%) (24996-000,15.0%) (24997-000,36.0%)
	Other (<%4)	------	7.0%	
	Lead Damage		2.4%	Over 200 H.P. (Leads) (24996-000,15.0%)
	Degraded Operation		2.3%	Degraded (18175-000,7.0%)
	Brush Failure		2.3%	Under 200 H.P. (Brushes) (24996-000,7.0%), Brushes (if any) (24997-000,7.0%)
	Overheated		NR	Overheating-Overloading (24417-001,NR), Overheating (24417-001,NR), Overheating of Windings-Op. at Too Low of a Voltag (24417-001,NR)
	Shorted		NR	Shorted Windings-Defective Wire (24417-001,NR)
Electrical Motor, Induction, AC				Sources:1
	Fails to Run, After Start	52.4%	44.0%	Catastrophic-Fails To Run Once Started (18175-000,44.0%)
	Fails to Start	40.5%	34.0%	Catastrophic-Fails To Start (18175-000,34.0%)
	Degraded Operation	7.1%	6.0%	Degraded (18175-000,6.0%)
	Unknown	------	16.0%	Unknown (18175-000,16.0%)
Electrical Motor, Induction, AC, Single Phase				Sources:1
	Fails to Run, After Start	84.3%	43.0%	Catastrophic-Fails To Run Once Started (18175-000,43.0%)
	Fails to Start	15.7%	8.0%	Catastrophic-Fails To Start (18175-000,8.0%)
	Unknown	------	49.0%	Unknown (18175-000,49.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Electrical Motor, Induction, AC, Wound Rotor				Sources:1
	Fails to Start	67.4%	62.0%	Catastrophic-Fails To Start (18175-000, 62.0%)
	Fails to Run, After Start	32.6%	30.0%	Catastrophic-Fails To Run Once Started (18175-000, 30.0%)
	Unknown	------	8.0%	Unknown (18175-000, 8.0%)
Electrical Motor, Motor/Blower (Summary)				
	Opened	27.3%		
	No Movement	20.7%		
	Worn	15.1%		
	Noisy	14.0%		
	Out of Spec.	12.4%		
	Out of Adjustment	10.5%		
Electrical Motor, Motor/Blower, AC				Sources:1
	Opened	20.1%	11.1%	Opened (20609-000, Qty:103)
	No Movement	19.7%	10.8%	No Movement (20609-000, Qty:101)
	Worn	18.7%	10.3%	Worn Out (20609-000, Qty:96)
	Noisy	12.5%	6.9%	Noisy (20609-000, Qty:64)
	Out of Spec.	11.5%	6.3%	Out of Specification (20609-000, Qty:59)
	Out of Adjustment	9.6%	5.3%	Out of Adjustment (20609-000, Qty:49)
	Loss of Lubrication	8.0%	4.4%	Loss of Lubrication (20609-000, Qty:41)
	Unknown	------	33.4%	Unknown (20609-000, Qty:311)
	Other (<%5)	------	11.5%	
	Shorted		2.5%	Short (20609-000, Qty:23)
	Cracked/Fractured		2.1%	Cracked/Fractured (20609-000, Qty:20)
	Spurious/False Operation		1.7%	False Response (20609-000, Qty:16)
	Leaking		1.3%	Leaking (20609-000, Qty:12)
	Intermittent Operation		1.2%	Intermittent (20609-000, Qty:11)
	Displaced		1.0%	Displaced (20609-000, Qty:9)
	Unstable Operation		0.5%	Unstable (20609-000, Qty:5)
	Excessive Vibration		0.4%	Vibrating (20609-000, Qty:4)
	Clogged/Clogging		0.4%	Clogged (20609-000, Qty:4)
	Overheated		0.1%	Overheated (20609-000, Qty:1)
	Improper Timing		0.1%	Improper Timing (20609-000, Qty:1)
	Burned/Charred		0.1%	Burned (20609-000, Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Electrical Motor,Motor/Blower,AC,Induction				Sources:1
	No Operation	100.0%	100.0%	No Operation (20609-000,Qty:1)
Electrical Motor,Motor/Blower,AC,Poly Phase				Sources:1
	No Movement	50.0%	41.8%	No Movement (20609-000,Qty:28)
	Noisy	28.6%	23.9%	Noisy (20609-000,Qty:16)
	Overheated	10.7%	9.0%	Overheated (20609-000,Qty:6)
	Opened	5.4%	4.5%	Opened (20609-000,Qty:3)
	Out of Spec.	5.4%	4.5%	Out of Specification (20609-000,Qty:3)
	Other (<%4)	------	16.4%	
	Shorted		3.0%	Short (20609-000,Qty:2)
	Out of Adjustment		3.0%	Out of Adjustment (20609-000,Qty:2)
	Spurious/False Operation		3.0%	False Response (20609-000,Qty:2)
	Cracked/Fractured		3.0%	Cracked/Fractured (20609-000,Qty:2)
	Excessive Vibration		1.5%	Vibrating (20609-000,Qty:1)
	Displaced		1.5%	Displaced (20609-000,Qty:1)
	Contaminated		1.5%	Contaminated (20609-000,Qty:1)
Electrical Motor,Motor/Blower,AC,Split Phase				Sources:1
	Cracked/Fractured	50.0%	50.0%	Cracked/Fractured (20609-000,Qty:1)
	Displaced	50.0%	50.0%	Displaced (20609-000,Qty:1)
Electrical Motor,Motor/Blower,DC				Sources:1
	No Operation	46.3%	41.6%	No Operation (20609-000,Qty:37)
	Opened	16.3%	14.6%	Opened (20609-000,Qty:13)
	Out of Adjustment	12.5%	11.2%	Out of Adjustment (20609-000,Qty:10)
	Degraded Operation	10.0%	9.0%	Degraded (20609-000,Qty:8)
	Cracked/Fractured	8.7%	7.9%	Cracked/Fractured (20609-000,Qty:7)
	Out of Spec.	6.3%	5.6%	Out of Specification (20609-000,Qty:5)
	Unknown	------	1.1%	Unknown (20609-000,Qty:1)
	Other (<%4)	------	9.0%	
	Overheated		2.2%	Overheated (20609-000,Qty:2)
	Noisy		2.2%	Noisy (20609-000,Qty:2)
	Spurious/False Operation		2.2%	False Response (20609-000,Qty:2)
	Intermittent Operation		1.1%	Intermittent (20609-000,Qty:1)
	Drift		1.1%	Drift (20609-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Electrical Motor,Motor/Blower,DC,Commutator				Sources:1
	Out of Adjustment	100.0%	100.0%	Out of Adjustment (20609-000,Qty:1)
Electrical Motor,Motor/Blower,Fan				Sources:1
	Noisy	100.0%	16.7%	Noisy (20609-000,Qty:1)
	Unknown	------	83.3%	Unknown (20609-000,Qty:5)
Electrical Motor,Motor/Blower,Fan,Axial				Sources:1
	Out of Adjustment	40.0%	33.3%	Out of Adjustment (20609-000,Qty:4)
	No Movement	30.0%	25.0%	No Movement (20609-000,Qty:3)
	Noisy	10.0%	8.3%	Noisy (20609-000,Qty:1)
	Out of Spec.	10.0%	8.3%	Out of Specification (20609-000,Qty:1)
	Stuck Open	10.0%	8.3%	Stuck Open (20609-000,Qty:1)
	Unknown	------	16.7%	Unknown (20609-000,Qty:2)
Electrical Motor,Motor/Blower,Fan,Centrifugal				Sources:1
	Noisy	30.0%	23.1%	Noisy (20609-000,Qty:3)
	Cracked/Fractured	20.0%	15.4%	Cracked/Fractured (20609-000,Qty:2)
	Intermittent Operation	20.0%	15.4%	Intermittent (20609-000,Qty:2)
	Displaced	10.0%	7.7%	Displaced (20609-000,Qty:1)
	No Operation	10.0%	7.7%	No Operation (20609-000,Qty:1)
	Out of Adjustment	10.0%	7.7%	Out of Adjustment (20609-000,Qty:1)
	Unknown	------	23.1%	Unknown (20609-000,Qty:1) (20609-000,Qty:1) (20609-000,Qty:1)
Electrical Motor,Motor/Blower,Fan,Vane Axial				Sources:1
	Noisy	40.0%	33.3%	Noisy (20609-000,Qty:2)
	Out of Spec.	40.0%	33.3%	Out of Specification (20609-000,Qty:2)
	Spurious/False Operation	20.0%	16.7%	False Response (20609-000,Qty:1)
	Unknown	------	16.7%	Unknown (20609-000,Qty:1)
Electrical Motor,Motor/Blower,Induction				Sources:1
	No Operation	75.0%	75.0%	No Operation (20609-000,Qty:3)
	Degraded Operation	25.0%	25.0%	Degraded (20609-000,Qty:1)

Part Desc. / Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Electrical Motor,Motor/Blower,Synchronous			Sources:1
Opened	79.7%	66.3%	Opened (20609-000,Qty:55)
Out of Spec.	13.0%	10.8%	Out of Tolerance (20609-000,Qty:5), Out of Specification (20609-000,Qty:4)
Intermittent Operation	4.3%	3.6%	Intermittent (20609-000,Qty:3)
Degraded Operation	2.9%	2.4%	Degraded (20609-000,Qty:2)
Unknown	------	16.9%	Unknown (20609-000,Qty:4) (20609-000,Qty:10)
Electrical Motor,Servos,Composite			Sources:1
Fails to Position	50.3%	40.0%	Catastrophic-Fails To Position (18175-000,40.0%) (18175-000,40.0%)
Fails to Op. on Demand	49.7%	39.5%	Catastrophic-Fails To Operate On Demand (18175-000,39.0%) (18175-000,40.0%)
Induced	------	20.5%	Degraded - Fails To Position Correctly (18175-000,10.0%) (18175-000,16.0%), Degraded - Hunts For Correct Position (18175-000,5.0%) (18175-000,10.0%)
Electrical Motor,Squirrel Cage,AC			Sources:1
Fails to Start	50.6%	42.0%	Catastrophic-Fails To Start (18175-000,38.0%) (18175-000,46.0%)
Fails to Run,After Start	49.4%	41.0%	Catastrophic-Fails To Run Once Started (18175-000,38.0%) (18175-000,44.0%)
Unknown	------	17.0%	Unknown (18175-000,10.0%) (18175-000,24.0%)
Electrical Motor,Stepper			Sources:1
Rough Operation	100.0%	100.0%	Rough Operation (10722-000,Qty:1)
Electrical Motor,Synchronous,AC,Single Phase			Sources:1
Fails to Run,After Start	51.7%	46.0%	Catastrophic-Fails To Run Once Started (18175-000,46.0%)
Fails to Start	40.4%	36.0%	Catastrophic-Fails To Start (18175-000,36.0%)
Degraded Operation	7.9%	7.0%	Degraded (18175-000,7.0%)
Unknown	------	11.0%	Unknown (18175-000,11.0%)
Electrical Motor,Tachometer,Servo			Sources:1
Bearing Failure	52.9%	45.0%	Bearing Failure (24993-000,45.0%)
Winding Failure	47.1%	40.0%	Winding Failure (24993-000,40.0%)
Unknown	------	15.0%	Unknown (24993-000,15.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Electronic Test Eqpt				Sources:1
	Unknown	------	<0.1%	Unknown (24997-000,NR)
	Other	------	100.0%	
	Incorrect Reading		NR	Zero or maximum reading (24997-000,NR)
	Spurious/False Operation		NR	Erratic indication (24997-000,NR)
Elevating Mech,Left				Sources:1
	Broken	63.6%	18.9%	Broken Bolt(s) (25101-000,Qty:1), Broken/Damaged (25101-000,Qty:1), Poor Design - Broken/Damaged (25101-000,Qty:5)
	Loose	18.2%	5.4%	Part Missing/Loose - Abnormal Operation (25101-000,Qty:1), Loose Bolt(s) - Stripped (25101-000,Qty:1)
	Worn	9.1%	2.7%	Worn - Inop Man Elevation (25101-000,Qty:1)
	Leaking	9.1%	2.7%	Part Struck/Damaged - Leaking Fluid (25101-000,Qty:1)
	Induced	------	70.3%	Item Abuse/Neglect - Missing (25101-000,Qty:23), Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1), Part Struck/Damaged - Missing (25101-000,Qty:1), Item Abuse/Neglect - Broken Bolt(s) (25101-000,Qty:1)
Elevating Mech,Right				Sources:1
	Bent/Dented/Warped	66.7%	40.0%	Collapsed/Bent (25101-000,Qty:2)
	Broken	33.3%	20.0%	Part Struck/Damaged - Broken Damaged (25101-000,Qty:1)
	Induced	------	40.0%	Operating Error - Inop/Unserviceable (25101-000,Qty:1), Lack Of Lubrication - Noisy (25101-000,Qty:1)
Encoder,Azimuth				Sources:1
	No Movement	64.9%	35.6%	Antenna Won't Move (19542-000,32.3%), No Movement Between Dwells (19542-000,3.2%)
	Resistor Failure	5.9%	3.2%	Resistor Is Defective (19542-000,3.2%)
	Optical Assbly Failure	5.9%	3.2%	Optical Assembly Defective (19542-000,3.2%)
	Lamp Failure	5.9%	3.2%	Lamp Design Defective (19542-000,3.2%)
	Incorrect Antenna Rotation	5.9%	3.2%	Incorrect Antenna Rotation (19542-000,3.2%)
	Cracked/Fractured	5.9%	3.2%	Cracked Glass Disc (19542-000,3.2%)
	Casing Rotates	5.9%	3.2%	Casing Rotates (19542-000,3.2%)
	Unknown	------	42.0%	Unknown (19542-000,41.9%)
	Induced	------	3.2%	Encoder Marking Should Be Removed (19542-000,3.2%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Engine				Sources:1
	No Movement	44.0%	38.4%	No Movement (20609-000,Qty:73)
	Leaking	22.9%	20.0%	Leaking (20609-000,Qty:38)
	Cracked/Fractured	10.2%	8.9%	Cracked/Fractured (20609-000,Qty:17)
	Intermittent Operation	6.0%	5.3%	Intermittent (20609-000,Qty:10)
	Out of Adjustment	6.0%	5.3%	Out of Adjustment (20609-000,Qty:10)
	Out of Spec.	6.0%	5.3%	Out of Specification (20609-000,Qty:10)
	Spurious/False Operation	4.8%	4.2%	False Response (20609-000,Qty:8)
	Unknown	------	1.1%	Unknown (20609-000,Qty:2)
	Other (<%5)	------	11.6%	
	Noisy		3.2%	Noisy (20609-000,Qty:6)
	Seized		2.1%	Seized (20609-000,Qty:4)
	Displaced		2.1%	Displaced (20609-000,Qty:4)
	Excessive Vibration		1.1%	Vibrating (20609-000,Qty:2)
	Unstable Operation		1.1%	Unstable (20609-000,Qty:2)
	Shorted		0.5%	Short (20609-000,Qty:1)
	Overheated		0.5%	Overheated (20609-000,Qty:1)
	Improper Timing		0.5%	Improper Timing (20609-000,Qty:1)
	Improper Flow		0.5%	Improper Flow (20609-000,Qty:1)
Engine,Diesel				Sources:2
	Mechanical Failure	23.3%	21.2%	Moving Mechanical Parts (24990-000,30.0%), Engine (24996-000,12.0%)
	Loss of Control	21.7%	19.7%	Control Circuits (24996-000,21.0%), Speed Control (24996-000,17.5%)
	Lube & Cooling Sys. Failure	12.7%	11.5%	Lube and Cooling (24990-000,23.0%)
	Air & Fuel System Failure	12.7%	11.5%	Air and Fuel (24990-000,23.0%)
	Electrical Failure	12.4%	11.3%	Electric, Start, Battery (24990-000,1.0%), Starting S/System (24996-000,21.0%)
	Seal/Gasket Failure	8.8%	8.0%	Misc. and Seals (24990-000,16.0%)
	Lubricating System Failure	8.5%	7.7%	Fuel Oil S/System (24996-000,8.0%), Lube S/Systems (24996-000,7.0%)
	Other (<%7)	------	9.1%	
	Cooling System Failure		5.6%	Cooling S/System (24996-000,11.0%)
	Block and Head Failure		3.5%	Blocks and Heads (24990-000,7.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Engine,Turbine,Gas				Sources:2
	Worn	53.5%	53.5%	Worn, Chaffed, Frayed or Torn (25464-000,Qty:463)
	Cracked/Fractured	44.8%	44.8%	Cracked (25464-000,Qty:388)
	Leaking	1.6%	1.6%	Leaking Internal or External (25464-0 ^,Qty:1) (25464-000,Qty:13)
	Loose	0.1%	0.1%	Loose, Damaged or Missing Har (25464-000,Qty:1)
	Other	------	0.0%	
	Seals & Bearings Failure		NR	Seals and Bearings (24996-000,NR)
	Grooving		NR	Fuel Sub-System (24996-000,NR)
	Compressor & Turbine Failure		NR	Compressor and Turbine (24996-000,NR)
	Housing Failure		NR	Housing (24996-000,NR)
	Combustion Sub-System		NR	Combustion Sub-System (24996-000,NR)
	Loss of Lubrication		NR	Lubrication Sub-System (24996-000,NR)
Equilidrator Assy				Sources:1
	No Operation	44.8%	26.3%	Inop Man Elevation (25101-000,Qty:1) (25101-000,Qty:7), Internal Failure - Inop Man Elevation (25101-000,Qty:18)
	Binding/Sticking	34.5%	20.2%	Internal Failure - Binding/Sticking (25101-000,Qty:13), Binding/Sticking (25101-000,Qty:1), Unknown - Binding/Sticking (25101-000,Qty:4), Worn - Binding/Sticking (25101-000,Qty:2)
	Loose	8.6%	5.1%	Internal Failure - Loose (25101-000,Qty:5)
	Seized	5.2%	3.0%	Internal Failure - Seized (25101-000,Qty:3)
	Out of Adjustment	3.4%	2.0%	Out Of Adjustment - Inop Man Elevation (25101-000,Qty:2)
	Broken	3.4%	2.0%	Internal Failure - Broken/Damaged (25101-000,Qty:1), Broken/Damaged (25101-000,Qty:1)
	Induced	------	37.4%	Caused By Other Failure-Broken/Damaged (25101-000,Qty:1), Improper Adjustment - Inop Man Elevation (25101-000,Qty:1), Improper Maintenance - Inop Man Elevation (25101-000,Qty:2), Improper Maintenance - Binding/Sticking (25101-000,Qty:1), Improper Maintenance - Fnd In TI/PMCS/INSP (25101-000,Qty:1), Improper Maintenance - Leaking Fluid (25101-000,Qty:1), Lack Of Maintenance - Binding/Sticking (25101-000,Qty:5), Lack Of Maintenance - Inop Man Elevation (25101-000,Qty:17), Lack Of Maintenance - Inop/Sluggish Breech (25101-000,Qty:3), Lack Of Maintenance - Fnd In TI/PMCS/INSP (25101-000,Qty:3), Lack Of Maintenance - Noisy (25101-000,Qty:1), Imp Assembly/Install (25101-000,Qty:1)
	Unknown	------	2.0%	Unknown (25101-000,Qty:2)
	Other (<%3)	------	2.0%	
	Excessive Play		1.0%	Excessive Play (25101-000,Qty:1)
	Worn		1.0%	Worn - Fnd In TI/PMCS/INSP (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Extractor Right				Sources:1
	Aged/Deteriorated	100.0%	50.0%	Deteriorated/Aged - Inop/Unserviceable (25101-000,Qty:1)
	Induced	------	50.0%	Item Abuse/Neglect - Missing (25101-000,Qty:1)
Fan				Sources:1
	Binding/Sticking	95.0%	95.0%	Binding Stuck or Jammed (25464-000,Qty:19)
	Broken	5.0%	5.0%	Broken (25464-000,Qty:1)
Fasteners,Lock				Sources:1
	Broken	75.0%	50.0%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:2)
	Aged/Deteriorated	25.0%	16.7%	Deteriorated/Aged - Broken/Damaged (25101-000,Qty:1)
	Induced	------	33.3%	Caused By Other Failure-Missing (25101-000,Qty:1), Fell Off or Lost - Missing (25101-000,Qty:1)
Fasteners,Mechanical				Sources:2
	Induced	------	<0.1%	Rivets (Shear in Shank) (24996-000,NR), Rivets (Crushing Failure) (24996-000,NR), Shear in Shank (24997-000,NR), Crushing Failure (24997-000,NR)
	Other	------	100.0%	
	Nut Failure		NR	Nuts & Bolts (Nut Failure) (24996-000,NR)
	Bolt Failure		NR	Nuts & Bolts (Bolt Failure) (24996-000,NR)
	Thread Failure		NR	Nuts & Bolts (Thread Fail) (24996-000,NR), Thread Fail (24997-000,NR)
	Stud Cracked		NR	Nuts & Bolts (Stud or Lockwasher Cracked) (24996-000,NR), Stud or Lockwasher Cracked (24997-000,NR)
	Fatigue		NR	Pins (Fatigue Fracture) (24996-000,NR), Fatigue Fracture (24997-000,NR)
	Fretting		NR	Pins (Fretting) (24996-000,NR), Fretting (24997-000,NR)
	Corroded		NR	Pins (Corrosion) (24996-000,NR), Corrosion (24997-000,NR)
	No Clamping Force		NR	Failure to Provide Clamping Force (24997-000,NR)
	Bolt & Nut Failure		NR	Nuts & Bolts Failure (24997-000,NR)
	Broken		NR	Failure of Fastener (24997-000,NR)
	Mechanical Failure		NR	Mechanical Failure (Breakage or Corrosion) (24997-000,NR)
	Contact Failure		NR	Electrical Contact Failure (24997-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Fasteners,Retaining Ring				Sources:1
	Worn	50.0%	33.3%	Needs Replacement (19542-000,33.3%)
	Out of Adjustment	50.0%	33.3%	Needs Adjustment (19542-000,33.3%)
	Unknown	------	33.3%	Unknown (19542-000,33.3%)
Fitting				Sources:2
	Leaking	33.5%	21.9%	Leaking (19542-000,28.6%) (20609-000,Qty:26)
	Cracked/Fractured	30.7%	20.1%	Cracked/Fractured (20609-000,Qty:69)
	Broken	16.5%	10.8%	Broken (20609-000,Qty:37)
	Aged/Deteriorated	8.9%	5.8%	Deteriorated (20609-000,Qty:20)
	Contaminated	5.4%	3.6%	Needs Cleaning (19542-000,7.1%)
	Scored	4.9%	3.2%	Scored (20609-000,Qty:11)
	Unknown	------	28.9%	Unknown (19542-000,57.1%) (20609-000,Qty:1)
	Induced	------	3.6%	Improper Adjustment (19542-000,7.1%)
	Other (<%3)	------	2.3%	
	Out of Spec.		1.2%	Out of Tolerance (20609-000,Qty:4)
	Bent/Dented/Warped		0.9%	Warped (20609-000,Qty:1), Distorted (20609-000,Qty:2)
	Worn		0.3%	Worn Out (20609-000,Qty:1)
Fitting,Lubrication				Sources:1
	Induced	------	100.0%	Item Abuse/Neglect - Missing (25101-000,Qty:1) (25101-000,Qty:2), Fell Off Or Lost - Missing (25101-000,Qty:1), Vibration - Missing (25101-000,Qty:1) (25101-000,Qty:2), Wrong Part - Loose (25101-000,Qty:1), Improper Installation - Missing (25101-000,Qty:1), Improper Installation - Broken/Damaged (25101-000,Qty:1), Improper Maintenance - Stripped (25101-000,Qty:1)
Frame Assembly				Sources:1
	Bent/Dented/Warped	80.0%	57.1%	Warped/Bent - Inaccurate (25101-000,Qty:1) (25101-000,Qty:2), Collapsed/Bent (25101-000,Qty:1)
	Broken	20.0%	14.3%	Part Struck/Damaged - Inaccurate (25101-000,Qty:1)
	Induced	------	28.6%	Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1), Item Abuse/Neglect - Inaccurate (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Frame Assembly, Support				Sources:1
	Cracked/Fractured	60.0%	50.0%	Vibration - Cracked (25101-000,Qty:1), Cracked (25101-000,Qty:1) (25101-000,Qty:1)
	Broken	20.0%	16.7%	Part Struck/Damaged (25101-000,Qty:1)
	Aged/Deteriorated	20.0%	16.7%	Deteriorated/Aged - Cracked (25101-000,Qty:1)
	Induced	------	16.7%	Overtorqued - Stripped (25101-000,Qty:1)
Fuse				Sources:10
	Fails to Open	29.8%	25.0%	Failure to Open or Blow (25016-000,NR), Failure to Open (22540-000,NR) (24417-001,NR) (24990-000,15.0%), Failure to Open or Slow to Open Circuit (24996-000,78.0%) (24997-000,78.0%)
	Slow Open	25.5%	21.4%	Slow Open (20609-000,75.0%) (24990-000,75.0%)
	Blown Fuse	22.7%	19.0%	Fuse Blown (23038-001,Qty:1) (23038-002,Qty:1)
	Opened	9.3%	7.8%	Open Circuit (25016-000,NR), Opens (24990-000,10.0%), Blown Fuse (23038-006,Qty:1) (23038-006,Qty:6) (23038-006,Qty:13), Open (22540-000,NR)
	Premature Open	5.0%	4.2%	Premature Open (20609-000,10.0%), Premature Open Circuit (24996-000,9.5%) (24997-000,9.5%), Unecessary Opening (24417-001,NR)
	Loss of Power	4.2%	3.5%	Electrical Pwr Loss (23038-006,Qty:11)
	Mechanical Failure	3.5%	2.9%	Other (Short to Ground, Mechanical Failure) (24996-000,10.0%) (24997-000,10.0%)
	Induced	------	10.5%	Missing (23038-002,Qty:2), Overloaded (23038-006,Qty:3)
	Unknown	------	1.9%	Unknown (23038-006,Qty:3) (23038-006,Qty:3)
	Other (<%4)	------	3.7%	
	Out of Spec.		2.1%	Out of Specification (20609-000,15.0%)
	Connection Failure		1.0%	Connection Defective (23038-006,Qty:3)
	Audio Fault/Failure		0.3%	Audio Faulty (23038-006,Qty:1)
	No Output		0.3%	No Output (23038-006,Qty:1)
Fuse, Spark Gap				Sources:1
	Hermetic Leakage	100.0%	100.0%	Failed to Fire-Major Hermetic Leakage (25027-000,Qty:9)
Fuse, Surge Arrestor				Sources:1
	Broken	64.7%	52.4%	Broken (23038-006,Qty:11)
	Cut/Scarred/Punctured	29.4%	23.8%	Cut/Torn (23038-006,Qty:5)
	Worn	5.9%	4.8%	Worn Excessive (23038-006,Qty:1)
	Unknown	------	14.3%	Unknown (23038-006,Qty:3)
	Induced	------	4.8%	Missing (23038-006,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Gasket (Summary)				
	Mechanical Damage	24.7%		
	Leaking	21.4%		
	Needs Replacement	21.3%		
	Aged/Deteriorated	19.4%		
	Broken	7.1%		
	Worn	6.1%		
Gasket				Sources:1
	Aged/Deteriorated	48.8%	29.0%	Deteriorated/Aged - Leaking Hydraulic Oil (25101-000,Qty:2) (25101-000,Qty:2), Deteriorated/Aged - Inop/Unserviceable (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1), Deteriorated/Aged - Low Pow Pl Oil Press (25101-000,Qty:1), Deteriorated/Aged - Leaking Nitrogen (25101-000,Qty:1), Deteriorated/Aged - Deteriorated (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1), Deteriorated (25101-000,Qty:1), Deteriorated/Aged - Fnd In TI/PMCS/INSP (25101-000,Qty:5), Deteriorated/Aged - Broken/Damaged (25101-000,Qty:1)
	Broken	24.4%	14.5%	Broken/Damaged (25101-000,Qty:2) (25101-000,Qty:3) (25101-000,Qty:5)
	Worn	19.5%	11.6%	Seals Worn - Slams Into Battery (25101-000,Qty:1), Seals Worn - Leaking Hydraulic Oil (25101-000,Qty:1), Seals Worn - Internal Moisture (25101-000,Qty:2), Seals Worn - Inop/Unserviceable (25101-000,Qty:2), Seals Worn - Leaking Fluid (25101-000,Qty:1), Seals Worn - Fnd In TI/PMSC/INSP (25101-000,Qty:1)
	Cracked/Fractured	2.4%	1.4%	Cracked (25101-000,Qty:1)
	Leaking	2.4%	1.4%	Leaking Fluid (25101-000,Qty:1)
	Seized	2.4%	1.4%	Seized/Frozen - Inop/Unserviceable (25101-000,Qty:1)
	Unknown	------	36.2%	Unknown (25101-000,Qty:25)
	Induced	------	4.3%	Improper Installation - Leaking Hydraulic Oil (25101-000,Qty:1), Improper Installation - Internal Moisture (25101-000,Qty:1), Improper Install - Missing (25101-000,Qty:1)
Gasket,Packing,Preform				Sources:1
	Aged/Deteriorated	57.1%	57.1%	Deteriorated/Aged - Cracked (25101-000,Qty:1), Deteriorated/Aged - Inop/Unserviceable (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2) (25101-000,Qty:3), Deteriorated/Aged - Broken/Damaged (25101-000,Qty:1), Deteriorated (25101-000,Qty:1) (25101-000,Qty:1), Deteriorated/Aged - Leaking Hydraulic Oil (25101-000,Qty:1)
	Broken	19.0%	19.0%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2)
	Worn	19.0%	19.0%	Seals Worn - Leaking Hydraulic Oil (25101-000,Qty:3), Seals Worn - Inop/Unserviceable (25101-000,Qty:1)
	Cracked/Fractured	4.8%	4.8%	Cracked/Split-Leaking Fluid (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Gasket, Seal				Sources:4
	Mechanical Damage	32.4%	27.0%	Mechanical Damage (24996-000,54.0%), Organic Mat. (Mechanical Damage) (24997-000,NR)
	Needs Replacement	28.0%	23.3%	Needs Replacement (19542-000,46.7%)
	Leaking	27.4%	22.8%	Leaking (19542-000,6.7%), Leaks (24996-000,39.0%), Organic Mat. (Gross leaks) (24997-000,NR), Leakage-Wear (25036-000,NR), Leakage-Elastic Deformation-Gasket/Seal Distortion (25036-000,NR), Leakage-Surface Damage (25036-000,NR), Leakage-Embrittlement (25036-000,NR)
	Aged/Deteriorated	4.2%	3.5%	Physical Deterioration (24996-000,7.0%), Organic Mat. (Material deterioration) (24997-000,NR)
	Seal/Gasket Failure	4.0%	3.3%	Bad Internal Seal In Gear Drive (19542-000,6.7%)
	Dislocates During Movement	4.0%	3.3%	Pops Up During Antenna Movement (19542-000,6.7%)
	Unknown	------	13.3%	Unknown (19542-000,26.7%) (24997-000,NR)
	Induced	------	3.3%	Improper Installation (19542-000,6.7%)
	Other	------	0.0%	
	Pin Holes		NR	Ceramic/Glass to Metal(Pin holes/channels @ Metal) (24997-000,NR)
	Solder Joint Failure		NR	Ceramic/Glass to Metal(Soldered or brazing failure (24997-000,NR)
Gauge				Sources:2
	Leaking	40.0%	25.5%	Leaking (20609-000,Qty:62), Leak or Rupture (24996-000,NR)
	Broken	27.7%	17.7%	Ruptured (20609-000,Qty:2), Broken (20609-000,Qty:41)
	Out of Adjustment	14.8%	9.5%	Out of Adjustment (20609-000,Qty:23)
	Binding/Sticking	9.0%	5.8%	Binding (20609-000,Qty:14)
	Intermittent Operation	4.5%	2.9%	Intermittent (20609-000,Qty:7)
	Out of Spec.	3.9%	2.5%	Out of Tolerance (20609-000,Qty:6)
	Unknown	------	34.2%	Unknown (20609-000,Qty:83)
	Other (<%3)	------	2.1%	
	Displaced		1.2%	Displaced (20609-000,Qty:3)
	No Operation		0.8%	No Operation (20609-000,Qty:2)
	Incorrect Reading		NR	Incorrect Reading (24996-000,NR)
Gauge, Compass				Sources:1
	Binding/Sticking	40.9%	29.0%	Binding (20609-000,Qty:117)
	Leaking	26.2%	18.6%	Leaking (20609-000,Qty:75)
	No Movement	17.5%	12.4%	No Movement (20609-000,Qty:50)
	Broken	8.4%	6.0%	Broken (20609-000,Qty:24)
	Out of Spec.	4.9%	3.5%	Out of Tolerance (20609-000,Qty:14)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Gauge,Compass (continued)				
	Spurious/False Operation	1.7%	1.2%	Erratic (20609-000,Qty:5)
	Burned/Charred	0.3%	0.2%	Burned (20609-000,Qty:1)
	Unknown	------	29.0%	Unknown (20609-000,Qty:117)
Gauge,Pressure				Sources:1
	Drift	40.9%	40.9%	Drift (24992-000,40.9%)
	Binding/Sticking	27.3%	27.3%	Binding (24992-000,27.3%)
	Shorted	9.1%	9.1%	Short (24992-000,9.1%)
	Leaking	9.1%	9.1%	Leak (24992-000,9.1%)
	Opened	9.1%	9.1%	Open (24992-000,9.1%)
	Unstable Operation	4.5%	4.5%	Unstable (24992-000,4.5%)
Gear (Summary)				
	Binding/Sticking	34.8%		
	Broken	26.1%		
	Worn	21.5%		
	Loss of Lubrication	6.7%		
	Fatigue	6.5%		
	Needs Replacement	4.4%		
Gear				Sources:3
	Worn	43.4%	31.3%	Worn Out (19542-000,40.0%) (20609-000,Qty:14)
	Binding/Sticking	40.6%	29.2%	Binding (20609-000,Qty:2) (24990-000,80.0%)
	Stripped	5.3%	3.8%	Stripped (20609-000,Qty:3)
	Broken	3.6%	2.6%	Broken (20609-000,Qty:2)
	Jammed/Stuck	3.6%	2.6%	Jammed (20609-000,Qty:2)
	Displaced	1.8%	1.3%	Displaced (20609-000,Qty:1)
	Noisy	1.8%	1.3%	Noisy (20609-000,Qty:1)
	Unknown	------	27.9%	Unknown (19542-000,60.0%) (20609-000,Qty:1) (24990-000,20.0%)
Gear Assembly,Housing				Sources:1
	Binding/Sticking	35.7%	29.4%	Binding/Sticking (25101-000,Qty:1) (25101-000,Qty:2), Part Struck/Damaged - Binding/Sticking (25101-000,Qty:1), Worn - Binding/Sticking (25101-000,Qty:1)
	Excessive Play	21.4%	17.6%	Worn - Excessive Play (25101-000,Qty:3)
	Broken	21.4%	17.6%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1)
	Out of Adjustment	14.3%	11.8%	Out Of Adjustment - Binding/Sticking (25101-000,Qty:1), Out Of Adjustment - Excessive Play (25101-000,Qty:1)
	Skipping	7.1%	5.9%	Internal Failure - Skips (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Gear Assembly,Housing (continued)				
	Induced	------	17.6%	Improper Install - Binding/Sticking (25101-000,Qty:1), Lack Of Maintenance - Found In TI/PMCS/Insp (25101-000,Qty:1), Operator Error - Broken/Damaged (25101-000,Qty:1)
Gear Assembly,Housing,Upper Elev				Sources:1
	Worn	33.3%	23.8%	Worn Out (25101-000,Qty:1), Worn/Stripped - Inop Man Elevation (25101-000,Qty:3), Worn/Stripped - Stripped Gear/Spline (25101-000,Qty:1)
	Excessive Play	26.7%	19.0%	Excessive Play (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2)
	Binding/Sticking	13.3%	9.5%	Worn - Binding/Sticking (25101-000,Qty:1), Gears Binding - Binding/Sticking (25101-000,Qty:1)
	Creep	13.3%	9.5%	Creep (25101-000,Qty:1), Internal Failure - Creep (25101-000,Qty:1)
	Skipping	13.3%	9.5%	Skips (25101-000,Qty:1) (25101-000,Qty:1)
	Induced	------	14.3%	Caused By Other Failure-Inop Man Elevation (25101-000,Qty:1), Improper Maintenance - Stripped Gear/Spline (25101-000,Qty:1), Lack Of Lubrication - Inop Man Elevation (25101-000,Qty:1)
	Other (<%7)	------	14.3%	
	No Operation		4.8%	Inop Man Elevation (25101-000,Qty:1)
	Intermittent Operation		4.8%	Internal Failure - Intermittent Operation (25101-000,Qty:1)
	Broken		4.8%	Broken/Separated - Inop Man Elevation (25101-000,Qty:1)
Gear Assembly,Worm				Sources:1
	Seized	50.0%	50.0%	Seized/Frozen - Inop/Unserviceable (25101-000,Qty:1)
	Excessive Play	50.0%	50.0%	Excessive Play (25101-000,Qty:1)
Gear Box				Sources:1
	Loss of Lubrication	66.7%	66.7%	No Oil In Gear Box (19542-000,66.7%)
	Needs Replacement	33.3%	33.3%	Needs Overhaul (19542-000,33.3%)
Gear Box,Mechanical Device				Sources:1
	Binding/Sticking	81.8%	39.1%	Binding (20609-000,Qty:9)
	Leaking	18.2%	8.7%	Leaking (20609-000,Qty:2)
	Unknown	------	52.2%	Unknown (20609-000,Qty:12)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Gear Set,Matched				Sources:1
	Binding/Sticking	50.0%	20.0%	Gears Binding - Inop/Unserviceable (25101-000,Qty:1)
	Broken	50.0%	20.0%	Broken/Damaged (25101-000,Qty:1)
	Induced	------	40.0%	Improper Install - Inop/Unserviceable (25101-000,Qty:1), Lack of Maintenance - Inop/Sluggish Breech (25101-000,Qty:1)
	Unknown	------	20.0%	Unknown (25101-000,Qty:1)
Gear,Bevel				Sources:1
	Worn	36.4%	36.4%	Worn - Noisy (25101-000,Qty:1), Worn - Inop/Unserviceable (25101-000,Qty:1), Worn Out (25101-000,Qty:1), Worn - Inop Man Elevation (25101-000,Qty:1)
	Chipped	27.3%	27.3%	Chipped-Inop Man Elevation (25101-000,Qty:1) (25101-000,Qty:1), Chipped-Noisy (25101-000,Qty:1)
	Excessive Play	18.2%	18.2%	Worn - Excessive Play (25101-000,Qty:1) (25101-000,Qty:1)
	Binding/Sticking	9.1%	9.1%	Worn/Stripped - Binding/Sticking (25101-000,Qty:1)
	Out of Adjustment	9.1%	9.1%	Out Of Adjustment - Binding/Sticking (25101-000,Qty:1)
Gear,Box Traversing				Sources:1
	Seal/Gasket Failure	50.0%	50.0%	Seals Worn - Leaking Fluid (25101-000,Qty:1)
	Loose	50.0%	50.0%	Loose Nut(s) - Preventive Action (25101-000,Qty:1)
Gear,Drive				Sources:1
	Worn	66.7%	20.0%	Worn Out (19542-000,20.0%)
	Needs Replacement	33.3%	10.0%	Needs Replacement (19542-000,10.0%)
	Induced	------	40.0%	Improper Adjustment (19542-000,30.0%), Improper Installations (19542-000,10.0%)
	Unknown	------	30.0%	Unknown (19542-000,30.0%)
Gear,Housing Elev				Sources:1
	Broken	55.2%	44.4%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:11), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:4)
	Cracked/Fractured	31.0%	25.0%	Cracked (25101-000,Qty:8), Part Struck/Damaged - Cracked (25101-000,Qty:1)
	Binding/Sticking	3.4%	2.8%	Binding/Sticking (25101-000,Qty:1)
	No Operation	3.4%	2.8%	Inop Power Elevation (25101-000,Qty:1)
	Bent/Dented/Warped	3.4%	2.8%	Warped Bent - Abnormal Operation (25101-000,Qty:1)
	Noisy	3.4%	2.8%	Noisy (25101-000,Qty:1)
	Induced	------	16.7%	Lack Of Lubrication - Binding/Sticking (25101-000,Qty:2), Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1), Item Abuse/Neglect - Binding/Sticking (25101-000,Qty:1), Item Abuse/Neglect - Cracked (25101-000,Qty:2)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Gear,Housing Elev (continued)				
	Unknown	------	2.8%	Unknown (25101-000,Qty:1)
Gear,Internal				Sources:1
	Binding/Sticking	100.0%	100.0%	Binding/Sticking (25101-000,Qty:3)
Gear,Sector				Sources:1
	Loose	28.6%	25.0%	Loose (25101-000,Qty:1), Loose Nut(s) - Inaccurate (25101-000,Qty:1)
	Binding/Sticking	28.6%	25.0%	Binding/Sticking (25101-000,Qty:1), Worn - Binding/Sticking (25101-000,Qty:1)
	Excessive Play	28.6%	25.0%	Worn - Excessive Play (25101-000,Qty:1), Part Missing/Loose - Excessive Play (25101-000,Qty:1)
	Worn	14.3%	12.5%	Worn - Inaccurate (25101-000,Qty:1)
	Induced	------	12.5%	Part Struck/Damaged - Abnormal Operation (25101-000,Qty:1)
Gear,Spur				Sources:1
	Seized	100.0%	100.0%	Worn/Stripped - Seized (25101-000,Qty:1)
Gear,Spur,Helical				Sources:1
	Broken	64.6%	64.6%	Breakage Teeth (24996-000,61.2%)
	Fatigue	21.4%	21.4%	Surface Fatigue (Pitting and Spalling) (24996-000,20.3%)
	Worn	13.9%	13.9%	Wear (Abrasive and Adhesive) (24996-000,13.2%)
Gear,Spur,Splined				Sources:1
	Cracked/Fractured	100.0%	100.0%	Cracked/Split-Binding/Sticking (25101-000,Qty:1)
Gear,Traveling,Front Handwheel				Sources:1
	Bearing Failure	28.6%	28.6%	Bearing Failure-Inop Man Traverse (25101-000,Qty:2)
	Bent/Dented/Warped	28.6%	28.6%	Part Struck/Damaged - Collapsed/Bent (25101-000,Qty:2)
	Loose	14.3%	14.3%	Part Missing/Loose - Inop Man Traverse (25101-000,Qty:1)
	Excessive Play	14.3%	14.3%	Excessive Play (25101-000,Qty:1)
	No Operation	14.3%	14.3%	Inop Man Traverse (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Gear,Traveling,Front Roller				Sources:1
	Seal/Gasket Failure	75.0%	60.0%	Seals Worn - Leaking Fluid (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1)
	Bearing Failure	25.0%	20.0%	Bearing Failure - Excessive Play (25101-000,Qty:1)
	Induced	------	20.0%	Improper Installation - Stripped (25101-000,Qty:1)
Generator (Summary)				
	Drift	34.0%		
	No Output	18.1%		
	Degraded Operation	15.4%		
	Shorted	9.3%		
	Worn	7.9%		
	Fails to Run,After Start	7.8%		
	Loss of Control	7.5%		
Generator				Sources:5
	Degraded Operation	49.8%	40.7%	Loss of Output (24990-000,20.0%), Degraded (18175-000,7.0%), Sheared (23038-004,Qty:1), Low Power (23038-005,Qty:1) (23038-005,Qty:1)
	Drift	19.7%	16.1%	Drift or Intermittent (24990-000,80.0%), Drift (20609-000,Qty:2)
	Fails to Run,After Start	14.0%	11.4%	Catastrophic-Fails Once Started (18175-000,24.0%)
	Worn	8.0%	6.5%	Worn Out (20609-000,Qty:192)
	Fails to Start	6.4%	5.2%	Catastrophic-Fails To Start (18175-000,11.0%)
	Broken	1.1%	0.9%	Broken (20609-000,Qty:26)
	Contaminated	1.1%	0.9%	Contaminated (20609-000,Qty:26)
	Unknown	------	16.2%	Unknown (20609-000,Qty:281) (23038-005,Qty:1)
	Other (<%2)	------	2.0%	
	Out of Spec.		0.8%	Out of Tolerance (20609-000,Qty:17), Out of Specification (20609-000,Qty:7)
	Shorted		0.4%	Short (20609-000,Qty:11)
	Seized		0.3%	Seized (20609-000,Qty:8)
	Burned/Charred		0.3%	Burned (20609-000,Qty:8)
	No Operation		0.1%	No Operation (20609-000,Qty:4)
	Leaking		0.1%	Leaking (20609-000,Qty:3)
	Binding/Sticking		<0.1%	Binding (20609-000,Qty:2)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Generator,AC				Sources:5
	No Output	30.0%	14.1%	No Output (23038-004,Qty:4) (23038-004,Qty:6) (23038-006,Qty:14) (23038-006,Qty:25) (23038-006,Qty:63)
	Drift	26.5%	12.5%	Drift (24992-000,62.5%)
	Opened	12.4%	5.9%	Open (23038-004,Qty:1) (24992-000,25.0%), Opened (20609-000,Qty:5)
	Fails to Run,After Start	12.3%	5.8%	Catastrophic-Fails Once Started (18175-000,28.0%) (18175-000,28.0%), Inoperative (23038-004,Qty:1)
	Shorted	9.4%	4.4%	Short (20609-000,Qty:5) (23038-006,Qty:9) (24992-000,12.5%), Shorted Or Grounded (23038-004,Qty:1)
	Intermittent Operation	9.3%	4.4%	Intermittent (20609-000,Qty:33)
	Unknown	------	18.1%	Unknown (18175-000,52.0%) (18175-000,52.0%) (20609-000,Qty:14) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:2) (23038-004,Qty:2) (23038-004,Qty:23) (23038-006,Qty:2)
	Induced	------	1.8%	Caused By Other Dev. (23038-004,Qty:2), Sheared (23038-004,Qty:2) (23038-004,Qty:2) (23038-006,Qty:1), Improper Energy Resp (23038-004,Qty:1), Operating Error (23038-004,Qty:1), Improper Alignment (23038-006,Qty:1)
	Other (<3%)	------	33.0%	
	No Movement		4.0%	No Movement (20609-000,Qty:30)
	Loss of Control		3.9%	Control Inoperative (23038-004,Qty:1) (23038-004,Qty:11) (23038-006,Qty:2) (23038-006,Qty:11)
	Degraded Operation		3.8%	Degraded (18175-000,8.0%) (18175-000,8.0%), Electrical Pwr Loss (23038-004,Qty:3) (23038-004,Qty:6), Improper Source Output (23038-004,Qty:1), Fluctuates (23038-006,Qty:2)
	Incorrect Voltage		3.0%	Incorrect Voltage (23038-004,Qty:1) (23038-004,Qty:6) (23038-006,Qty:14)
	Out of Spec.		2.7%	Out of Specification (20609-000,Qty:20)
	Fails to Start		2.4%	Catastrophic-Fails To Start (18175-000,12.0%) (18175-000,12.0%)
	Bearing Failure		2.3%	Bearing Failure (23038-004,Qty:1) (23038-006,Qty:18)
	Spurious/False Operation		2.3%	False Response (20609-000,Qty:17)
	Worn		1.3%	Worn Excessively (23038-004,Qty:7)
	Out of Adjustment		1.1%	Alignment Improper (23038-004,Qty:1), Out of Adjustment (20609-000,Qty:7)
	Displaced		0.8%	Displaced (20609-000,Qty:6)
	Binding/Sticking		0.8%	Bind/Size/Friction (23038-004,Qty:1), Sticky (23038-006,Qty:5)
	Broken		0.8%	Broken (23038-004,Qty:1) (23038-004,Qty:3)
	Cracked/Fractured		0.5%	Cracked/Fractured (20609-000,Qty:4)
	Arcing/Sparking		0.5%	Arcing (20609-000,Qty:1) (23038-004,Qty:2)
	Noisy		0.4%	Noisy (20609-000,Qty:3)
	Excessive Vibration		0.4%	Excessive Vibration (23038-004,Qty:2)
	Leaking		0.4%	Leaking Liquid (23038-004,Qty:2)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Generator,AC (continued)				
Other (continued)				
	Unstable Operation		0.3%	Unstable (20609-000,Qty:2)
	Collapsed		0.3%	Collapsed (20609-000,Qty:2)
	Scored		0.2%	Scored (23038-004,Qty:1)
	Contaminated		0.2%	Dirty Armature (23038-004,Qty:1)
	Limit Unadjuctable		0.2%	Unable to Adjust Lim (23038-004,Qty:1)
	Incorrect Current		0.2%	Incorrect Current (23038-004,Qty:1)
	Insulation Failure		0.2%	Insulation Breakdown (23038-004,Qty:1)
	Overheated		0.1%	Overheated (20609-000,Qty:1)
Generator,DC				Sources:4
	No Operation	23.9%	11.1%	No Operation (20609-000,Qty:4)
	Shorted	22.5%	10.4%	Short (24992-000,41.7%)
	Drift	22.5%	10.4%	Drift (24992-000,41.7%)
	Out of Adjustment	12.0%	5.6%	Out of Adjustment (20609-000,Qty:2)
	Fails to Run,After Start	10.2%	4.8%	Catastrophic-Fails Once Started (18175-000,19.0%)
	Opened	8.9%	4.2%	Open (24992-000,16.6%)
	Unknown	------	26.7%	Unknown (18175-000,64.0%) (23038-005,Qty:3)
	Other (<%6)	------	26.9%	
	Seal/Gasket Failure		3.6%	Blown Seal/Gasket (23038-005,Qty:1)
	Loss of Control		3.6%	Control Inoperative (23038-005,Qty:1)
	Broken		3.6%	Broken (23038-005,Qty:1)
	Brush Failure		3.6%	Brush Failure/Worn E (23038-005,Qty:1)
	Out of Spec.		2.8%	Out of Specification (20609-000,Qty:1)
	Intermittent Operation		2.8%	Intermittent (20609-000,Qty:1)
	Spurious/False Operation		2.8%	False Response (20609-000,Qty:1)
	Fails to Start		2.8%	Catastrophic-Fails To Start (18175-000,11.0%)
	Degraded Operation		1.5%	Degraded (18175-000,6.0%)
Generator,Motor				Sources:1
	Loss of Lubrication	41.9%	26.0%	Loss of Lubrication (20609-000,Qty:13)
	Opened	19.4%	12.0%	Opened (20609-000,Qty:6)
	Shorted	19.4%	12.0%	Short (20609-000,Qty:6)
	Worn	12.9%	8.0%	Worn Out (20609-000,Qty:4)
	No Movement	6.5%	4.0%	No Movement (20609-000,Qty:2)
	Unknown	------	38.0%	Unknown (20609-000,Qty:19)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Generator,Tubine				Sources:1
	Leaking	63.2%	63.2%	Leaking (20609-000,Qty:12)
	Displaced	15.8%	15.8%	Displaced (20609-000,Qty:3)
	Corroded	5.3%	5.3%	Corroded (20609-000,Qty:1)
	Cracked/Fractured	5.3%	5.3%	Cracked/Fractured (20609-000,Qty:1)
	No Operation	5.3%	5.3%	No Operation (20609-000,Qty:1)
	Out of Spec.	5.3%	5.3%	Out of Specification (20609-000,Qty:1)
Generator,Turbine (Summary)				
	Fails to Run,After Start	61.0%		
	Fails to Start	22.2%		
	Degraded Operation	16.8%		
Generator,Turbine,Gas,AC				Sources:1
	Fails to Run,After Start	66.2%	43.0%	Catastrophic-Fails Once Started (18175-000,43.0%) (18175-000,43.0%)
	Fails to Start	17.7%	11.5%	Catastrophic-Fails To Start (18175-000,11.0%) (18175-000,12.0%)
	Degraded Operation	16.2%	10.5%	Degraded (18175-000,10.0%) (18175-000,11.0%)
	Unknown	------	35.0%	Unknown (18175-000,35.0%) (18175-000,35.0%)
Generator,Turbine,Steam,AC				Sources:1
	Fails to Run,After Start	50.4%	16.0%	Catastrophic-Fails Once Started (18175-000,16.0%) (18175-000,16.0%)
	Fails to Start	31.5%	10.0%	Catastrophic-Fails To Start (18175-000,10.0%) (18175-000,10.0%)
	Degraded Operation	18.1%	5.8%	Degraded (18175-000,5.5%) (18175-000,6.0%)
	Unknown	------	68.3%	Unknown (18175-000,68.0%) (18175-000,68.5%)
Gun (Summary)				
	Broken	40.0%		
	Worn	29.6%		
	Leaking	13.9%		
	Bent/Dented/Warped	8.7%		
	Out of Adjustment	7.8%		

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail. Dist.	Data Source(s)/Details
Gun,Collim Infin Aim Ref				Sources:1
	Broken	71.4%	38.5%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1), Poor Design - Broken/Damaged (25101-000,Qty:8)
	Lamp Failure	21.4%	11.5%	Inop Fire Control Light (25101-000,Qty:3)
	Cracked/Fractured	7.1%	3.8%	Poor Design - Cracked (25101-000,Qty:1)
	Unknown	------	23.1%	Unknown (25101-000,Qty:6)
	Induced	------	23.1%	Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:6)
Gun,Firing,Carriage Mechanism				Sources:1
	Worn	71.4%	63.8%	Worn Out (25101-000,Qty:1) (25101-000,Qty:2) (25101-000,Qty:24), Worn - Found In TI/PMCS/INSP (25101-000,Qty:1), Poor Design - Worn Out (25101-000,Qty:2)
	Broken	9.5%	8.5%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:3)
	Bushing Failure	4.8%	4.3%	Worn Bushing - Excessive Play (25101-000,Qty:1), Worn Bushing - Worn Out (25101-000,Qty:1)
	Out of Adjustment	4.8%	4.3%	Out Of Adjustment (25101-000,Qty:2)
	Loose	4.8%	4.3%	Loose (25101-000,Qty:1), Out Of Adjustment - Loose (25101-000,Qty:1)
	Corroded	2.4%	2.1%	Corroded-Broken/Damaged (25101-000,Qty:1)
	Excessive Play	2.4%	2.1%	Excessive Play (25101-000,Qty:1)
	Induced	------	6.4%	Improper Maintenance - Misfire (25101-000,Qty:1), Abnormal Operation (25101-000,Qty:1), Improper Installation - Broken/Damaged (25101-000,Qty:1)
	Unknown	------	4.3%	Unknown (25101-000,Qty:1) (25101-000,Qty:1)
Gun,Firing,Platform Assembly				Sources:1
	Induced	------	84.6%	Safety Wire/Key Fail - Missing (25101-000,Qty:6), Vibration - Missing (25101-000,Qty:4), Wrong Part - PIP/ECP/MWO Install (25101-000,Qty:1)
	Unknown	------	15.4%	Unknown (25101-000,Qty:2)
Gun,Might Aim Post				Sources:1
	Worn	50.0%	40.0%	Worn - Inop/Unserviceable (25101-000,Qty:2)
	Bent/Dented/Warped	25.0%	20.0%	Collapsed/Bent (25101-000,Qty:1)
	Broken	25.0%	20.0%	Broken/Damaged (25101-000,Qty:1)
	Induced	------	20.0%	Fell Off Or Lost - Missing (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Gun,Post Aiming				Sources:1
	Broken	83.3%	58.8%	Part Struck/Damaged - Inop/Unserviceable (25101-000,Qty:3), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:6), Fell Off Or Lost - Broken/Damaged (25101-000,Qty:1)
	Bent/Dented/Warped	16.7%	11.8%	Collapsed/Bent (25101-000,Qty:2)
	Induced	------	23.5%	Improper Installation - Inop/Unserviceable (25101-000,Qty:2), Improper Installation - Broken/Damaged (25101-000,Qty:2)
	Unknown	------	5.9%	Unknown (25101-000,Qty:1)
Gun,Quadrant				Sources:1
	Out of Adjustment	35.0%	16.7%	No Failure - Out Of Adjustment (25101-000,Qty:1), Out Of Adjustment - Inaccurate (25101-000,Qty:1), Out Of Adjustment (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1), Internal Failure - Out Of Adjustment (25101-000,Qty:2)
	Out of Synch.	25.0%	11.9%	Out Of Synch (25101-000,Qty:5)
	Broken	15.0%	7.1%	Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1), Broken/Damaged (25101-000,Qty:2)
	Seal/Gasket Failure	10.0%	4.8%	Seals Worn - Internal Moisture (25101-000,Qty:2)
	Cracked/Fractured	5.0%	2.4%	Cracked (25101-000,Qty:1)
	Excessive Play	5.0%	2.4%	Internal Failure - Excessive Play (25101-000,Qty:1)
	Binding/Sticking	5.0%	2.4%	Internal Failure - Binding/Sticking (25101-000,Qty:1)
	Induced	------	31.0%	Wrong Part (25101-000,Qty:1), Internal Failure - Inaccurate (25101-000,Qty:1), Lack Of Maintenance - Internal Moisture (25101-000,Qty:10), Overtorqued - Loose (25101-000,Qty:1)
	Unknown	------	21.4%	Unknown (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:6)
Gun,Recoil,Mechanism				Sources:1
	Leaking	50.0%	20.3%	Leaking Hydraulic Oil (25101-000,Qty:1), Internal Failure - Leaking Hydraulic Oil (25101-000,Qty:14), Internal Failure - Leaking Nitrogen (25101-000,Qty:1)
	Contaminated	18.8%	7.6%	Contaminated Fluid - Slams Into Battery (25101-000,Qty:5), Internal Failure - Contaminated (25101-000,Qty:1)
	Broken	9.4%	3.8%	Broken/Damaged (25101-000,Qty:3)
	Seal/Gasket Failure	9.4%	3.8%	Seals Worn - Slams Into Battery (25101-000,Qty:1), Seals Worn - Leaking Hydraulic Oil (25101-000,Qty:1), Seals Worn - Low Nitrogen Press (25101-000,Qty:1)
	Cracked/Fractured	6.3%	2.5%	Cracked/Split-Cracked (25101-000,Qty:1), Cracked (25101-000,Qty:1)
	Degraded Output	3.1%	1.3%	Internal Failure - Abnormal Operation (25101-000,Qty:1)
	Seized	3.1%	1.3%	Locked (25101-000,Qty:1)
	Induced	------	55.7%	Improper Maintenance - Contaminated (25101-000,Qty:1), Improper Maintenance - Corroded (25101-000,Qty:1) (25101-000,Qty:2), Improper Adjustment - Broken/Damaged (25101-000,Qty:1), Improper Installation - Broken/Damaged (25101-000,Qty:1), Item Abuse/Neglect - Broken/Damaged

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Gun,Recoil,Mechanism (continued)				
	Induced (continued)			(25101-000,Qty:4), Slams Into Battery (25101-000,Qty:1), Improper Maintenance - Slams Into Battery (25101-000,Qty:1) (25101-000,Qty:14), Improper Maintenance - Out Of Adjustment (25101-000,Qty:2), Improper Maintenance - Broken/Damaged (25101-000,Qty:1), Internal Failure - Slams Into Battery (25101-000,Qty:14), Low Nitrogen Press - Slams Into Battery (25101-000,Qty:1)
	Unknown	------	3.8%	Unknown (25101-000,Qty:3)
Gun,Recoil,Mechanism,Variable				Sources:1
	Broken	55.6%	53.6%	Broken/Damaged (25101-000,Qty:3) (25101-000,Qty:12)
	Bent/Dented/Warped	25.9%	25.0%	Collapsed/Bent (25101-000,Qty:1) (25101-000,Qty:5), Part Struck/Damaged - Collapsed/Bent (25101-000,Qty:1)
	Worn	7.4%	7.1%	Worn Out (25101-000,Qty:1), Worn - Abnormal Operation (25101-000,Qty:1)
	Binding/Sticking	3.7%	3.6%	Binding/Sticking (25101-000,Qty:1)
	No Operation	3.7%	3.6%	Inop/Sluggish Breech (25101-000,Qty:1)
	Excessive Vibration	3.7%	3.6%	Vibration - Abnormal Operation (25101-000,Qty:1)
	Induced	------	3.6%	Improper Adjustment - Collapsed/Bent (25101-000,Qty:1)
Gyros				Sources:1
	Fails to Start	100.0%	100.0%	Failure to Spin Up-Faulty Polyimide Ball Retainers (10722-000,Qty:2)
Gyros,End Housing				Sources:1
	Cracked/Fractured	40.0%	40.0%	Fractured Magnet Wire At F1 Solder Pad-Mech.Stress (10722-000,Qty:1), Fractured Magnet Wire-Mechanical Stress (10722-000,Qty:1)
	Opened	20.0%	20.0%	Open Magnet Wire-Mechanical Overstress (10722-000,Qty:1)
	Winding Failure	20.0%	20.0%	Open in F3 Winding (10722-000,Qty:1)
	Shorted	20.0%	20.0%	Microsyn Winding Shorted to Pole 10/Case (10722-000,Qty:1)
Gyroscope				Sources:2
	Drift	40.5%	30.2%	Drift (20609-000,Qty:55) (24992-000,58.8%)
	Out of Spec.	23.3%	17.4%	Out of Tolerance (20609-000,Qty:1,173), Out of Specification (20609-000,Qty:3)
	Opened	19.7%	14.7%	Open (24992-000,29.4%)
	Shorted	7.9%	5.9%	Short (20609-000,Qty:1) (24992-000,11.8%)
	Binding/Sticking	3.6%	2.7%	Sticking (20609-000,Qty:156), Binding (20609-000,Qty:27)
	Burned/Charred	3.3%	2.4%	Burned (20609-000,Qty:164)
	Spurious/False Operation	1.7%	1.3%	Erratic (20609-000,Qty:86)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Gyroscope (continued)				
	Unknown	------	25.1%	Unknown (20609-000,Qty:1,690)
	Other (<%2)	------	0.3%	
	Unstable Operation		0.3%	Unstable (20609-000,Qty:17)
Handle				Sources:1
	Broken	100.0%	63.6%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:6) (25101-000,Qty:7)
	Induced	------	36.4%	Missing (25101-000,Qty:1) (25101-000,Qty:1), Fell Off or Lost - Missing (25101-000,Qty:1), Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:5)
Handle Locking Assy				Sources:1
	Broken	50.0%	50.0%	Broken/Damaged (25101-000,Qty:2) (25101-000,Qty:2)
	Bent/Dented/Warped	25.0%	25.0%	Collapsed/Bent (25101-000,Qty:2)
	Cracked/Fractured	25.0%	25.0%	Cracked Weld-Broken/Damaged (25101-000,Qty:2)
Handle,Brake Lever				Sources:1
	Bent/Dented/Warped	50.0%	50.0%	Collapsed/Bent (25101-000,Qty:1)
	Broken	50.0%	50.0%	Broken/Damaged (25101-000,Qty:1)
Handle,Latch				Sources:1
	Broken	100.0%	100.0%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1)
Handwheel Assembly				Sources:1
	Bent/Dented/Warped	25.0%	18.2%	Collapsed/Bent (25101-000,Qty:2)
	Loose	25.0%	18.2%	Worn - Loose (25101-000,Qty:1), Excessive Play (25101-000,Qty:1)
	Broken	25.0%	18.2%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1)
	Binding/Sticking	12.5%	9.1%	Binding/Sticking (25101-000,Qty:1)
	No Operation	12.5%	9.1%	Inop Man Traverse (25101-000,Qty:1)
	Unknown	------	18.2%	Unknown (25101-000,Qty:1) (25101-000,Qty:1)
	Induced	------	9.1%	Lack Of Maintenance - Inop/Unserviceable (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Harness,Flexable Wiring				Sources:1
	Shorted	100.0%	100.0%	Shorted Pins-Foreign Particle Embedded Between Pin (25027-000,Qty:1)
Harness,Interconnect Rotary				Sources:1
	Intermittent Operation	100.0%	100.0%	Intermittent Failure-Crimp Damaged (10722-000,Qty:1)
Heat Exchanger (Summary)				
	Leaking	77.8%		
	Out of Adjustment	6.5%		
	Needs Replacement	6.4%		
	Cracked/Fractured	4.7%		
	Clogged/Clogging	3.2%		
	Out of Spec.	1.5%		
Heat Exchangers				Sources:4
	Leaking	78.4%	61.8%	Internal Leak (24992-000,47.5%), External Leak (24992-000,42.5%), Leaking (20609-000,Qty:145), Tube Leaks (24996-000,80.0%)
	Out of Adjustment	6.5%	5.1%	Needs Adjustment (19542-000,20.0%), Out of Adjustment (20609-000,Qty:1)
	Needs Replacement	6.3%	5.0%	Needs Replacement (19542-000,20.0%)
	Cracked/Fractured	4.4%	3.5%	Fracture - Burst (24992-000,6.0%), Cracked/Fractured (20609-000,Qty:20), Fatigue Cracks From Vibration (24996-000,NR)
	Clogged/Clogging	3.3%	2.6%	Clogged (24992-000,4.0%), Improper Flow (20609-000,Qty:16), Restricted Flow From Debris in Tubes (24996-000,NR)
	Out of Spec.	1.1%	0.9%	Out of Specification (20609-000,Qty:9)
	Unknown	------	14.4%	Unknown (19542-000,40.0%) (20609-000,Qty:45)
	Induced	------	5.0%	Not Properly Fabricated By Vendor (19542-000,20.0%)
	Other (<%2)	------	1.8%	
	Broken		0.8%	Broken (20609-000,Qty:8)
	Scored		0.4%	Scored (20609-000,Qty:4)
	Breach		0.2%	Breach (20609-000,Qty:2)
	Overheated		0.2%	Overheated (20609-000,Qty:2)
	Intermittent Operation		<0.1%	Intermittent (20609-000,Qty:1)
	Unstable Operation		<0.1%	Unstable (20609-000,Qty:1)
	Corroded		NR	Corrosion (24996-000,NR)

Part Desc. / Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Heat Exchangers,Elect. Heater,Resistive			Sources:1
Cracked/Fractured	30.8%	30.8%	Cracked/Fractured (20609-000,Qty:4)
Out of Spec.	30.8%	30.8%	Out of Specification (20609-000,Qty:4)
No Operation	15.4%	15.4%	No Operation (20609-000,Qty:2)
Opened	15.4%	15.4%	Opened (20609-000,Qty:2)
Shorted	7.7%	7.7%	Short (20609-000,Qty:1)
Heat Exchangers,Radiator			Sources:1
Leaking	100.0%	100.0%	Leaking (20609-000,Qty:3)
Heater (Summary)			
Opened	38.8%		
No Operation	23.4%		
Shorted	16.1%		
Electrical Failure	8.8%		
Mechanical Failure	6.2%		
Overtemp. Protection Failure	3.4%		
Overheated	3.4%		
Heater			Sources:1
No Operation	47.5%	42.0%	Catastrophic-Failed To Heat (18175-000,NR) (18175-000,57.0%) (18175-000,75.0%)
Overheated	28.1%	24.8%	Catastrophic-Overheated (18175-000,5.0%) (18175-000,7.0%) (18175-000,66.0%)
Degraded Operation	24.5%	21.7%	Degraded (18175-000,17.0%) (18175-000,18.0%) (18175-000,33.0%)
Unknown	------	11.5%	Unknown (18175-000,16.0%) (18175-000,20.0%)
Heater,Air			Sources:1
No Operation	85.0%	85.0%	Catastrophic-Failed To Heat (18175-000,82.0%) (18175-000,88.0%)
Overheated	12.5%	12.5%	Catastrophic-Overheated (18175-000,7.0%) (18175-000,18.0%)
Degraded Operation	2.5%	2.5%	Degraded (18175-000,5.0%)
Heater,Electrical			Sources:3
Opened	66.7%	53.3%	Open Circuit from Overheating (24996-000,80.0%) (24997-000,80.0%)
Shorted	22.5%	18.0%	Short (19542-000,40.0%), Shorts to Ground (24996-000,7.0%) (24997-000,7.0%)
Overtemp. Protection Failure	5.8%	4.7%	Failure of Overtemperature Protection (24996-000,7.0%) (24997-000,7.0%)
Jacket Rupture	5.0%	4.0%	Other (Jackets Rupture, etc.) (24996-000,6.0%) (24997-000,6.0%)
Unknown	------	20.0%	Unknown (19542-000,60.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Heater,Electrical,Air Unit				Sources:1
	No Operation	90.0%	90.0%	Catastrophic-Failed To Heat (18175-000,90.0%)
	Overheated	10.0%	10.0%	Catastrophic-Overheated (18175-000,10.0%)
Heater,Electrical,Base Board				Sources:1
	No Operation	76.0%	76.0%	Catastrophic-Failed To Heat (18175-000,76.0%)
	Overheated	24.0%	24.0%	Catastrophic-Overheated (18175-000,24.0%)
Heater,Electrical,Blast Coil Duct				Sources:1
	No Operation	80.0%	80.0%	Catastrophic-Failed To Heat (18175-000,80.0%)
	Overheated	20.0%	20.0%	Catastrophic-Overheated (18175-000,20.0%)
Heater,Furnace,Gas				Sources:1
	Electrical Failure	58.6%	58.6%	Electrical (24996-000,52.7%)
	Mechanical Failure	41.4%	41.4%	Mechanical (24996-000,37.3%)
Heater,Immersion				Sources:1
	No Operation	86.8%	82.5%	Catastrophic-Failed To Heat (18175-000,80.0%) (18175-000,85.0%)
	Overheated	10.0%	9.5%	Catastrophic-Overheated (18175-000,9.0%) (18175-000,10.0%)
	Degraded Operation	3.2%	3.0%	Degraded (18175-000,6.0%)
	Induced	------	5.0%	Degraded - Erratic Operation (Alternate Heating) (18175-000,10.0%)
Heater,Immersion,Bottom Clamping				Sources:1
	No Operation	88.9%	80.0%	Catastrophic-Failed To Heat (18175-000,80.0%)
	Overheated	11.1%	10.0%	Catastrophic-Overheated (18175-000,10.0%)
	Induced	------	10.0%	Degraded - Erratic Operation (18175-000,10.0%)
Heater,Immersion,Circulation				Sources:1
	No Operation	100.0%	100.0%	Catastrophic-Failed To Heat (18175-000,89.0%) (18175-000,90.0%)

Part Desc. / Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Heater, Immersion, Flange Type			Sources:1
No Operation	100.0%	100.0%	Catastrophic-Failed To Heat (18175-000,100.0%)
Heater, Immersion, Screw Plug			Sources:1
No Operation	95.0%	95.0%	Catastrophic-Failed To Heat (18175-000,95.0%)
Overheated	5.0%	5.0%	Catastrophic-Overheated (18175-000,5.0%)
Heater, Immersion, Tubular			Sources:1
No Operation	80.0%	80.0%	Catastrophic-Failed To Heat (18175-000,80.0%)
Overheated	10.0%	10.0%	Catastrophic-Overheated (18175-000,10.0%)
Degraded Operation	10.0%	10.0%	Degraded (18175-000,10.0%)
Heater, Pipe (Heat Tracer)			Sources:1
No Operation	61.6%	48.7%	Catastrophic-Failed To Heat (18175-000,51.0%) (18175-000,95.0%)
Out of Spec.	36.3%	28.7%	Degraded - Out of Limits (18175-000,86.0%)
Degraded Operation	2.1%	1.7%	Degraded (18175-000,5.0%)
Induced	------	18.3%	Degraded - Erratic Operation (18175-000,49.0%), Degraded - Other (18175-000,6.0%)
Unknown	------	2.7%	Unknown (18175-000,8.0%)
Horn (Summary)			
Failed Off	50.0%		
Degraded Operation	27.5%		
Fails to Op. on Demand	12.5%		
Spurious/False Operation	10.0%		
Horn, Annunciator Module			Sources:1
Degraded Operation	55.0%	55.0%	Degraded (18175-000,55.0%)
Fails to Op. on Demand	25.0%	25.0%	Catastrophic-Fails To Operate On Demand (18175-000,25.0%)
Spurious/False Operation	20.0%	20.0%	Catastrophic-Operates Spurious Or False Response (18175-000,20.0%)
Horn, Electromechanical			Sources:1
Failed Off	100.0%	100.0%	Failed Off (24991-000,100.0%)
Other	------	0.0%	
Failed On		NR	Failed On (24991-000,NR)

Part Desc. / Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Horn,Electronic (Piezoel)			Sources:1
Failed Off	100.0%	100.0%	Failed Off (24991-000,100.0%)
Other	------	0.0%	
Failed On		NR	Failed On (24991-000,NR)
Hose			Sources:2
Broken	76.6%	41.2%	Broken (20609-000,Qty:113)
Worn	13.3%	7.1%	Worn Out (19542-000,14.3%)
Cracked/Fractured	6.8%	3.6%	Cracked/Fractured (20609-000,Qty:10)
Leaking	3.4%	1.8%	Leaking (20609-000,Qty:5)
Induced	------	35.7%	Defective (19542-000,28.6%), Hose Has Cracks Due To Antenna Movement (19542-000,42.9%)
Unknown	------	10.4%	Unknown (19542-000,14.3%) (20609-000,Qty:9)
Hose Assembly			Sources:1
Aged/Deteriorated	100.0%	100.0%	Deteriorated/Aged - Cracked (25101-000,Qty:2)
Hose Assembly,Rubber			Sources:1
Aged/Deteriorated	89.5%	85.0%	Material Deterioration (24993-000,85.0%)
Mechanical Failure	10.5%	10.0%	End Fitting Mechanical Failure (24993-000,10.0%)
Unknown	------	5.0%	Unknown (24993-000,5.0%)
Housing			Sources:1
Broken	33.3%	20.0%	Broken/Damaged (25101-000,Qty:1), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1)
Cracked/Fractured	33.3%	20.0%	Part Struck/Damaged - Cracked (25101-000,Qty:1), Cracked/Split-Inop/Unserviceable (25101-000,Qty:1)
Aged/Deteriorated	16.7%	10.0%	Deteriorated/Aged - Cracked (25101-000,Qty:1)
Bent/Dented/Warped	16.7%	10.0%	Warped/Bent - Binding/Sticking (25101-000,Qty:1)
Induced	------	40.0%	Improper Install - Broken/Damaged (25101-000,Qty:1), Lack Of Lubrication - FM (25101-000,Qty:1), Caused By Other Failure-Broken/Damaged (25101-000,Qty:1), Caused By Other Failure-Cut/Scarred (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Housing Assembly				Sources:1
	Loose	50.0%	50.0%	Internal Failure - Loose (25101-000,Qty:1), Worn - Loose (25101-000,Qty:1)
	Binding/Sticking	25.0%	25.0%	Binding/Sticking (25101-000,Qty:1)
	Aged/Deteriorated	25.0%	25.0%	Deteriorated/Aged - Leaking Nitrogen (25101-000,Qty:1)
Housing Assembly,Front				Sources:1
	No Operation	40.0%	40.0%	Internal Failure - Inop Man Traverse (25101-000,Qty:2)
	Leaking	20.0%	20.0%	No Failure - Leaking Fluid (25101-000,Qty:1)
	Binding/Sticking	20.0%	20.0%	No Failure - Binding/Sticking (25101-000,Qty:1)
	Degraded Output	20.0%	20.0%	Internal Failure - Abnormal Operation (25101-000,Qty:1)
Housing Assembly,Lower Elev Gear				Sources:1
	Seal/Gasket Failure	14.3%	10.0%	Seals Worn - Leaking Fluid (25101-000,Qty:1)
	Loose	14.3%	10.0%	Vibration - Loose (25101-000,Qty:1)
	Excessive Play	14.3%	10.0%	Worn - Excessive Play (25101-000,Qty:1)
	Bearing Failure	14.3%	10.0%	Bearing Failure-Inop Man Elevation (25101-000,Qty:1)
	Worn	14.3%	10.0%	Worn/Stripped - Noisy (25101-000,Qty:1)
	Cracked/Fractured	14.3%	10.0%	Part Struck/Damaged - Cracked (25101-000,Qty:1)
	Bent/Dented/Warped	14.3%	10.0%	Collapsed/Bent (25101-000,Qty:1)
	Induced	------	30.0%	Item Abuse/Neglect - Cracked (25101-000,Qty:1), Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1), Operator Error - Broken/Damaged (25101-000,Qty:1)
Housing Assembly,Support				Sources:1
	Corroded	100.0%	50.0%	Corroded-Excessive Play (25101-000,Qty:1)
	Induced	------	50.0%	Lack Of Maintenance - Loose (25101-000,Qty:1)
Housing,Detent				Sources:1
	Worn	60.0%	60.0%	Worn Out (25101-000,Qty:1), Worn - Found In TI/PMCS/Insp (25101-000,Qty:1), Worn - Out Of Adjustment (25101-000,Qty:1)
	Broken	20.0%	20.0%	Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1)
	Cracked/Fractured	20.0%	20.0%	Cracked/Split-Misfire (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Housing,End				Sources:1
	Shorted	44.4%	44.4%	Introwinding Short at Pole 4-Mechanical Overstress (10722-000,Qty:1), Winding To Case Short-Mechanical Overstress (10722-000,Qty:1), Short Between The Wheel Power And Housing (10722-000,Qty:1), Suspension Winding Shorted To Pole-Damaged Parylen (10722-000,Qty:1)
	Opened	33.3%	33.3%	F1 Winding Open-Inadequate Stress Relief (10722-000,Qty:1), Open-Mechanical Overstress (10722-000,Qty:2)
	Cracked/Fractured	22.2%	22.2%	Fractured/Open Magnet Wires (10722-000,Qty:1), Fractured Magnet Wire-Thermal/Vibration Fatigue (10722-000,Qty:1)
Housing,Gear				Sources:1
	Binding/Sticking	37.5%	18.8%	Binding/Sticking (25101-000,Qty:1), Internal Failure - Binding/Sticking (25101-000,Qty:1) (25101-000,Qty:2), Worn - Binding/Sticking (25101-000,Qty:1), No Failure - Binding/Sticking (25101-000,Qty:1)
	Out of Adjustment	18.8%	9.4%	Out Of Adjustment (25101-000,Qty:1), Internal Failure - Out Of Adjustment (25101-000,Qty:1) (25101-000,Qty:1)
	Cracked/Fractured	18.8%	9.4%	Cracked (25101-000,Qty:1) (25101-000,Qty:2)
	Broken	12.5%	6.3%	Broken/Separated - Inop Man Elevation (25101-000,Qty:1), Broken/Damaged (25101-000,Qty:1)
	Leaking	12.5%	6.3%	Leaking Fluid (25101-000,Qty:1), No Failure - Leaking Fluid (25101-000,Qty:1)
	Unknown	------	18.8%	Unknown (25101-000,Qty:2) (25101-000,Qty:4)
	Induced	------	12.5%	Improper Installation (25101-000,Qty:2), Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1), Lack Of Lubrication - Binding/Sticking (25101-000,Qty:1)
	Other (<%6)	------	18.8%	
	Stripped		3.1%	Stripped Gear/Spline (25101-000,Qty:1)
	Loose		3.1%	Internal Failure - Loose (25101-000,Qty:1)
	Worn		3.1%	Worn/Stripped - Stripped Gear/Spline (25101-000,Qty:1)
	Degraded Output		3.1%	Internal Failure - Abnormal Operation (25101-000,Qty:1)
	Skipping		3.1%	Internal Failure - Skips (25101-000,Qty:1)
	Noisy		3.1%	No Failure - Noisy (25101-000,Qty:1)
Housing,Machined				Sources:1
	Broken	66.7%	57.1%	Broken/Damaged (25101-000,Qty:4)
	Cracked/Fractured	16.7%	14.3%	Cracked (25101-000,Qty:1)
	Binding/Sticking	16.7%	14.3%	Cut-Binding/Sticking (25101-000,Qty:1)
	Unknown	------	14.3%	Unknown (25101-000,Qty:1)

Part Desc. / Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Housing,Pantel			Sources:1
Loose	25.0%	20.0%	Worn/Stripped - Loose Screw(s) (25101-000,Qty:1)
Stripped	25.0%	20.0%	Premataure Failure Rebuilt - Stripped (25101-000,Qty:1)
Binding/Sticking	25.0%	20.0%	Binding/Sticking (25101-000,Qty:1)
Aged/Deteriorated	25.0%	20.0%	Deteriorated/Aged - Internal Moisture (25101-000,Qty:1)
Induced	------	20.0%	Improper Installation - Loose Screw(s) (25101-000,Qty:1)
Housing,Roller Hub			Sources:1
Worn	50.0%	50.0%	Worn - Leaking Hydraulic Oil (25101-000,Qty:1)
Leaking	50.0%	50.0%	Poor Bonding - Leaking Fluid (25101-000,Qty:1)
Hub & Brake Assy			Sources:1
Bent/Dented/Warped	100.0%	50.0%	Warped/Bent - Broken/Damaged (25101-000,Qty:1)
Induced	------	50.0%	Improper Installation - Broken/Damaged (25101-000,Qty:1)
Hybrid			Sources:2
Opened	46.0%	37.5%	Chip Resistors And Capacitors Were Open (10722-000,Qty:3), Open-Internal Bond Pad Corrosion (10722-000,Qty:1), Open-Electromigration (10722-000,Qty:1), Open-Die Misapplication (10722-000,Qty:1)
Degraded Output	17.4%	14.2%	Pins 13&31 Distorted (25027-000,Qty:1), Pins 4, 8, 22, And 27 (25027-000,Qty:1), Slow Response Time (25027-000,Qty:1), Pins 4 & 8 Distorted (25027-000,Qty:1), Pin 4 Loads Down (25027-000,Qty:1), Pin 1 Pulls 15 V Load (25027-000,Qty:1), Pin 1 (Stuck Low) (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1), Pin #22 Has Clipped (25027-000,Qty:1), Output Stuck At 300 (25027-000,Qty:1), Output Stuck At 150 (25027-000,Qty:1), Prn Distorted Output (25027-000,Qty:1), Pin 4 (Angle Output) (25027-000,Qty:1), Pin 1 Stuck High (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1), Pin 1 Stuck Low Impr (25027-000,Qty:1), Pin 4 Open (25027-000,Qty:1), Pin 1 Stuck Low (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1), Pin Bad Output (25027-000,Qty:1), Pin 1 Transition Ti (25027-000,Qty:1), Pin 1 (Output Distor) (25027-000,Qty:1), Pins 4, 8, 22, & 26 Will (25027-000,Qty:1), Incorrect U109 Output (25027-000,Qty:1), Pin 1 Loads Down (25027-000,Qty:1), P1 Stuck At +15V (25027-000,Qty:1), Pin 4 Stuck 5V Pin 2 (25027-000,Qty:1), Pins 40 & 41 Outputs (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1), 15 Volt Outputs (25027-000,Qty:1), DC Output & Pins 40 & (25027-000,Qty:1)
Shorted	16.6%	13.5%	Short-ESD Overstress (25027-000,Qty:2), Shorting To Pin 49-Fractured At The Substrate Heel (10722-000,Qty:1), Pin 6 Shorted To 22 V (25027-000,Qty:1), Shorting-Wire Bond #10 Fractured (10722-000,Qty:1)
Broken	8.5%	6.9%	Pin 1 Broken (25027-000,Qty:1), Broken Pins @ 20 & 21 (25027-000,Qty:1), Broken RW & Lifted (25027-000,Qty:1), Broken Pin (25027-000,Qty:1) (25027-000,Qty:2) (25027-000,Qty:14)
No Output	5.5%	4.5%	No Output @ Pins 4 (25027-000,Qty:1), No O/P P4, 8, 22, 26

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Hybrid (continued)				
	No Output (continued)			(25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1), No Output @ Pins 4, 8 (25027-000,Qty:1), No Output, Pins 4 & (25027-000,Qty:1) (25027-000,Qty:1), Pin 23 & 25 No Output (25027-000,Qty:1), No Output Pins 40 (25027-000,Qty:1), No Output (25027-000,Qty:1), No Sine Wave Output (25027-000,Qty:1)
	Improper Output	3.4%	2.8%	Improper Output At P (25027-000,Qty:1), Improper Output (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1), Improper Outputs (25027-000,Qty:1)
	Degraded Operation	2.6%	2.1%	Bad Output (25027-000,Qty:1) (25027-000,Qty:2) (25027-000,Qty:3)
	Unknown	-------	9.0%	Unknown (25027-000,Qty:1)
	Induced	-------	0.3%	Defective (25027-000,Qty:1)
	Other (<%3)	-------	9.0%	
	Output Distortion		1.7%	Distorted Outputs (25027-000,Qty:1), Distorted Output (25027-000,Qty:1) (25027-000,Qty:1), Distorted Output At (25027-000,Qty:1) (25027-000,Qty:1)
	Metallization		1.0%	Malformed/Missing Traces in Metalization (25027-000,Qty:3)
	Burned/Charred		1.0%	Burnt (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1)
	Low Output		1.0%	Low Output At Pins (25027-000,Qty:1), Low Ooutput - Pin 4 (25027-000,Qty:1), Low Output @ Pin 22 (25027-000,Qty:1)
	Temperature Sensitive Output		1.0%	Temp Sens @ Hot +160- (25027-000,Qty:1), Temp Sensitive Output (25027-000,Qty:1), Temp Sensitive From (25027-000,Qty:1)
	Wire Bond Failure		0.7%	Fused Bond Wires (25027-000,Qty:1) (25027-000,Qty:1)
	Drift		0.3%	Output Angle Drift (25027-000,Qty:1)
	Out of Spec.		0.3%	Out OF Spec @ Var (25027-000,Qty:1)
	Clipped Output		0.3%	Clipped Outputs (25027-000,Qty:1)
	High DC Output		0.3%	High DC Output (25027-000,Qty:1)
	Change in Resistance		0.3%	Resistance Outside (25027-000,Qty:1)
	No Operation		0.3%	Inoperative (25027-000,Qty:1)
	Electrical Overstress		0.3%	Stressed (25027-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Hybrid,Buffer/Amplifier				Sources:1
	Electrical Overstress	100.0%	100.0%	Voltage Transient - Overstress (25027-000,Qty:3)
Hybrid,Clock Driver,Dual				Sources:1
	Mechanical Damage	66.7%	57.1%	Mechanically Damaged (10722-000,Qty:8)
	Latch Up	16.7%	14.3%	Latch Up-Over Voltage Transients (10722-000,Qty:2)
	Wire Failure	8.3%	7.1%	Wire Bridging to Die Edge - Lifted (10722-000,Qty:1)
	Electrical Overstress	8.3%	7.1%	Input of Chip Fused Open-External Overstress (10722-000,Qty:1)
	Induced	------	14.3%	Masking Defects (10722-000,Qty:2)
Hybrid,Detector,Under Voltage				Sources:1
	Transconductance Amp. Failure	100.0%	100.0%	Failed Output Transconductance Amplifier (10722-000,Qty:2)
Hybrid,Driver/Receiver				Sources:1
	Opened	55.6%	55.6%	Open-Overstress (10722-000,Qty:3), Blow Ground Leads-Overstress (10722-000,Qty:2)
	Electrical Overstress	44.4%	44.4%	Electrical Overstress (10722-000,Qty:4)
Hybrid,Multiplexer				Sources:1
	Stack Pointer Failure	100.0%	100.0%	Stack Pointer Does Not Increment Properly (10722-000,Qty:1)
Hybrid,Op. Amp.				Sources:1
	Output Open	75.0%	75.0%	Output Open-Open Solder joint -internal (25027-000,Qty:3)
	Output Unstable	25.0%	25.0%	Output Unstable-Intermittent Solder Connection (25027-000,Qty:1)
Hybrid,Op. Amp.,Power				Sources:1
	Opened	69.2%	69.2%	Open Conductors-Cracked Substrates (10722-000,Qty:9)
	Degraded Performance	15.4%	15.4%	Clipping Of Negative Output V < 1/2 Spec Minimum (10722-000,Qty:1), Detachment Of The Molytab From The Header (10722-000,Qty:1)
	Cracked/Fractured	7.7%	7.7%	Cracked Substrate (10722-000,Qty:1)
	Contaminated	7.7%	7.7%	Loose Conductive Particle (10722-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Hybrid, Oscillator				Sources:2
	No Output	50.0%	50.0%	No Output (Remained Low)-Internal Wire Break (10722-000,Qty:3)
	Loose	16.7%	16.7%	Damaged Die;Components Broken Loose (25027-000,Qty:1)
	Intermittent Operation	16.7%	16.7%	Intermittent-Poor Wire Bonds (25027-000,Qty:1)
	Shorted	16.7%	16.7%	Shorted Internal Coil (25027-000,Qty:1)
Hybrid, Preamp				Sources:1
	Cracked Substrate	100.0%	100.0%	Cracked Substrate-Mechanical Overstress (10722-000,Qty:2)
Hybrid, Regulator, Switching				Sources:1
	Shorted	100.0%	100.0%	Power Transistor - B-E Short-Electrical Overstress (25027-000,Qty:1)
Hybrid, Thin Film Circuit				Sources:1
	Resistor Failure	90.0%	90.0%	Internal Resistors Open (25027-000,Qty:5), Internal Resistors Out of Tolerance (25027-000,Qty:3), Misaligned Thin Film Resistors (25027-000,Qty:1)
	Metallization	10.0%	10.0%	Defective Substrate, Metal and Ceramic Voids (25027-000,Qty:1)
Hybrid, Transceiver, Dual				Sources:1
	Opened	100.0%	100.0%	Open In Substrate V- Circuit Path-Manufact. Defect (10722-000,Qty:1)
IC Bipolar				Sources:1
	Degraded Operation	84.5%	66.1%	Degraded (24995-000,Qty:823) (24995-000,Qty:10,770)
	Mechanical Failure	14.0%	10.9%	Mechanical Anomaly (24995-000,Qty:343) (24995-000,Qty:1,576)
	Shorted	0.9%	0.7%	Short (24995-000,Qty:25) (24995-000,Qty:99)
	Opened	0.6%	0.5%	Open (24995-000,Qty:14) (24995-000,Qty:73)
	Induced	------	21.8%	Functional Anomaly (24995-000,Qty:677) (24995-000,Qty:3,146)
IC Bipolar, Interface				Sources:1
	Degraded Operation	58.1%	35.6%	Degraded (24995-000,Qty:30) (24995-000,Qty:99)
	Die/Attachment Failure	22.1%	13.5%	Die (24995-000,Qty:21) (24995-000,Qty:28)
	Mechanical Failure	14.4%	8.8%	Mechanical Anomaly (24995-000,Qty:10) (24995-000,Qty:22)
	Shorted	5.4%	3.3%	Short (24995-000,Qty:1) (24995-000,Qty:11)
	Induced	------	38.7%	Functional Anomaly (24995-000,Qty:55) (24995-000,Qty:85)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
IC Bipolar, Interface, MOS				Sources:1
	Degraded Operation	37.0%	28.6%	Degraded (24995-000,Qty:1) (24995-000,Qty:9)
	Mechanical Failure	29.6%	22.9%	Mechanical Anomaly (24995-000,Qty:2) (24995-000,Qty:6)
	Shorted	18.5%	14.3%	Short (24995-000,Qty:2) (24995-000,Qty:4)
	Opened	14.8%	11.4%	Open (24995-000,Qty:2) (24995-000,Qty:2)
	Induced	------	22.9%	Functional Anomaly (24995-000,NR) (24995-000,Qty:8)
IC Bipolar, LSI				Sources:1
	Corroded	41.5%	40.5%	Corrosion (23459-008,Qty:17)
	Mobile Ions	26.8%	26.2%	Mobile Ions (23459-008,Qty:5) (23459-008,Qty:6)
	Shorted	14.6%	14.3%	Au Wire Short (23459-008,Qty:2) (23459-008,Qty:4)
	Drift	7.3%	7.1%	Parameter Drift (23459-008,Qty:1) (23459-008,Qty:2)
	Leaking	4.9%	4.8%	Leakage (23459-008,Qty:2)
	Electrical Overstress	4.9%	4.8%	EOS (23459-008,Qty:2)
	Induced	------	2.4%	Mask Defect (23459-008,Qty:1)
IC Bipolar, Memory				Sources:1
	Degraded Operation	86.2%	69.2%	Degraded (24995-000,Qty:8) (24995-000,Qty:405)
	Mechanical Failure	7.5%	6.0%	Mechanical Anomaly (24995-000,Qty:18) (24995-000,Qty:18)
	Shorted	4.0%	3.2%	Short (24995-000,Qty:4) (24995-000,Qty:15)
	Opened	2.3%	1.8%	Open (24995-000,Qty:1) (24995-000,Qty:10)
	Induced	------	19.8%	Functional Anomaly (24995-000,Qty:31) (24995-000,Qty:87)
IC Bipolar, TTL				Sources:1
	Bond/Beam Failure	45.0%	38.0%	Bonds/Beams (25031-000,37.0%) (25031-000,39.0%)
	Electrical Overstress	23.1%	19.5%	Overstress (25031-000,4.0%) (25031-000,35.0%)
	Metallization	20.1%	17.0%	Metallization (25031-000,4.0%) (25031-000,30.0%)
	Surface Defects	10.7%	9.0%	Surface Defects (25031-000,18.0%)
	Oxide Defects	1.2%	1.0%	Oxide Defects (25031-000,2.0%)
	Unknown	------	15.5%	Unknown (25031-000,9.0%) (25031-000,22.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
IC Bipolar,TTL & DDL				Sources:1
	Shorted	60.0%	60.0%	Short (24994-000,60.0%)
	Opened	40.0%	40.0%	Open (24994-000,40.0%)
	Other	------	0.0%	
	Drift		NR	Drift (24994-000,NR)
IC Bipolar,TTL,Data Selector/MUX				Sources:1
	Broken	100.0%	100.0%	Broken Leads-High Cyclic Fatigue (25027-000,Qty:17)
IC Bipolar,VLSI				Sources:1
	Degraded Operation	68.8%	33.1%	Degraded (24995-000,Qty:1) (24995-000,Qty:40) (24995-000,Qty:87)
	Opened	20.4%	9.8%	Open (24995-000,NR) (24995-000,Qty:14) (24995-000,Qty:24)
	Mechanical Failure	7.5%	3.6%	Mechanical Anomaly (24995-000,NR) (24995-000,Qty:1) (24995-000,Qty:13)
	Shorted	3.2%	1.6%	Short (24995-000,NR) (24995-000,Qty:1) (24995-000,Qty:5)
	Induced	------	51.9%	Functional Anomaly (24995-000,Qty:3) (24995-000,Qty:40) (24995-000,Qty:158)
IC Digital (Summary)				
	Opened	18.8%		
	Shorted	17.1%		
	Output Stuck High	16.3%		
	Contaminated	16.3%		
	Output Stuck Low	12.7%		
	Degraded Operation	9.8%		
	Oxide Defects	9.0%		
IC Digital				Sources:11
	Output Stuck High	22.1%	17.6%	High (24990-000,40.0%), Output High (24991-000,56.0%), Logic 1 (24992-000,45.0%)
	Output Stuck Low	21.8%	17.4%	Low (24990-000,40.0%), Output Low (24991-000,44.0%), Logic 0 (24992-000,55.0%)
	Opened	21.3%	17.0%	Open (24993-000,33.0%), Pin 16 Fused Open-Overstress (10722-000,Qty:1), Open Circuit (24997-000,3.0%), Airbridge Failure due to Electromigration (25037-000,NR)
	Broken	13.1%	10.5%	Broken Pin (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:2) (25027-000,Qty:3) (25027-000,Qty:3) (25027-000,Qty:3) (25027-000,Qty:3) (25027-000,Qty:22) (25027-000,Qty:47)
	Shorted	12.2%	9.7%	Short Hi (24993-000,33.0%), Short Low (24993-000,33.0%), Short (24997-000,11.0%)
	Degraded Operation	6.0%	4.8%	Bad Output (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:2) (25027-000,Qty:3) (25027-000,Qty:9), Electrical Stability (24417-001,NR), Change in parameters (24997-000,22.0%)
	Mechanical Failure	3.6%	2.9%	Mechanical Problem (24997-000,23.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
IC Digital (continued)				
	Induced	------	6.9%	Supplier Test Procedures or Errors (25035-001,3.8%), Supplier Test Procedures (25035-001,4.6%) (25035-001,6.9%) (25035-001,16.7%) (25035-001,16.7%) (25035-001,20.0%) (25035-001,26.7%) (25035-001,27.1%) (25035-001,31.4%) (25035-001,34.2%) (25035-001,47.3%), Bulk Silicon Defects (24417-001,NR), Functional Anomalies (24997-000,41.0%)
	Unknown	------	0.7%	Unknown (24997-000,NR) (25035-001,2.0%) (25035-001,2.3%) (25035-001,3.6%) (25035-001,3.8%) (25035-001,3.9%) (25035-001,4.4%) (25035-001,7.1%) (25035-001,7.5%) (25035-001,9.1%) (25035-001,9.9%) (25035-001,10.5%) (25035-001,10.8%) (25035-001,25.0%)
	Other (<%4)	------	12.5%	
	No Output		2.5%	Loss Of Logic (24990-000,20.0%)
	Oxide Defects		2.5%	Oxide/Diffusion Faults (25035-001,7.7%) (25035-001,15.4%), Diffusion/Oxide Defects (25035-001,1.8%) (25035-001,9.3%) (25035-001,10.8%) (25035-001,12.8%) (25035-001,15.8%) (25035-001,16.4%) (25035-001,17.4%) (25035-001,19.8%) (25035-001,20.0%) (25035-001,22.5%) (25035-001,28.8%) (25035-001,29.4%) (25035-001,29.5%) (25035-001,31.1%) (25035-001,46.9%)
	Contaminated		2.3%	Contamination (25035-001,2.5%) (25035-001,4.4%) (25035-001,4.7%) (25035-001,7.9%) (25035-001,8.7%) (25035-001,9.1%) (25035-001,10.9%) (25035-001,13.5%) (25035-001,14.6%) (25035-001,16.3%) (25035-001,19.7%) (25035-001,21.5%) (25035-001,22.7%) (25035-001,24.1%) (25035-001,25.2%) (25035-001,50.0%) (25035-001,61.5%), Contamination or Corrosion (24417-001,NR)
	Wire Bond Failure		2.0%	Wiring Bonding (25035-001,1.8%) (25035-001,3.0%) (25035-001,3.9%) (25035-001,11.7%) (25035-001,12.5%) (25035-001,12.9%) (25035-001,13.2%) (25035-001,13.4%) (25035-001,13.6%) (25035-001,18.9%) (25035-001,21.1%) (25035-001,23.4%) (25035-001,25.0%) (25035-001,33.9%) (25035-001,58.2%), Wire Bonding Defects (24417-001,NR)
	Package/Related Failure		1.0%	Package (25035-001,2.0%) (25035-001,2.6%) (25035-001,3.0%) (25035-001,3.7%) (25035-001,3.8%) (25035-001,4.6%) (25035-001,5.5%) (25035-001,6.1%) (25035-001,6.7%) (25035-001,9.1%) (25035-001,9.7%) (25035-001,10.8%) (25035-001,14.1%) (25035-001,17.6%) (25035-001,30.0%), Package Defects (24417-001,NR)
	Metallization		0.9%	Metalization (25035-001,2.2%) (25035-001,2.7%) (25035-001,3.0%) (25035-001,3.1%) (25035-001,3.6%) (25035-001,3.9%) (25035-001,4.0%) (25035-001,4.6%) (25035-001,4.7%) (25035-001,5.0%) (25035-001,7.9%) (25035-001,8.5%) (25035-001,9.1%) (25035-001,9.9%) (25035-001,11.6%) (25035-001,15.4%) (25035-001,27.8%), Die Metallization Defects (24417-001,NR)
	Cracked/Fractured		0.6%	Cracked Die (25035-001,1.5%) (25035-001,1.8%) (25035-001,1.8%) (25035-001,2.0%) (25035-001,3.3%) (25035-001,6.7%) (25035-001,18.2%) (25035-001,44.4%), Cracked Dice or Substrates (24417-001,NR)
	Die/Attachment Failure		0.6%	Die Attachment (25035-001,1.1%) (25035-001,1.5%) (25035-001,1.8%) (25035-001,2.2%) (25035-001,2.3%) (25035-001,3.9%) (25035-001,4.4%) (25035-001,4.5%) (25035-001,5.4%) (25035-001,11.2%) (25035-001,11.3%) (25035-001,12.5%) (25035-001,15.4%)
	Bond/Beam Failure		0.2%	Bonding (25035-001,7.7%) (25035-001,23.1%)
	Lead Defects		NR	External Lead Defects (24417-001,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
IC Digital (continued)				
Other (continued)				
	Seal/Gasket Failure		NR	Hermetic Seal Defects (24417-001,NR)
	Resistor & Capacitor Chip Defects		NR	Resistor and Capacitor Chip Defects (24417-001,NR)
	Surface Defects		NR	Silicon Surface Defects (24417-001,NR)
	Thin Film Defects		NR	Substrate Thin Film Defects (24417-001,NR)
	Substrate Bonding Defects		NR	Substrate Bonding Defects (24417-001,NR)
	Transistor Failure		NR	Internal Field Effect Transistor Failure (25037-000,NR)
	Resistor Failure		NR	Internal Resistor Failure (25037-000,NR)
	Capacitor Failure		NR	Internal Capacitor Failure (25037-000,NR)
	Worn Linings		NR	Internal Inductor Failure (25037-000,NR)
	Backgating Isolation Effects		NR	Backgating-Isolation Effects (25037-000,NR)
IC Digital,Array,PAL				Sources:1
	Degraded Operation	80.0%	66.7%	Failed To Operate To Truth Table (10722-000,Qty:1), Data Output At Q2 Pin Changed To A Divide By 4 (10722-000,Qty:1), Erratic (10722-000,Qty:1), Incorrect Output (10722-000,Qty:1)
	Shorted	20.0%	16.7%	Short-Oxide Pin Hole Short Metallization to Ground (10722-000,Qty:1)
	Unknown	------	16.7%	Unknown (10722-000,Qty:1)
IC Digital,Bipolar				Sources:1
	Output Stuck Low	28.0%	28.0%	Output Stays Low (25015-000,28.0%)
	Output Stuck High	28.0%	28.0%	Output Stays High (25015-000,28.0%)
	Output Open	22.0%	22.0%	Output Open (25015-000,22.0%)
	Input Open	22.0%	22.0%	Input Open (25015-000,22.0%)
IC Digital,Bipolar,Memory				Sources:1
	Degraded Operation	79.0%	79.0%	Slow (25015-000,79.0%)
	Data Bit Loss	21.0%	21.0%	Data Bit Loss (25015-000,21.0%)
IC Digital,Buffer,CMOS,Quad				Sources:1
	Induced	------	100.0%	The True Output And Its Complement At Same Level (10722-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
IC Digital,CMOS				Sources:2
	Degraded Output	50.0%	25.0%	Degraded Output-ESD Damage (25001-000,Qty:2)
	Shorted	50.0%	25.0%	Short-ESD Damage (25001-000,Qty:2)
	Induced	------	50.0%	VDD Leads Melted-SCR Latchup (10722-000,Qty:2)
IC Digital,CMOS,Memory				Sources:3
	Electrical Overstress	24.8%	22.3%	Electrical Overstress (23935-000,NR) (23935-000,NR) (23935-000,2.0%) (23935-000,20.0%), Overstress (25031-000,60.0%)
	Opened	18.5%	16.7%	Open Metal Line (25001-000,Qty:1)
	Output Stuck Low	18.5%	16.7%	Data Output at Address E2C(hex) Stuck at '0' (25001-000,Qty:1)
	Dielectric Breakdown	17.4%	15.6%	Dielectric Breakdown (23935-000,NR) (23935-000,NR) (23935-000,0.1%) (23935-000,2.0%) (23935-000,50.0%) (23935-000,98.0%)
	Metallization	13.0%	11.7%	Electromigration (23935-000,13.0%), Metal (23935-000,Qty:3) (23935-000,Qty:6) (23935-000,Qty:62), Metallization (25031-000,34.0%)
	Drift	4.4%	4.0%	Parametric Drift (23935-000,NR) (23935-000,NR) (23935-000,0.1%) (23935-000,38.0%)
	Contaminated	3.4%	3.1%	Contamination (23935-000,Qty:5) (23935-000,Qty:603)
	Unknown	------	4.4%	Unknown (23935-000,NR) (23935-000,NR) (23935-000,Qty:4) (23935-000,Qty:21) (23935-000,Qty:54) (23935-000,Qty:789) (23935-000,19.0%)
	Other (<%3)	------	5.7%	
	Oxide Defects		1.7%	Oxide (23935-000,Qty:7) (23935-000,Qty:274), Oxide Defects (25031-000,1.0%)
	Bond/Beam Failure		1.7%	Bonds/Beams (25031-000,5.0%)
	Package/Related Failure		1.2%	Package Related (23935-000,NR) (23935-000,NR) (23935-000,0.1%) (23935-000,20.0%) (23935-000,28.0%), Package (23935-000,Qty:24) (23935-000,Qty:214)
	Latch Up		1.1%	Latch Up (23935-000,NR) (23935-000,NR) (23935-000,0.1%) (23935-000,10.0%)
	Output Stuck High		NR	Latch Up (23935-000,NR)
	Electromigration		NR	Electromigration (23935-000,NR)
IC Digital,CMOS,RAM				Sources:1
	Intermittent Operation	100.0%	100.0%	Intermittently Latched High During Vibration (10722-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
IC Digital,CMOS,SSI/MSI				Sources:2
	Erroneous Output	42.1%	40.0%	Not Addressing Properly-Overstressed - ESD (10722-000,Qty:7), Erratic Or Erroneous Output-ESD Induced Overstress (10722-000,Qty:1)
	Opened	35.1%	33.3%	Open (2 channels, pins 14 & 15) (25001-000,Qty:1), Open -Discontinuity in Tungsten Thin Film Trace (25001-000,Qty:1)
	Intermittent Operation	17.5%	16.7%	Electrically Intermittant-Cracked Ceramic Body (25001-000,Qty:1)
	No Output	5.3%	5.0%	No Output-Externally Induced Overstress (10722-000,Qty:1)
	Induced	------	5.0%	Low Level-Overstress (10722-000,Qty:1)
IC Digital,Converter,A/D				Sources:2
	Shorted	50.0%	50.0%	Short-Insufficient Die Attach (10722-000,Qty:1)
	Out of Spec.	50.0%	50.0%	Out of Spec (25027-000,Qty:6)
IC Digital,Converter,D/A				Sources:1
	Erroneous Output	100.0%	100.0%	Erroneous Digital Data (10722-000,Qty:1)
IC Digital,FET,Switch				Sources:1
	Shorted	100.0%	100.0%	FET Analog Switch Shorted-Power Reversal (10722-000,Qty:1)
IC Digital,HMOS,Memory				Sources:1
	Contaminated	78.9%	63.5%	Contamination (25032-000,60.0%) (25032-000,67.0%)
	Oxide Defects	21.1%	17.0%	Oxide Defects (25032-000,11.0%) (25032-000,23.0%)
	Induced	------	19.5%	Silicon Defects (25032-000,17.0%) (25032-000,22.0%)
IC Digital,MOS				Sources:1
	Output Open	35.6%	35.6%	Output Open (25015-000,36.0%)
	Input Open	35.6%	35.6%	Input Open (25015-000,36.0%)
	Supply Open	11.9%	11.9%	Supply Open (25015-000,12.0%)
	Output Stuck Low	8.9%	8.9%	Output Low (25015-000,9.0%)
	Output Stuck High	7.9%	7.9%	Output High (25015-000,8.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
IC Digital,MOS,Memory				Sources:3
	Data Bit Loss	31.8%	26.7%	Data Bit Loss (25015-000,80.0%)
	Shorted	24.7%	20.7%	Short (24994-000,60.0%) (24995-000,Qty:9) (24995-000,Qty:19) (24995-000,Qty:161)
	Opened	21.3%	17.8%	Open (24994-000,40.0%) (24995-000,Qty:7) (24995-000,Qty:36) (24995-000,Qty:94), Input Open (25015-000,6.0%), Output Open (25015-000,6.0%)
	Degraded Operation	16.5%	13.8%	Degraded (24995-000,Qty:276) (24995-000,Qty:539) (24995-000,Qty:2,169), Slow (25015-000,8.0%)
	Mechanical Failure	5.6%	4.7%	Mechanical Anomaly (24995-000,Qty:13) (24995-000,Qty:604) (24995-000,Qty:645)
	Induced	------	16.3%	Functional Anomaly (24995-000,Qty:298) (24995-000,Qty:310) (24995-000,Qty:3,750)
	Other	------	0.0%	
	Drift		NR	Drift (24994-000,NR)
IC Digital,Memory				Sources:1
	Oxide Defects	54.7%	52.0%	Oxide Defects (25031-000,51.0%) (25031-000,53.0%)
	Bond/Beam Failure	17.9%	17.0%	Bonds/Beams (25031-000,7.0%) (25031-000,27.0%)
	Electrical Overstress	13.7%	13.0%	Overstress (25031-000,9.0%) (25031-000,17.0%)
	Surface Defects	12.6%	12.0%	Surface Defects (25031-000,24.0%)
	Metallization	1.1%	1.0%	Metallization (25031-000,2.0%)
	Unknown	------	5.0%	Unknown (25031-000,1.0%) (25031-000,9.0%)
IC Digital,Memory,Chip				Sources:1
	Single Cell	30.0%	30.0%	Single Cell (24250-037,30.0%)
	Column	25.0%	25.0%	Column (24250-037,25.0%)
	Row	25.0%	25.0%	Row (24250-037,25.0%)
	Full Chip	10.0%	10.0%	Full Chip (24250-037,10.0%)
	Row & Column	10.0%	10.0%	Row & Column (24250-037,10.0%)
IC Digital,Memory,EAROM				Sources:1
	Contaminated	62.5%	62.5%	Reversable Failure -Internal Contamination (25027-000,Qty:5)
	Output Stuck Low	12.5%	12.5%	Address Location Stuck Low (25027-000,Qty:1)
	Improper Memory Patterns	12.5%	12.5%	Improper Memory Patterns (25027-000,Qty:1)
	High Leakage Current	12.5%	12.5%	High Leakge Current (Vee) (25027-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
IC Digital,Memory,EPROM				Sources:2
	Opened	78.6%	78.6%	Open Circuits (10722-000,Qty:1), Open Vcc/Ground-Static Discharge Damage (25029-000,Qty:3), Vpp Open and 4 Open Address Lines-ESD Damage (25029-000,Qty:1)
	Degraded Output	21.4%	21.4%	Degraded Performance Parameters-ESD Damage (25029-000,Qty:3)
IC Digital,Memory,HCMOS				Sources:1
	Drift	42.9%	42.9%	Parameter Drift (23459-008,Qty:9)
	Leaking	19.0%	19.0%	Leakage (23459-008,Qty:2) (23459-008,Qty:2)
	Mobile Ions	9.5%	9.5%	Mobile Ions (23459-008,Qty:2)
	Diffusion Failure	9.5%	9.5%	Diffusion Failure (23459-008,Qty:2)
	Electrical Overstress	9.5%	9.5%	ESD (23459-008,Qty:2)
	Chip Out	4.8%	4.8%	Chip Out (23459-008,Qty:1)
	Contaminated	4.8%	4.8%	Contamination (23459-008,Qty:1)
IC Digital,Memory,MOS				Sources:1
	Degraded Operation	45.5%	40.3%	Degraded (24995-000,Qty:7) (24995-000,Qty:18)
	Shorted	34.5%	30.6%	Short (24995-000,NR) (24995-000,Qty:19)
	Mechanical Failure	10.9%	9.7%	Mechanical Anomaly (24995-000,NR) (24995-000,Qty:6)
	Opened	9.1%	8.1%	Open (24995-000,NR) (24995-000,Qty:5)
	Induced	------	11.3%	Functional Anomaly (24995-000,Qty:2) (24995-000,Qty:5)
IC Digital,Memory,PROM				Sources:1
	Degraded Operation	51.7%	31.0%	Parameter change (24997-000,31.0%)
	Shorted	18.3%	11.0%	Short (24997-000,11.0%)
	Opened	16.7%	10.0%	Open Circuit (24997-000,10.0%)
	Mechanical Failure	13.3%	8.0%	Mechanical defects (24997-000,8.0%)
	Induced	------	40.0%	Functional Anomaly (24997-000,40.0%)
IC Digital,Memory,RAM				Sources:4
	No Operation	26.2%	25.0%	Would Not Operate at Cold Temperatures (25027-000,Qty:50)
	Degraded Operation	17.3%	16.5%	Parameter changes (24997-000,69.5%)
	Shorted	16.5%	15.7%	Short (24994-000,60.0%) (24994-000,60.0%) (24997-000,3.0%)
	Opened	13.8%	13.2%	Open (24994-000,40.0%) (24994-000,40.0%), Open Circuit (24997-000,13.5%)
	Erroneous Output	13.1%	12.5%	Incorrect Data Output (10722-000,Qty:2)
	Contaminated	6.5%	6.3%	Failed PIND Test-Conductive Particles Found Inside (10722-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
IC Digital,Memory,RAM (continued)				
	Broken	6.5%	6.3%	Surface Mount Chips Fractured At Mounting (10722-000,Qty:1)
	Induced	------	4.0%	Functional faults (24997-000,17.0%)
	Other (<%2)	------	0.5%	
	Mechanical Failure		0.5%	Mechanical faults (24997-000,2.0%)
	Drift		NR	Drift (24994-000,NR) (24994-000,NR)
IC Digital,Memory,RAM,Static				Sources:1
	Output Stuck High	50.0%	50.0%	Tow Addresses LSB Appears Locked High (10722-000,Qty:1), Two Pins Locked High-Corrosion (10722-000,Qty:1), Locked In A 1 State-Corroded Open Internal Lead (10722-000,Qty:1)
	Erroneous Output	33.3%	33.3%	Output Bits Would Toggle From 0's to 1's (10722-000,Qty:1), Address Reads Incorrect Data - LSB Appears Locked (10722-000,Qty:1)
	Opened	16.7%	16.7%	Open Circuit-Corrosion Found Inside (10722-000,Qty:1)
IC Digital,Memory,UVEPROM				Sources:1
	Open Bit Locations	94.2%	94.2%	Open bit locations (unaccessable to read or write) (25027-000,Qty:65)
	Stress Cracking of Die	5.8%	5.8%	Memory Would Not Erase-Stress Cracking of Die (25027-000,Qty:4)
IC Digital,Memory,UVPROM				Sources:1
	Data Loss	50.0%	50.0%	Lose Data With Time (10722-000,Qty:1)
	Shorted	50.0%	50.0%	Address Lines Shorted-Dendritic Metallic Growth (10722-000,Qty:1)
IC Digital,Memory,VMOS				Sources:1
	Contaminated	77.8%	75.0%	Ionic Contamination (25033-000,75.0%)
	Oxide Defects	20.7%	20.0%	Oxide (25033-000,20.0%)
	Diode Failure	1.5%	1.4%	Diode Leakage (25033-000,1.4%)
	Unknown	------	3.6%	Unknown (25033-000,0.2%) (25033-000,1.0%) (25033-000,2.4%)
IC Digital,Memory/LSI				Sources:1
	Die/Attachment Failure	75.5%	75.5%	Die - Metallization (25034-000,54.0%), Die - Oxide/Dielectric (25034-000,16.0%), Die - Glassivation (25034-000,2.2%), Die - Surface (25034-000,2.2%), Die - Bulk Aspects (25034-000,0.7%)
	Package/Related Failure	14.8%	14.8%	Package - Die Attach Bond (25034-000,8.0%), Package - Lead Frame/External Leads (25034-000,5.2%), Package - Body (25034-000,1.5%)
	Wire Bond Failure	9.7%	9.7%	Interconnects - Wirebond (25034-000,6.7%), Interconnects - Wire (25034-000,3.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
IC Digital,Microprocessor				Sources:2
	High Leakage Current	41.7%	41.7%	Excessive Current Draw-Damaged Ground Circuit Meta (10722-000,Qty:2), Three-State Leakage Current-Electrical Overstress (10722-000,Qty:3)
	Die/Attachment Failure	33.3%	33.3%	Pind Failures-Loose Die Attach (10722-000,Qty:4)
	Output Stuck Low	16.7%	16.7%	Output Shorted To Gnd-Overstress (10722-000,Qty:2)
	Shorted	8.3%	8.3%	Short-Surface Scratch Smeared Metallization (10722-000,Qty:1)
	Other	------	0.0%	
	Metallization		NR	Metallization Defects (24417-001,NR)
	Contaminated		NR	Contamination Under Metal Runs/Electromigration (24417-001,NR), Contamination of Oxide Layer/Pin Holes in Oxide (24417-001,NR)
	Cracked/Fractured		NR	Microcracks in Metal Runs (24417-001,NR)
	Oxide Defects		NR	Oxide Defects (24417-001,NR)
IC Digital,Quad,True/Comp Buffr				Sources:1
	Opened	100.0%	100.0%	Open At Output Pin 1-External Overstress (10722-000,Qty:1)
IC Digital,SSI/MSI				Sources:7
	Output Stuck High	38.4%	29.1%	Output Stuck High (25001-000,Qty:1), .2 Kohm short from output to Vcc-ESD Damage (25001-000,Qty:1), Node Stuck High-Overstress - High Current Transien (25027-000,Qty:7), Output Node Stuck High-Electrical Overstress (25027-000,Qty:57), Logic Low Level At Outputs Are High (Approx 1 V) (10722-000,Qty:7), Pin 5 Locked High-External Overstress > 5.0 Volts (10722-000,Qty:1), All Outputs Binary 1 [High] State-Vcc Line Fused (10722-000,Qty:1)
	Opened	18.7%	14.2%	Open (24992-000,25.0%), Pin #1 Open-Cracked Package at Pin #1 (25001-000,Qty:1), Output Burned Open-Overstress (10722-000,Qty:1), Open Circuit At Output Pin 2 (10722-000,Qty:3), Open Circuit At Pin 10 (10722-000,Qty:1), Open Circuit At IC Pin 10-External Overstress (10722-000,Qty:1), Pins 6 And 24 Open-Electrical Overstress (10722-000,Qty:1), Open-Overstress (10722-000,Qty:1)
	Drift	13.2%	10.0%	Drift (24992-000,50.0%)
	Shorted	12.0%	9.1%	Short (24992-000,25.0%), VCC Was Shorted To Ground-Electrical Overstress (10722-000,Qty:3), Shorted From Pin 15 (A2) To Pin 3 (V-)-EOS/ESD (10722-000,Qty:6), Short To Ground (Pin 12) Of Input Pins 10 & 11 (10722-000,Qty:1), Outputs Associted W/12 & 13 Resistive/Shorted (10722-000,Qty:1), Channel Shorts B-E On Both Input Trans.-Overstress (10722-000,Qty:1), Output Transistors Shorted & Gnd Metal Fused Open (10722-000,Qty:1)
	Electrical Overstress	7.7%	5.9%	Electrical Overstress (25027-000,Qty:29)
	Cracked/Fractured	7.4%	5.6%	Fractured Lids (10722-000,Qty:18)
	Erroneous Output	2.5%	1.9%	Outputting Erroneous Data-External Overstress (10722-000,Qty:1), PIND Failure-Organic Fiber (10722-000,Qty:1), Failing Outputs-Excess Energy Dissipation

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
IC Digital, SSI/MSI (continued)				
Erroneous Output (continued)				
				(10722-000,Qty:3), Failed To Produce Correct Data-VCC Line Fused Open (10722-000,Qty:1)
	Unknown	------	18.1%	Unknown (23546-001,6.9%) (23546-001,13.5%) (23546-001,15.6%) (23546-001,21.8%) (23546-001,24.5%) (23546-001,64.4%) (24996-000,NR) (24996-000,NR) (24996-000,NR) (24997-000,NR) (24997-000,NR) (24997-000,NR)
	Induced	------	0.6%	Degradation Of 6 Of 8 Outputs-External Overstress (10722-000,Qty:1), Vcc Lead, Internal, Fused Open-Improper Socket Ins (10722-000,Qty:1)
	Other (<4%3)	------	5.6%	
	Output Stuck Low		1.6%	Outputs Were Locked In A Low State-Ext. Overstress (10722-000,Qty:2), Shorts Between Output Pins 14, 16, 18, And Ground (10722-000,Qty:1), Outputs Stuck Low-Electrical Overstress (10722-000,Qty:2)
	No Output		1.5%	Incorrect or No Output-Electrical Overstress (25027-000,Qty:6), Device Inoperative-High Voltage Overstress (10722-000,Qty:1)
	Package/Related Failure		1.1%	VAC Leak (23546-001,4.1%) (23546-001,5.0%)
	Failling VSWR		0.8%	Failing VSWR (23546-001,2.5%) (23546-001,4.1%)
	Output Leaky to Ground		0.3%	Output Pin 8 Leaky To Gnd (10722-000,Qty:1)
	Intermittent Operation		0.3%	Intermittent Latch Up (10722-000,Qty:1)
	Connector Failure		NR	Connector Failing (24996-000,NR), Connector failure (24997-000,NR)
IC Linear (Summary)				
	Degraded Operation	47.8%		
	No Output	31.8%		
	Output Stuck Low	9.5%		
	Shorted	6.4%		
	Intermittent Operation	4.5%		
IC Linear				Sources:5
	Degraded Operation	50.1%	46.8%	Degraded (24995-000,Qty:41) (24995-000,Qty:544), Bad Output (25027-000,Qty:1) (25027-000,Qty:3), Change in parameters -degraded- (24997-000,62.0%), Functional Anomalies (24997-000,24.0%)
	No Output	40.7%	38.0%	High Or Low (24990-000,10.0%), No Output (24990-000,80.0%), High Output (25015,32.0%), Low Output (25015,68.0%)
	Shorted	3.1%	2.9%	Short (24995-000,Qty:13) (24995-000,Qty:89) (24997-000,6.0%)
	Opened	2.3%	2.1%	Open (24995-000,Qty:12) (24995-000,Qty:69), Open Circuit (24997-000,4.0%)
	Drift	2.1%	2.0%	Drift (24990-000,10.0%)
	Mechanical Failure	1.7%	1.6%	Mechanical Anomaly (24995-000,Qty:4) (24995-000,Qty:59), Mechanical faults (24997-000,3.0%)
	Induced	------	6.6%	Functional Anomaly (24995-000,Qty:80) (24995-000,Qty:326)

Part Desc. / Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
IC Linear,Comparator			Sources:1
Opened	100.0%	100.0%	Open V+ Line-Electrical Overstress (10722-000,Qty:1), V+ (Pin 3) Open To All Circuitry-Elect Overstress (10722-000,Qty:1)
IC Linear,Line Driver			Sources:1
Output Stuck Low	58.0%	58.0%	Output Stuck Low (25015-000,58.0%)
Input Open	16.0%	16.0%	Input Open (25015-000,16.0%)
Output Open	16.0%	16.0%	Output Open (25015-000,16.0%)
Supply Open	10.0%	10.0%	Supply Open (25015-000,10.0%)
IC Linear,Op. Amp.			Sources:3
Degraded Operation	57.0%	53.6%	Output Voltage Instability (25001-000,Qty:1), Clipped Output Waveform-Electrical Overstress (25027-000,Qty:16), Incorrect AGC Output-Silver Particles Bridging C1 (10722-000,Qty:2)
Intermittent Operation	13.1%	12.3%	Intermittent Failure (25027-000,Qty:10), Intermittent-Presence Of A Mobile Particle (10722-000,Qty:1)
Shorted	9.7%	9.1%	PIND Failure (10722-000,Qty:4), Channel Short From +VCC&-VCC-Electrical Overstress (10722-000,Qty:1), Pin 5 Short To Case-Overstress (10722-000,Qty:1)
Electrical Overstress	5.7%	5.4%	Overstress - Current Transients (25027-000,Qty:5)
Resistor Failure	4.8%	4.5%	Resistor Net Value Shift-Dent In Met/Film Resistor (10722-000,Qty:3)
Degraded Output	4.8%	4.5%	Functionally Discrepant (10722-000,Qty:3)
Drift	4.8%	4.5%	DC Offset Failures-Damaged Metallization (10722-000,Qty:3)
Other (<%5)	------	6.1%	
No Output		3.0%	No Output-External Voltage Overstress (10722-000,Qty:1), No Response Noted At Output Pin-Elect Overstress (10722-000,Qty:1)
Bond/Beam Failure		1.5%	Lifted Bond (10722-000,Qty:1)
Output Stuck High		1.5%	Output Locked At Positive Rail-Pin 9 Overstressed (10722-000,Qty:1)
IC Linear,Op. Amp.,Power			Sources:1
Die/Attachment Failure	100.0%	100.0%	Lifted Substrates (10722-000,Qty:2)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
IC Linear,Op. Amp.,Quad				Sources:2
	Degraded Output	50.0%	50.0%	Low Slew Rate-Poor Die Attach (25027-000,Qty:1)
	No Operation	31.3%	31.3%	Nonfunctional-Overstress Current (10722-000,Qty:5)
	Shorted	12.5%	12.5%	Shorted V+ To V--Overstress (10722-000,Qty:1), Resistive Short In Op Amplifier (10722-000,Qty:1)
	Opened	6.3%	6.3%	Open In The V+ Line (10722-000,Qty:1)
IC Linear,Regulator,Voltage				Sources:1
	Induced	------	100.0%	Emitter Leads Of Control Transistors Fused (10722-000,Qty:3)
IC Linear,Switch				Sources:1
	Wire Bond Failure	50.0%	50.0%	Opens At Various Internal Leadwire Bonds (10722-000,Qty:1)
	Switch Failure	50.0%	50.0%	Three Of The Four Switches Were Inoperative (10722-000,Qty:1)
IC Linear,Switch,Quad				Sources:1
	Opened	50.0%	50.0%	Open Circuit-External Overstress (10722-000,Qty:1)
	Switch Failure	50.0%	50.0%	Switch 3 (Pin 9) Was Not Functional (10722-000,Qty:1)
IC Linear,Voltage Follower				Sources:1
	Degraded Operation	100.0%	100.0%	Output Of The Device Was Abnormal (10722-000,Qty:1)
IC Linear,Voltage Reference,Precision				Sources:1
	Extraneous Bond	100.0%	100.0%	PIND Failure-Loose, Extraneous Bond (10722-000,Qty:2)
IC Linear,Voltage Regulator				Sources:3
	Shorted	75.0%	50.0%	Short-Bond "toe" Overhang (25027-000,Qty:1) (25027-000,Qty:2)
	Electrical Overstress	25.0%	16.7%	External Overstress (10722-000,Qty:1)
	Induced	------	33.3%	Inverting Degraded-Externally Induced Overstress (10722-000,Qty:2)
Igniter,Explosive Squib				Sources:1
	Shorted	44.5%	44.5%	Short (24992-000,44.5%)
	Cracked/Fractured	33.3%	33.3%	Crack (24992-000,33.3%)
	Opened	11.1%	11.1%	Open (24992-000,11.1%)
	Leaking	11.1%	11.1%	Leak (24992-000,11.1%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Indicator				Sources:2
	Out of Adjustment	47.9%	20.8%	Out of Adjustment (20609-000,Qty:2,420) (23038-001,Qty:5)
	Worn	12.3%	5.3%	Worn Excessively (23038-001,Qty:6), Worn Out (20609-000,Qty:251)
	Binding/Sticking	10.2%	4.4%	Binding/Seized Frict (23038-001,Qty:2), Binding (20609-000,Qty:440)
	Incorrect Feedback	8.1%	3.5%	Feedback Incorrect (23038-001,Qty:6)
	Spurious/False Operation	8.0%	3.5%	Faulty Reading (23038-001,Qty:3), Erratic (20609-000,Qty:236)
	Out of Spec.	6.7%	2.9%	Out of Tolerance (20609-000,Qty:396)
	Excessive Vibration	6.7%	2.9%	Excessive Vibration (23038-001,Qty:5)
	Unknown	------	40.6%	Unknown (20609-000,Qty:2,826) (23038-001,Qty:34)
	Induced	------	1.3%	Improper Adjustment (23038-001,Qty:1), Miswired (23038-001,Qty:1), Burned (20609-000,Qty:14)
	Other (<%6)	------	14.8%	
	No Output		2.3%	No Output (23038-001,Qty:4)
	Incorrect Voltage		1.7%	Incorrect Voltage (23038-001,Qty:3)
	Oscillating		1.7%	Oscillation (23038-001,Qty:3)
	Loss of Control		1.7%	Control Inoperative (23038-001,Qty:3)
	Broken		1.5%	Broken (20609-000,Qty:43) (23038-001,Qty:2)
	Improper Output		1.2%	Improper Source Output (23038-001,Qty:1), Pressure Incorrect (23038-001,Qty:1)
	Cracked/Fractured		0.8%	Cracked/Fractured (20609-000,Qty:114)
	Collapsed		0.6%	Pinched/Flat/Collaps (23038-001,Qty:1)
	Burred		0.6%	Burred (23038-001,Qty:1)
	Change in Resistance		0.6%	Resistance High (23038-001,Qty:1)
	Corroded		0.6%	Corroded (23038-001,Qty:1)
	Drift		0.6%	Fluctuates/Unstable (23038-001,Qty:1)
	Out of Balance		0.6%	UnBalanced (23038-001,Qty:1)
	Leaking		0.1%	Leaking (20609-000,Qty:14)
	Shorted		<0.1%	Short (20609-000,Qty:13)
	Stripped		<0.1%	Stripped (20609-000,Qty:4)
	Opened		<0.1%	Opened (20609-000,Qty:2)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Indicator,Fault Ball				Sources:1
	Open Wire	70.0%	70.0%	Internal Wiring Open (10722-000,Qty:1), Open Wires And Slot Damage-Vibration Fatigue (10722-000,Qty:6)
	Binding/Sticking	30.0%	30.0%	Cap Sticking When Reset-Lack Of Lub. & Organic Con (10722-000,Qty:2), Cap Sticking (10722-000,Qty:1)
Indicator,Fault Locating				Sources:1
	Opened	75.0%	66.7%	Open Circuit-Tensile Failure (10722-000,Qty:3), Open Winding (10722-000,Qty:2), Open Winding-Tensile Failure (10722-000,Qty:1)
	Intermittent Operation	25.0%	22.2%	Ind. Switched States-Misalignment of Reset Magnet (10722-000,Qty:2)
	Unknown	------	11.1%	Unknown (10722-000,Qty:1)
Indicator,Level Measurement				Sources:1
	Unknown	------	<0.1%	Unknown (24996-000,NR)
	Other	------	100.0%	
	Erroneous Readings		NR	Erroneous Readings (24996-000,NR)
	Degraded Operation		NR	Failure to Indicate (24996-000,NR)
	Loss of Control		NR	Control Circuit Fail (24996-000,NR)
Indicator,Pressure Measurement				Sources:1
	Unknown	------	<0.1%	Unknown (24996-000,NR)
	Other	------	100.0%	
	Sensors and Transducers Failure		NR	Sensors and Transducers (24996-000,NR)
	Transmitter Failure		NR	Transmitters (24996-000,NR)
	Switch Failure		NR	Control Switches (24996-000,NR)
Indicator,Rate of Flow				Sources:1
	Erroneous Output	77.8%	73.7%	Failure to Indicate (24996-000,30.0%), Erroneous Readings (24996-000,40.0%)
	Loss of Control	22.2%	21.1%	Control Circuit Fail (24996-000,20.0%)
	Unknown	------	5.3%	Unknown (24996-000,5.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Injector				Sources:1
	Corroded	87.5%	87.5%	Corroded (24992-000,87.5%)
	Deformed	7.5%	7.5%	Deform (24992-000,7.5%)
	Cracked/Fractured	5.0%	5.0%	Fracture - Burst (24992-000,5.0%)
Inner Tube				Sources:1
	Leaking	54.8%	52.0%	Cracked/Split-Leaking Air (25101-000,Qty:1), Leaking Air (25101-000,Qty:1) (25101-000,Qty:4), Overheated - Leaking Air (25101-000,Qty:4), Part Struck/Damaged - Leaking air (25101-000,Qty:30), Stolen - Leaking Air (25101-000,Qty:1), Unknown - Leaking Air (25101-000,Qty:5), Vibration - Leaking Air (25101-000,Qty:2), Part Struck/Damaged - Leaking Air (25101-000,Qty:3)
	Cut/Scarred/Punctured	33.3%	31.6%	Cut-Leaking Air (25101-000,Qty:1) (25101-000,Qty:24), Cut-Punctured (25101-000,Qty:1), Cut-Cut/Scarred (25101-000,Qty:1), Punctured (25101-000,Qty:3), Unknown - Cut/Scarred (25101-000,Qty:1)
	Aged/Deteriorated	10.8%	10.2%	Deteriorated/Aged - Leaking Air (25101-000,Qty:9), Deteriorated/Aged - Deteriorated (25101-000,Qty:1)
	Bent/Dented/Warped	1.1%	1.0%	Collapsed/Bent (25101-000,Qty:1)
	Induced	------	5.1%	Improper Installation - Cut/Scarred (25101-000,Qty:2), Improper Installation - Leaking Air (25101-000,Qty:2), Abnormal Operation (25101-000,Qty:1)
Insulator				Sources:1
	Aged/Deteriorated	50.0%	50.0%	Deterioration Of Plastic Material (24993-000,50.0%)
	Broken	50.0%	50.0%	Mechanical Breakage (24993-000,50.0%)
Isolator,Vibration,Rubber				Sources:1
	Aged/Deteriorated	100.0%	85.0%	Material Deterioration (24993-000,85.0%)
	Unknown	------	15.0%	Unknown (24993-000,15.0%)
Isolator,Vibration,Spring				Sources:1
	Spring Failure	100.0%	5.0%	Spring Fatigue (24993-000,5.0%)
	Induced	------	80.0%	Degradation Of Damping Medium (24993-000,80.0%)
	Unknown	------	15.0%	Unknown (24993-000,15.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Joint Mechanical,Universal				Sources:1
	Broken	69.0%	41.4%	Broken/Damaged (25101-000,Qty:27), Broken/Separated - Broken/Damaged (25101-000,Qty:2)
	Worn	23.8%	14.3%	Worn - Inop/Unserviceable (25101-000,Qty:1) (25101-000,Qty:1), Worn - Excessive Play (25101-000,Qty:7), Worn - Loose (25101-000,Qty:1)
	Cracked/Fractured	4.8%	2.9%	Cracked/Split-Inop/Unserviceable (25101-000,Qty:1), Cracked (25101-000,Qty:1)
	Excessive Vibration	2.4%	1.4%	Vibration - Inop/Unserviceable (25101-000,Qty:1)
	Induced	------	40.0%	Caused By Other Failure-Broken/Damaegd (25101-000,Qty:4), Fell Off Or Lost - Missing (25101-000,Qty:1), Improper Installation - Broken/Damaged (25101-000,Qty:1), Improper Maintenance - Broken/Damaged (25101-000,Qty:3), Wrong Part - Broken/Damaged (25101-000,Qty:10), Fell Off Or Lost (25101-000,Qty:1), Lack Of Maintenance - Binding/Sticking (25101-000,Qty:1) (25101-000,Qty:4), Lack Of Maintenance - Fnd In TI/PMCS/INSP (25101-000,Qty:1), Lack Of Maintenance - Corroded (25101-000,Qty:2)
Key				Sources:1
	Bent/Dented/Warped	100.0%	100.0%	Collapsed Bent (25101-000,Qty:1)
Key,Locking				Sources:1
	Loose	86.7%	76.5%	No Failure - Loose (25101-000,Qty:1), Worn - Loose (25101-000,Qty:12)
	Worn	13.3%	11.8%	Worn Out (25101-000,Qty:1) (25101-000,Qty:1)
	Induced	------	11.8%	Caused By Other Failure-Worn Out (25101-000,Qty:1), Caused By Other Failure-Broken/Damaged (25101-000,Qty:1)
Key,Machine				Sources:1
	Worn	71.4%	55.6%	Worn Out (25101-000,Qty:1) (25101-000,Qty:4)
	Excessive Play	14.3%	11.1%	Worn - Excessive Play (25101-000,Qty:1)
	Bent/Dented/Warped	14.3%	11.1%	Warped/Bent - Found In TI/PMCS/Insp (25101-000,Qty:1)
	Induced	------	22.2%	Fell Off Or Lost - Missing (25101-000,Qty:1), Improper Maintenance - Missing (25101-000,Qty:1)
Key,Woodruff				Sources:1
	Loose	50.0%	25.0%	Part Missing/Loose - Inop Man Elevation (25101-000,Qty:1)
	Aged/Deteriorated	50.0%	25.0%	Deteriorated/Aged - Skips (25101-000,Qty:1)
	Unknown	------	25.0%	Unknown (25101-000,Qty:1)
	Induced	------	25.0%	Caused By Other Failure-Binding/Sticking (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Keyboard				Sources:3
	Mechanical Failure	25.9%	18.4%	Mechanical Type (Other) (24996-000,9.0%), Solid State (Mechanical Failure) (24996-000,50.0%), Mechanical Types: (Other) (24997-000,9.0%), Solid state (Mechanical failure) (24997-000,50.0%)
	Spring Failure	23.3%	16.5%	Mechanical Type (Spring Fatigue) (24996-000,26.0%), Mechanical Type (Broken Spring) (24996-000,27.0%), Mechanical Types: (Spring Fatigue) (24997-000,26.0%), Mechanical Types: (Broken Spring) (24997-000,27.0%)
	Contact Failure	22.6%	16.1%	Mechanical Type (Contact Miss) (24996-000,51.5%), Mechanical Types: (Contact Miss) (24997-000,51.5%)
	Wiring & Connection Failure	11.0%	7.8%	Solid state (Wiring & connection fail) (24997-000,50.0%)
	Connection Failure	11.0%	7.8%	Solid State (Wiring & Connection Fail) (24996-000,50.0%)
	Locked Up	6.1%	4.3%	Locked Up (19542-000,13.0%)
	Unknown	------	23.2%	Unknown (19542-000,69.6%)
	Induced	------	1.4%	Improper Connections (19542-000,4.3%)
	Other (<%3)	------	4.3%	
	Indictor/Display Failure		1.4%	Led Display Defective (19542-000,4.3%)
	IC Failure		1.4%	U-32 Defective (19542-000,4.3%)
	Cable Failure		1.4%	Cable (GP554) Defective (19542-000,4.3%)
Klaxon,Annunciator Module				Sources:1
	Degraded Operation	52.0%	52.0%	Degraded (18175-000,52.0%)
	Spurious/False Operation	25.0%	25.0%	Catastrophic-Operates Spurious Or False Response (18175-000,25.0%)
	Fails to Op. on Demand	23.0%	23.0%	Catastrophic-Fails To Operate On Demand (18175-000,23.0%)
Lamp (Summary)				
	Lamp Failure	36.1%		
	Opened	28.0%		
	Loss of Lumination	13.1%		
	Worn	9.5%		
	No Output	5.6%		
	Burned/Charred	3.9%		
	Broken	3.8%		
Lamp				Sources:7
	Lamp Failure	56.2%	41.7%	Light Bulb Failure (23038-001,Qty:15) (23038-002,Qty:6) (23038-002,Qty:14) (23038-002,Qty:24) (23038-002,Qty:48) (23038-002,Qty:57) (23038-003,Qty:3) (23038-003,Qty:5) (23038-003,Qty:7) (23038-003,Qty:7) (23038-003,Qty:13) (23038-003,Qty:25) (23038-003,Qty:29) (23038-004,Qty:18) (23038-006,Qty:2) (23038-006,Qty:3) (23038-006,Qty:19) (23038-006,Qty:29) (23038-006,Qty:35) (23038-006,Qty:62), No Indicating Light (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:2) (23038-003,Qty:1), Light Bulb (23038-002,Qty:35), No Indicating Lights (23038-004,Qty:2), Light Bulb failure (23038-006,Qty:9) (23038-006,Qty:27)
	Opened	19.5%	14.5%	Open (23038-002,Qty:1) (24990-000,100.0%), Open Fillament

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Lamp (continued)				
Opened (continued)				
				Tube (23038-002,Qty:1) (23038-002,Qty:2), Fused (23038-002,Qty:1)
	Burned	7.4%	5.5%	Burned/Charred (23038-001,Qty:9) (23038-002,Qty:1) (23038-002,Qty:12) (23038-002,Qty:16), Burned (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:4) (23038-002,Qty:5) (23038-002,Qty:13)
	Broken	6.3%	4.7%	Broken (23038-002,Qty:1) (23038-002,Qty:4) (23038-002,Qty:5) (23038-002,Qty:5) (23038-002,Qty:6) (23038-002,Qty:6) (23038-003,Qty:1) (23038-003,Qty:1) (23038-003,Qty:2) (23038-004,Qty:11) (23038-006,Qty:1) (23038-006,Qty:2)
	Burned/Charred	5.1%	3.8%	Burned/Charred (23038-003,Qty:1) (23038-003,Qty:1) (23038-003,Qty:1) (23038-003,Qty:9) (23038-004,Qty:9)
	Cracked/Fractured	3.0%	2.2%	Broken/Fractured (23038-001,Qty:4), Cracked (23038-002,Qty:1) (23038-003,Qty:4), Broken/Cracked (23038-006,Qty:3)
	Loss of Control	2.4%	1.8%	Control Inoperative (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:2) (23038-002,Qty:2) (23038-002,Qty:2) (23038-002,Qty:5) (23038-003,Qty:1) (23038-003,Qty:1) (23038-004,Qty:4)
	Unknown	------	22.6%	Unknown (23038-001,Qty:7) (23038-002,Qty:2) (23038-002,Qty:4) (23038-002,Qty:6) (23038-002,Qty:8) (23038-002,Qty:14) (23038-002,Qty:16) (23038-003,Qty:1) (23038-003,Qty:10) (23038-004,Qty:9) (25101-000,Qty:1)
	Induced	------	1.7%	Missing (23038-001,Qty:1) (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:2) (23038-002,Qty:2) (23038-003,Qty:1) (23038-006,Qty:1) (23038-006,Qty:5) (23038-006,Qty:5), Wrong Part (23038-002,Qty:1), Improper Energy (23038-002,Qty:1), Maintenance Error (23038-003,Qty:1)
	Other (<%2)	------	1.5%	
	Insulation Failure		0.5%	Insulating Breakdown (23038-001,Qty:1), Insulation Breakdown (23038-002,Qty:2)
	Shorted		0.2%	Short (23038-002,Qty:1) (23038-002,Qty:3), Grounded (23038-002,Qty:1), Shorted/Grounded (23038-002,Qty:1)
	No Operation		0.2%	Inoperative (23038-002,Qty:1) (23038-002,Qty:2) (23038-003,Qty:1)
	Worn		0.2%	Worn Excessively (23038-002,Qty:2) (23038-002,Qty:3)
	Corroded		<0.1%	Corroded (23038-002,Qty:2)
	Spurious/False Operation		<0.1%	Faulty Reading (23038-002,Qty:1)
	Connection Failure		<0.1%	Connection Defect (23038-002,Qty:1)
	Stripped		<0.1%	Stripped (23038-002,Qty:1)
	Intermittent Operation		<0.1%	Intermittent (23038-002,Qty:1)
	Blown Fuse		<0.1%	Fuse Blown (23038-002,Qty:1)
	Burst/Ruptured		<0.1%	Burst (23038-002,Qty:1)
	Contaminated		<0.1%	Dirty (23038-002,Qty:1)
	No Output		<0.1%	No Output (23038-002,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Lamp,Bulb				Sources:4
	Lamp Failure	68.8%	53.8%	Light Bulb Failure (23038-001,Qty:3) (23038-004,Qty:1) (23038-004,Qty:3) (23038-005,Qty:1) (23038-005,Qty:4) (23038-005,Qty:6) (23038-005,Qty:64) (23038-006,Qty:22)
	Shorted	17.1%	13.4%	Shorted Or Grounded (23038-004,Qty:9) (23038-005,Qty:1)
	Burned/Charred	5.6%	4.4%	Burned/Charred (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:3) (23038-005,Qty:25)
	Loss of Control	3.3%	2.6%	Control Inoperative (23038-005,Qty:4) (23038-006,Qty:2)
	Broken	2.0%	1.6%	Broken (23038-005,Qty:1) (23038-005,Qty:10)
	Burst/Ruptured	1.9%	1.5%	Burst (23038-004,Qty:1)
	Cracked/Fractured	1.3%	1.0%	Cracked (23038-005,Qty:7)
	Induced	------	11.3%	Missing (23038-001,Qty:1) (23038-005,Qty:2) (23038-006,Qty:1), Wrong Part (23038-001,Qty:1)
	Unknown	------	8.2%	Unknown (23038-004,Qty:3) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:2) (23038-005,Qty:22)
	Other (<%2)	------	2.3%	
	Seal/Gasket Failure		0.7%	Blown Seal/Gasket (23038-005,Qty:5)
	Opened		0.7%	No Indicating Lights (23038-005,Qty:1), Blown Fuse (23038-005,Qty:1), Fused (23038-005,Qty:1), Open (23038-005,Qty:1), Open Filament Tube (23038-005,Qty:1)
	Burred		0.3%	Burred (23038-005,Qty:2)
	No Output		0.1%	No Output (23038-005,Qty:1)
	Loose		0.1%	Loose (23038-005,Qty:1)
	No Operation		0.1%	Inoperative (23038-005,Qty:1)
	Loss of Power		0.1%	Electrical Pwr Loss (23038-005,Qty:1)
Lamp,Electric				Sources:1
	Lamp Failure	92.5%	92.5%	Burned Out Or Defective Lamp, (25464-000,Qty:319)
	Broken	7.2%	7.2%	Broken (25464-000,Qty:25)
	Corroded	0.3%	0.3%	Corroded Mild/Moderate (25464-000,Qty:1)
Lamp,Flourescent,Incondescent				Sources:1
	Worn	100.0%	100.0%	Wearout (Open) (24991-000,100.0%)
Lamp,Incandescent				Sources:7
	Opened	54.3%	20.1%	Degradation (Loss Of Filament Emission) (24993-000,90.0%), Open (23038-001,Qty:1) (23038-001,Qty:2) (23038-005,Qty:1) (23038-005,Qty:3), No Indicating Light (23038-001,Qty:1) (23038-005,Qty:1), No Indicating Lights (23038-004,Qty:2) (23038-004,Qty:11), Open Filament Tube (23038-005,Qty:1) (23038-005,Qty:2), Evaporation of the Tungsten Filament (22540-000,NR) (22540-000,NR), Electromigration of the Tungsten Filament (22540-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Lamp, Incandescent (continued)				
	Burned/Charred	17.8%	6.6%	Charred (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:2) (23038-001,Qty:4) (23038-001,Qty:5), Burned/Charred (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:2) (23038-004,Qty:3) (23038-004,Qty:12) (23038-005,Qty:2) (23038-005,Qty:3) (23038-005,Qty:4) (23038-005,Qty:6) (23038-005,Qty:9) (23038-005,Qty:13) (23038-005,Qty:18)
	Broken	11.9%	4.4%	Broken (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:2) (23038-001,Qty:2) (23038-001,Qty:3) (23038-004,Qty:1) (23038-004,Qty:3) (23038-004,Qty:4) (23038-004,Qty:5) (23038-005,Qty:1) (23038-005,Qty:2) (23038-005,Qty:2) (23038-005,Qty:2) (23038-005,Qty:3) (23038-005,Qty:3) (23038-005,Qty:18), Broken/Missing (23038-004,Qty:1), Broken Filament Wire (24417-000,NR)
	Cracked/Fractured	7.5%	2.8%	Catastrophic (Filament Breakage, Glass Breakage) (24993-000,10.0%), Cracked (23038-001,Qty:1) (23038-001,Qty:4)
	Loss of Control	5.8%	2.1%	Control Inoperative (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:2) (23038-004,Qty:8) (23038-004,Qty:10) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:3)
	Burred	2.9%	1.1%	Burred (23038-001,Qty:3) (23038-001,Qty:4)
	Unknown	------	56.2%	Unknown (22540-000,NR) (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:2) (23038-001,Qty:2) (23038-001,Qty:3) (23038-001,Qty:3) (23038-001,Qty:5) (23038-001,Qty:7) (23038-001,Qty:8) (23038-001,Qty:8) (23038-001,Qty:17) (23038-001,Qty:23) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:5) (23038-004,Qty:6) (23038-004,Qty:7) (23038-004,Qty:9) (23038-004,Qty:10) (23038-004,Qty:21) (23038-004,Qty:31) (23038-004,Qty:49) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:3) (23038-005,Qty:6) (23038-005,Qty:8) (23038-005,Qty:9) (23038-005,Qty:11) (23038-005,Qty:15) (23038-005,Qty:17) (23038-005,Qty:19) (23038-005,Qty:30) (23038-005,Qty:91) (23038-006,Qty:3)
	Induced	------	3.6%	Caused By Other Dev. (23038-001,Qty:1), Missing (23038-001,Qty:3) (23038-004,Qty:1) (23038-004,Qty:4) (23038-004,Qty:9) (23038-005,Qty:1) (23038-005,Qty:2) (23038-005,Qty:2) (23038-005,Qty:5) (23038-005,Qty:9) (23038-005,Qty:13), Improper Fit (23038-004,Qty:1), Defective Soldering of Leads (24417-000,NR)
	Other (<%3)	------	3.1%	
	No Operation		0.8%	Inoperative (23038-001,Qty:2) (23038-004,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:3)
	Improper Output		0.7%	Improper Source Output (23038-004,Qty:9)
	Shorted		0.7%	Short (23038-001,Qty:1) (23038-001,Qty:1), Short Or Grounded (23038-004,Qty:1) (23038-005,Qty:1), Shorted Or Grounded (23038-004,Qty:2) (23038-005,Qty:1), Shorting of Lead Wires in Base of Based Lamps (24417-000,NR)
	Liquid/Vapor Lock		0.5%	Liquid/Vaper Lock (23038-004,Qty:6)
	Blown Fuse		0.2%	Fuse Blown (23038-001,Qty:1) (23038-005,Qty:1)
	Corroded		0.1%	Corroded (23038-004,Qty:1) (23038-005,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Lamp, Incandescent (continued)				
Other (continued)				
	Worn		<0.1%	Worn Excessively (23038-005,Qty:1)
	Failling VSWR		<0.1%	High VSWR (23038-005,Qty:1)
	Leaking		NR	Leaky Envelopes (24417-000,NR)
	Poor Filament Weld/Crimp		NR	Poor Weld / Crimp of the Filament (24417-000,NR)
	Electrical Overstress		NR	Overstress (24417-000,NR)
	Seal Failure		NR	Damaged Glass Seals-duo to poor soldering (24417-000,NR)
Lamp, Indicator				Sources:1
	Opened	100.0%	100.0%	Opened (20609-000,Qty:11)
Lamp, Indicator, LED				Sources:2
	Loss of Lumination	70.0%	70.0%	Loss of Illumination (24996-000,70.0%) (24997-000,70.0%)
	No Output	30.0%	30.0%	Fail to Light (24996-000,30.0%) (24997-000,30.0%)
Lamp, Nuclear				Sources:1
	Lamp Failure	60.0%	60.0%	Inop Fire Control Lgt (25101-000,Qty:3)
	Aged/Deteriorated	40.0%	40.0%	Deteriorated/Aged - Inop Fire Control Light (25101-000,Qty:2)
Lanyard Assembly				Sources:1
	Cut/Scarred/Punctured	34.3%	30.8%	Cut-Cut/Scarred (25101-000,Qty:1), Cut-Inop/Unserviceable (25101-000,Qty:1), Cut/Scarred (25101-000,Qty:22)
	Worn	32.9%	29.5%	Deteriorated/Aged - Worn Out (25101-000,Qty:1), Worn Out (25101-000,Qty:8), Worn - Cable Frayed (25101-000,Qty:4), Worn - Inop/Unserviceable (25101-000,Qty:9), Worn - Broken/Damaged (25101-000,Qty:1)
	Broken	14.3%	12.8%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:3) (25101-000,Qty:5), Broken/Separated - Broken/Damaged (25101-000,Qty:1)
	Cable Failure	11.4%	10.3%	Cable Frayed (25101-000,Qty:8)
	Loose	2.9%	2.6%	Worn - Loose (25101-000,Qty:2)
	Aged/Deteriorated	2.9%	2.6%	Deteriorated/Aged - Broken Damaged (25101-000,Qty:2)
	Cracked/Fractured	1.4%	1.3%	Cracked/Split-Broken/Damaged (25101-000,Qty:1)
	Induced	------	6.4%	Improper Maintenance - Inop/Unserviceable (25101-000,Qty:1), Item Abuse/Neglect - Cut/Scarred (25101-000,Qty:2), Improper Maintenance - Missing (25101-000,Qty:2)
	Unknown	------	3.8%	Unknown (25101-000,Qty:3)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Laser,Semiconductor				Sources:1
	Induced	------	<0.1%	Voltage Transients (22540-000,NR)
	Unknown	------	<0.1%	Unknown (22540-000,NR)
	Other	------	100.0%	
	Metallization		NR	P-Side Metalization Breakdown (22540-000,NR)
	Facet Damage		NR	Catastrophic Facet Damage (22540-000,NR)
	Dark Line Defects		NR	Dark Line Defects (22540-000,NR)
	Dark Spot Defects		NR	Dark Spot Defects (22540-000,NR)
	Change in Resistance		NR	Thermal Resistance Degradation (22540-000,NR)
	Homogeneous Degradation		NR	Homogeneous Degradation (22540-000,NR)
	Aged/Deteriorated		NR	Non-catastrophic Facet Deterioration (Erosion) (22540-000,NR)
	Intensity Pulsations		NR	Intensity Pulsations (22540-000,NR), Optical Frequency Shifts & Light Intensity Changes (22540-000,NR)
Laser,Semiconductor,He-Cd				Sources:1
	Condenser Blockage	42.2%	42.2%	Condenser Blockage (22540-000,Qty:35)
	Cadmium Depletion	34.9%	34.9%	Cadmium Depletion (22540-000,Qty:29)
	Cracked/Fractured	9.6%	9.6%	Glass Crack (22540-000,Qty:8)
	Out of Adjustment	4.8%	4.8%	Tube Alignment / Glass Stress (22540-000,Qty:4)
	Over Pressure Tube Failure	3.6%	3.6%	Over Pressure Tube (22540-000,Qty:3)
	Helium Depletion	3.6%	3.6%	Helium Depletion (22540-000,Qty:3)
	Contaminated	1.2%	1.2%	Cathode Contaminated (22540-000,Qty:1)
	Other	------	0.0%	
	Degraded Output		NR	Power Output Degradation-Helium Gas Loss (22540-000,NR), Power Output Degradation-Cadmium Depletion (22540-000,NR), Power Output Degradation-Discharge Contamination (22540-000,NR), Power Output Degradation-Growth of Cd Deposits int (22540-000,NR)
	Filament Failure		NR	Filament Failure (22540-000,NR)
	Rapid Gas Loss		NR	Rapid Gas Loss-Glass Crack (22540-000,NR), Rapid Gas Loss-Seal Leak (22540-000,NR)
	Resonator Misalign.		NR	Resonator/Beam Misalignment (22540-000,NR)
Laser,Semiconductor,Helium-Neon				Sources:1
	Induced	------	<0.1%	Degradation of Dielectric Coatings (22540-000,NR)
	Other	------	100.0%	
	Loss of Power		NR	Loss of Power-Progressive Reduction in Gas Pressur (22540-000,NR), Loss of Power-Change in Gas Mix Ratio (22540-000,NR)
	Gas Diffusion		NR	Gas Diffusion Through the Glass Envelope (22540-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Laser, Semiconductor, Helium-Neon (continued)				
Other (continued)				
	Cathode Sputtering		NR	Cathode Sputtering (22540-000,NR)
Laser, YAG				Sources:1
	Induced	------	<0.1%	Degradation Sputter-Deposition Mechanism (22540-000,NR)
	Other	------	100.0%	
	Contaminated		NR	Dust on Optical Surfaces (22540-000,NR)
	Out of Adjustment		NR	Misalignment (22540-000,NR)
	Cooling System Failure		NR	Cooling System Failure (22540-000,NR)
Leg Assembly				Sources:1
	Bent/Dented/Warped	77.8%	41.2%	Collapsed/Bent (25101-000,Qty:1) (25101-000,Qty:6)
	Broken	11.1%	5.9%	Broken/Damaged (25101-000,Qty:1)
	Loose	11.1%	5.9%	Loose (25101-000,Qty:1)
	Induced	------	47.1%	Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:2), Item Abuse/Neglect - Collapsed/Bent (25101-000,Qty:1), Lack Of Maintenance - Binding/Sticking (25101-000,Qty:5)
Lens, Optical, Element				Sources:1
	Cracked/Fractured	60.0%	60.0%	Vibration - Cracked (25101-000,Qty:1) (25101-000,Qty:1), Internal Failure - Cracked (25101-000,Qty:1)
	Broken	20.0%	20.0%	Operation Error - Broken/Damaged (25101-000,Qty:1)
	Cut/Scarred/Punctured	20.0%	20.0%	Cut/Scarred (25101-000,Qty:1)
Level Fire Control				Sources:1
	Out of Adjustment	37.0%	28.0%	Out Of Adjustment (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2), Out Of Adjustment - Out Of Adjustment (25101-000,Qty:1) (25101-000,Qty:7), Out Of Adjustment - Inaccurate (25101-000,Qty:8) (25101-000,Qty:10)
	Out of Synch.	27.2%	20.6%	Out Of Synch (25101-000,Qty:2) (25101-000,Qty:4) (25101-000,Qty:15), Internal Failure - Out Of Synch (25101-000,Qty:1)
	Aged/Deteriorated	9.9%	7.5%	Deteriorated/Aged - Inop/Unserviceable (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2), Deteriorated/Aged - Inop Fire Conrol Light (25101-000,Qty:1), Deteriorated/Aged - Inop Fire Control Light (25101-000,Qty:1) (25101-000,Qty:2)
	Broken	8.6%	6.5%	Broken/Separated - Inop/Unserviceable (25101-000,Qty:1), Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2)
	Cracked/Fractured	8.6%	6.5%	Cracked (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1), Unknown - Cracked (25101-000,Qty:1), Dropped - Cracked (25101-000,Qty:1) (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm. Dist.	Fail Dist.	Data Source(s)/Details
Level Fire Control (continued)				
	Lamp Failure	4.9%	3.7%	Internal Failure - Inop Fire Control Light (25101-000,Qty:1) (25101-000,Qty:3)
	Seal/Gasket Failure	3.7%	2.8%	Seals Worn - Inop/Unserviceable (25101-000,Qty:3)
	Induced	------	12.1%	Improper Alignment - Out Of Adjustment (25101-000,Qty:1), Improper Maintenance - Broken/Damaged (25101-000,Qty:1), Fell Off Or Lost - Missing (25101-000,Qty:1), Dropped - Inaccurate (25101-000,Qty:1), Dropped - Broken/Damaged (25101-000,Qty:2) (25101-000,Qty:3), Improper Adjustment - Out Of Adjustment (25101-000,Qty:1), Item Abuse - Cracked (25101-000,Qty:1), Wrong Part - Inop Fire Control Light (25101-000,Qty:1), Wrong Part - Inop/Unserviceable (25101-000,Qty:1)
	Unknown	------	10.3%	Unknown (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:9)
	Other (<%3)	------	1.9%	
	Leaking		0.9%	Vibration - Leaking Nitrogen (25101-000,Qty:1)
	Worn		0.9%	Worn - Out Of Synch (25101-000,Qty:1)
Level,Vial				Sources:1
	Out of Adjustment	56.6%	53.3%	Out Of Adjustment - Fnd In TI/PMCS/INSP (25101-000,Qty:2) (25101-000,Qty:3), Out Of Adjustment - Out Of Adjustment (25101-000,Qty:7) (25101-000,Qty:8), Out Of Adjustment - Inaccurate (25101-000,Qty:19) (25101-000,Qty:22), Out Of Adjustment - Out Of Synch (25101-000,Qty:1), Out Of Adjustment - Inop/Unserviceable (25101-000,Qty:1), Out Of Adjustment (25101-000,Qty:1)
	Aged/Deteriorated	14.2%	13.3%	Deteriorated/Aged - Inop/Unserviceable (25101-000,Qty:5) (25101-000,Qty:6), Deteriorated/Aged - Contaminated (25101-000,Qty:1), Deteriorated/Aged - Inop Fire Control Light (25101-000,Qty:2) (25101-000,Qty:2)
	Broken	9.7%	9.2%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:2), Part Struck/Damaged - Out Of Synch (25101-000,Qty:1), Intentional Damage - Broken/Damaged (25101-000,Qty:1)
	Out of Synch.	6.2%	5.8%	Out Of Synch (25101-000,Qty:1) (25101-000,Qty:3), Internal Failure - Out Of Synch (25101-000,Qty:1), Vibration - Out Of Synch (25101-000,Qty:2)
	Lamp Failure	5.3%	5.0%	Internal Failure - Inop Fire Control Light (25101-000,Qty:1) (25101-000,Qty:3), Inop Fire Control Light (25101-000,Qty:1), No Failure - Inop Fire Control Light (25101-000,Qty:1)
	Worn	4.4%	4.2%	Deteriorated/Aged - Worn Out (25101-000,Qty:1), Worn Out (25101-000,Qty:1), Worn - Inop/Unserviceable (25101-000,Qty:3)
	Cracked/Fractured	3.5%	3.3%	Cracked (25101-000,Qty:1) (25101-000,Qty:2), Unknown - Cracked (25101-000,Qty:1)
	Induced	------	4.2%	Item Abuse/Neglect - Inop/Unserviceable (25101-000,Qty:1), Part Struck/Damaged - Batteries Boiling (25101-000,Qty:1), Item Abuse/Neglect - Broken/Damaged (25101-000.Qty:3)
	Unknown	------	0.8%	Unknown (25101-000,Qty:1)
	Other (<%2)	------	0.8%	

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
	Excessive Play		0.0%	No Failure - Excessive Play (25101-000,Qty:1)
Lever Assembly				Sources:1
	Binding/Sticking	33.3%	14.3%	Binding/Sticking (25101-000,Qty:1) (25101-000,Qty:1)
	Seized	33.3%	14.3%	Corroded-Seized (25101-000,Qty:1), Seized (25101-000,Qty:1)
	Broken	33.3%	14.3%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1)
	Induced	------	57.1%	Lack Of Lubrication - Binding/Sticking (25101-000,Qty:5), Lack Of Lubrication - Seized (25101-000,Qty:1), Lack Of Maintenance - Binding/Sticking (25101-000,Qty:1), Lack Of Maintenance - Seized (25101-000,Qty:1)
Lever,Brake				Sources:1
	Cracked/Fractured	50.0%	25.0%	Cracked (25101-000,Qty:1)
	Broken	50.0%	25.0%	Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1)
	Unknown	------	25.0%	Unknown (25101-000,Qty:1)
	Induced	------	25.0%	Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1)
Lever,Cam,Tube				Sources:1
	Out of Adjustment	38.5%	33.3%	Out Of Adjustment (25101-000,Qty:1) (25101-000,Qty:1), Out Of Adjustment - Out Of Synch (25101-000,Qty:2), Out Of Adjustment - Found In TI/PMCS/Insp (25101-000,Qty:1)
	Out of Synch.	15.4%	13.3%	Out Of Synch (25101-000,Qty:2)
	Broken	15.4%	13.3%	Broken/Damaged (25101-000,Qty:2)
	Bent/Dented/Warped	15.4%	13.3%	Part Struck/Damaged - Collapsed/Bent (25101-000,Qty:1), Collapsed/Bent (25101-000,Qty:1)
	Worn	7.7%	6.7%	Worn - Out Of Adjustment (25101-000,Qty:1)
	Loose	7.7%	6.7%	Vibration - Loose (25101-000,Qty:1)
	Induced	------	13.3%	Caused By Other Failure-Broken/Damaged (25101-000,Qty:1), Improper Maintenance - Out of Adjustment (25101-000,Qty:1)
Lever,Cocking				Sources:1
	Bent/Dented/Warped	42.9%	37.5%	Collapsed/Bent (25101-000,Qty:1), Part Struck/Damaged - Collapsed/Bent (25101-000,Qty:1), Warped/Bent - Misfire (25101-000,Qty:1)
	Broken	42.9%	37.5%	Broken/Damaged (25101-000,Qty:1), Broken/Separated-Misfire (25101-000,Qty:2)
	Misfire	14.3%	12.5%	Misfire (25101-000,Qty:1)
	Induced	------	12.5%	Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Light				Sources:6
	Lamp Failure	45.3%	24.7%	Light Bulb Failure (23038-001,Qty:1) (23038-001,Qty:2) (23038-002,Qty:1) (23038-002,Qty:1) (23038-003,Qty:2) (23038-004,Qty:3) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:2) (23038-005,Qty:5) (23038-005,Qty:6) (23038-005,Qty:7) (23038-006,Qty:4), No Indicating Light (23038-001,Qty:1), No Indicating Lights (23038-005,Qty:1)
	Broken	32.3%	17.6%	Broken (23038-002,Qty:2) (23038-002,Qty:5) (23038-003,Qty:4) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:3) (23038-005,Qty:1) (23038-006,Qty:3)
	Loss of Control	7.1%	3.9%	Control Inoperative (23038-002,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:2) (23038-004,Qty:2)
	Shorted	4.8%	2.6%	Short Or Grounded (23038-001,Qty:1), Shorted Or Grounded (23038-004,Qty:1) (23038-004,Qty:2)
	Cracked/Fractured	3.7%	2.0%	Broken/Fractured (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:1), Cracked (23038-005,Qty:1)
	Spurious/False Operation	3.4%	1.9%	Faulty Reading (23038-001,Qty:1) (23038-005,Qty:1)
	Grounded	3.4%	1.9%	Grounded Electricaly (23038-003,Qty:1)
	Induced	------	33.5%	Missing (23038-001,Qty:1) (23038-001,Qty:3) (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:2) (23038-003,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:7) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:2) (23038-005,Qty:2) (23038-005,Qty:3) (23038-006,Qty:3) (23038-006,Qty:3) (23038-006,Qty:5), Wrong Part (23038-002,Qty:2) (23038-004,Qty:2) (23038-005,Qty:1), Miswired (23038-002,Qty:1) (23038-003,Qty:1), Improper Fit (23038-004,Qty:1), Improper Energy Resp (23038-005,Qty:1)
	Unknown	------	6.6%	Unknown (23038-001,Qty:1) (23038-002,Qty:1) (23038-002,Qty:4) (23038-004,Qty:2) (23038-005,Qty:1) (23038-005,Qty:1) (23038-006,Qty:1)
	Other (<%3)	------	5.3%	
	Degraded Operation		1.1%	Weak (23038-004,Qty:3)
	Corroded		0.9%	Corroded (23038-002,Qty:1) (23038-004,Qty:1)
	Burned/Charred		0.7%	Burned/Charred (23038-004,Qty:1) (23038-005,Qty:1)
	No Output		0.6%	No Output (23038-002,Qty:1)
	Burred		0.6%	Burred (23038-002,Qty:1)
	Loss of Power		0.4%	Electrical Pwr Loss (23038-004,Qty:1)
	Opened		0.4%	Fused (23038-004,Qty:1)
	No Operation		0.4%	Inoperative (23038-005,Qty:1)
	Intermittent Operation		0.4%	Intermittent (23038-005,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Light,Electric,Fix				Sources:1
	Cracked/Fractured	42.0%	41.5%	Cracked (25464-000,Qty:34)
	Broken	37.0%	36.6%	Broken (25464-000,Qty:30)
	Lamp Failure	7.4%	7.3%	Burned Out Or Defective Lamp, (25464-000,Qty:6)
	Worn	6.2%	6.1%	Worn, Chaffed, Frayed, or Torn (25464-000,Qty:5)
	Corroded	2.5%	2.4%	Corroded Mild/Moderate (25464-000,Qty:2)
	Contact Failure	2.5%	2.4%	Contact/Conn Defect (25464-000,Qty:2)
	Loose	2.5%	2.4%	Loose,Damaged,or Missing Har (25464-000,Qty:2)
	Other (<%3)	------	1.2%	
	Drift		1.2%	Fails to Tune or Drifts (25464-000,Qty:1)
Light,Electric,Fix,Ground				Sources:1
	Broken	73.6%	73.6%	Broken (25464-000,Qty:106)
	Corroded	13.9%	13.9%	Corroded Mild/Moderate (25464-000,Qty:20)
	Cracked/Fractured	7.6%	7.6%	Cracked (25464-000,Qty:11)
	Worn	1.4%	1.4%	Worn, Chaffed, Frayed, or Torn (25464-000,Qty:2)
	Loose	1.4%	1.4%	Loose,Damaged,or Missing Har (25464-000,Qty:2)
	Binding/Sticking	1.4%	1.4%	Binding Stuck or Jammed (25464-000,Qty:2)
	Lamp Failure	0.7%	0.7%	Burned Out Or Defective Lamp, (25464-000,Qty:1)
Light,Emerg. Light Assy				Sources:1
	Broken	50.0%	33.3%	Wire Harness Damaged - Broken/Damaged (25101-000,Qty:2)
	Worn	25.0%	16.7%	Worn - Inop/Unserviceable (25101-000,Qty:1)
	Wire Failure	25.0%	16.7%	Wire Harness Damaged - Inop/Unserviceable (25101-000,Qty:1)
	Induced	------	16.7%	Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1)
	Unknown	------	16.7%	Unknown (25101-000,Qty:1)
Link Rail Assembly				Sources:1
	Broken	55.6%	43.5%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:7), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:2)
	Loose	27.8%	21.7%	Worn - Loose (25101-000,Qty:5)
	Worn	11.1%	8.7%	Worn Out (25101-000,Qty:1), No Failure - Worn Out (25101-000,Qty:1)
	Excessive Play	5.6%	4.3%	Worn - Excessive Play (25101-000,Qty:1)
	Induced	------	21.7%	Caused By Other Failure-Broken/Damaged (25101-000,Qty:1), Improper Maintenance - Out Of Adjustment (25101-000,Qty:3), Lack Of Maintenance - Out Of Adjustment (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Liquid Crystal Disp				Sources:1
	Dim Rows	33.3%	33.3%	Dim Rows (25014-000,Qty:44)
	IC Failure	18.9%	18.9%	Integrated Circuit, Blank Display (25014-000,Qty:9), Integrated Circuit, Improper Characters (25014-000,Qty:16)
	Flickering Rows	16.7%	16.7%	Flickering Rows (25014-000,Qty:22)
	Manufacturing Defects	15.2%	15.2%	Miscellaneous Manufacturing Defects (25014-000,Qty:20)
	Zebra Strip	12.1%	12.1%	Zebra Strip, Flashing Dots (25014-000,Qty:5), Zebra Strip, Missing or Dim Columns (25014-000,Qty:11)
	Missing Rows	3.8%	3.9%	Missing Rows (25014-000,Qty:5)
Lock,Traveling				Sources:1
	Broken	76.5%	61.9%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:3) (25101-000,Qty:8), Vibration - Broken/Damaged (25101-000,Qty:14)
	Cracked/Fractured	23.5%	19.0%	Cracked/Split-Inop/Unserviceable (25101-000,Qty:1), Cracked Weld-Broken/Damaged (25101-000,Qty:1), Cracked (25101-000,Qty:1) (25101-000,Qty:2), Vibration - Cracked (25101-000,Qty:3)
	Induced	------	16.7%	Caused By Other Failure-Broken/Damaged (25101-000,Qty:4), Caused By Other Failure-Worn Out (25101-000,Qty:1), Lack Of Maintenance - Broken/Damaged (25101-000,Qty:1), Stolen - Missing (25101-000,Qty:1)
	Unknown	------	2.4%	Unknown (25101-000,Qty:1)
Lunette				Sources:1
	Broken	66.7%	57.1%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:3)
	Bent/Dented/Warped	16.7%	14.3%	Unknown - Collapsed/Bent (25101-000,Qty:1)
	Worn	16.7%	14.3%	No Failure - Worn Out (25101-000,Qty:1)
	Induced	------	14.3%	Improper Maintenance - Broken/Damaged (25101-000,Qty:1)
Magnatron				Sources:2
	Gassing	60.0%	30.0%	Gassing (24993-000,30.0%)
	Window Failure	40.0%	20.0%	Window Puncturing (24993-000,20.0%)
	Induced	------	40.0%	Cathode Degradation (Resulting Form Arcing) (24993-000,40.0%), Failure or Degradation of the Magnetic Circuit (22540-000,NR), Degradation in Tube Operation (22540-000,NR)
	Unknown	------	10.0%	Unknown (24993-000,10.0%)
	Other	------	0.0%	
	Seal/Gasket Failure		NR	Deterioration of Seal (22540-000,NR)
	Cracked Envelope		NR	Puncture or Crack in the Envelope (22540-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Manifold				Sources:1
	Opened	73.5%	73.5%	Open (24992-000,73.5%)
	Closed	23.5%	23.5%	Close (24992-000,23.5%)
	Leaking	3.0%	3.0%	Leak (24992-000,3.0%)
Mechanical Filter (Summary)				
	Leaking	53.7%		
	Loss of Control	19.9%		
	Improper Output	19.9%		
	Clogged/Clogging	6.6%		
Mechanical Filter				Sources:5
	Leaking	53.8%	34.0%	Internal Leak (24992-000,8.8%), External Leak (24992-000,74.5%), Leaking (20609-000,Qty:428)
	Improper Output	19.8%	12.5%	Improper Source Output (23038-002,Qty:1)
	Loss of Control	19.8%	12.5%	Control Inoperative (23038-002,Qty:1)
	Clogged/Clogging	6.6%	4.2%	Clogged (24992-000,16.7%)
	Unknown	------	21.7%	Unknown (20609-000,Qty:243) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:2)
	Other (<%6)	------	15.1%	
	Degraded Operation		3.6%	Weak (23038-004,Qty:1)
	No Operation		3.6%	Inoperative (23038-004,Qty:1)
	Noisy		3.6%	Noisy (23038-004,Qty:1)
	Cracked/Fractured		3.3%	Cracked/Fractured (20609-000,Qty:106), Fatigue Cracks-Cyclic Flow (25036-000,NR)
	Broken		0.5%	Broken (20609-000,Qty:17)
	Out of Spec.		0.5%	Out of Tolerance (20609-000,Qty:16)
	Burst/Ruptured		<0.1%	Ruptured (20609-000,Qty:2)
	Bent/Dented/Warped		<0.1%	Warped (20609-000,Qty:1)
	Worn		<0.1%	Worn Out (20609-000,Qty:1)
	Channeling		NR	Channeling-High Differential Pressures (25036-000,NR), Channeling-Cyclic Flow (25036-000,NR)
	Media Migration		NR	Media Migration-Vibration (25036-000,NR), Media Migration-Cyclic Flow (25036-000,NR), Media Migration-Cold Starts (25036-000,NR)
	Disintegration		NR	Disintegration-Cold Starts (25036-000,NR), Disintegration-Embrittlement (25036-000,NR), Disintegration-High Differential Pressures (25036-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Mechanical Filter,Hydraulic,Fuel				Sources:1
	Out of Spec.	44.4%	42.1%	Out of Specification (20609-000,Qty:8)
	Improper Flow	33.3%	31.6%	Improper Flow (20609-000,Qty:6)
	Leaking	22.2%	21.1%	Leaking (20609-000,Qty:4)
	Unknown	------	5.3%	Unknown (20609-000,Qty:1)
Mechanism Percussion				Sources:1
	Worn	100.0%	66.7%	Worn Out (25101-000,Qty:1), Worn - Worn Out (25101-000,Qty:2), Worn - Found In TI/PMCS/Insp (25101-000,Qty:1), Worn - Inop/Unserviceable (25101-000,Qty:1), Worn - Misfire (25101-000,Qty:1)
	Unknown	------	22.2%	Unknown (25101-000,Qty:1) (25101-000,Qty:1)
	Induced	------	11.1%	Stolen - Missing (25101-000,Qty:1)
Memory Device,Storage Device,Electronic/Magnetic				Sources:1
	Unknown	------	<0.1%	Unknown (24997-000,NR)
	Other	------	100.0%	
	Parameter Change		NR	I.C. Memory: Parameter change (24997-000,NR)
	Functional Fault		NR	I.C. Memory: Functional fault (24997-000,NR)
	Open Circuit		NR	I.C. Memory : Open Circuit (24997-000,NR)
	Surface Defects		NR	Discs: Abrasion of Disc Surface (24997-000,NR)
	Disc Failure		NR	Discs: Transport & Movement Damage (24997-000,NR)
	Noise Distortion		NR	Magnetic Tape: Noise distortion (24997-000,NR)
	Broken		NR	Magnetic Tape: Breakage (24997-000,NR)
	Worn		NR	Magnetic Tape: Wear (24997-000,NR)
Meter (Summary)				
	Broken	17.1%		
	Contaminated	17.0%		
	No Output	16.0%		
	Drift	15.4%		
	Seal/Gasket Failure	12.6%		
	Spurious/False Operation	11.7%		
	Opened	10.1%		
Meter				Sources:7
	Drift	26.1%	13.1%	Drift (24992-000,58.8%), Fluctuates/Unstable (23038-005,Qty:2), Resistance Drift in Shunt or Series Resistance (22540-000,NR)
	Limit Unadjuctable	20.0%	10.0%	Unable To Adjust Lim (23038-004,Qty:1) (23038-004,Qty:6), Unable To Ajust Lim (23038-005,Qty:1)
	Spurious/False Operation	18.2%	9.1%	Faulty Reading (23038-003,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-005,Qty:1) (23038-005,Qty:2), Improper Source Output (23038-003,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Meter (continued)				
	Broken	13.8%	6.9%	Broken (23038-003,Qty:1) (23038-005,Qty:1) (23038-005,Qty:6)
	Opened	11.7%	5.9%	Open (24992-000,29.4%), Open Coil Winding (22540-000,NR)
	No Output	10.2%	5.1%	No Output (23038-003,Qty:2), Inoperative (23038-005,Qty:1)
	Unknown	------	33.1%	Unknown (22540-000,NR) (23038-003,Qty:1) (23038-003,Qty:1) (23038-004,Qty:1) (23038-004,Qty:3) (23038-005,Qty:1) (23038-005,Qty:4) (23038-006,Qty:1)
	Induced	------	1.3%	Improper Energy Resp (23038-005,Qty:1), Improper Adjustment (23038-005,Qty:1), Handling (24417-000,NR), Vendor Defects (24417-000,NR)
	Other (<%8)	------	15.5%	
	Shorted		4.6%	Clog - Short (24992-000,11.8%), Short Or Grounded (23038-003,Qty:1), Shorted Coil Winding (Partial) (22540-000,NR), Shorted Coil Winding (22540-000,NR), Short/Open Shunt Series Resistance (22540-000,NR)
	Loss of Control		4.2%	Control Inoperative (23038-003,Qty:1) (23038-004,Qty:1) (23038-005,Qty:1)
	Incorrect Voltage		2.7%	Incorrect Voltage (23038-005,Qty:1) (23038-005,Qty:3)
	Cracked/Fractured		1.3%	Cracked (23038-005,Qty:1) (23038-005,Qty:1)
	Out of Adjustment		1.3%	Out Of Adjustment (23038-004,Qty:1)
	Degraded Output		0.7%	Low Performance (23038-005,Qty:1)
	Brittle		0.7%	Brittle (23038-005,Qty:1)
	Electrical Overstress		NR	Electrical Overstress (24417-000,NR)
	Mechanical Overstress		NR	Mechanical Overstress (24417-000,NR)
	Spring Failure		NR	Spring Relaxation (22540-000,NR)
	Diode Failure		NR	Leaky Rectifier Diode (22540-000,NR), Short/Open Rectifier Diodes (22540-000,NR)
	Bearing Failure		NR	Bearing Wear or Dirty Bearing (22540-000,NR)
	Bent/Dented/Warped		NR	Bent or Broken Pointer (22540-000,NR)
Meter,Flow				Sources:1
	Degraded Output	100.0%	55.5%	High Reading (Catastrophic) (24992-000,89.1%)
	Induced	------	44.5%	High Reading (Degraded) (24992-000,71.5%)
Meter,Moving Coil				Sources:1
	No Output	70.0%	70.0%	No Reading (24990-000,70.0%)
	Drift	30.0%	30.0%	Drift (24990-000,30.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Meter,Multimeter				Sources:1
	Drift	100.0%	100.0%	Fluctuates/Unstable (23038-001,Qty:1)
Meter,Potentiometer				Sources:1
	Opened	33.3%	33.3%	Open (24994-000,33.3%)
	Shorted	16.7%	16.7%	Short (24994-000,16.7%)
	Arcing/Sparking	16.7%	16.7%	Arc (24994-000,16.7%)
	Drift	16.7%	16.7%	Drift (24994-000,16.7%)
	Unstable Operation	16.7%	16.7%	Unstable (24994-000,16.7%)
Meter,Potentiometer,Position Sensor				Sources:1
	Contaminated	100.0%	100.0%	Noisy-Internal Contamination (25001-000,Qty:1)
Meter,Potentiometer,Rotary				Sources:1
	Out of Spec.	40.0%	21.5%	Out of Tolerance (20609-000,Qty:62)
	Broken	32.9%	17.7%	Broken (20609-000,Qty:51)
	Worn	14.8%	8.0%	Worn Out (20609-000,Qty:23)
	Opened	8.4%	4.5%	Opened (20609-000,Qty:13)
	Noisy	3.9%	2.1%	Noisy (20609-000,Qty:6)
	Unknown	------	38.2%	Unknown (20609-000,Qty:29) (20609-000,Qty:81)
	Other (<%4)	------	8.0%	
	Corroded		1.7%	Corroded (20609-000,Qty:5)
	Contaminated		1.4%	Contaminated (20609-000,Qty:4)
	Burned/Charred		1.4%	Burned (20609-000,Qty:4)
	Binding/Sticking		1.4%	Binding (20609-000,Qty:4)
	No Operation		0.7%	No Operation (20609-000,Qty:2)
	Intermittent Operation		0.7%	Intermittent (20609-000,Qty:2)
	Out of Adjustment		0.3%	Out of Adjustment (20609-000,Qty:1)
	Arcing/Sparking		0.3%	Arcing (20609-000,Qty:1)
Meter,Ruggedized				Sources:1
	Seal/Gasket Failure	100.0%	75.0%	Catastrophic-Opens, Glass Breakage, Open Seals-(24993-000,75.0%)
	Induced	------	25.0%	Degradation (Accuracy Friction, Damping) (24993-000,25.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Meter,Thermometer				Sources:1
	Broken	100.0%	50.0%	Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1), Part Struck/Damaged - Inaccurate (25101-000,Qty:1)
	Induced	------	50.0%	Fell Off Or Lost - Missing (25101-000,Qty:1), Missing (25101-000,Qty:1)
Meter,Time,Elapsed				Sources:2
	No Operation	44.4%	44.4%	Inoperative-Lifted Substrate Bond Wire (10722-000,Qty:2), Non-Functional (10722-000,Qty:1), Ceased Incrementing (10722-000,Qty:1)
	Wire Failure	22.2%	22.2%	Strained Wire (Tensile Failure) In A Coil (10722-000,Qty:2)
	No Movement	22.2%	22.2%	Stopped Incrementing-Broken Lens (10722-000,Qty:1), No Indicator Movement (10722-000,Qty:1)
	Opened	11.1%	11.1%	Coil Open-Tensile Failure (10722-000,Qty:1), Test Console Intermittently Open (12702-000,NR), Mag Wheel Coil Open in Number 2 Position (12702-000,NR)
	Unknown	------	<0.1%	Unknown (12702-000,NR) (12702-000,NR) (12702-000,NR) (12702-000,NR) (12702-000,NR) (12702-000,NR) (12702-000,NR)
	Other	------	0.0%	
	Out of Regulation		NR	12 Volt Regulator-Out of Regulation (12702-000,NR)
	Transformer Failure		NR	Transformer, T-1, Open (12702-000,NR)
	Winding Failure		NR	ETM Winding Open (12702-000,NR) (12702-000,NR)
	Shorted		NR	Q-2 Transistor Shorted (12702-000,NR)
	Mag Wheel Failure		NR	Mag Wheel (12702-000,NR), Mag Wheel Hangs Up (12702-000,NR)
	Contaminated		NR	Dirty Encoder Mask (12702-000,NR)
	Loose		NR	Course Heading Pointer Loose (12702-000,NR)
Meter,Vertical Speed				Sources:1
	Spurious/False Operation	37.5%	25.0%	Faulty Reading (23038-001,Qty:6)
	Drift	18.8%	12.5%	Fluctuates/Unstable (23038-001,Qty:3)
	Shorted	18.8%	12.5%	Shorted Or Grounded (23038-001,Qty:3)
	Lamp Failure	12.5%	8.3%	Light Bulb Failure (23038-001,Qty:2)
	Connection Failure	6.3%	4.2%	Connection Defective (23038-001,Qty:1)
	Incorrect Voltage	6.3%	4.2%	Incorrect Voltage (23038-001,Qty:1)
	Unknown	------	33.3%	Unknown (23038-001,Qty:8)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Microsyn				Sources:1
	Shorted	100.0%	100.0%	1.1 Kilohm Short From Secondary Winding To Case (10722-000,Qty:1)
Microwave,Phase Shifter				Sources:1
	No Output	100.0%	100.0%	No Output (25015-000,10.0%), Incorrect Output (25015-000,90.0%)
Microwave,Polarizer				Sources:1
	Change in Polariz.	100.0%	100.0%	Change in Polarization -very low failure rate- (25015-000,100.0%)
Mixer,Microwave				Sources:1
	Diode Failure	100.0%	100.0%	Diode Fails creates Power Loss of Intermediate Frq (25015-000,10.0%), Diode Fails - Power decrease & High insertion loss (25015-000,90.0%)
Mixer,Microwave,Electrical				Sources:1
	Induced	------	<0.1%	Burnout (24417-001,NR)
	Other	------	100.0%	
	Seal/Gasket Failure		NR	Seal Failure (24417-001,NR)
	Worn		NR	Tube Wearout (24417-001,NR)
Modulator,Microwave				Sources:1
	Loss of Power	90.0%	90.0%	Schottky Diode Failure, Power Loss (25015-000,90.0%)
	No Output	10.0%	10.0%	Schottky Diode Failure, No Ouptut (25015-000,10.0%)
Modulator,Pulse Width				Sources:1
	Electrical Overstress	100.0%	100.0%	Overstress (10722-000,Qty:1)
Module,Frequency Standard				Sources:1
	No Operation	50.0%	50.0%	Emitter Q3 Open Inoperative-External Overstress (10722-000,Qty:1)
	Shift In Frequency	50.0%	50.0%	Shift In Frequency (10722-000,Qty:1)

Part Failure Mode Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Module, Pre Amp Board			Sources:1
Output Distortion	100.0%	100.0%	Output Distortion-Open Resistor Termination (10722-000,5.0%)
Module, Solar Cell			Sources:1
Cracked/Fractured	33.6%	33.6%	Cracked cells (24997-000,37.1%)
Delamination	27.7%	27.7%	Delamination of equipment (24997-000,30.6%)
Interconnect Failure	25.0%	25.0%	Interconnections (24997-000,27.6%)
Dielectric Breakdown	8.2%	8.2%	Dielectric breakdown - shorts (24997-000,9.1%)
Corroded	5.5%	5.5%	Corrosion (24997-000,6.1%)
Module, Torque Bridge			Sources:1
Shorted	100.0%	100.0%	Pins 2 And 6 Shorted (10722-000,Qty:1)
Motor Generator Set (Summary)			
Fails During Operation	33.2%		
Mechanical Failure	22.1%		
Electrical Failure	17.2%		
Bearing Failure	12.3%		
Winding Failure	12.3%		
Slipring Brush Failure	3.1%		
Motor Generator Set			Sources:1
Mechanical Failure	56.3%	36.0%	Mechanical Failure (24996-000,36.0%)
Electrical Failure	43.8%	28.0%	Electrical Failure (24996-000,28.0%)
Unknown	------	36.0%	Unknown (24996-000,36.0%)
Motor Generator Set, Diesel			Sources:1
Fails During Operation	50.0%	14.0%	Catastrophic-Fails While Running (18175-000,14.0%)
Out of Spec.	50.0%	14.0%	Degraded - Out Of Spec (18175-000,14.0%)
Unknown	------	72.0%	Unknown (18175-000,72.0%)
Motor Generator Set, Diesel, AC			Sources:1
Fails During Operation	94.8%	66.0%	Catastrophic-Fails While Running (18175-000,NR) (18175-000,14.0%) (18175-000,14.0%) (18175-000,100.0%) (18175-000,100.0%) (18175-000,100.0%) (18175-000,100.0%) (18175-000,100.0%)
Degraded Operation	5.0%	3.5%	Degraded (18175-000,14.0%) (18175-000,14.0%)
Fails to Start	0.2%	0.1%	Catastrophic-Fails To Start and Run (18175-000,1.0%)
Unknown	------	30.4%	Unknown (18175-000,72.0%) (18175-000,72.0%) (18175-000,99.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Motor Generator Set,Drive				Sources:1
	Winding Failure	44.4%	20.0%	Winding Failures (24993-000,20.0%)
	Bearing Failure	44.4%	20.0%	Bearing Failures (24993-000,20.0%)
	Slipring Brush Failure	11.1%	5.0%	Slipring Brushes, and Commutators (24993-000,5.0%)
	Unknown	------	55.0%	Unknown (24993-000,55.0%)
Motor Generator Set,Electric,DC				Sources:1
	Fails to Run,After Start	52.8%	19.0%	Catastrophic-Fails Once Started (18175-000,19.0%)
	Fails to Start	30.6%	11.0%	Catastrophic-Fails To Start (18175-000,11.0%)
	Degraded Operation	16.7%	6.0%	Degraded (18175-000,6.0%)
	Unknown	------	64.0%	Unknown (18175-000,64.0%)
Mount				Sources:1
	Broken	59.1%	54.2%	Broken/Damaged (25101-000,Qty:3) (25101-000,Qty:4) (25101-000,Qty:6)
	Excessive Play	36.4%	33.3%	Internal Failure - Excessive Play (25101-000,Qty:5), No Failure - Excessive Play (25101-000,Qty:2), Excessive Play (25101-000,Qty:1)
	Loose	4.5%	4.2%	Internal Failure - Loose (25101-000,Qty:1)
	Induced	------	8.3%	Caused By Other Failure-Broken/Damaged (25101-000,Qty:2)
Nut				Sources:1
	Loose	100.0%	100.0%	Loose (25101-000,Qty:1)
Nut,Locking				Sources:1
	Corroded	50.0%	33.3%	Corroded-Fnd In TI/PMSC/INSP (25101-000,Qty:1)
	Seized	50.0%	33.3%	Improper - Seized (25101-000,Qty:1)
	Induced	------	33.3%	Improper Maintenance - Broken/Damaged (25101-000,Qty:1)
Nut,Micrometer				Sources:1
	Out of Adjustment	100.0%	100.0%	Out Of Adjustment - Inaccurate (25101-000,Qty:2)
Nut,Plain				Sources:1
	Loose	100.0%	100.0%	Loose (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Nut,Plain,Hexagon				Sources:1
	Loose	100.0%	60.0%	Loose Nut(s) - Out Of Synch (25101-000,Qty:1), Vibration - Loose (25101-000,Qty:1), Loose Bolt(s) (25101-000,Qty:1)
	Induced	------	40.0%	Fell Off Or Lost - Missing (25101-000,Qty:1), Vibration - Missing (25101-000,Qty:1)
Nut,Plain,Round				Sources:1
	Loose	58.3%	53.8%	Loose (25101-000,Qty:1), Vibration - Loose (25101-000,Qty:3), Loose Nut(s) - Excessive Play (25101-000,Qty:1), Loose Nut(s) - Abnormal Operation (25101-000,Qty:2)
	Excessive Play	25.0%	23.1%	Oversize - Excessive Play (25101-000,Qty:1), Unknown - Excessive Play (25101-000,Qty:1), Excessive Play (25101-000,Qty:1)
	Out of Adjustment	8.3%	7.7%	Out Of Adjustment - Inop/Unserviceable (25101-000,Qty:1)
	Worn	8.3%	7.7%	Worn - Inaccurate (25101-000,Qty:1)
	Induced	------	7.7%	Improper Maintenance - Broken/Damaged (25101-000,Qty:1)
Nut,Slotted				Sources:1
	Loose	100.0%	66.7%	Loose Nut(s) - Abnormal Operation (25101-000,Qty:2)
	Induced	------	33.3%	Lack Of Maintenance - Fnd In TI/PMCS/INSP (25101-000,Qty:1)
Nut,Special				Sources:1
	Loose	80.0%	80.0%	Out Of Adjustment - Loose (25101-000,Qty:1), Loose Nut(s) - Excessive Play (25101-000,Qty:2), Loose Nut(s) - Loose (25101-000,Qty:1)
	Excessive Play	20.0%	20.0%	Excessive Play (25101-000,Qty:1)
Nut,Wheel				Sources:1
	Loose	100.0%	16.7%	Loose Nut(s) - Abnormal Operation (25101-000,Qty:1)
	Induced	------	83.3%	Improper Maintenance - Worn Out (25101-000,Qty:1), Lack Of Maintenance - Loose Bolt(s) (25101-000,Qty:1), Lack Of Maintenance - Broken/Damaged (25101-000,Qty:1), Overtorqued - Broken Bolt(s) (25101-000,Qty:1), Overtorqued - Broken/Damaged (25101-000,Qty:1)
Nut,Wing				Sources:1
	Induced	------	100.0%	Fell Off Or Lost - Missing (25101-000,Qty:1), Lack Of Maintenance - Missing (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
One Shot Explosive				Sources:1
	High Pot and IR	40.4%	37.2%	High - Pot and IR (24992-000,37.3%)
	Ignition Failure	22.0%	20.3%	Ignition Failure (24992-000,20.3%)
	Output Failure	13.5%	12.5%	Output Failure (24992-000,12.5%)
	Mechanical Failure	9.0%	8.3%	Mechanical Failure (24992-000,8.3%)
	Leaking	8.4%	7.8%	Leak (24992-000,7.8%)
	Short - Open	5.6%	5.2%	Short - Open (24992-000,5.2%)
	Contact Failure	1.1%	1.0%	Contact Failure (24992-000,1.0%)
	Unknown	------	6.8%	Unknown (24992-000,6.8%)
	Induced	------	1.0%	Burnout (24992-000,1.0%)
Optical,Prism				Sources:1
	Cracked/Fractured	50.0%	33.3%	Vibration - Cracked (25101-000,Qty:1), Cracked/Split-Inop/Unserviceable (25101-000,Qty:1)
	Loose	25.0%	16.7%	Part Missing/Loose - Inaccurate (25101-000,Qty:1)
	Out of Adjustment	25.0%	16.7%	Out Of Adjustment - Inaccurate (25101-000,Qty:1)
	Induced	------	33.3%	Abnormal Operation (25101-000,Qty:1), Dropped - Broken/Damaged (25101-000,Qty:1)
Optical,Prism,Assembly				Sources:1
	Loose	40.0%	16.7%	Internal Failure - Loose (25101-000,Qty:1), Part Missing/Loose - Inop/Unserviceable (25101-000,Qty:1)
	Seal/Gasket Failure	20.0%	8.3%	Seals Worn - Loose (25101-000,Qty:1)
	Out of Adjustment	20.0%	8.3%	Out Of Adjustment - Inaccurate (25101-000,Qty:1)
	Aged/Deteriorated	20.0%	8.3%	Deteriorated/Aged - Broken/Damaged (25101-000,Qty:1)
	Induced	------	41.7%	Internal Failure - Inaccurate (25101-000,Qty:5)
	Unknown	------	16.7%	Unknown (25101-000,Qty:1) (25101-000,Qty:1)
Optoelectronic Dev.,Fiber Optic Dev				Sources:1
	Unknown	------	<0.1%	Unknown (24997-000,NR)
	Other	------	100.0%	
	Worn		NR	Connectors:Mech. Problems-Mismating & Wear (24997-000,NR)
	Mechanical Failure		NR	Connectors:Mech. Problems-Optical Losses (24997-000,NR)
	Cable Failure		NR	Cable:(Breaking or Fracture) (24997-000,NR), Cable:(Optical Losses) (24997-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Optoelectronic Dev.,LED				Sources:2
	Opened	70.0%	70.0%	High Z (24991-000,70.0%)
	Shorted	30.0%	30.0%	Low Z (24991-000,30.0%)
	Induced	------	<0.1%	Degradation in Their Optical Power (25037-000,NR)
Optoelectronic Dev.,Photovoltaic Cell				Sources:1
	Cracked/Fractured	36.8%	33.6%	Cracked Cells (25014-000,Qty:117)
	Encapsulant Delamination	24.2%	22.1%	Encapsulant Delamination (25014-000,Qty:77)
	Interconnect Failure	22.6%	20.7%	Interconnect Fractures (25014-000,Qty:64), Exposed Interconnects (25014-000,Qty:8)
	Dielectric Breakdown	9.7%	8.9%	Dielectric Breakdown (25014-000,Qty:31)
	Corroded	6.6%	6.0%	Wire and Terminal Corrosion (25014-000,Qty:21)
	Induced	------	8.6%	Unsoldered Interconnects (25014-000,Qty:30)
Optoelectronic Dev.,Sensor				Sources:2
	Opened	50.0%	50.0%	High Z (24991-000,50.0%)
	Shorted	50.0%	50.0%	Low Z (24991-000,50.0%)
	Other	------	0.0%	
	Degraded Operation		NR	Non-recoverable Dark Current Degradation (25037-000,NR), Junction Degradation (25037-000,NR), Localized Breakdown (25037-000,NR)
	Contaminated		NR	Mobile Ion Contamination (25037-000,NR), Oxide Contamination (25037-000,NR)
Oscillator,Microwave,Fixed				Sources:1
	No Output	80.0%	80.0%	No Output (25015-000,80.0%)
	Reduced Output	10.0%	10.0%	Power Reduction (25015-000,10.0%)
	Shift In Frequency	10.0%	10.0%	Untuned Frequency (25015-000,10.0%)
Oscillator,Microwave,VCO				Sources:1
	No Output	80.0%	80.0%	No Output (25015-000,80.0%)
	Shift In Frequency	15.0%	15.0%	Untuned Frequency (25015-000,15.0%)
	Reduced Output	5.0%	5.0%	Power Reduction (25015-000,5.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Oscillator,Microwave,YIG				Sources:1
	No Output	80.0%	80.0%	No Output (25015-000,80.0%)
	Shift In Frequency	15.0%	15.0%	Untuned Frequency (25015-000,15.0%)
	Reduced Output	5.0%	5.0%	Power Reduction (25015-000,5.0%)
Pad,Cushioning				Sources:1
	Aged/Deteriorated	100.0%	100.0%	Deteriorated/Aged - Inop/Unserviceable (25101-000,Qty:1)
Panel,Control				Sources:1
	Unknown	------	<0.1%	Unknown (24996-000,NR)
Pawl				Sources:1
	Broken	45.5%	45.5%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:3)
	Worn	27.3%	27.3%	Worn Out (25101-000,Qty:3)
	Excessive Play	18.2%	18.2%	Internal Failure - Excessive Play (25101-000,Qty:1), Worn - Excessive Play (25101-000,Qty:1)
	Loose	9.1%	9.1%	Worn - Loose (25101-000,Qty:1)
Pin Assembly				Sources:1
	Broken	65.0%	14.6%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2), Part Struck/Damaged - Inop/Unserviceable (25101-000,Qty:1), Broken/Separated - Inop/Unserviceable (25101-000,Qty:1) (25101-000,Qty:3) (25101-000,Qty:4)
	Loose	15.0%	3.4%	Stolen - Loose (25101-000,Qty:1), Loose (25101-000,Qty:1) (25101-000,Qty:1)
	Bent/Dented/Warped	5.0%	1.1%	Collapsed/Bent (25101-000,Qty:1)
	Corroded	5.0%	1.1%	Corroded-Corroded (25101-000,Qty:1)
	Worn	5.0%	1.1%	Worn - Inaccurate (25101-000,Qty:1)
	Out of Adjustment	5.0%	1.1%	Out Of Adjustment - Inaccurate (25101-000,Qty:1)
	Induced	------	71.9%	Caused By Other Failure-Inop/Unserviceable (25101-000,Qty:1), Fell Off Or Lost - Missing (25101-000,Qty:2) (25101-000,Qty:4) (25101-000,Qty:7) (25101-000,Qty:11), Fell Off Or Lost - Found In TI/PMCS/Insp (25101-000,Qty:1), Item Abuse/Neglect - Missing (25101-000,Qty:1) (25101-000,Qty:1), Stolen - Missing (25101-000,Qty:2) (25101-000,Qty:3) (25101-000,Qty:6) (25101-000,Qty:7), Wrong Part - Found In TI/PMCS/Insp (25101-000,Qty:1), Fell Off Or Lost - Inop/Unserviceable (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1), Improper Installation - Locked (25101-000,Qty:1), Missing (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:7), No Failure - Missing (25101-000,Qty:1), Safety Wire/Key Failure - Inop/Unserviceable (25101-000,Qty:1), Safety Wire/Key Failure - Missing (25101-000,Qty:1), Caused By Other Failure-Missing (25101-000,Qty:1)
	Unknown	------	5.6%	Unknown (25101-000,Qty:1) (25101-000,Qty:2)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Pin Assembly (continued)				
	Unknown (continued)			(25101-000,Qty:2)
Pin Mechanical				Sources:1
	Broken	33.3%	15.4%	Broken/Damaged (25101-000,Qty:1), Part Struck/Damaged - Out Of Synch (25101-000,Qty:1)
	Loose	16.7%	7.7%	Vibration - Loose (25101-000,Qty:1)
	Excessive Play	16.7%	7.7%	Part Missing/Loose - Excessive Play (25101-000,Qty:1)
	Aged/Deteriorated	16.7%	7.7%	Deteriorated/Aged - Broken Bolt(s) (25101-000,Qty:1)
	Spring Failure	16.7%	7.7%	Pring Weak - Inop/Sluggish Breech (25101-000,Qty:1)
	Induced	------	53.8%	Improper Maintenance - Binding/Sticking (25101-000,Qty:1) (25101-000,Qty:1), Fell Off Or Lost - Missing (25101-000,Qty:1) (25101-000,Qty:1), Stolen - Missing (25101-000,Qty:1), Fell Off Or Lost - Inaccurate (25101-000,Qty:1), Fell Off Or Lost - Inop/Unserviceable (25101-000,Qty:1)
Pin Mechanical,Breech				Sources:1
	Induced	------	100.0%	Fell Off Or Lost - Missing (25101-000,Qty:1)
Pin Mechanical,Cotter				Sources:1
	Broken	77.8%	28.0%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:3), Broken/Separated-Missing (25101-000,Qty:1) (25101-000,Qty:1)
	Aged/Deteriorated	22.2%	8.0%	Deteriorated/Aged - Broken/Damaged (25101-000,Qty:2)
	Induced	------	64.0%	Lack Of Maintenance - Loose (25101-000,Qty:1), Fell Off Or Lost - Missing (25101-000,Qty:7), Improper Installation - Missing (25101-000,Qty:1), Stolen - Missing (25101-000,Qty:1), Improper Maintenance - Missing (25101-000,Qty:1), Missing (25101-000,Qty:1) (25101-000,Qty:1), Item Abuse/Neglect - Missing (25101-000,Qty:1), Caused By Other Failure-Missing (25101-000,Qty:1), Fell Off Or Lost - Fnd In TI/PMSC/INSP (25101-000,Qty:1)
Pin Mechanical,Firing				Sources:1
	Worn	50.0%	50.0%	Worn - Inop/Unserviceable (25101-000,Qty:2)
	Bent/Dented/Warped	25.0%	25.0%	Warped/Bent - Misfire (25101-000,Qty:1)
	Misfire	25.0%	25.0%	Misfire (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Pin Mechanical,Grooved,Headed				Sources:1
	Broken	100.0%	25.0%	Broken/Separated - Inaccurate (25101-000,Qty:1)
	Induced	------	75.0%	Fell Off Or Lost - Missing (25101-000,Qty:1) (25101-000,Qty:1), Improper Maintenance - Missing (25101-000,Qty:1)
Pin Mechanical,Quick Release				Sources:1
	Broken	96.8%	62.5%	Broken/Damaged (25101-000,Qty:3) (25101-000,Qty:9), Broken/Separated-Locked (25101-000,Qty:2), Broken/Separated - Inop/Unserviceable (25101-000,Qty:12), Broken/Separated - Broken/Damaged (25101-000,Qty:4)
	Bearing Failure	3.2%	2.1%	Bearing Failure-Inop/Unserviceable (25101-000,Qty:1)
	Unknown	------	18.8%	Unknown (25101-000,Qty:2) (25101-000,Qty:7)
	Induced	------	16.7%	Fell Off Or Lost - Missing (25101-000,Qty:3), Item Abuse/Neglect - Inop/Unserviceable (25101-000,Qty:1), Stolen - Missing (25101-000,Qty:1), Fell Off Or Lost - Inop/Unserviceable (25101-000,Qty:3)
Pin Mechanical,Shear				Sources:1
	Broken	100.0%	62.0%	Broken/Damaged (25101-000,Qty:3) (25101-000,Qty:16) (25101-000,Qty:84)
	Induced	------	38.0%	Caused By Other Failure-Broken/Damaged (25101-000,Qty:62), Caused By Other Failure-Broken Bolt(s) (25101-000,Qty:1)
Pin Mechanical,Spring				Sources:1
	Broken	44.1%	30.0%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2), Broken/Separated - Inop Man Elevation (25101-000,Qty:1), Broken/Separated - Binding/Sticking (25101-000,Qty:1), Broken/Separated - Broken/Damaged (25101-000,Qty:1), Broken/Separated - Inop/Unserviceable (25101-000,Qty:2), Broken/Separated - Abnormal Operation (25101-000,Qty:1) (25101-000,Qty:1), Broken/Separated - Inop Man Traverse (25101-000,Qty:1) (25101-000,Qty:2), Vibration - Broken/Damaged (25101-000,Qty:1)
	No Operation	26.5%	18.0%	Inop/Sluggish Breech (25101-000,Qty:1), Inop Man Elevation (25101-000,Qty:1), Fell Off Or Lost - Inop Man Elevation (25101-000,Qty:1), Fell Off Or Lost - Inop Man Traverse (25101-000,Qty:1) (25101-000,Qty:4), Inop Man Traverse (25101-000,Qty:1)
	Loose	20.6%	14.0%	Part Missing/Loose - Locked (25101-000,Qty:1), Part Missing/Loose (25101-000,Qty:1), Worn - Loose (25101-000,Qty:1), Loose Screw(s) - Broken/Damaged (25101-000,Qty:1), Part Missing/Loose - Broken/Damaged (25101-000,Qty:1), Part Missing/Loose - Inop Man Traverse (25101-000,Qty:1), Vibration - Loose (25101-000,Qty:1)
	Worn	8.8%	6.0%	Worn - Inop Man Traverse (25101-000,Qty:1), Worn - Noisy (25101-000,Qty:1), Wron - Inop/Unserviceable (25101-000,Qty:1)
	Induced	------	22.0%	Fell Off Or Lost - Inop/Unserviceable (25101-000,Qty:1) (25101-000,Qty:1), Improper Install - Excessive Play (25101-000,Qty:1), Improper Maintenance - Abnormal Operation (25101-000,Qty:1), Vibration - Missing (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1), Wrong Part -

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Pin Mechanical,Spring (continued)				
	Induced (continued)			
				Binding/Sticking (25101-000,Qty:1), Wrong Part - Inop Man Traverse (25101-000,Qty:1), Caused By Other Failure-Inop Man Traverse (25101-000,Qty:2)
	Other (<%4)	------	10.0%	
	Out of Adjustment		2.0%	Out Of Adjustment - Inop/Inserviceable (25101-000,Qty:1)
	Aged/Deteriorated		2.0%	Deteriorated/Aged - Inop Man Elevation (25101-000,Qty:1)
	Cut/Scarred/Punctured		2.0%	Cut-Inop Man Traverse (25101-000,Qty:1)
	Binding/Sticking		2.0%	Internal Failure - Binding/Sticking (25101-000,Qty:1)
	Excessive Vibration		2.0%	Vibration - Abnormal Operation (25101-000,Qty:1)
Pin Mechanical,Straight				Sources:1
	Worn	57.1%	22.2%	Worn - Inop/Unserviceable (25101-000,Qty:4)
	Broken	14.3%	5.6%	Broken/Damaged (25101-000,Qty:1)
	Misfire	14.3%	5.6%	Vibration - Misfire (25101-000,Qty:1)
	Loose	14.3%	5.6%	Part Missing/Loose - Found In TI/PMCS/Insp (25101-000,Qty:1)
	Induced	------	61.1%	Fell Off Or Lost - Missing (25101-000,Qty:1) (25101-000,Qty:2), Improper Install - Missing (25101-000,Qty:2), Improper Install - Misfire (25101-000,Qty:2), Improper Maintenance - Missing (25101-000,Qty:1), Improper Maintenance - Misfire (25101-000,Qty:1), Missing (25101-000,Qty:1), Vibration - Missing (25101-000,Qty:1)
Pin Mechanical,Straight,Headed				Sources:1
	Broken	40.0%	33.3%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1)
	Worn	20.0%	16.7%	Worn - Inop/Unserviceable (25101-000,Qty:1)
	Aged/Deteriorated	20.0%	16.7%	Deteriorated/Aged - Broken/Damaged (25101-000,Qty:1)
	Loose	20.0%	16.7%	Part Missing/Loose - Missing (25101-000,Qty:1)
	Induced	------	16.7%	Vibration - Missing (25101-000,Qty:1)
Pin Mechanical,Straight,Thread				Sources:1
	Broken	100.0%	50.0%	Broken/Damaged (25101-000,Qty:1), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:2)
	Induced	------	50.0%	Vibration - Missing (25101-000,Qty:3)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Pin Mechanical, Susp Lock				Sources:1
	Induced	------	100.0%	Safety Wire/Key Fail - Missing (25101-000,Qty:2), Fell Off Or Lost - Missing (25101-000,Qty:1), Missing (25101-000,Qty:1)
Pin Mechanical, Tapered				Sources:1
	Broken	100.0%	36.4%	Broken/Damaged (25101-000,Qty:4)
	Induced	------	54.5%	Fell Off Or Lost - Inop/Unserviceable (25101-000,Qty:2), Vibration - Missing (25101-000,Qty:2), Wrong Part - Excessive Play (25101-000,Qty:1), Wrong Part - Fnd In TI/PMCS/INSP (25101-000,Qty:1)
	Unknown	------	9.1%	Unknown (25101-000,Qty:1)
Pipe, Rigid, Metal				Sources:1
	Unknown	------	<0.1%	Unknown (24996-000,NR)
	Other	------	100.0%	
	Leaking		NR	Leaks (24996-000,NR)
	Burst/Ruptured		NR	Ruptures (24996-000,NR)
	Fitting Failure		NR	Failure of Fitting (24996-000,NR)
Piston Assembly				Sources:1
	Seized	75.0%	60.0%	Seized/Frozen - Inop/Unserviceable (25101-000,Qty:2), Seized/Frozen - Seized (25101-000,Qty:1)
	Binding/Sticking	25.0%	20.0%	Internal Failure - Binding/Sticking (25101-000,Qty:1)
	Induced	------	20.0%	Caused By Other Failure-Locked (25101-000,Qty:1)
Piston, Body				Sources:1
	Bent/Dented/Warped	42.9%	37.5%	Warped/Bent - Binding/Sticking (25101-000,Qty:2), Warped/Bent - Locked (25101-000,Qty:1)
	Seized	42.9%	37.5%	Seized/Frozen - Inop/Unserviceable (25101-000,Qty:1), Seized/Frozen - Binding/Sticking (25101-000,Qty:1), Seized/Frozen - Abnormal Operation (25101-000,Qty:1)
	Broken	14.3%	12.5%	Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1)
	Induced	------	12.5%	Lack Of Lubrication - Locked (25101-000,Qty:1)
Piston, Indicator				Sources:1
	Leaking	85.7%	75.0%	No Failure - Leaking Hydaulic Oil (25101-000,Qty:11), Leaking Hydraulic Oil (25101-000,Qty:1)
	Out of Adjustment	14.3%	12.5%	Out Of Adjustment - Out Of Synch (25101-000,Qty:2)
	Unknown	------	6.3%	Unknown (25101-000,Qty:1)
	Induced	------	6.3%	Improper Adjustment - Out Of Synch (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Piston,Linear				Sources:1
	Binding/Sticking	100.0%	100.0%	Binding/Sticking (25101-000,Qty:1)
Pivot				Sources:1
	Loose	100.0%	20.0%	Loose (25101-000,Qty:1)
	Induced	------	80.0%	Item Abuse/Neglect - Missing (25101-000,Qty:2), Stolen - Missing (25101-000,Qty:1), Improper Maintenance - Broken/Damaged (25101-000,Qty:1)
Plate,Locking Assembly				Sources:1
	Aged/Deteriorated	100.0%	100.0%	Deteriorated/Aged - Broken/Damaged (25101-000,Qty:1)
Platform Assembly				Sources:1
	Bent/Dented/Warped	80.0%	50.0%	Collapsed/Bent (25101-000,Qty:1), Warped/Bent - Fnd In TI/PMSC/INSP (25101-000,Qty:3)
	Broken	20.0%	12.5%	Broken/Damaged (25101-000,Qty:1)
	Unknown	------	25.0%	Unknown (25101-000,Qty:2)
	Induced	------	12.5%	Abnormal Operation (25101-000,Qty:1)
Platform Assembly,Lock/Pivot				Sources:1
	Broken	100.0%	100.0%	Broken/Damaged (25101-000,Qty:2)
Platform Assembly,Locking				Sources:1
	Broken	100.0%	100.0%	Broken/Damaged (25101-000,Qty:1), Poor Design - Broken/Damaged (25101-000,Qty:7)
Plug				Sources:1
	Loose	41.7%	35.7%	Loose Nut(s) - Excessive Play (25101-000,Qty:4), Loose (25101-000,Qty:1)
	Excessive Play	33.3%	28.6%	Excessive Play (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1)
	Broken	8.3%	7.1%	Broken/Damaged (25101-000,Qty:1)
	Worn	8.3%	7.1%	Worn - Inop/Unserviceable (25101-000,Qty:1)
	Corroded	8.3%	7.1%	Corroded-Seized (25101-000,Qty:1)
	Unknown	------	14.3%	Unknown (25101-000,Qty:1) (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Plug,Expansion				Sources:1
	Worn	50.0%	44.4%	Worn - Leaking Fluid (25101-000,Qty:3), Worn - Leaking Hydraulic Oil (25101-000,Qty:1)
	Leaking	25.0%	22.2%	Leaking Fluid (25101-000,Qty:2)
	Broken	12.5%	11.1%	Broken/Separated-Missing (25101-000,Qty:1)
	Bent/Dented/Warped	12.5%	11.1%	Warped/Bent - Leaking Fluid (25101-000,Qty:1)
	Unknown	------	11.1%	Unknown (25101-000,Qty:1)
Plug,Machine Thread				Sources:1
	Broken	50.0%	17.4%	Broken/Damaged (25101-000,Qty:3), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1)
	Loose	12.5%	4.3%	Loose Nut(s) - Missing (25101-000,Qty:1)
	Shorted	12.5%	4.3%	Grounded/Shorted - Broken/Damaged (25101-000,Qty:1)
	Out of Adjustment	12.5%	4.3%	Out Of Adjustment - Inaccurate (25101-000,Qty:1)
	Leaking	12.5%	4.3%	No Failure - Leaking Hydraulic Oil (25101-000,Qty:1)
	Induced	------	65.2%	Fell Off Or Lost - Missing (25101-000,Qty:4), Improper Installation - Missing (25101-000,Qty:2), Improper Maintenance - Broken/Damaged (25101-000,Qty:1), Improper Installation - Stripped (25101-000,Qty:1), Missing (25101-000,Qty:2), Lack Of Maintenance - Missing (25101-000,Qty:3), Stolen - Missing (25101-000,Qty:1), Vibration - Missing (25101-000,Qty:1)
Plug,Muzzle				Sources:1
	Aged/Deteriorated	100.0%	27.8%	Deteriorated/Aged - Inop/Unserviceable (25101-000,Qty:4), Deteriorated/Aged - Broken/Damaged (25101-000,Qty:1)
	Induced	------	66.7%	Missing (25101-000,Qty:1) (25101-000,Qty:9), Stolen - Missing (25101-000,Qty:2)
	Unknown	------	5.6%	Unknown (25101-000,Qty:1)
Plug,Pipe				Sources:1
	Stripped	60.0%	3.8%	Stripped (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1)
	Seal/Gasket Failure	20.0%	1.3%	Seals Worn - Leaking Hydraulic Oil (25101-000,Qty:1)
	Broken	20.0%	1.3%	Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1)
	Induced	------	92.4%	Improper Maintenance - Stripped (25101-000,Qty:1) (25101-000,Qty:2) (25101-000,Qty:11) (25101-000,Qty:21), Operation Error - Stripped (25101-000,Qty:5), Overtorqued - Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:15), Improper Maintenance - Binding/Sticking (25101-000,Qty:1), Improper Maintenance - Fnd In TI/PMCS/INSP (25101-000,Qty:1), Overtorqued - Inop/Unserviceable (25101-000,Qty:2), Overtorqued - Stripped (25101-000,Qty:10), Overtorqued - Fnd In TI/PMCS/INSP (25101-000,Qty:1), Improper Installation - Stripped (25101-000,Qty:1)
	Unknown	------	1.3%	Unknown (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Plunger				Sources:1
	Loose	31.3%	31.3%	Worn - Loose (25101-000,Qty:5)
	Worn	25.0%	25.0%	Worn - Inaccurate (25101-000,Qty:2), Worn - Fnd In TI/PMCS/INSP (25101-000,Qty:2)
	Excessive Play	25.0%	25.0%	Worn - Excessive Play (25101-000,Qty:4)
	Binding/Sticking	12.5%	12.5%	Worn - Binding/Sticking (25101-000,Qty:2)
	Shaft Frozen	6.3%	6.3%	Shaft Frozen - Inop/Unserviceable (25101-000,Qty:1)
Plunger Assembly				Sources:1
	Excessive Play	50.0%	50.0%	Worn - Excessive Play (25101-000,Qty:4)
	Loose	37.5%	37.5%	Worn - Loose (25101-000,Qty:3)
	Degraded Output	12.5%	12.5%	Internal Failure - Abnormal Operation (25101-000,Qty:1)
Plunger,Detent				Sources:1
	Worn	28.6%	22.2%	Worn Out (25101-000,Qty:1), Worn - Found In TI/PMCS/Insp (25101-000,Qty:1)
	Binding/Sticking	28.6%	22.2%	No Failure - Binding/Sticking (25101-000,Qty:1), Improper Adjustment - Binding/Sticking (25101-000,Qty:1)
	Broken	14.3%	11.1%	Broken/Damaged (25101-000,Qty:1)
	Bent/Dented/Warped	14.3%	11.1%	Warped/Bent - Inop/Sluggish Breech (25101-000,Qty:1)
	Corroded	14.3%	11.1%	Corroded-Seized (25101-000,Qty:1)
	Induced	------	22.2%	Lack of Maintenance - Binding/Sticking (25101-000,Qty:2)
Plunger,Firing				Sources:1
	Bent/Dented/Warped	100.0%	66.7%	Warped/Bent - Binding/Sticking (25101-000,Qty:2)
	Induced	------	33.3%	Improper Maintenance - Collapsed/Bent (25101-000,Qty:1)
Pneumatic,Actuator (Summary)				
	Spurious Closing	54.2%		
	Spurious Opening	45.8%		
Pneumatic,Actuator Instrument				Sources:1
	Spurious Closing	54.7%	41.4%	Catastrophic-Spurious Closing (18175-000,41.0%) (18175-000,41.0%)
	Spurious Opening	45.3%	34.3%	Catastrophic-Spurious Opening (18175-000,34.0%) (18175-000,34.0%)
	Induced	------	24.2%	Degraded - Premature Or Delayed Actuation (18175-000,24.0%) (18175-000,24.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Pneumatic,Actuator Instrument,Transducer				Sources:1
	Spurious Closing	54.7%	41.4%	Catastrophic-Spurious Closing (18175-000,41.0%)
	Spurious Opening	45.3%	34.3%	Catastrophic-Spurious Opening (18175-000,34.0%)
	Induced	------	24.2%	Degraded - Premature Or Delayed Actuation (18175-000,24.0%)
Pneumatic,Actuator Instrument,Transducer,Combined PositionerSources:1				
	Spurious Closing	54.7%	41.4%	Catastrophic-Spurious Closing (18175-000,41.0%)
	Spurious Opening	45.3%	34.3%	Catastrophic-Spurious Opening (18175-000,34.0%)
	Induced	------	24.2%	Degraded - Premature Or Delayed Actuation (18175-000,24.0%)
Pneumatic,Actuator Instrument,Transducer,Electro-PneumaticSources:1				
	Spurious Closing	54.7%	41.4%	Catastrophic-Spurious Closing (18175-000,41.0%)
	Spurious Opening	45.3%	34.3%	Catastrophic-Spurious Opening (18175-000,34.0%)
	Induced	------	24.2%	Degraded - Premature Or Delayed Actuation (18175-000,24.0%)
Pneumatic,Actuator Instrument,Transducer,I/P				Sources:1
	Spurious Closing	52.0%	39.0%	Catastrophic-Spurious Closing (18175-000,39.0%)
	Spurious Opening	48.0%	36.0%	Catastrophic-Spurious Opening (18175-000,36.0%)
	Induced	------	25.0%	Degraded - Premature Or Delayed Actuation (18175-000,25.0%)
Pneumatic,Diaphragm Spring Opp,Open/Close ServiceSources:1				
	Spurious Opening	51.1%	47.0%	Catastrophic-Spurious Opening (18175-000,47.0%) (18175-000,47.0%)
	Spurious Closing	48.9%	45.0%	Catastrophic-Spurious Closing (18175-000,45.0%) (18175-000,45.0%)
	Induced	------	8.0%	Degraded - Premature Or Delayed Actuation (18175-000,8.0%) (18175-000,8.0%)
Pneumatic,Double Acting Piston,Actuator				Sources:1
	Spurious Closing	50.0%	41.0%	Catastrophic-Spurious Closing (18175-000,41.0%)
	Spurious Opening	50.0%	41.0%	Catastrophic-Spurious Opening (18175-000,41.0%)
	Induced	------	18.0%	Degraded - Premature Or Delayed Actuation (18175-000,18.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Pneumatic,Double Acting Piston,Actuator,Throttling				Sources:1
	Spurious Opening	100.0%	73.0%	Catastrophic-Spurious Opening (18175-000,73.0%)
	Induced	------	27.0%	Degraded - Premature Or Delayed Actuation (18175-000,27.0%)
Pneumatic,Double Acting Piston,Actuator,Throttling Composite				Sources:1
	Spurious Opening	100.0%	73.0%	Catastrophic-Spurious Opening (18175-000,73.0%)
	Induced	------	27.0%	Degraded - Premature Or Delayed Actuation (18175-000,27.0%)
Pneumatic,Single Acting Piston,Actuator,Throttling				Sources:1
	Spurious Opening	50.9%	28.0%	Catastrophic-Spurious Opening (18175-000,28.0%) (18175-000,28.0%)
	Spurious Closing	49.1%	27.0%	Catastrophic-Spurious Closing (18175-000,27.0%) (18175-000,27.0%)
	Induced	------	45.0%	Degraded - Premature Or Delayed Acutation (18175-000,45.0%) (18175-000,45.0%)
Pneumatic,Single Acting Piston,Actuator,Throttling Composite				Sources:1
	Spurious Opening	50.5%	28.0%	Catastrophic-Spurious Opening (18175-000,28.0%) (18175-000,28.0%)
	Spurious Closing	49.5%	27.5%	Catastrophic-Spurious Closing (18175-000,27.0%) (18175-000,28.0%)
	Induced	------	44.5%	Degraded - Premature Or Delayed Actuation (18175-000,44.0%) (18175-000,45.0%)
Pneumatic,Single Acting Piston,Open/Close Service				Sources:1
	Spurious Closing	53.0%	47.7%	Catastrophic-Spurious Closing (18175-000,47.0%) (18175-000,48.0%) (18175-000,48.0%)
	Spurious Opening	47.0%	42.3%	Catastrophic-Spurious Opening (18175-000,42.0%) (18175-000,42.0%) (18175-000,43.0%)
	Induced	------	10.0%	Degraded - Premature Or Delayed Actuation (18175-000,10.0%) (18175-000,10.0%) (18175-000,10.0%)
Poles,Wood				Sources:2
	Broken	41.7%	28.4%	Split or Broken (24996-000,25.0%) (24997-000,25.0%)
	Internal Rotting	36.7%	25.0%	Internal Rotting (24996-000,22.0%) (24997-000,22.0%)
	Mechanical Damage	21.7%	14.8%	Mechanical Damage from Climate Causes(Wind, Ice) (24996-000,13.0%), Mechanical damage from climatic causes(Wind,Ice) (24997-000,13.0%)
	Induced	------	31.8%	Damage from Other Environmental Factors (24996-000,28.0%), Damage from other environ.factors(Vehicle damage) (24997-000,28.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Post,Electrical				Sources:1
	Loose	100.0%	100.0%	Loose (25101-000,Qty:1)
Power Supply (Summary)				
	No Output	25.7%		
	Fails To Transfer	18.1%		
	Incorrect Voltage	16.6%		
	Distribution System Malfunction	14.3%		
	Generation System Malfunction	12.7%		
	Degraded Operation	6.8%		
	Connector Failure	5.8%		
Power Supply				Sources:2
	Incorrect Voltage	25.9%	23.4%	Incorrect Voltage (24996-000,50.0%), Incorrect voltage (24997-000,50.0%)
	No Output	25.9%	23.4%	Failure to Supply Voltage (24996-000,50.0%), Failure to supply voltage (24997-000,50.0%)
	Distribution System Malfunction	11.9%	10.8%	Distribution system malfunction (24997-000,43.0%)
	Connector Failure	10.8%	9.7%	Specifically(Board Connectors) (24996-000,44.8%)
	Generation System Malfunction	10.5%	9.5%	Generation system malfunction (24997-000,38.0%)
	Plastic Op Amps & Diodes Failure	9.8%	8.8%	Specifically(Plastic op amps & diodes) (24996-000,40.7%)
	Transmission Sys. Failure	5.3%	4.8%	Transmission system malfunction (24997-000,19.0%)
	Unknown	------	4.2%	Unknown (24996-000,19.4%)
	Other (<%5)	------	5.5%	
	Capacitor Failure		3.2%	Specifically(Small Capacitors) (24996-000,14.8%)
	Potentiometer Failure		2.2%	Specifically(Potentiometers) (24996-000,10.3%)
	Battery Failure		NR	Batteries (24996-000,NR)
	Switching Circuit Failure		NR	Switching Circuits (24996-000,NR)
	Inverter Circuit Failure		NR	Inverter Circuits (24996-000,NR)
Power Supply,Public Utilities				Sources:1
	Distribution System Malfunction	53.1%	53.1%	Distribution System Malfunction (24996-000,43.0%)
	Generation System Malfunction	46.9%	46.9%	Generation System Malfunction (24996-000,38.0%)
	Other	------	0.0%	
	Transmission Sys. Failure		NR	Transmission System Malfunction-19 (24996-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Power Supply,Uninterruptable				Sources:2
	Fails To Transfer	47.1%	40.0%	Catastrophic-Fails To Transfer (18175-000,40.0%)
	No Output	35.3%	30.0%	Catastrophic-No Output (18175-000,30.0%)
	Degraded Operation	17.6%	15.0%	Degraded (18175-000,15.0%)
	Unknown	------	15.0%	Unknown (18175-000,15.0%)
	Other	------	0.0%	
	Inverter Circuit Failure		NR	Inverter circuits (24997-000,NR)
	Switching Circuit Failure		NR	Switching circuits (24997-000,NR)
	Battery Failure		NR	Batteries (24997-000,NR)
Power Supply,Uninterruptable,Single Phase,Static Inverter				Sources:1
	Fails To Transfer	50.0%	40.0%	Catastrophic-Fails To Transfer (18175-000,40.0%)
	No Output	37.5%	30.0%	Catastrophic-No Output (18175-000,30.0%)
	Degraded Operation	12.5%	10.0%	Degraded (18175-000,10.0%)
	Unknown	------	20.0%	Unknown (18175-000,20.0%)
Power Supply,Uninterruptable,Three Phase,Inverter				Sources:1
	Fails To Transfer	66.7%	58.0%	Catastrophic-Fails To Transfer (18175-000,40.0%)
	Degraded Operation	33.3%	29.0%	Degraded (18175-000,20.0%)
	Unknown	------	13.0%	Unknown (18175-000,9.0%)
	Other	------	0.0%	
	No Output		NR	Catastrophic-No Output (18175-000,NR)
Precipitator,Electrical,Pollution Control				Sources:1
	Electrical Failure	75.0%	75.0%	Electrical Failures (24996-000,75.0%)
	Mechanical Failure	25.0%	25.0%	Mechanical Failures (24996-000,25.0%)
Precipitator,Equipment,Pollution Control				Sources:1
	Mechanical Failure	36.9%	31.0%	Mechanical Malfunction (24996-000,31.0%)
	Corroded	20.2%	17.0%	Corrosion and Erosion (24996-000,17.0%)
	Electrical Failure	19.0%	16.0%	Elwctrical Malfunction (24996-000,16.0%)
	Slurry Pipelines	13.1%	11.0%	Slurry Pipelines (24996-000,11.0%)
	Instrument Failure	10.7%	9.0%	Instrument Malfunction (24996-000,9.0%)
	Unknown	------	16.0%	Unknown (24996-000,16.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Preformed Packing,Telescope,Pan M113				Sources:1
	Aged/Deteriorated	100.0%	100.0%	Deteriorated/Aged - Internal Moisture (25101-000,Qty:1)
Printed Wiring Assy				Sources:3
	Opened	35.8%	33.3%	Opens-Excessive Axial Force On Pins (10722-000,Qty:1), Path Open-Plating Voids In Barrel Metal (10722-000,Qty:1)
	Open Plated Through Hole	20.0%	18.6%	Printed Wire Board / Solder Joints (18504-021,38.0%), Failures (Reliability) Open PT holes (24997-000,NR), Failures (Reliability) Dielectric breakdwn/LowI.R. (24997-000,NR)
	Shorted	17.9%	16.7%	Intra Layer Short-Organic Contamination (10722-000,Qty:1), Manufacturing Defects(Quality) Short circuits (24997-000,NR)
	IC Failure	12.1%	11.3%	Integrated Circuits (18504-021,23.0%)
	Resistor Failure	5.8%	5.4%	Resistors (18504-021,11.0%)
	Semiconductor Failure	5.3%	4.9%	Semiconductors (18504-021,10.0%)
	Capacitor Failure	3.2%	2.9%	Capacitors (18504-021,6.0%)
	Unknown	------	5.9%	Unknown (18504-021,12.0%)
	Other (<%2)	------	0.9%	
	Connector Failure		0.9%	Connectors (18504-021,1.9%)
	Manufacturing Defects		NR	Manufacturing Defects(Quality) Line uniformity (24997-000,NR), Manufacturing Defects(Quality) Missing lands (24997-000,NR)
	Open Circuit		NR	Manufacturing Defects(Quality) Open circuits (24997-000,NR)
	Fatigue		NR	Failures (Reliability) Open circuit (Fatigue) (24997-000,NR)
	Mechanical Damage		NR	Failures (Reliability) Mechanical damage (24997-000,NR)
Printer,High Speed				Sources:1
	IC Failure	31.1%	10.4%	Defective IC (19542-000,10.5%)
	Motor Failure	29.3%	9.8%	Motor & Roller Are Defective (19542-000,0.9%), Motor Defective (19542-000,1.8%), Motor Jammed (19542-000,0.9%), Motor Not Working Properly (19542-000,1.8%), Motor Shorted (19542-000,0.9%), Ribbon Motor Inoperative (19542-000,0.9%), Stepper Motor Defective (19542-000,1.8%), Stepper Motor Is Inoperative (19542-000,0.9%)
	Belt Failure	18.6%	6.2%	Belt Is Slipping (19542-000,0.9%), Timing Belt & Pulley Worn Out (19542-000,0.9%), Timing Belt Broken (19542-000,1.8%), Timing Belt Damaged & Worn Out (19542-000,0.9%), Timing Belt Worn Out (19542-000,1.8%)
	Shorted	10.7%	3.6%	AC Input Shorted (19542-000,0.9%), AC Input Shorted Under Load (19542-000,0.9%), Over Current, Shorted (19542-000,1.8%)
	Transistor Failure	10.4%	3.5%	Defective Transistor (19542-000,3.5%)
	Unknown	------	33.0%	Unknown (19542-000,0.9%) (19542-000,32.5%)
	Induced	------	3.5%	Parts Missing (19542-000,3.5%)
	Other (<%6)	------	30.1%	

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
	Take-up Reel Failure		2.7%	Problem With Take Up (19542-000,0.9%), Take Up Reel Latch Is Inoperative (19542-000,1.8%)
	Out of Adjustment		2.7%	Roller Pressure is Low - Needs Adjustment (19542-000,0.9%), Roller Pressure Needs Ajustment (19542-000,0.9%), Top Roller Pressure Needs Adjustment (19542-000,0.9%)
	Loose		2.6%	Loose Pulley (19542-000,2.6%)
	Sensor Failure		1.8%	Defective Sensor (19542-000,1.8%)
	Paper Feed Sys. Failure		1.8%	Paper Feed Not Working (19542-000,1.8%)
	Other		1.8%	Paper Spindle Tension Low (19542-000,1.8%)
	Bent/Dented/Warped		1.8%	Print Fingers Bent (19542-000,1.8%)
	Ribbon Worn		1.8%	Ribbon Worn Out (19542-000,1.8%)
	Potentiometer Failure		0.9%	Defective Potentiometer (19542-000,0.9%)
	Mechanical Failure		0.9%	Feeding Mechanism Needs Repair (19542-000,0.9%)
	Hammer Blower Failure		0.9%	Hammer Blower Noisy (19542-000,0.9%)
	Mechanical Damage		0.9%	Hammer Driver Damaged (19542-000,0.9%)
	Broken		0.9%	Hammer Head Broken (19542-000,0.9%)
	Ribbon Skewing		0.9%	Has Ribbon Skewing Problem (19542-000,0.9%)
	Bearing Failure		0.9%	Bearings Worn Out. Requires Replacement (19542-000,0.9%)
	Needs Replacement		0.9%	Needs Overhaul (19542-000,0.9%)
	Wire Failure		0.9%	Needs Wire Replacement (19542-000,0.9%)
	Jammed/Stuck		0.9%	Paper Feeding Mechanism Jammed (19542-000,0.9%)
	Paper Spindle Failure		0.9%	Paper Spindle Rotation Slow (19542-000,0.9%)
	Pully Failure		0.9%	Pulley Broken (19542-000,0.9%)
	Resistor Failure		0.9%	Resistor R-35, Is Open (19542-000,0.9%)
	Switch Failure		0.9%	Ribbon Worn Out & Bad Switch (19542-000,0.9%)
	Transformer Failure		0.9%	Transformer Has Open Lead (19542-000,0.9%)
Printer,Low Speed				Sources:1
	Blown Fuse	66.6%	33.4%	Fuse Blown Out (19542-000,33.3%)
	IC Failure	33.4%	16.7%	Defective IC (19542-000,16.7%)
	Other (<%10)	------	49.9%	
	Capacitor Failure		8.3%	Defective Capacitor (19542-000,8.3%)
	Relay Failure		8.3%	Defective Relay (19542-000,8.3%)
	Switch Failure		8.3%	Defective Switch (19542-000,8.3%)
	Tear Bar Failure		8.3%	Tear Bar Broken (19542-000,8.3%)
	Line Feed Failure		8.3%	Terminal Will Not Line Feed (19542-000,8.3%)
	Transformer Failure		8.3%	Transformer Shorted (19542-000,8.3%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Printer,Plotter,Digital,X-Y				Sources:1
	Mechanical Failure	59.0%	59.0%	Mechanical (24997-000,59.0%)
	Electronic Circuit Failure	41.0%	41.0%	Electronics (24997-000,41.0%)
Pulley				Sources:1
	Worn	100.0%	77.8%	Due To Excessive Use (19542-000,33.3%), Worn Out (19542-000,44.4%)
	Unknown	------	22.2%	Unknown (19542-000,22.2%)
Pump (Summary)				
	Leaking	55.0%		
	No Operation	13.6%		
	Shorted	12.9%		
	Seal/Gasket Failure	9.4%		
	Degraded Operation	9.1%		
Pump				Sources:8
	Leaking	58.9%	30.4%	Leak (24990-000,50.0%) (24994-000,25.6%), Leaking (20609-000,Qty:877) (24992-000,53.0%)
	No Operation	16.5%	8.5%	No Transmission (24990-000,50.0%), No Operation (20609-000,Qty:82), Catastrophic-Fails While Running (18175-000,6.0%)
	Shorted	14.2%	7.3%	Short (24994-000,51.3%)
	Seal/Gasket Failure	10.3%	5.3%	Cylinder Seals (24996-000,55.0%)
	Unknown	------	24.8%	Unknown (18175-000,92.0%) (19542-000,7.1%) (19542-000,28.6%) (20609-000,Qty:11) (20609-000,Qty:449) (24996-000,39.0%) (25036-000,NR)
	Induced	------	3.1%	Defective Component (19542-000,21.4%)
	Other (<%6)	------	20.6%	
	Out of Adjustment		3.5%	Needs Adjustment (19542-000,7.1%), Out of Adjustment (20609-000,Qty:420)
	Degraded Operation		3.3%	Low Pressure (19542-000,14.3%), Output Pressure Very Low (19542-000,7.1%), Degraded (18175-000,2.0%)
	Worn		3.2%	Worn Out (20609-000,Qty:533)
	Bearing Failure		3.0%	Bearings (24996-000,31.0%)
	Opened		2.6%	Open (24994-000,18.0%)
	Mechanical Failure		1.5%	Case Failure (24996-000,15.0%)
	Check Valve Failure		1.0%	Defective Check Valve (19542-000,7.1%)
	High Current		1.0%	Has High 10N Current (19542-000,7.1%)
	Drift		0.7%	Drift (24994-000,5.1%)
	Cooling Failure		0.7%	Cooling (24996-000,7.5%)
	Intermittent Operation		<0.1%	Intermittent (20609-000,Qty:4)
	Loss of Lubrication		<0.1%	Loss of Lubrication (20609-000,Qty:2)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Pump (continued)				
Other (continued)				
	Burned/Charred		<0.1%	Burned (20609-000,Qty:1)
	Fatigue		NR	Material Fatigue (25036-000,NR)
	Corroded		NR	Corrosion (25036-000,NR)
	Cavitation		NR	Cavitation (25036-000,NR)
Pump,Centrifugal (Summary)				
Fails During Operation		51.1%		
Degraded Operation		33.1%		
Fails to Start		15.8%		
Pump,Centrifugal				Sources:1
Fails to Start		74.6%	33.3%	Catastrophic-Does Not Start (18175-000,100.0%)
Degraded Operation		16.4%	7.3%	Degraded (18175-000,8.0%) (18175-000,14.0%)
Fails During Operation		9.0%	4.0%	Catastrophic-Fails While Running (18175-000,5.0%) (18175-000,7.0%)
Unknown		------	55.3%	Unknown (18175-000,79.0%) (18175-000,87.0%)
Pump,Centrifugal,Boric Acid Transfer				Sources:1
Degraded Operation		60.0%	22.0%	Degraded (18175-000,8.0%) (18175-000,25.0%) (18175-000,33.0%)
Fails During Operation		40.0%	14.7%	Catastrophic-Fails While Running (18175-000,2.0%) (18175-000,9.0%) (18175-000,33.0%)
Unknown		------	63.3%	Unknown (18175-000,34.0%) (18175-000,66.0%) (18175-000,90.0%)
Pump,Centrifugal,Boron Injection				Sources:1
Fails During Operation		74.3%	17.3%	Catastrophic-Fails While Running (18175-000,1.0%) (18175-000,2.0%) (18175-000,49.0%)
Degraded Operation		25.7%	6.0%	Degraded (18175-000,3.0%) (18175-000,7.0%) (18175-000,8.0%)
Unknown		------	76.7%	Unknown (18175-000,48.0%) (18175-000,91.0%) (18175-000,91.0%)
Pump,Centrifugal,Changing/High Speed				Sources:1
Degraded Operation		67.4%	31.0%	Degraded (18175-000,31.0%)
Fails During Operation		32.6%	15.0%	Catastrophic-Fails While Running (18175-000,15.0%)
Unknown		------	54.0%	Unknown (18175-000,54.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Pump,Centrifugal,Circulating Water				Sources:1
	Fails During Operation	82.4%	14.0%	Catastrophic-Fails While Running (18175-000,14.0%)
	Degraded Operation	17.6%	3.0%	Degraded (18175-000,3.0%)
	Unknown	------	83.0%	Unknown (18175-000,83.0%)
Pump,Centrifugal,Condenser				Sources:1
	Degraded Operation	70.8%	8.5%	Degraded (18175-000,7.0%) (18175-000,10.0%)
	Fails During Operation	29.2%	3.5%	Catastrophic-Fails While Running (18175-000,2.0%) (18175-000,5.0%)
	Unknown	------	88.0%	Unknown (18175-000,88.0%) (18175-000,88.0%)
Pump,Centrifugal,Condenser,Booster				Sources:1
	Degraded Operation	91.2%	26.0%	Degraded (18175-000,15.0%) (18175-000,37.0%)
	Fails During Operation	8.8%	2.5%	Catastrophic-Fails While Running (18175-000,5.0%)
	Unknown	------	71.5%	Unknown (18175-000,58.0%) (18175-000,85.0%)
Pump,Centrifugal,Condenser,Circulation				Sources:1
	Degraded Operation	70.4%	38.0%	Degraded (18175-000,38.0%) (18175-000,38.0%)
	Fails During Operation	29.6%	16.0%	Catastrophic-Fails While Running (18175-000,16.0%) (18175-000,16.0%)
	Unknown	------	46.0%	Unknown (18175-000,46.0%) (18175-000,46.0%)
Pump,Centrifugal,Condenser,Motor				Sources:1
	Degraded Operation	62.3%	27.0%	Degraded (18175-000,4.0%) (18175-000,18.0%) (18175-000,59.0%)
	Fails During Operation	37.7%	16.3%	Catastrophic-Fails While Running (18175-000,12.0%) (18175-000,18.0%) (18175-000,19.0%)
	Unknown	------	56.7%	Unknown (18175-000,23.0%) (18175-000,70.0%) (18175-000,77.0%)
Pump,Centrifugal,Control Rod,Drive				Sources:1
	Degraded Operation	92.5%	74.0%	Degraded (18175-000,74.0%) (18175-000,74.0%)
	Fails During Operation	7.5%	6.0%	Catastrophic-Fails While Running (18175-000,6.0%) (18175-000,6.0%)
	Unknown	------	20.0%	Unknown (18175-000,20.0%) (18175-000,20.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Pump,Centrifugal,Cooling				Sources:1
	Fails During Operation	100.0%	100.0%	Catastrophic-Fails While Running (18175-000,100.0%)
Pump,Centrifugal,Cooling,Water				Sources:1
	Degraded Operation	40.4%	9.0%	Degraded (18175-000,1.0%) (18175-000,4.0%) (18175-000,5.0%) (18175-000,6.0%) (18175-000,6.0%) (18175-000,8.0%) (18175-000,33.0%)
	Fails During Operation	38.5%	8.6%	Catastrophic-Fails While Running (18175-000,2.0%) (18175-000,4.0%) (18175-000,5.0%) (18175-000,6.0%) (18175-000,18.0%) (18175-000,25.0%)
	Fails to Start	21.2%	4.7%	Catastrophic-Fails To Start (18175-000,33.0%)
	Unknown	------	77.7%	Unknown (18175-000,34.0%) (18175-000,67.0%) (18175-000,77.0%) (18175-000,89.0%) (18175-000,92.0%) (18175-000,92.0%) (18175-000,93.0%)
Pump,Centrifugal,Reactor Building CCW				Sources:1
	Degraded Operation	82.4%	14.0%	Degraded (18175-000,14.0%)
	Fails During Operation	17.6%	3.0%	Catastrophic-Fails While Running (18175-000,3.0%)
	Unknown	------	83.0%	Unknown (18175-000,83.0%)
Pump,Centrifugal,Reactor Feedwater				Sources:1
	Fails During Operation	56.9%	12.3%	Catastrophic-Fails While Running (18175-000,5.0%) (18175-000,9.0%) (18175-000,23.0%)
	Degraded Operation	43.1%	9.3%	Degraded (18175-000,1.0%) (18175-000,2.0%) (18175-000,25.0%)
	Unknown	------	78.3%	Unknown (18175-000,52.0%) (18175-000,89.0%) (18175-000,94.0%)
Pump,Centrifugal,Residual Heat Remova				Sources:1
	Degraded Operation	50.7%	15.0%	Degraded (18175-000,7.0%) (18175-000,16.0%) (18175-000,16.0%) (18175-000,16.0%) (18175-000,20.0%)
	Fails During Operation	49.3%	14.6%	Catastrophic-Fails While Running (18175-000,6.0%) (18175-000,10.0%) (18175-000,10.0%) (18175-000,16.0%) (18175-000,31.0%)
	Unknown	------	70.4%	Unknown (18175-000,62.0%) (18175-000,68.0%) (18175-000,70.0%) (18175-000,74.0%) (18175-000,78.0%)
Pump,Centrifugal,Salt Water Injection				Sources:1
	Fails During Operation	82.8%	24.0%	Catastrophic-Fails While Running (18175-000,24.0%)
	Degraded Operation	17.2%	5.0%	Degraded (18175-000,5.0%)
	Unknown	------	71.0%	Unknown (18175-000,71.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Pump,Centrifugal,Service				Sources:1
	Fails During Operation	88.4%	53.5%	Catastrophic-Fails While Running (18175-000,7.0%) (18175-000,100.0%)
	Degraded Operation	11.6%	7.0%	Degraded (18175-000,14.0%)
	Unknown	------	39.5%	Unknown (18175-000,79.0%)
Pump,Centrifugal,Service,Alternating				Sources:1
	Degraded Operation	52.2%	12.0%	Degraded (18175-000,12.0%)
	Fails During Operation	47.8%	11.0%	Catastrophic-Fails While Running (18175-000,11.0%)
	Unknown	------	77.0%	Unknown (18175-000,77.0%)
Pump,Centrifugal,Service,Booster				Sources:1
	Degraded Operation	55.6%	31.3%	Degraded (18175-000,25.0%)
	Fails During Operation	44.4%	25.0%	Catastrophic-Fails While Running (18175-000,20.0%)
	Unknown	------	43.8%	Unknown (18175-000,35.0%)
Pump,Centrifugal,Service,Continuous				Sources:1
	Degraded Operation	76.2%	16.0%	Degraded (18175-000,16.0%)
	Fails During Operation	23.8%	5.0%	Catastrophic-Fails While Running (18175-000,5.0%)
	Unknown	------	79.0%	Unknown (18175-000,79.0%)
Pump,Centrifugal,Service,Salt Water				Sources:1
	Fails During Operation	100.0%	100.0%	Catastrophic-Fails While Running (18175-000,100.0%)
Pump,Centrifugal,Service,Standby				Sources:1
	Fails During Operation	57.1%	57.1%	Catastrophic-Fails While Running (18175-000,100.0%) (18175-000,100.0%) (18175-000,100.0%) (18175-000,100.0%)
	Fails to Start	42.9%	42.9%	Catastrophic-Does Not Start (18175-000,100.0%) (18175-000,100.0%), Catastrophic-Fails To Start (18175-000,100.0%)
Pump,Centrifugal,Service,Water				Sources:1
	Fails During Operation	64.8%	33.1%	Catastrohic-Fails While Running (18175-000,73.0%), Catastrophic-Fails While Running (18175-000,12.0%) (18175-000,31.0%) (18175-000,33.0%)
	Degraded Operation	35.2%	18.0%	Degraded (18175-000,15.0%) (18175-000,20.0%) (18175-000,22.0%) (18175-000,24.0%)
	Unknown	------	48.9%	Unknown (18175-000,45.0%) (18175-000,54.0%) (18175-000,57.0%) (18175-000,64.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Pump,Centrifugal,Steam Gen Feed				Sources:1
	Fails During Operation	60.4%	21.3%	Catastrophic-Fails While Running (18175-000,11.0%) (18175-000,16.0%) (18175-000,37.0%)
	Degraded Operation	39.6%	14.0%	Degraded (18175-000,13.0%) (18175-000,14.0%) (18175-000,15.0%)
	Unknown	------	64.7%	Unknown (18175-000,50.0%) (18175-000,69.0%) (18175-000,75.0%)
Pump,Centrifugal,System Composite				Sources:1
	Degraded Operation	80.0%	16.0%	Degraded (18175-000,16.0%)
	Fails During Operation	20.0%	4.0%	Catastrophic-Fails While Running (18175-000,4.0%)
	Unknown	------	80.0%	Unknown (18175-000,80.0%)
Pump,Hydraulic (Summary)				
	Leaking	64.4%		
	Cracked/Fractured	9.5%		
	Improper Flow	7.0%		
	Noisy	6.6%		
	No Operation	5.1%		
	Out of Spec.	4.0%		
	Intermittent Operation	3.6%		
Pump,Hydraulic,Centrifugal				Sources:1
	Leaking	58.8%	51.4%	Leaking (20609-000,Qty:151)
	No Operation	12.1%	10.5%	No Operation (20609-000,Qty:31)
	Cracked/Fractured	9.7%	8.5%	Cracked/Fractured (20609-000,Qty:25)
	Noisy	7.8%	6.8%	Noisy (20609-000,Qty:20)
	Out of Spec.	7.0%	6.1%	Out of Specification (20609-000,Qty:18)
	Improper Flow	4.7%	4.1%	Improper Flow (20609-000,Qty:12)
	Other (<%4)	------	12.6%	
	Intermittent Operation		2.7%	Intermittent (20609-000,Qty:8)
	Displaced		2.7%	Displaced (20609-000,Qty:8)
	Unstable Operation		1.7%	Unstable (20609-000,Qty:5)
	Excessive Vibration		1.7%	Vibrating (20609-000,Qty:5)
	Overheated		0.7%	Overheated (20609-000,Qty:2)
	Seized		0.7%	Seized (20609-000,Qty:2)
	Spurious/False Operation		0.7%	False Response (20609-000,Qty:2)
	Out of Adjustment		0.3%	Out of Adjustment (20609-000,Qty:1)
	Stuck Open		0.3%	Stuck Open (20609-000,Qty:1)
	Corroded		0.3%	Corroded (20609-000,Qty:1)
	Contaminated		0.3%	Contaminated (20609-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Pump,Hydraulic,Centrifugal (continued)				
Other (continued)				
	Breach		0.3%	Breach (20609-000,Qty:1)
Pump,Hydraulic,Gear				Sources:1
	Leaking	100.0%	100.0%	Leaking (20609-000,Qty:266)
Pump,Hydraulic,Impeller				Sources:1
	Leaking	69.2%	69.2%	Leaking (20609-000,Qty:9)
	Noisy	15.4%	15.4%	Noisy (20609-000,Qty:2)
	Breach	7.7%	7.7%	Breach (20609-000,Qty:1)
	No Operation	7.7%	7.7%	No Operation (20609-000,Qty:1)
Pump,Hydraulic,Manual				Sources:1
	Leaking	53.9%	53.9%	Leaking (20609-000,Qty:41)
	Improper Flow	46.1%	46.1%	Improper Flow (20609-000,Qty:35)
Pump,Hydraulic,Piston				Sources:1
	Cracked/Fractured	41.5%	38.6%	Cracked/Fractured (20609-000,Qty:44)
	Noisy	23.6%	21.9%	Noisy (20609-000,Qty:25)
	Intermittent Operation	16.0%	14.9%	Intermittent (20609-000,Qty:17)
	Out of Spec.	10.4%	9.6%	Out of Specification (20609-000,Qty:11)
	No Operation	4.7%	4.4%	No Operation (20609-000,Qty:5)
	Improper Flow	3.8%	3.5%	Improper Flow (20609-000,Qty:4)
	Other (<%3)	------	7.0%	
	Unstable Operation		1.8%	Unstable (20609-000,Qty:2)
	Leaking		1.8%	Leaking (20609-000,Qty:2)
	Out of Adjustment		0.9%	Out of Adjustment (20609-000,Qty:1)
	Spurious/False Operation		0.9%	False Response (20609-000,Qty:1)
	Displaced		0.9%	Displaced (20609-000,Qty:1)
	Breach		0.9%	Breach (20609-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Pump,Hydraulic,Piston,Axial				Sources:1
	Intermittent Operation	50.0%	50.0%	Intermittent (20609-000,Qty:1)
	Stuck Closed	50.0%	50.0%	Stuck Closed (20609-000,Qty:1)
Pump,Hydraulic,Piston,Radial				Sources:1
	Leaking	50.0%	50.0%	Leaking (20609-000,Qty:1)
	Noisy	50.0%	50.0%	Noisy (20609-000,Qty:1)
Pump,Positive Displacemen (Summary)				
	Degraded Operation	68.8%		
	Fails During Operation	31.2%		
Pump,Positive Displacemen				Sources:1
	Fails During Operation	94.1%	8.0%	Catastrophic-Fails While Running (18175-000,7.0%) (18175-000,9.0%)
	Degraded Operation	5.9%	0.5%	Degraded (18175-000,1.0%)
	Unknown	------	91.5%	Unknown (18175-000,90.0%) (18175-000,93.0%)
Pump,Positive Displacemen,Service,Composite				Sources:1
	Fails During Operation	90.0%	9.0%	Catastrophic-Fails While Running (18175-000,9.0%)
	Degraded Operation	10.0%	1.0%	Degraded (18175-000,1.0%)
	Unknown	------	90.0%	Unknown (18175-000,90.0%)
Pump,Positive Displacemen,Service,Continuous				Sources:1
	Degraded Operation	81.9%	34.7%	Degraded (18175-000,14.0%) (18175-000,45.0%) (18175-000,45.0%)
	Fails During Operation	18.1%	7.7%	Catastrophic-Fails When Running (18175-000,10.0%), Catastrohic-Fails While Running (18175-000.10.0%), Catastsrophic-Fails While Running (18175-000,3.0%)
	Unknown	------	57.7%	Unknown (18175-000,45.0%) (18175-000,45.0%) (18175-000,83.0%)
Quadrant Fire Contrl				Sources:2
	Out of Adjustment	26.3%	17.9%	Loose Clamp(s) - Out Of Adjustment (25101-000,Qty:1), Out Of Adjustment - Binding/Sticking (25101-000,Qty:1) (25101-000,Qty:1), Vibration - Out Of Adjustment (25101-000,Qty:1), Out Of Adjustment (25101-000,Qty:1) (25101-000,Qty:3), Out Of Adjustment - Out Of Adjustment (25101-000,Qty:1), Loose Screw(s) - Out Of Adjustment (25101-000,Qty:1)
	Broken	23.7%	16.1%	Part Struck/Damaged - Inop/Unserviceable (25101-000,Qty:1), Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2) (25101-000,Qty:2), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Quadrant Fire Contrl (continued)				
	Excessive Play	21.1%	14.3%	Excessive Play (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2), Poor Design - Excessive Play (25101-000,Qty:4)
	Worn	10.5%	7.1%	Worn/Stripped - Out Of Adjustment (25101-000,Qty:1) (25101-000,Qty:1), Worn - Out Of Adjustment (25101-000,Qty:1), Worn - Out Of Synch (25101-000,Qty:1)
	Out of Synch.	10.5%	7.1%	Internal Failure - Out Of Synch (,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1), Vibration - Out Of Synch (25101-000,Qty:1), Out Of Synch (25101-000,Qty:1)
	Seal/Gasket Failure	7.9%	5.4%	Seals Worn - Leaking Hydaulic Oil (25101-000,Qty:1), Seals Worn - Binding/Sticking (25101-000,Qty:2), Seals Worn - Corroded (,Qty:1), Seals Worn - Seized (,Qty:1)
	Induced	------	10.7%	Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1), Improper Adjustment - Inaccurate (25101-000,Qty:1), Item Abuse/Neglect - Out Of Synch (25101-000,Qty:1), Improper Adjustment - Out Of Synch (25101-000,Qty:1)
	Unknown	------	3.6%	Unknown (25101-000,Qty:1) (25101-000,Qty:1)
	Other (<%6)	------	17.9%	
	Lamp Failure		3.6%	Internal Failure - Inop Fire Control Light (25101-000,Qty:2)
	Skipping		3.6%	Skips (25101-000,Qty:2), Internal Failure - Skips (,Qty:1), Worn - Skips (,Qty:1)
	No Operation		1.8%	Part Struck/Damaged - Inop Fire Control Light (25101-000,Qty:1), Poor Design - Inop/Unserviceable (,Qty:1)
	Moisture Intrusion		1.8%	Internal Moisture (25101-000,Qty:1)
	Binding/Sticking		1.8%	Gears Binding - Seized (25101-000,Qty:1)
	Cracked/Fractured		1.8%	Cracked/Split-Inop Fire Conrol Light (25101-000,Qty:1)
	Loose		1.8%	Loose Wire(s) - Inop Fire Control Light (25101-000,Qty:1)
	Bearing Failure		1.8%	Bearing Failure - Excessive Play (25101-000,Qty:1)
Rail & Plate Assy				Sources:1
	Broken	100.0%	88.9%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:15)
	Induced	------	11.1%	Improper Maintenance - Collapsed/Bent (25101-000,Qty:1), Improper Maintenance - Broken/Damaged (25101-000,Qty:1)
Rail Assembly				Sources:1
	Broken	100.0%	75.0%	Broken/Damaged (25101-000,Qty:2), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1)
	Induced	------	25.0%	Improper Install - Broken Damaged (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Rear Traverse Assy				Sources:1
	Binding/Sticking	100.0%	100.0%	Binding/Sticking (25101-000,Qty:1)
Recoil Cylinder Assy				Sources:1
	Contaminated	75.0%	75.0%	Contaminated (25101-000,Qty:3)
	Cracked/Fractured	25.0%	25.0%	Cracked/Split-Contaminated (25101-000,Qty:1)
Recorder,Cassette,Tape Reel				Sources:2
	Unknown	------	<0.1%	Unknown (24996-000,NR) (24997-000,NR)
	Other	------	100.0%	
	Intermittent Operation		NR	Distorted or Intermittent Output (24996-000,NR)
	Incorrect Drive Speed		NR	Incorrect Drive Speed (24996-000,NR), Incorrect drive speed (24997-000,NR)
	No Operation		NR	Failure to Operate (24996-000,NR), Failure to operate (24997-000,NR)
	Output Distortion		NR	Distorted or intermittent output (24997-000,NR)
Recticle Slide Assy				Sources:1
	Cracked/Fractured	100.0%	100.0%	Vibration - Cracked (25101-000,Qty:1)
Recup Cyl Head Assy				Sources:1
	Leaking	66.7%	66.7%	Leaking Hydraulic Oil (25101-000,Qty:4)
	Broken	16.7%	16.7%	Part Struck/Damaged - Fnd In TI/PMCS/INSP (25101-000,Qty:1)
	Seal/Gasket Failure	16.7%	16.7%	Seals Worn - Leaking Hydraulic Oil (25101-000,Qty:1)
Reflector				Sources:1
	Broken	100.0%	100.0%	Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1)
Regulator				Sources:2
	Closed	20.7%	14.4%	Closed (24994-000,28.8%)
	Opened	20.7%	14.4%	Open (24994-000,28.8%)
	No Output	20.0%	13.9%	Loss Electrical Pwr (23038-001,Qty:3), No Output (23038-001,Qty:2)
	Leaking	19.8%	13.8%	External Leak (24994-000,27.5%)
	Degraded Output	10.7%	7.5%	Insufficient Output (24994-000,14.9%)
	Incorrect Voltage	8.0%	5.6%	Incorrect Voltage (23038-001,Qty:2)
	Unknown	------	16.7%	Unknown (23038-001,Qty:6)
	Induced	------	2.8%	Caused By Other Dev. (23038-001,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
	Other (<%5)	------	11.1%	
	Spurious/False Operation		2.8%	Faulty Reading (23038-001,Qty:1)
	Out of Adjustment		2.8%	Out Of Adjustment (23038-001,Qty:1)
	Drift		2.8%	Drifts (23038-001,Qty:1)
	Incorrect Current		2.8%	Incorrect Current (23038-001,Qty:1)
Relay (Summary)				
	Intermittent Operation	26.1%		
	Contact Failure	22.7%		
	Shorted	18.8%		
	Fails to Close	18.0%		
	High Contact Resistance	14.5%		
Relay				Sources:18
	Contact Failure	27.1%	12.9%	Abnormally High Contact Resistance (25016-000,NR), Contact (24990-000,90.0%), Contact Chatter (24992-000,5.7%), Contact Resistance (24992-000,1.4%), Contact Failures (24993-000,75.0%), Contact Defective (23038-002,Qty:1) (23038-003,Qty:1), Contact/Conn Defect (23038-004,Qty:1) (23038-004,Qty:1), Normally Closed Contacts Were Intermittent (10722-000,Qty:1), Overstressed Contacts (24417-001,NR)
	Aluminum Migration	16.6%	7.9%	Open-Op. Coil (25000-000,Qty:1) (25000-000,Qty:1), Coil (24990-000,10.0%), Coil Open (24992-000,8.6%), Coil Unstable (24992-000,48.5%), Coil Drift (24992-000,12.8%), Open Coils (24417-001,NR) (24993-000,5.0%), High Coil Resist-Wire Insul. Damaged During Windin (10722-000,Qty:1), Open Coil Wire-Appears To Be Cut; Process Flaw (10722-000,Qty:1), Intermittent Open Coil (10722-000,Qty:1)
	High Contact Resistance	15.9%	7.6%	Open-Op. Contacts (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:5) (25000-000,Qty:7) (25000-000,Qty:10), Open-General (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:6) (25000-000,Qty:20) (25000-000,Qty:20) (25000-000,Qty:63), Parameter Drift-High Contact Resistance (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:5) (25000-000,Qty:6) (25000-000,Qty:6) (25000-000,Qty:7) (25000-000,Qty:14) (25000-000,Qty:56), Open-Open Contacts (25000-000,Qty:2) (25000-000,Qty:3), Contact Arc (24992-000,3.6%), Contact Open (24992-000,13.6%), Open (17867-000,Qty:4) (17867-000,Qty:7) (23038-001,Qty:1) (23038-002,Qty:1), Opened (20609-000,Qty:184), Electrically Open-External Overstress (10722-000,Qty:1), Open Contacts (24417-001,NR)
	Intermittent Operation	12.1%	5.8%	Intermittent-Noise (25000-000,Qty:2) (25000-000,Qty:10) (25000-000,Qty:22) (25000-000,Qty:90), Intermittent-Bounce (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:4), Intermittent-Miss (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:5) (25000-000,Qty:6) (25000-000,Qty:6) (25000-000,Qty:12) (25000-000,Qty:21) (25000-000,Qty:31), Intermittent-General (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:4) (25000-000,Qty:7) (25000-000,Qty:8)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Relay (continued)				
Intermittent Operation (continued)				
				(25000-000,Qty:8) (25000-000,Qty:9) (25000-000,Qty:10), Intermittent (17867-000,Qty:5) (17867-000,Qty:10) (20609-000,Qty:83) (23038-002,Qty:1)
	Shorted	10.5%	5.0%	Short-Sh. Contacts (25000-000,Qty:1) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:8) (25000-000,Qty:11), Short-Dielectric Strength (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:5) (25000-000,Qty:21), Short (17867-000,Qty:1) (20609-000,Qty:30) (23038-002,Qty:1) (23038-002,Qty:4) (25000-000,Qty:4) (25000-000,Qty:5), Short-Shorted Contacts (25000-000,Qty:3) (25000-000,Qty:6), Short-Shorted Coil (25000-000,Qty:4), Contact Short Circuit (25016-000,NR), Contact Short (24992-000,2.2%), Coil Short (24992-000,3.6%), Short/Grounded (23038-001,Qty:1) (23038-002,Qty:2), Grounded Electricall (23038-001,Qty:1), Short Or Grounded (23038-001,Qty:1), Shorted Or Grounded (23038-001,Qty:1) (23038-003,Qty:2) (23038-003,Qty:4) (23038-004,Qty:3), Shorted Or Ground (23038-002,Qty:1), Grounded Electrically (23038-003,Qty:1), Short-Drooping/Shorting Leadiwre (10722-000,Qty:1)
	Loss of Control	9.5%	4.5%	Control Inoperative (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:2) (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:5) (23038-002,Qty:7) (23038-003,Qty:1) (23038-003,Qty:6) (23038-004,Qty:1) (23038-004,Qty:1) (23038-005,Qty:1) (23038-006,Qty:2) (23038-006,Qty:7)
	Spurious Opening	8.3%	3.9%	Catastrophic-Spurious Open (18175-000,59.0%)
	Unknown	------	22.5%	Unknown (10722-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (18175-000,17.0%) (20609-000,Qty:1) (20609-000,Qty:62) (20609-000,Qty:284) (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:2) (23038-001,Qty:2) (23038-001,Qty:2) (23038-001,Qty:2) (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:2) (23038-002,Qty:2) (23038-002,Qty:4) (23038-002,Qty:4) (23038-002,Qty:25) (23038-002,Qty:36) (23038-003,Qty:1) (23038-003,Qty:1) (23038-003,Qty:1) (23038-003,Qty:2) (23038-003,Qty:3) (23038-003,Qty:7) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:2) (23038-005,Qty:2) (23038-005,Qty:3) (23038-006,Qty:7) (23038-006,Qty:8) (23038-006,Qty:10) (24993-000,20.0%) (25000-000,Qty:8) (25000-000,Qty:9)
	Induced	------	10.0%	Abnormal Operate Time (25016-000,NR), Weak/Low Performance (17867-000,Qty:1), Missing (23038-001,Qty:1) (23038-001,Qty:3) (23038-002,Qty:1) (23038-002,Qty:1), Caused By Other Dev (23038-001,Qty:1), Improper Energy Resp (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:1), Caused By Other Dev. (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:1) (23038-003,Qty:1) (23038-003,Qty:2) (23038-003,Qty:5) (23038-006,Qty:2), Maintenance Error (23038-002,Qty:1), Polarity Reversed (23038-003,Qty:1), Damaged For Test Pur (23038-003,Qty:1), Wrong Part (23038-004,Qty:1), Defective (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1), High Inrush Current (24417-001,NR), High Inrush Coil Current (Inductive Kick) (24417-001,NR)
Other (<%4)		------	19.8%	
	Broken		2.0%	Broken/Damaged (17867-000,Qty:1), Broken (23038-002,Qty:2) (23038-003,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Relay (continued)				
Other (continued)				
				(23038-004,Qty:2) (23038-005,Qty:1)
	Degraded Operation		1.6%	Degraded (18175-000,24.0%) (20609-000,Qty:4)
	Connection Failure		1.5%	Electrical Conn Def (23038-006,Qty:4) (23038-006,Qty:9)
	Lamp Failure		1.3%	No Indicating Light (23038-001,Qty:2) (23038-002,Qty:2), Light Bulb Failure (23038-002,Qty:4) (23038-003,Qty:1) (23038-005,Qty:1)
	Seal Failure		1.2%	Seal Leak (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:7) (25000-000,Qty:16) (25000-000,Qty:18) (25000-000,Qty:20) (25000-000,Qty:29) (25000-000,Qty:29) (25000-000,Qty:59)
	Incorrect Voltage		1.1%	Incorrect Voltage (23038-002,Qty:1) (23038-002,Qty:1) (23038-003,Qty:1) (23038-003,Qty:1) (23038-004,Qty:1) (23038-005,Qty:1)
	Jammed/Stuck		0.9%	Hang-up (25016-000,NR), Arm Stuck (17867-000,Qty:1), Latch Up-Shorted/Cracked FET Die (10722-000,Qty:1)
	No Output		0.8%	No Output (23038-002,Qty:2) (23038-003,Qty:1) (23038-003,Qty:1) (23038-005,Qty:1)
	Loss of Power		0.7%	Electrical Pwr Loss (23038-002,Qty:1) (23038-003,Qty:2) (23038-006,Qty:1), Power Loss (23038-006,Qty:3)
	Fails to Open		0.7%	Failure to Open Circuit (25016-000,NR), Normally Open Contacts Were Welded Together (10722-000,Qty:1)
	Burned/Charred		0.6%	Burned/Charred (23038-003,Qty:3), Burned (20609-000,Qty:31)
	Arcing/Sparking		0.6%	Arcing (20609-000,Qty:5) (23038-001,Qty:3)
	No Operation		0.6%	No Operation (20609-000,Qty:19) (25016-000,NR), Inoperative (23038-002,Qty:1) (23038-003,Qty:1) (23038-004,Qty:1)
	Unstable Operation		0.5%	Fluctuates, Unstable (23038-001,Qty:1), Fluctuates (23038-002,Qty:1) (23038-002,Qty:2), Unstable (23038-003,Qty:1)
	Spurious/False Operation		0.4%	Faulty Reading (23038-006,Qty:3), False Response (20609-000,Qty:10)
	Audio Fault/Failure		0.4%	Audio Faulty (23038-002,Qty:1) (23038-006,Qty:3)
	Out of Adjustment		0.4%	Out Of Adjustment (23038-002,Qty:1) (23038-002,Qty:1), Adjustment Improper (23038-004,Qty:1)
	Contaminated		0.4%	Dirty (23038-001,Qty:1) (23038-002,Qty:1), Contaminated (20609-000,Qty:15), Contamination (13933-000,NR) (24417-001,NR)
	Corroded		0.4%	Corrosion (25000-000,Qty:12), Corroded (23038-004,Qty:1)
	Improper Output		0.3%	Improper Source Output (23038-002,Qty:1) (23038-002,Qty:3) (23038-003,Qty:1)
	Insulation Resistance Drift		0.3%	Parameter Drift-Insulation Resistance (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:6) (25000-000,Qty:14)
	Burred		0.3%	Burred (23038-001,Qty:1) (23038-002,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Relay (continued)				
Other (continued)				
				(23038-002,Qty:1)
	Insulation Failure		0.3%	Insulation Breakdown (23038-00 Qty:1)
	Fails to Start		0.3%	Starting Stall (23038-004,Qty:1)
	Loose		0.3%	Loose (23038-004,Qty:1)
	Binding/Sticking		0.3%	Sticky (23038-001,Qty:1), Binding (20609-000,Qty:10)
	Overheated		0.2%	Overheating (23038-002,Qty:2), Overheated (20609-000,Qty:19)
	Stuck Open		0.2%	Stuck Open (20609-000,Qty:30)
	Drop Out Volt. Drift		0.2%	Parameter Drift-Drop Out Voltage (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:7) (25000-000,Qty:17)
	Parameter Drift		0.2%	Parameter Drift-General (25000-000,NR) (25000-000,Qty:1) (25000-000,Qty:3) (25000-000,Qty:5) (25000-000,Qty:6) (25000-000,Qty:9) (25000-000,Qty:10)
	Mechanical Damage		0.1%	Mechanical Damage (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:9)
	Drift		0.1%	Drift (20609-000,Qty:17)
	Out of Spec.		0.1%	Out of Tolerance (20609-000,Qty:3), Out of Specification (20609-000,Qty:10)
	Cracked/Fractured		<0.1%	Cracked/Fractured (20609-000,Qty:12)
	Stuck Closed		<0.1%	Stuck Closed (20609-000,Qty:10)
	Worn		<0.1%	Worn Out (20609-000,Qty:9)
	Noisy		<0.1%	Noisy (20609-000,Qty:8)
	Contact Chatter		<0.1%	Excessive Contact Bounce (25016-000,NR), Chatter (25016-000,NR), Chattering (23038-002,Qty:1)
	Delta Op. Time Drift		<0.1%	Parameter Drift-Delta Operate Time (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2)
	Delta R Drift		<0.1%	Parameter Drift-Delta R (25000-000,Qty:1)
	Degraded Contact		NR	Poor Contact Alignment (24417-001,NR)
	Spring Failure		NR	Loss of Resiliency in Springs (24417-001,NR)
Relay,Composite				Sources:1
	Degraded Operation	100.0%	26.0%	Degraded (18175-000,26.0%)
	Unknown	------	74.0%	Unknown (18175-000,15.0%) (18175-000,59.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Relay,Composite,Auxilitary				Sources:1
	Spurious/False Operation	80.0%	40.0%	Catastrophic-Spurious Operation (18175-000,80.0%)
	Degraded Operation	20.0%	10.0%	Degraded (18175-000,10.0%) (18175-000,10.0%)
	Unknown	------	50.0%	Unknown (18175-000,10.0%) (18175-000,10.0%) (18175-000,80.0%)
Relay,Composite,Control				Sources:1
	Spurious/False Operation	66.3%	57.0%	Catastrophic-Spurious Operation (18175-000,57.0%)
	Degraded Operation	33.7%	29.0%	Degraded (18175-000,29.0%)
	Unknown	------	14.0%	Unknown (18175-000,14.0%)
Relay,Composite,Protective				Sources:1
	Degraded Operation	52.3%	35.5%	Degraded (18175-000,29.0%) (18175-000,37.5%) (18175-000,40.0%)
	Spurious/False Operation	47.7%	32.3%	Catastrophic-Spurious Operation (18175-000,40.0%) (18175-000,57.0%)
	Unknown	------	32.2%	Unknown (18175-000,14.0%) (18175-000,20.0%) (18175-000,25.0%) (18175-000,37.5%)
Relay,Contact				Sources:1
	No Operation	90.0%	90.0%	Fail To Operate (24990-000,90.0%)
	Fails to Open	10.0%	10.0%	Fail To Release (24990-000,10.0%)
Relay,Contact,N.C.				Sources:1
	Fails to Close	89.0%	89.0%	Contacts Failed Closed (24991-000,89.0%)
	Fails to Open	11.0%	11.0%	Contacts Failed Open (24991-000,11.0%)
Relay,Contact,N.O.				Sources:1
	Fails to Open	89.0%	89.0%	Contacts Failed Open (24991-000,89.0%)
	Fails to Close	11.0%	11.0%	Contacts Failed Closed (24991-000,11.0%)
Relay,Contactors,Sele				Sources:1
	Broken	66.7%	66.7%	Broken (25464-000,Qty:2)
	Binding/Sticking	33.3%	33.3%	Binding Stuck or Jammed (25464-000,Qty:1)

Part Desc. / Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Relay,DPDT			Sources:1
Intermittent Operation	33.3%	33.3%	Intermittent Latch-up (10722-000,Qty:1)
Opened	33.3%	33.3%	Intermittent Open-Fractured Contact (10722-000,Qty:1)
Open Coil	33.3%	33.3%	Open In Coil Winding-Corrosion Of Wire (10722-000,Qty:1)
Relay,Electromagnetic,Latching,DPDT			Sources:1
Intermittent Operation	100.0%	100.0%	Post Random Switching Failures-Broken Coil Leads (25001-000,Qty:2), Post Randon Switching Failures (25001-000,Qty:1)
Relay,Electromechanical,Armature			Sources:1
Corroded	25.5%	25.5%	Contact Corrosion (25038-000,6.5%) (25038-000,19.0%)
Coil Failure	23.5%	23.5%	Opened Coil (25038-000,8.5%), Unstable Coil (25038-000,15.0%)
Contaminated	18.0%	18.0%	Contact Contamination (25038-000,18.0%)
Binding/Sticking	9.0%	9.0%	Binding, Jamming (25038-000,9.0%)
Spring Failure	9.0%	9.0%	Spring Fatigue (25038-000,9.0%)
Faulty Contact	8.0%	8.0%	Poor Contact Alignment (25038-000,8.0%)
Contact Failure	7.0%	7.0%	Contact Welding (25038-000,7.0%)
Relay,Electromechanical,Latching			Sources:2
Contaminated	37.5%	37.5%	Hung Up In The Reset State-Foreign Contamination (10722-000,Qty:3)
Opened	30.0%	30.0%	Open (24994-000,60.0%)
Shorted	20.0%	20.0%	Short (24994-000,40.0%)
Contact Failure	12.5%	12.5%	Intermittent Contact (10722-000,Qty:1)
Other	------	0.0%	
Drift		NR	Drift (24994-000,NR)
Relay,Electromechanical,Latching,DPDT			Sources:1
Opened	100.0%	100.0%	Open (10722-000,Qty:1)
Relay,Electromechanical,Mercury Wetted			Sources:2
Contact Failure	100.0%	100.0%	Contacts In An Incorrect State (10722-000,Qty:1)
Other	------	0.0%	
Latch Up		NR	Latch-Up-Mercury Becomes Solid (13933-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Relay,Power				Sources:2
	Fails to Close	58.5%	57.0%	Failure of N/O Contacts to Close (24996-000,57.0%), Failure of N/O contacts to close (24997-000,57.0%)
	Open Coil	19.7%	19.2%	Open Coil (24996-000,19.2%) (24997-000,19.2%)
	Fails to Open	19.7%	19.2%	Failure of N/C Contacts to Open (24996-000,19.2%), Failure of N/C contacts to open (24997-000,19.2%)
	Shorted	2.1%	2.0%	Short Across Contacts (24996-000,2.0%), Short across contacts (24997-000,2.0%)
	Unknown	------	2.6%	Unknown (24996-000,2.6%) (24997-000,2.6%)
Relay,SPDT				Sources:1
	Binding/Sticking	100.0%	100.0%	Sticking-ARC Pitting On Normally Open Contacts (10722-000,Qty:2)
Relay,SPST				Sources:1
	Shorted	100.0%	100.0%	Contacts Shorted-Contamination (10722-000,Qty:1)
Relay,Signal,Low Power				Sources:2
	Shorted	34.2%	30.5%	Specifically: (Shorts) (24996-000,41.5%)
	Open Coil	32.9%	29.4%	Specifically: (Open Circuit Coil (24996-000,40.0%)
	Mechanical Failure	19.3%	17.3%	Specifically: (Mechanical Failure)) (24996-000,23.5%)
	Contact Failure	13.6%	12.1%	Specifically: (Intermittent or high res. contacts) (24996-000,16.5%)
	Unknown	------	10.7%	Unknown (24996-000,14.5%)
	Other	------	0.0%	
	Fails to Open		NR	Fail to open N/C contact (24996-000,NR) (24997-000,NR)
	Fails to Close		NR	Fail to close N/O contact (24996-000,NR) (24997-000,NR)
Relay,Solenoid				Sources:5
	Drift	32.2%	20.0%	Fluctuates, Unstable (23038-003,Qty:1)
	Loss of Control	21.5%	13.3%	Control Inoperative (23038-004,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1)
	Shorted	12.6%	7.8%	Short Or Grounded (23038-001,Qty:3), Short (20609-000,Qty:1)
	Unstable Operation	11.5%	7.1%	Unstable (20609-000,Qty:16), Intermittent (20609-000,Qty:5)
	Loose	10.7%	6.7%	Loose (23038-004,Qty:1)
	Cracked/Fractured	6.2%	3.9%	Broken/Fractured (23038-001,Qty:1), Cracked/Fractured (20609-000,Qty:4)
	Binding/Sticking	5.4%	3.3%	Sticky (23038-005,Qty:1)
	Unknown	------	22.0%	Unknown (20609-000,Qty:1) (23038-001,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Relay,Solenoid (continued)				
	Unknown (continued)			
				(23038-001,Qty:1) (23038-004,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1)
	Induced	------	2.5%	Caused By Other Dev. (23038-001,Qty:1)
	Other (<%5)	------	13.3%	
	Stuck Closed		2.7%	Stuck Closed (20609-000,Qty:8)
	Incorrect Voltage		2.5%	Incorrect Voltage (23038-001,Qty:1)
	Out of Spec.		2.0%	Out of Specification (20609-000,Qty:6)
	Out of Adjustment		2.0%	Out of Adjustment (20609-000,Qty:6)
	Spurious/False Operation		1.4%	False Response (20609-000,Qty:4)
	Stuck Open		1.0%	Stuck Open (20609-000,Qty:3)
	Seized		1.0%	Seized (20609-000,Qty:3)
	Noisy		0.7%	Noisy (20609-000,Qty:2)
Relay,Solid State				Sources:3
	Out of Spec.	62.5%	50.0%	Out of Specification (20609-000,Qty:1)
	Opened	12.5%	10.0%	Open (23038-005,Qty:1)
	Unstable Operation	12.5%	10.0%	Unstabled (23038-005,Qty:1)
	Corroded	12.5%	10.0%	Corroded (23038-005,Qty:1)
	Unknown	------	20.0%	Unknown (23038-005,Qty:2)
	Induced	------	<0.1%	Operating Temperatures Exceeding Thyristor Rating (22540-000,NR), Transients from the Switched Load (22540-000,NR), Steeply Rising Load Voltages (22540-000,NR)
	Other	------	0.0%	
	Fatigue		NR	Mechani cal Fatigue due to Thermal Cycling (22540-000,NR)
Relay,Switchgear				Sources:1
	Spurious/False Operation	66.3%	57.0%	Catastrophic-Spurious Operation (18175-000,57.0%)
	Degraded Operation	33.7%	29.0%	Degraded (18175-000,29.0%)
	Unknown	------	14.0%	Unknown (18175-000,14.0%)
Relay,Time Delay				Sources:1
	Spurious/False Operation	44.4%	44.4%	False Response (20609-000,Qty:4)
	No Operation	33.3%	33.3%	Stuck Closed (20609-000,Qty:1), No Operation (20609-000,Qty:2)
	Degraded Operation	11.1%	11.1%	Degraded (20609-000,Qty:1)
	Out of Adjustment	11.1%	11.1%	Out of Adjustment (20609-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Relay,Time Delay,Protective Control				Sources:1
	Spurious/False Operation	66.7%	60.0%	Catastrophic-Spurious Operation (18175-000,60.0%)
	Degraded Operation	33.3%	30.0%	Degraded (18175-000,30.0%)
	Unknown	------	10.0%	Unknown (18175-000,10.0%)
Resistor,Alumina,Ceramic				Sources:1
	Opened	66.3%	66.3%	Open-Electrical Overstress (25027-000,Qty:53)
	Change in Value	33.8%	33.8%	Change in Value-Electrical Overstress (25027-000,Qty:27)
Resistor,Fixed (Summary)				
	Opened	51.0%		
	Drift	29.1%		
	Change in Resistance	7.0%		
	Broken	5.4%		
	Shorted	4.0%		
	Mechanical Failure	3.5%		
Resistor,Fixed				Sources:8
	Opened	77.2%	59.4%	High Z (24991-000,90.0%), Open (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:4) (24417-001,NR) (24992-000,80.0%) (24992-000,100.0%), Open-Electrical Overstress (25027-000,Qty:1), Intermittent Open-Bound Open Due To Contamination (10722-000,Qty:1), Opened-Workmanship Flaw (10722-000,Qty:1), Open-External Overstress (10722-000,Qty:1), Electrically Open (10722-000,Qty:11), Wirewound: Open circuit (24997-000,60.0%)
	Change in Resistance	9.9%	7.6%	Out Of Tolerance (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:2) (17867-000,Qty:2) (17867-000,Qty:2) (17867-000,Qty:2) (17867-000,Qty:3), Resistor Net Value Shift-Dent In Met/Film Resistor (10722-000,Qty:3), Decrease in Resistance-Overstress (10722-000,Qty:1), Composition:Resistance change (24997-000,NR), Films: Resistance change (24997-000,NR), Wirewound: Resistance change (24997-000,20.0%)
	Broken	5.9%	4.5%	Broken (25464-000,Qty:202)
	Shorted	5.2%	4.0%	Low Z (24991-000,10.0%), Short (17867-000,Qty:1) (17867-000,Qty:2) (24417-001,NR) (24992-000,10.0%), Wirewound: Shorts (24997-000,10.0%)
	Mechanical Failure	1.9%	1.4%	Wirewound: Mech. fail & other (24997-000,10.0%)
	Induced	------	10.2%	Performance Variatio (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:2) (17867-000,Qty:2) (17867-000,Qty:2) (17867-000,Qty:2) (17867-000,Qty:2) (17867-000,Qty:2) (17867-000,Qty:3), Burned (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:24), Wrong Value (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1), Add Limit Resistor (17867-000,Qty:1), Reselect (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:2), Weak/Low Performance (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:3), Offset (17867-000,Qty:1), Wrong Part (17867-000,Qty:1) (17867-000,Qty:1), Composition:Quality defects (24997-000,NR), Films: Quality defects (24997-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Resistor,Fixed (continued)				
	Unknown	------	9.2%	Unknown (17867-000,Qty:1) (17867-000,Qty:1) (25464-000,Qty:397)
	Other (<%2)	------	3.6%	
	Connection Failure		0.7%	Detachment Of Lead-In Pins At Internal Resistor (10722-000,Qty:1)
	Lead Damage		0.7%	Lead Fracture-Board Flexing During Vibration (10722-000,Qty:1)
	Drift		0.5%	Drift (24992-000,5.0%), Fails to Tune or Drifts (25464-000,Qty:2), Fluctuates, Unstable or Errati (25464-000,Qty:6)
	Binding/Sticking		0.5%	Binding Stuck or Jammed (25464-000,Qty:21)
	Leaking		0.4%	Leak (24992-000,5.0%)
	Intermittent Operation		0.3%	Intermittent (17867-000,Qty:1) (17867-000,Qty:1)
	Cracked/Fractured		0.2%	Cracked (25464-000,Qty:7)
	Loose		0.1%	Loose Solder Connect (17867-000,Qty:1)
	Noisy		0.1%	Noisy (17867-000,Qty:1)
	Burst/Ruptured		<0.1%	Burst or Ruptured (25464-000,Qty:2)
	Change in Capac.		<0.1%	Capacitance Incorrect (25464-000,Qty:2)
	High Volt. or Standing Wave		<0.1%	High Voltage or Standing Wave (25464-000,Qty:1)
	Change in Value		NR	Radical Departure from Initial Characteristics (24417-001,NR)
Resistor,Fixed,Carbon & Metal Film				Sources:1
	Opened	80.0%	80.0%	Open Circuits (24993-000,80.0%)
	Contaminated	20.0%	20.0%	Change Of Value (24993-000,20.0%)
Resistor,Fixed,Carbon Film				Sources:1
	Drift	51.1%	49.5%	Parameter Drift-Intermittent (25000-000,Qty:1), Parameter Drift-Delta R (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:5) (25000-000,Qty:13) (25000-000,Qty:19) (25000-000,Qty:50), Parameter Drift-Insulation Resistance (25000-000,Qty:2)
	Opened	48.9%	47.4%	Open-General (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:84)
	Unknown	------	3.1%	Unknown (25000-000,Qty:6)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Resistor,Fixed,Composition				Sources:9
	Drift	57.0%	47.6%	Parameter Drift-Delta R (25000-000,Qty:3) (25000-000,Qty:6) (25000-000,Qty:25) (25000-000,Qty:32) (25000-000,Qty:45) (25000-000,Qty:114) (25000-000,Qty:471), Drift (24990-000,50.0%) (24994-000,75.0%), Change Of Value (24993-000,95.0%), Change Of Value -output spec- (24997-000,92.0%)
	Opened	26.5%	22.1%	Open (24990-000,50.0%) (24994-000,25.0%) (25000-000,Qty:201) (25016-000,NR), Open-Intermittent or Noisy (25000-000,Qty:12), High Z (24991-000,80.0%), Open Circuit (24997-000,1.0%)
	Moisture Intrusion	6.7%	5.6%	Moisture Intrusion (25038-000,45.0%)
	Broken	6.0%	5.0%	Broken (25027-000,Qty:1) (25027-000,Qty:1)
	Lead Defects	3.7%	3.1%	Lead defects (25038-000,25.0%)
	Induced	------	7.5%	Burned (25027-000,Qty:1) (25027-000,Qty:2)
	Unknown	------	1.8%	Unknown (24993-000,5.0%) (25000-000,Qty:92)
	Other (<%4)	------	7.2%	
	Shorted		2.6%	Short (24994-000,NR) (25000-000,Qty:8), Low Z (24991-000,20.0%)
	Contaminated		1.9%	Contaminated (25038-000,15.0%)
	Non-uniform Resistance Material		1.9%	Non-uniform Comp. Material (25038-000,15.0%)
	Electrical Noise		0.9%	Electrical noise (24997-000,7.0%)
	Change in Resistance		NR	Decreased Resistance-with life (25016-000,NR)
Resistor,Fixed,Film				Sources:7
	Opened	52.2%	51.2%	Open-Defect in Film Path (25016-000,NR), Open (24990-000,50.0%) (25027-000,Qty:1) (25027-000,Qty:1) (25027-000,Qty:1), High Z (24991-000,81.0%), Open-Tear In The Foil Interconnect Ribbon (10722-000,Qty:1)
	Drift	31.8%	31.2%	Drift (24990-000,50.0%), Resistance High-Traces Of Chlorine Found Inside (10722-000,Qty:3), Moisture Ingression (25038-000,31.0%)
	Film Imperfections	5.1%	5.0%	Film Imperfections (25038-000,25.0%)
	Substrate Defects	5.1%	5.0%	Substrate defects (25038-000,25.0%)
	Shorted	3.9%	3.8%	Low Z (24991-000,19.0%)
	Lead Damage	1.9%	1.9%	Lead termination (25038-000,9.5%)
	Induced	------	1.9%	Film Material Damage (25038-000,9.5%)
	Other	------	0.0%	
	Change in Resistance		NR	Increase in Resistance-Unstable Film (25016-000,NR), Change in resistance values (24997-000,NR)
	Intermittent Operation		NR	Intermittent or open circuit (24997-000,NR)
	Lead Defects		NR	Lead failure (24997-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Resistor,Fixed,Film,Metal				Sources:2
	Drift	40.0%	40.0%	Drift (24994-000,80.0%)
	Change in Resistance	31.8%	31.8%	Change In Value-Silver Particle Bridging Kerf (10722-000,Qty:1), High Out Of Spec Resistance-Cracked Path (10722-000,Qty:1), Resistance Shift (10722-000,Qty:2), Erratic Increase In Resistance (10722-000,Qty:1), Increased In Value (10722-000,Qty:1), Resistance Shifted High (10722-000,Qty:1)
	Opened	28.2%	28.2%	Open (24994-000,20.0%), Open-Chemical Corrosion (10722-000,Qty:1), Opened-Mechanical Damage/Overstress (10722-000,Qty:1), Intermittent Open-Solder Joint (10722-000,Qty:1), Open-Chlorine Contamination (10722-000,Qty:1)
	Other	------	0.0%	
	Shorted		NR	Short (24994-000,NR)
Resistor,Fixed,Wire Wound				Sources:5
	Opened	50.0%	48.8%	Open (24990-000,90.0%) (24992-000,33.3%) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:6) (25000-000,Qty:10) (25000-000,Qty:14) (25000-000,Qty:36), Open-Nichrome Wire Broke At Nickel Tab Weld (10722-000,Qty:1)
	Drift	20.3%	19.8%	Parameter Drift-Insulation Resistance (25000-000,Qty:1) (25000-000,Qty:5) (25000-000,Qty:87), Parameter Drift-Delta R (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:5) (25000-000,Qty:6) (25000-000,Qty:7) (25000-000,Qty:8) (25000-000,Qty:9) (25000-000,Qty:9) (25000-000,Qty:9) (25000-000,Qty:10) (25000-000,Qty:20) (25000-000,Qty:22) (25000-000,Qty:29), Drift (24992-000,33.3%)
	Wire Failure	10.7%	10.4%	Wire Imperfection (25038-000,10.0%) (25038-000,22.0%), Wire Insulation Flow (25038-000,20.0%)
	Shorted	6.9%	6.8%	Short- Dielectric Strength (25000-000,Qty:2), Short- Short (25000-000,Qty:1) (25000-000,Qty:1), Short (24990-000,10.0%) (24992-000,16.7%), Intrawinding Insulation Breakdown (25038-000,6.0%)
	Corroded	6.6%	6.4%	Corrosion (25038-000,10.0%) (25038-000,22.0%)
	Mechanical Failure	3.4%	3.3%	Mechanical (24992-000,16.7%)
	Lead Defects	2.1%	2.0%	Lead Defects (25038-000,10.0%)
	Unknown	------	0.8%	Unknown (25000-000,Qty:6) (25000-000,Qty:9)
	Other (<%3)	------	1.6%	
	Mechanical Damage		1.1%	Mechanical Damage (25000-000,Qty:1) (25000-000,Qty:8) (25000-000,Qty:10)
	Seal Failure		0.3%	Seal Leakage (25000-000,Qty:6)
	Intermittent Operation		0.2%	Intermittent-Noise (25000-000,Qty:1) (25000-000,Qty:3)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Resistor,Fixed,Wire Wound,Power				Sources:5
	Opened	57.5%	57.5%	Open-Bad Weld (25016-000,NR), Open-Corrosion of the Resistance Wire (25016-000,NR), High Z (24991-000,81.0%), Open (24994-000,20.0%), Open Circuit (24996-000,60.0%) (24997-000,60.0%)
	Drift	25.0%	25.0%	Change in Resistance -excessive with life- (25016-000,NR), Drift (24994-000,80.0%), Excessive Resistance Change (24997-000,20.0%)
	Mechanical Failure	10.0%	10.0%	Mechanical Failure and Other (24996-000,20.0%), Mechanical failure and other (24997-000,20.0%)
	Change in Resistance	5.0%	5.0%	Excessive Resistance Change (24996-000,20.0%)
	Shorted	2.5%	2.5%	Low Z (24991-000,9.0%), Short (24994-000,NR)
Resistor,Fixed,Wire Wound,Precision				Sources:3
	Opened	50.5%	50.5%	Open-Bad Welds (25016-000,NR), High Z (24991-000,71.0%), Open (24994-000,30.0%)
	Drift	32.5%	32.5%	Drift (24994-000,65.0%)
	Shorted	17.0%	17.0%	Low Z (24991-000,29.0%), Short (24994-000,5.0%)
	Other	------	0.0%	
	Change in Resistance		NR	Change in Resistance-Unstable Wire (25016-000,NR), Change in Resistance-Poor Processing (25016-000,NR), Change in Resist-Partial Short From Bad Wire Insul (25016-000,NR)
Resistor,Network				Sources:2
	Opened	75.0%	61.4%	Open (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:4), High Resistance Or Open In 7 Resistors Of Network (10722-000,Qty:1), Solder Joint Failed-Gold Embrittlement (10722-000,Qty:1)
	Broken	9.7%	8.0%	Broken/Damaged (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:3), Broked/Damaged (17867-000,Qty:1)
	Intermittent Operation	8.3%	6.8%	Intremittent (17867-000,Qty:1), Intermittent (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1)
	Shorted	6.9%	5.7%	Short (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:3)
	Induced	------	15.9%	Performance Variatio (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:1) (17867-000,Qty:2) (17867-000,Qty:4), Weak/Low Performance (17867-000,Qty:1) (17867-000,Qty:1)
	Unknown	------	2.3%	Unknown (17867-000,Qty:1) (17867-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Resistor,Thermistor				Sources:5
	Opened	53.7%	52.4%	High Z (24991-000,67.0%), Open (24992-000,50.0%) (24994-000,30.0%), Open Circuits (24993-000,95.0%), Lead Termination Defect (25038-000,20.0%)
	Drift	18.5%	18.0%	Drift (24992-000,25.0%) (24994-000,65.0%)
	Shorted	12.9%	12.6%	Low Z (24991-000,33.0%), Short (24992-000,25.0%) (24994-000,5.0%)
	Moisture Intrusion	6.6%	6.4%	Moissture Intrusion (25038-000,32.0%)
	Mechanical Failure	6.2%	6.0%	Body Anomalies (25038-000,30.0%)
	Non-uniform Resistance Material	2.2%	2.1%	Non-uniform Resistance Material (25038-000,10.5%)
	Unknown	------	2.5%	Unknown (24993-000,5.0%) (24994-000,NR) (25038-000,7.5%)
Resistor,Trimpot,Carbon Film				Sources:1
	High Contact Resistance	100.0%	100.0%	High Z (24991-000,100.0%)
	Other	------	0.0%	
	Shorted		NR	Low Z (24991-000,NR)
Resistor,Variable (Summary)				
	Opened	51.3%		
	Intermittent Operation	12.0%		
	Drift	9.2%		
	High Contact Resistance	8.7%		
	Spurious/False Operation	8.6%		
	Shorted	6.1%		
	Mechanical Failure	4.0%		
Resistor,Variable				Sources:3
	Opened	57.3%	57.1%	Open-Open Elements (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3), Open-Open Wiper (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:3) (25000-000,Qty:5) (25000-000,Qty:23) (25000-000,Qty:25), Open-General (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:5) (25000-000,Qty:6) (25000-000,Qty:9) (25000-000,Qty:10) (25000-000,Qty:11) (25000-000,Qty:15) (25000-000,Qty:19) (25000-000,Qty:19) (25000-000,Qty:23) (25000-000,Qty:52), Open (24990-000,40.0%), Open Condition-Mechanical Overstress (10722-000,Qty:6)
	Intermittent Operation	23.3%	23.2%	Intermittent (24990-000,60.0%) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:13) (25000-000,Qty:17), Intermittent-Noise (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:6) (25000-000,Qty:7) (25000-000,Qty:16)
	Drift	13.9%	13.8%	Parameter Drift-Delta R (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:6) (25000-000,Qty:7) (25000-000,Qty:9) (25000-000,Qty:11) (25000-000,Qty:14) (25000-000,Qty:18), Parameter Drift-Insulation Resistance (25000-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Resistor,Variable (continued)				
	Drift (continued)			
				(25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:10) (25000-000,Qty:33), Parameter Drift-High Contact Resistance (25000-000,Qty:4), Parameter Drift-General (25000-000,Qty:37) (25000-000,Qty:164)
	Seal Failure	3.1%	3.1%	Seal Leakage (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:71)
	Shorted	1.5%	1.5%	Short-Short Elements (25000-000,Qty:6), Short-Dielectric Strength (25000-000,Qty:1) (25000-000,Qty:2), Short (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:6) (25000-000,Qty:14)
	Mechanical Damage	0.8%	0.8%	Mechanical Damage (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:4)
	Unknown	------	0.4%	Unknown (25000-000,Qty:1) (25000-000,Qty:4) (25000-000,Qty:5)
Resistor,Variable,Composition				Sources:3
	Spurious/False Operation	33.3%	31.7%	Erratic Operation (24993-000,95.0%)
	Opened	18.6%	17.7%	High Z (24991-000,53.0%)
	High Contact Resistance	16.8%	16.0%	Corrosion (25038-000,48.0%)
	Shorted	16.5%	15.7%	Low Z (24991-000,47.0%)
	Moisture Intrusion	9.8%	9.3%	Moisture Intrusion (25038-000,28.0%)
	Wiper Movement	3.0%	2.8%	Wiper Movement (25038-000,8.5%)
	Binding/Sticking	2.1%	2.0%	Binding, Jamming (25038-000,6.0%)
	Induced	------	1.5%	Burnout of Resistive Element (25038-000,4.5%)
	Other (<%3)	------	3.3%	
	Insulation Failure		1.7%	Insulation Failure (24993-000,5.0%)
	Connection Failure		1.7%	Terminal Defect (25038-000,5.0%)
Resistor,Variable,Potentiometer				Sources:1
	High Contact Resistance	67.0%	67.0%	High Z (24991-000,67.0%)
	Shorted	33.0%	33.0%	Low Z (24991-000,33.0%)
Resistor,Variable,Trimmer				Sources:1
	Opened	56.8%	46.0%	Open Circuit (24997-000,46.0%)
	Mechanical Failure	28.4%	23.0%	Mechanical failure (24997-000,23.0%)
	Drift	14.8%	12.0%	Parameter Change (24997-000,12.0%)
	Induced	------	19.0%	Quality defects and other (24997-000,19.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Resistor,Variable,Wire Wound				Sources:4
	Opened	52.7%	46.1%	High Z (24991-000,61.0%), Open Circuits (24993-000,40.0%), Open (24417-001,NR)
	Spurious/False Operation	21.0%	18.3%	Erratic Operation (24993-000,55.0%)
	Contaminated	13.0%	11.4%	Contamination (24417-001,NR) (25038-000,25.0%), Contamination Bridging (25038-000,6.5%)
	Jammed/Stuck	7.0%	6.2%	Jamming of Lead Screw Assembly (24417-001,NR), Jamming, Stripping (25038-000,17.0%)
	Insulation Failure	6.2%	5.4%	Insulation Breakdown (25038-000,15.0%)
	Other (<%5)	------	12.5%	
	Noisy		3.4%	Noise (25038-000,9.5%)
	Worn		3.4%	Slider Wear (24417-001,NR), Wiper Arm Wear (25038-000,9.5%)
	Seal/Gasket Failure		3.4%	Seal Defects (25038-000,9.5%)
	Change in Value		1.7%	Change of Value (24993-000,5.0%), Radical Departure from Initial Characteristics (24417-001,NR)
	Breakdown to Earth		0.5%	Catastrophic-Breakdown To Earth-Inter (24991-000,1.0%)
	Reduced Cross Sect. Area		NR	Reduced Cross Sectional Area (24417-001,NR)
	Stripped		NR	Stripping of Threads of Lead Screw Assembly (24417-001,NR)
	Shorted		NR	Short (24417-001,NR)
Resistor,Variable,Wire Wound,Precision				Sources:1
	Opened	73.7%	70.0%	Open Circuits (24993-000,70.0%)
	Excessive Noise	26.3%	25.0%	Excessive Noise (24993-000,25.0%)
	Unknown	------	5.0%	Unknown (24993-000,5.0%)
Resistor,Varistor				Sources:1
	Opened	100.0%	95.0%	Open Circuits (24993-000,95.0%)
	Unknown	------	5.0%	Unknown (24993-000,5.0%)
Resolver,Rotor				Sources:1
	Opened	100.0%	100.0%	Phase 32X Magnet Wire Open-Mechanical Overstress (10722-000,Qty:1), Open Windings (10722-000,Qty:3), Open-Magnet Wire Overstress/Fractured Ext Low Pad (10722-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Resolver,Servomechanism				Sources:1
	Unknown	------	<0.1%	Unknown (24417-001,NR)
Resolver,Starter				Sources:1
	Shorted	50.0%	50.0%	Short-Tensile Fracture (10722-000,Qty:2), Core Short-Reuse Of Previously Wound Core (10722-000,Qty:1)
	Opened	50.0%	50.0%	Open-Fatigue Fracture (10722-000,Qty:1) (10722-000,Qty:1), Open Magnet Wire At Slot 73-Mechanical Overstress (10722-000,Qty:1)
Retainer				Sources:1
	Loose	77.3%	65.4%	Loose (25101-000,Qty:2) (25101-000,Qty:3) (25101-000,Qty:6), Loose Screw(s) - Loose (25101-000,Qty:1), Out Of Adjustment - Loose (25101-000,Qty:1), Vibration - Loose (25101-000,Qty:1) (25101-000,Qty:2), Loose Screw(s) - Excessive Play (25101-000,Qty:1)
	Excessive Play	22.7%	19.2%	Excessive Play (25101-000,Qty:5)
	Induced	------	15.4%	Improper Installation - Loose (25101-000,Qty:3), Improper Maintenance - Loose (25101-000,Qty:1)
Retainer Piston Assy				Sources:1
	Corroded	100.0%	100.0%	Corroded-Broken/Damaged (25101-000,Qty:1)
Retainer,Optical El				Sources:1
	Induced	------	100.0%	Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1)
Reticle				Sources:1
	Induced	------	100.0%	Lack Of Maintenance (25101-000,Qty:1)
Retractor				Sources:1
	Broken	50.0%	40.0%	Broken/Damaged (25101-000,Qty:2)
	Aged/Deteriorated	50.0%	40.0%	Deteriorated/Aged - Broken/Damaged (25101-000,Qty:2)
	Unknown	------	20.0%	Unknown (25101-000,Qty:1)
Ring				Sources:1
	Loose	75.0%	60.0%	Loose Screw(s) - Loose (25101-000,Qty:1), Loose Screw(s) - Excessive Play (25101-000,Qty:1), Loose Bolt(s) - Excessive Play (25101-000,Qty:1)
	Out of Adjustment	25.0%	20.0%	Out Of Adjustment - Inaccurate (25101-000,Qty:1)
	Induced	------	20.0%	Improper Installation - Inop/Unserviceable (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Ring Yoke Assembly				Sources:1
	Loose	100.0%	100.0%	Worn - Loose (25101-000,Qty:1)
Ring,Retaining				Sources:1
	Broken	47.4%	16.1%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1), Broken/Separated-Misfire (25101-000,Qty:1), Broken/Separated-Missing (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:3)
	Loose	31.6%	10.7%	Out Of Adjustment - Loose (25101-000,Qty:6)
	Worn	10.5%	3.6%	Worn Out (25101-000,Qty:1), Worn - Inop Man Traverse (25101-000,Qty:1)
	Binding/Sticking	5.3%	1.8%	Loose Screw(s) - Binding/Sticking (25101-000,Qty:1)
	Aged/Deteriorated	5.3%	1.8%	Deteriorated/Aged - Broken/Damaged (25101-000,Qty:1)
	Induced	------	64.3%	Improper Maintenance - Loose (25101-000,Qty:1), Improper Install - Inop/Sluggish Breech (25101-000,Qty:1), Item Abuse/Neglect - Missing (25101-000,Qty:1), Stolen - Missing (25101-000,Qty:1) (25101-000,Qty:1), Missing (25101-000,Qty:2) (25101-000,Qty:4), Fell Off Or Lost - Missing (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2) (25101-000,Qty:3) (25101-000,Qty:11), Improper Maintenance - Broken/Damaged (25101-000,Qty:1), Fell Off Or Lost - Fnd In TI/PMCS/INSP (25101-000,Qty:1) (25101-000,Qty:1), Improper Maintenance - Missing (25101-000,Qty:1) (25101-000,Qty:2)
	Unknown	------	1.8%	Unknown (25101-000,Qty:1)
Ring,Slip				Sources:1
	Opened	100.0%	100.0%	Wire Pulled Loose During The Strip & Tin Operation (10722-000,Qty:2), Open Circuits-Intergranular Cracking (10722-000,Qty:1)
Ring,Stop				Sources:1
	Out of Adjustment	100.0%	100.0%	Out Of Adjustment - Inaccurate (25101-000,Qty:1)
Rivet,Solid				Sources:1
	Loose	100.0%	66.7%	Loose (25101-000,Qty:2), Loose Screw(s) - Missing (25101-000,Qty:1), Worn - Loose (25101-000,Qty:1)
	Unknown	------	33.3%	Unknown (25101-000,Qty:2)
Rod				Sources:1
	Broken	80.0%	72.7%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:2) (25101-000,Qty:5)
	Loose	10.0%	9.1%	Part Missing/Loose - Fnd In TI/PMCS/INSP (25101-000,Qty:1)
	Aged/Deteriorated	10.0%	9.1%	Deteriorated/Aged - Internal Moisture (25101-000,Qty:1)
	Induced	------	9.1%	Fell Off Or Lost - Missing (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Roller				Sources:1
	Loose	40.0%	28.6%	No Failure - Loose (25101-000,Qty:1), Worn - Loose (25101-000,Qty:1)
	Broken	40.0%	28.6%	Broken/Damaged (25101-000,Qty:2)
	Aged/Deteriorated	20.0%	14.3%	Deteriorated/Aged - Broken/Damaged (25101-000,Qty:1)
	Induced	------	28.6%	Cannibalization-Missing (25101-000,Qty:1), Lack Of Lubrication - Missing (25101-000,Qty:1)
Roller Assembly				Sources:1
	Bushing Failure	29.2%	22.6%	Worn Bushing - Worn Out (25101-000,Qty:1) (25101-000,Qty:2), Worn Bushing - Loose (25101-000,Qty:2), Worn Bushing - Excessive Play (25101-000,Qty:1) (25101-000,Qty:1)
	Cracked/Fractured	25.0%	19.4%	Cracked (25101-000,Qty:1), Cracked/Split-Broken/Damaged (25101-000,Qty:4), Operator Error - Cracked (25101-000,Qty:1)
	Broken	16.7%	12.9%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2)
	Worn	12.5%	9.7%	Worn Out (25101-000,Qty:2), Worn Track Pad(s) (25101-000,Qty:1)
	Aged/Deteriorated	8.3%	6.5%	Deteriorated/Aged - Deteriorated (25101-000,Qty:1), Deteriorated/Aged - Inop/Unserviceable (25101-000,Qty:1)
	Cut/Scarred/Punctured	4.2%	3.2%	Cut/Scarred (25101-000,Qty:1)
	Excessive Play	4.2%	3.2%	Excessive Play (25101-000,Qty:1)
	Induced	------	12.9%	Item Abuse/Neglect - Missing (25101-000,Qty:1), Operator Error - Broken/Damaged (25101-000,Qty:1), Caused By Other Failure-Collapsed/Bent (25101-000,Qty:1), Lack Of Lubrication - Worn Out (25101-000,Qty:1)
	Unknown	------	9.7%	Unknown (25101-000,Qty:1) (25101-000,Qty:2)
Roller Univers Assy				Sources:1
	Excessive Play	100.0%	100.0%	Worn - Excessive Play (25101-000,Qty:1) (25101-000,Qty:1)
Rotary Harness Assy				Sources:1
	Signal Path Leakage	100.0%	100.0%	Signal Path Leakage-Solder Flux In Connector P4 (10722-000,Qty:1)
Rotary Switch				Sources:4
	Degraded Output	52.6%	50.0%	Bad Output (25027-000,Qty:1)
	Contact Failure	47.4%	45.0%	Intermittent Contact (24993-000,90.0%), Intermittent Contact or Variable Contact Res. (24996-000,NR)
	Unknown	------	5.0%	Unknown (24993-000,10.0%)
	Other	------	0.0%	
	Mechanical Failure		NR	Mechanical Failure (24996-000,NR), Mechanical failure

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Rotary Switch (continued)				
Other (continued)				
				(24997-000,NR)
	Opened		NR	Open Circuit (24996-000,NR) (24997-000,NR)
	Shorted		NR	Short (24996-000,NR) (24997-000,NR)
	Intermittent Operation		NR	Intermittent contact or variable contact resist. (24997-000,NR)
Rotating Head Assy				Sources:1
	Loose	33.3%	25.0%	Internal Failure - Loose (25101-000,Qty:1) (25101-000,Qty:1), Worn - Loose (25101-000,Qty:1)
	Excessive Play	33.3%	25.0%	Internal Failure - Excessive Play (25101-000,Qty:3)
	Out of Synch.	11.1%	8.3%	Out Of Synch (25101-000,Qty:1)
	Broken	11.1%	8.3%	Part Struck/Damaged - Inop/Unserviceable (25101-000,Qty:1)
	Stripped	11.1%	8.3%	Worn/Stripped - Inop/Unserviceable (25101-000,Qty:1)
	Unknown	------	25.0%	Unknown (25101-000,Qty:1) (25101-000,Qty:2)
Scale,Diopter				Sources:1
	Out of Adjustment	100.0%	100.0%	Out Of Adjustment - Inop/Unserviceable (25101-000,Qty:1)
Screw				Sources:1
	Loose	66.7%	50.0%	Loose Screw - Inop/Unserviceable (25101-000,Qty:1), Vibration - Loose (25101-000,Qty:1)
	Worn	33.3%	25.0%	Worn - Inop/Unserviceable (25101-000,Qty:1)
	Induced	------	25.0%	Vibration - Missing (25101-000,Qty:1)
Screw,Cap				Sources:1
	Loose	46.4%	30.2%	Vibration - Loose (25101-000,Qty:1) (25101-000,Qty:1), Part Missing/Loose - Missing (25101-000,Qty:1), Loose Bolt(s) (25101-000,Qty:5), Loose Bolt(s) - Leaking Fluid (25101-000,Qty:1), Loose Bolt(s) - Missing (25101-000,Qty:1), Loose Bolt(s) - Loose Bolt(s) (25101-000,Qty:1), Vibration - Loose Screw(s) (25101-000,Qty:2)
	Broken	35.7%	23.3%	Part Struck/Damaged - Fnd In TI/PMSC/INSP (25101-000,Qty:1), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1), Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1), Broken Bolt(s) (25101-000,Qty:1), Vibration - Broken/Damaged (25101-000,Qty:2), Broken/Separated - Broken Bolt(s) (25101-000,Qty:1), Broken/Separated - Broken/Damaged (25101-000,Qty:1)
	Leaking Fluid	7.1%	4.7%	Vibration - Leaking Fluid (25101-000,Qty:2)
	Out of Adjustment	3.6%	2.3%	Loose Bolt(s) - Out Of Adjustment (25101-000,Qty:1)
	Binding/Sticking	3.6%	2.3%	Binding/Sticking (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Screw,Cap (continued)				
	Excessive Vibration	3.6%	2.3%	Vibration - Inaccurate (25101-000,Qty:1)
	Induced	------	34.9%	Item Abuse/Neglect - Missing (25101-000,Qty:1), Wrong Part - Found In TI/PMCS/Insp (25101-000,Qty:1), Fell Off Or Lost - Missing (25101-000,Qty:1) (25101-000,Qty:2), Lack Of Maintenance - Loose (25101-000,Qty:1) (25101-000,Qty:1), Improper Installation - Loose (25101-000,Qty:1), Lack Of Maintenance - Loose Bolt(s) (25101-000,Qty:1), Lack Of Maintenance - Stripped (25101-000,Qty:1), Lack Of Maintenance - Leaking Fluid (25101-000,Qty:1), Vibration - Missing (25101-000,Qty:2), Wrong Part - Missing (25101-000,Qty:1), Improper Installation - Stripped (25101-000,Qty:1)
Screw,Cap,Socket				Sources:1
	Broken	50.0%	2.1%	Broken Bolt(s) (25101-000,Qty:1) (25101-000,Qty:1)
	Loose	25.0%	1.1%	Worn - Loose (25101-000,Qty:1)
	Excessive Vibration	25.0%	1.1%	Vibration - Fnd In TI/PMSC/INSP (25101-000,Qty:1)
	Unknown	------	92.6%	Unknown (25101-000,Qty:1) (25101-000,Qty:87)
	Induced	------	3.2%	Overtorqued - Broken Bolt(s) (25101-000,Qty:1), Overtorqued - Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1)
Screw,Cap,Socket,Head				Sources:1
	Broken	66.7%	20.0%	Broken Bolt(s) (25101-000,Qty:1), Broken/Damaged (25101-000,Qty:1)
	Loose	33.3%	10.0%	Loose Screw(s) - Loose (25101-000,Qty:1)
	Induced	------	70.0%	Lack Of Maintenance - Metal On Mag Plug (25101-000,Qty:1), Overtorqued - Broken/Damaged (25101-000,Qty:1), Wrong Part - Loose (25101-000,Qty:1), Improper Maintenance - Broken/Damaged (25101-000,Qty:1), Improper Maintenance - Missing (25101-000,Qty:1), Vibration - Missing (25101-000,Qty:1) (25101-000,Qty:1)
Screw,Collimator				Sources:1
	Out of Adjustment	100.0%	50.0%	Out Of Adjustment - Inop/Unserviceable (25101-000,Qty:1)
	Induced	------	50.0%	Lack Of Maintenance - Binding/Sticking (25101-000,Qty:1)
Screw,Front Wedge				Sources:1
	Fractured	100.0%	100.0%	Screw Fractured-Screw Cross Threaded When Inserted (10722-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Screw,Insert,Thread				Sources:1
	Stripped	100.0%	50.0%	Stripped (25101-000,Qty:1)
	Induced	------	50.0%	Overtorqued - Loose (25101-000,Qty:1)
Screw,Machine				Sources:1
	Broken	31.6%	15.8%	Broken Bolt(s) (25101-000,Qty:1) (25101-000,Qty:2), Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1)
	Loose	21.1%	10.5%	Vibration - Loose (25101-000,Qty:1), Loose Bolt(s) - Inop/Unserviceable (25101-000,Qty:1), Out Of Adjustment - Loose (25101-000,Qty:1), Loose Screw(s) - Inop/Unserviceable (25101-000,Qty:1)
	Worn	15.8%	7.9%	Worn - Inop/Unserviceable (25101-000,Qty:1), Worn - Inaccurate (25101-000,Qty:1), Worn - Found In TI/PMCS/Insp (25101-000,Qty:1)
	Stripped	10.5%	5.3%	Stripped (25101-000,Qty:1) (25101-000,Qty:1)
	Out of Adjustment	10.5%	5.3%	Out Of Adjustment - Inop/Unserviceable (25101-000,Qty:1), Out Of Adjustment (25101-000,Qty:1)
	Out of Synch.	10.5%	5.3%	Out Of Synch (25101-000,Qty:1), Vibration - Out Of Synch (25101-000,Qty:1)
	Induced	------	44.7%	Missing (25101-000,Qty:1), Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1), Fell Off Or Lost - Inop/Unserviceable (25101-000,Qty:1), Vibration - Missing (25101-000,Qty:1) (25101-000,Qty:1), Fell Off Or Lost - Missing (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1), Improper Maintenance - Internal Moisture (25101-000,Qty:1), Improper Installation - Inaccurate (25101-000,Qty:1), Improper Alignment - Out Of Adjustment (25101-000,Qty:2), Lack Of Maintenance - Loose (25101-000,Qty:1), Wrong Part (25101-000,Qty:1), Lack Of Maintenance - Metal On Mag Plug (25101-000,Qty:1)
	Other (<%6)	------	5.3%	
	Bent/Dented/Warped		2.6%	Warped/Bent - Loose (25101-000,Qty:1)
	Binding/Sticking		2.6%	Vibration - Binding/Sticking (25101-000,Qty:1)
Screw,Self Locking				Sources:1
	Corroded	75.0%	42.9%	Corroded-Broken/Damaged (25101-000,Qty:3)
	Broken	25.0%	14.3%	Broken/Damaged (25101-000,Qty:1)
	Induced	------	42.9%	Overtorqued - Broken/Damaged (25101-000,Qty:2), Vibration - Missing (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Screw,Self Tapping				Sources:1
	Broken	100.0%	100.0%	Broken/Damaged (25101-000,Qty:1)
Screw,Set				Sources:1
	Out of Adjustment	36.5%	26.8%	Loose Screw(s) - Out Of Adjustment (25101-000,Qty:1), Out Of Adjustment - Binding/Sticking (25101-000,Qty:1) (25101-000,Qty:1), Out Of Adjustment - Inaccurate (25101-000,Qty:3) (25101-000,Qty:3) (25101-000,Qty:4), Out Of Adjustment - Inop/Unserviceable (25101-000,Qty:1), Out Of Adjustment - Out Of Adjustment (25101-000,Qty:2), Out Of Adjustment - Out Of Synch (25101-000,Qty:3)
	Loose	30.8%	22.5%	Vibration - Loose (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1), Loose Screw(s) - Inop/Unserviceable (25101-000,Qty:1) (25101-000,Qty:1), Loose (25101-000,Qty:1), Loose Screw(s) - Loose (25101-000,Qty:2), Loose Screw(s) - Fnd In TI/PMCS/INSP (25101-000,Qty:1), Loose Screw(s) - Inaccurate (25101-000,Qty:1), Part Missing/Loose - Inaccurate (25101-000,Qty:1), Vibration - Loose Screw(s) (25101-000,Qty:1), Loose Bolt(s) - Inop/Unserviceable (25101-000,Qty:2), Loose Screw(s) - Excessive Play (25101-000,Qty:1)
	Out of Synch.	25.0%	18.3%	Vibration - Out Of Synch (25101-000,Qty:1), Out Of Synch (25101-000,Qty:4) (25101-000,Qty:8)
	Broken	7.7%	5.6%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:2), Fell Off Or Lost - Broken/Damaged (25101-000,Qty:1)
	Induced	------	14.1%	Fell Off Or Lost - Missing (25101-000,Qty:1) (25101-000,Qty:1), Improper Install - Missing (25101-000,Qty:1), Improper Maintenance - Broken/Damaged (25101-000,Qty:1), Vibration - Missing (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1), Caused By Other Failure-Inop/Unserviceable (25101-000,Qty:1), Overtorqued - Broken/Damaged (25101-000,Qty:1), Improper Maintenance - Missing (25101-000,Qty:1)
	Unknown	------	5.6%	Unknown (25101-000,Qty:4)
	Other (<%3)	------	7.0%	
	Worn		1.4%	Worn/Stripped - Inaccurate (25101-000,Qty:1)
	Excessive Vibration		1.4%	Vibration - Inop/Unserviceable (25101-000,Qty:1)
	Seized		1.4%	Seized/Frozen - Inop Man Elevation (25101-000,Qty:1)
	Corroded		1.4%	Corroded-Seized (25101-000,Qty:1)
	Aged/Deteriorated		1.4%	Deteriorated/Aged - Broken/Damaged (25101-000,Qty:1)
Screw,Shoulder				Sources:1
	Loose	46.7%	29.2%	Vibration - Loose (25101-000,Qty:3), Loose Screw(s) - Fire Extinguishers (25101-000,Qty:1), Loose Screw(s) - Out Of Synch (25101-000,Qty:1), Part Struck/Damaged - Loose (25101-000,Qty:1), Vibration - Loose Screw(s) (25101-000,Qty:1)
	Aged/Deteriorated	20.0%	12.5%	Deteriorated/Aged - Broken Damaged (25101-000,Qty:2), Deteriorated/Aged - Broken/Damaged (25101-000,Qty:1)
	Broken	13.3%	8.3%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Screw,Shoulder (continued)				
	Mechanical Damage	13.3%	8.3%	Vibration - Broken/Damaged (25101-000,Qty:1), Broken/Damaged (25101-000,Qty:1)
	Stripped	6.7%	4.2%	Stripped (25101-000,Qty:1)
	Induced	------	37.5%	Caused By Other Fail - Loose (25101-000,Qty:4), Improper Install - Broken/Damaged (25101-000,Qty:1), Improper Maintenance - Stripped (25101-000,Qty:1), Improper Maintenance - Loose (25101-000,Qty:1), Lack Of Maintenance - Broken/Damaged (25101-000,Qty:1), Overtorqued - Binding/Sticking (25101-000,Qty:1)
Screw,Tapping				Sources:1
	Induced	------	100.0%	Missing (25101-000,Qty:1), Fell Off Or Lost - Missing (25101-000,Qty:1), Lack Of Maintenance - Missing (25101-000,Qty:1) (25101-000,Qty:1), Vibration - Missing (25101-000,Qty:1) (25101-000,Qty:1)
Screw,Thumb				Sources:1
	Broken	33.3%	20.0%	Broken/Damaged (25101-000,Qty:1)
	Loose	33.3%	20.0%	Loose Screw(s) - Excessive Play (25101-000,Qty:1)
	Aged/Deteriorated	33.3%	20.0%	Deteriorated/Aged - Excessive Play (25101-000,Qty:1)
	Induced	------	40.0%	Improper Maintenance - Broken/Damaged (25101-000,Qty:1), Vibration - Missing (25101-000,Qty:1)
Seal (Summary)				
	Aged/Deteriorated	40.6%		
	Leaking	35.9%		
	Cut/Scarred/Punctured	16.8%		
	Worn	4.2%		
	Loose	2.5%		
Seal				Sources:3
	Leaking	50.9%	35.7%	Leak (24992-000,100.0%), Leaking (20609-000,Qty:16) (24992-000,39.0%), Leaking Fluid (25101-000,Qty:1)
	Cut/Scarred/Punctured	23.8%	16.7%	Ripped/Torn/Cut (20609-000,Qty:143)
	Aged/Deteriorated	15.9%	11.2%	Deteriorated (20609-000,Qty:79), Deteriorated/Aged - Inop/Unserviceable (25101-000,Qty:2), Deteriorated/Aged - Leaking Fluid (25101-000,Qty:1) (25101-000,Qty:1)
	Worn	5.9%	4.2%	Worn Out (20609-000,Qty:2) (25101-000,Qty:1), Worn - Leaking Grease (25101-000,Qty:1) (25101-000,Qty:1), Worn - Leaking Hydraulic Oil (25101-000,Qty:2), Worn - Leaking Fluid (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1)
	Loose	3.5%	2.5%	Loose (25101-000,Qty:4), Part Struck/Damaged - Loose (25101-000,Qty:1)
	Induced	------	18.6%	Fell Off Or Lost - Missing (25101-000,Qty:4), Improper Installation - Leaking Nitrogen (25101-000,Qty:1), Improper Maintenance - Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:4), Improper Maintenance - Leaking Fluid (25101-000,Qty:1) (25101-000,Qty:2), Improper Maintenance - Loose (25101-000,Qty:1) (25101-000,Qty:21), Improper

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Seal (continued)				
Induced (continued)				
				Maintenance (25101-000,Qty:1), Improper Maintenance - Out Of Adjustment (25101-000,Qty:1), Improper Maintenance - Fnd In TI/PMSC/INSP (25101-000,Qty:1)
	Unknown	------	3.5%	Unknown (20609-000,Qty:6) (20609-000,Qty:20) (25101-000,Qty:1)
	Other (<%4)	------	7.7%	
	Seal/Gasket Failure		2.0%	Seals Worn - Leaking Fluid (25101-000,Qty:3), Seals Worn - Leaking Hydraulic Oil (25101-000,Qty:1)
	Cracked/Fractured		1.7%	Cracked/Fractured (20609-000,Qty:15)
	Bent/Dented/Warped		1.6%	Distorted (20609-000,Qty:1), Warped/Bent - Leaking Fluid (25101-000,Qty:1), Warped/Bent - Collapsed/Bent (25101-000,Qty:1), Warped/Bent - Fnd In TI/PMCS/INSP (25101-000,Qty:1)
	Binding/Sticking		1.0%	Binding/Sticking (25101-000,Qty:1) (25101-000,Qty:1)
	Broken		0.7%	Broken (20609-000,Qty:2), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1)
	Out of Adjustment		0.5%	Out Of Adjustment (25101-000,Qty:1)
	Frayed		0.2%	Frayed (20609-000,Qty:2)
Seal,O-Ring				Sources:1
	Aged/Deteriorated	100.0%	90.0%	Material Deterioration (24993-000,90.0%)
	Unknown	------	10.0%	Unknown (24993-000,10.0%)
Seal,Oil				Sources:1
	Aged/Deteriorated	100.0%	85.0%	Material Deterioration (24993-000,85.0%)
	Unknown	------	15.0%	Unknown (24993-000,15.0%)
Seat				Sources:1
	Excessive Play	50.0%	50.0%	Part Missing/Loose - Excessive Play (25101-000,Qty:1)
	Loose	50.0%	50.0%	Loose Screw(s) - Excessive Play (25101-000,Qty:1)
Seat,Ball				Sources:1
	Loose	50.0%	33.3%	Loose (25101-000,Qty:1)
	Broken	50.0%	33.3%	Broken/Damaged (25101-000,Qty:1)
	Induced	------	33.3%	Improper Maintenance - Broken/Damaged (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Sensor (Summary)				
	Degraded Output	45.3%		
	Shorted	18.6%		
	Opened	10.7%		
	No Operation	8.9%		
	Intermittent Operation	8.8%		
	Mechanical Failure	7.6%		
Sensor				Sources:3
	Degraded Output	55.6%	52.0%	Output Too High (23038-001,Qty:1), Degraded - Erratic Output (18175-000,19.0%), Degraded - High Output (18175-000,21.0%), Degraded - Low Output (18175-000,16.0%)
	Opened	19.2%	17.9%	Open (24992-000,50.0%) (24992-000,50.0%) (24992-000,61.2%)
	Shorted	11.7%	10.9%	Short (24992-000,8.5%) (24992-000,40.0%) (24992-000,50.0%)
	No Operation	6.4%	6.0%	Catastrophic-No Change/Output With Change/Input (18175-000,18.0%)
	Zero or Maximum Output	3.9%	3.7%	Catastrophic-Zero Or Maximum Output (18175-000,11.0%)
	Leaking	2.0%	1.9%	External Leak (24992-000,16.7%)
	Resistor Failure	1.2%	1.1%	Open, Resistor (24992-000,10.0%)
	Unknown	------	5.0%	Unknown (18175-000,15.0%)
	Other (<%2)	------	1.5%	
	Chaffed		0.9%	Chafe (24992-000,8.0%)
	Drift		0.4%	Drift (24992-000,3.9%)
	Closed		0.2%	Closed (24992-000,1.7%)
Sensor,Bistables				Sources:1
	No Operation	79.4%	27.0%	Catastrophic-No Function With Signal (18175-000,27.0%)
	Function Without Signal	20.6%	7.0%	Catastrophic-Functioned Without Signal (18175-000,7.0%)
	Unknown	------	54.0%	Unknown (18175-000,54.0%)
	Induced	------	12.0%	Degraded - Functioned At Improper Signal Level (18175-000,6.0%), Degraded - Premature Or Delayed Action (18175-000,6.0%)
Sensor,Displacement				Sources:1
	Zero or Maximum Output	73.2%	60.0%	Catastrophic-Zero Or Maximum Output (18175-000,60.0%)
	Degraded Output	26.8%	22.0%	Degraded - Erratic Output (18175-000,11.0%), Degraded - High Output (18175-000,11.0%)
	Unknown	------	18.0%	Unknown (18175-000,18.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Sensor,Flow/Velocity				Sources:1
	Zero or Maximum Output	31.5%	17.0%	Catastrophic-Zero Or Maximum Output (18175-000,17.0%) (18175-000,17.0%)
	Degraded Output	27.8%	15.0%	Degraded - Erratic Output (18175-000,4.0%) (18175-000,4.0%), Degraded - High Output (18175-000,6.0%) (18175-000,6.0%), Degraded - Low Output (18175-000,5.0%) (18175-000,5.0%)
	No Operation	24.1%	13.0%	Catastrophic-No Change/Output With Change/Input (18175-000,3.0%) (18175-000,3.0%), Catastrophic-No Function With Signal (18175-000,10.0%) (18175-000,10.0%)
	Function Without Signal	16.7%	9.0%	Catastrophic-Functioned Without Signal (18175-000,9.0%) (18175-000,9.0%)
	Unknown	------	33.0%	Unknown (18175-000,33.0%) (18175-000,33.0%)
	Induced	------	13.0%	Degraded - Functioned At Improper Signal Level (18175-000,10.0%) (18175-000,10.0%), Degraded - Intermittent Operation (18175-000,3.0%) (18175-000,3.0%)
Sensor,Flow/Velocity,Process Switch				Sources:1
	No Operation	54.0%	27.0%	Catastrophic-No Function With Signal (18175-000,27.0%) (18175-000,27.0%)
	Function Without Signal	46.0%	23.0%	Catastrophic-Functioned Without Signal (18175-000,23.0%) (18175-000,23.0%)
	Induced	------	33.0%	Degraded - Functioned At Improper Signal Level (18175-000,25.0%) (18175-000,25.0%), Degraded - Intermittent Operation (18175-000,8.0%) (18175-000,8.0%)
	Unknown	------	17.0%	Unknown (18175-000,17.0%) (18175-000,17.0%)
Sensor,Flow/Velocity,Transducer				Sources:1
	Zero or Maximum Output	61.2%	41.0%	Catastrophic-Zero Or Maximum Output (18175-000,41.0%)
	Degraded Output	38.8%	26.0%	Degraded - High Output (18175-000,11.0%), Degraded - Low Output (18175-000,15.0%)
	Unknown	------	33.0%	Unknown (18175-000,33.0%)
Sensor,Flow/Velocity,Transmitter				Sources:1
	Degraded Output	49.0%	24.0%	Degraded - Erratic Output (18175-000,7.0%), Degraded - High Output (18175-000,12.0%), Degraded - Low Output (18175-000,5.0%)
	Zero or Maximum Output	40.8%	20.0%	Catastrophic-Zero Or Maximum Output (18175-000,20.0%)
	No Operation	10.2%	5.0%	Catastrophic-No Change/Output With Change/Input (18175-000,5.0%)
	Unknown	------	51.0%	Unknown (18175-000,NR) (18175-000,51.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Sensor,Heater				Sources:1
	Shorted	100.0%	100.0%	Inter/Intra Winding Shorts (10722-000,Qty:3)
Sensor,Heater,Pig				Sources:1
	Wire Failure	100.0%	100.0%	Open Sensor Wire-Faulty Weld (10722-000,Qty:1)
Sensor,Humidity				Sources:1
	Degraded Output	50.7%	34.0%	Degraded - Erratic Output (18175-000,27.0%) (18175-000,27.0%), Degraded - High Output (18175-000,2.0%) (18175-000,2.0%), Degraded - Low Output (18175-000,5.0%) (18175-000,5.0%)
	No Operation	29.9%	20.0%	Catastrophic-No Change/Output With Change/Input (18175-000,20.0%) (18175-000,20.0%)
	Zero or Maximum Output	19.4%	13.0%	Catastrophic-Zero Or Maximum Output (18175-000,13.0%) (18175-000,13.0%)
	Unknown	------	33.0%	Unknown (18175-000,33.0%) (18175-000,33.0%)
Sensor,Indicating Control				Sources:1
	No Operation	60.5%	26.0%	Catastrophic-No Function With Signal (18175-000,26.0%) (18175-000,26.0%)
	Function Without Signal	39.5%	17.0%	Catastrophic-Functioned Without Signal (18175-000,17.0%) (18175-000,17.0%)
	Induced	------	41.0%	Degraded - Functioned At Improper Signal Level (18175-000,6.0%) (18175-000,6.0%), Degraded - Intermittent Operation (18175-000,27.0%) (18175-000,27.0%), Degraded - Controls But Does Not Indicate (18175-000,8.0%) (18175-000,8.0%)
	Unknown	------	16.0%	Unknown (18175-000,16.0%) (18175-000,16.0%)
Sensor,Level				Sources:1
	Degraded Output	35.3%	16.4%	Degraded - Erratic Output (18175-000,9.0%), Degraded - High Output (18175-000,4.0%), Degraded - Low Output (18175-000,5.0%)
	No Operation	33.3%	15.5%	Catastrophic-No Change/Output With Change/Input (18175-000,5.0%), Catastrophic-No Function With Signal (18175-000,12.0%)
	Zero or Maximum Output	21.6%	10.0%	Catastrophic-Zero Or Maximum Output (18175-000,11.0%)
	Function Without Signal	9.8%	4.5%	Catastrophic-Functioned Without Signal (18175-000,5.0%)
	Unknown	------	29.1%	Unknown (18175-000,32.0%)
	Induced	------	24.5%	Degraded - Functioned At Improper Signal Level (18175-000,13.0%), Degraded - Intermittent Operation (18175-000,14.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Sensor,Level,Controller				Sources:1
	No Operation	50.0%	25.0%	Catastrophic-No Function With Signal (18175-000,25.0%)
	Function Without Signal	50.0%	25.0%	Catastrophic-Functioned Without Signal (18175-000,25.0%)
	Induced	------	50.0%	Degraded - Functioned At Improper Signal Level (18175-000,50.0%)
Sensor,Level,Process Switch				Sources:1
	Function Without Signal	50.0%	16.5%	Catastrophic-Functioned Without Signal (18175-000,3.0%) (18175-000,30.0%)
	No Operation	50.0%	16.5%	Catastrophic-No Change/Output With Change/Input (18175-000,3.0%), Catastrophic-No Function With Signal (18175-000,30.0%)
	Induced	------	45.5%	Degraded - Functioned At Improper Signal Level (18175-000,34.0%) (18175-000,35.0%), Degraded - Intermittent Operation (18175-000,11.0%) (18175-000,11.0%)
	Unknown	------	21.5%	Unknown (18175-000,21.0%) (18175-000,22.0%)
Sensor,Level,Transmitter				Sources:1
	Degraded Output	44.9%	22.0%	Degraded - Erratic Output (18175-000,11.0%), Degraded - High Output (18175-000,5.0%), Degraded - Low Output (18175-000,6.0%)
	Zero or Maximum Output	36.7%	18.0%	Catastrophic-Zero Or Maximum Output (18175-000,18.0%)
	No Operation	18.4%	9.0%	Catastrophic-No Change/Output With Change/Input (18175-000,9.0%)
	Unknown	------	51.0%	Unknown (18175-000,51.0%)
Sensor,Meteorological				Sources:1
	Degraded Output	49.1%	26.0%	Degraded - Erratic Output (18175-000,18.0%), Degraded - High Output (18175-000,4.0%), Degraded - Low Output (18175-000,4.0%)
	Zero or Maximum Output	37.7%	20.0%	Catastrophic-Zero Or Maximum Output (18175-000,20.0%)
	No Operation	13.2%	7.0%	Catastrophic-No Change/Output With Change/Input (18175-000,7.0%)
	Unknown	------	47.0%	Unknown (18175-000,47.0%)
Sensor,Power Supply				Sources:1
	Degraded Output	51.0%	25.0%	Catastrophic-Excessive Output (18175-000,1.0%), Catastrophic-Failed To Regulate (18175-000,24.0%)
	No Output	49.0%	24.0%	Catastrophic-No Output (18175-000,24.0%)
	Induced	------	33.0%	Degraded - Over Regulated Voltage (18175-000,4.0%), Degraded - Under Regulated Voltage (18175-000,17.0%), Degraded - Excessive Ripple (18175-000,12.0%)
	Unknown	------	18.0%	Unknown (18175-000,18.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Sensor,Power Transducer				Sources:1
	Degraded Output	86.0%	86.0%	Degraded - Erratic Output (18175-000,17.0%), Degraded - High Output (18175-000,2.0%), Degraded - Low Output (18175-000,67.0%)
	Zero or Maximum Output	14.0%	14.0%	Catastrophic-Zero Or Maximum Output (18175-000,14.0%)
Sensor,Pressure				Sources:1
	No Operation	84.8%	19.5%	Catastrophic-No Function With Signal (18175-000,19.0%) (18175-000,20.0%)
	Function Without Signal	15.2%	3.5%	Catastrophic-Functioned Without Signal (18175-000,3.0%) (18175-000,4.0%)
	Induced	------	57.0%	Degraded - Functioned At Improper Signal Level (18175-000,56.0%) (18175-000,56.0%), Degraded - Intermittent Operation (18175-000,1.0%) (18175-000,1.0%)
	Unknown	------	20.0%	Unknown (18175-000,20.0%) (18175-000,20.0%)
Sensor,Pressure,Transmitter				Sources:1
	Degraded Output	41.2%	20.3%	Degraded - Erratic Output (18175-000,8.0%) (18175-000,9.0%) (18175-000,9.0%), Degraded - High Output (18175-000,8.0%) (18175-000,8.0%) (18175-000,8.0%), Degraded - Low Output (18175-000,3.0%) (18175-000,4.0%) (18175-000,4.0%)
	Zero or Maximum Output	33.1%	16.3%	Catastrophic-Zero Or Maximum Output (18175-000,9.0%) (18175-000,20.0%) (18175-000,20.0%)
	No Operation	24.3%	12.0%	Catastrophic-No Change/Output With Change/Input (18175-000,5.0%) (18175-000,10.0%) (18175-000,10.0%), Catastrophic-No Function With Signal (18175-000,11.0%)
	Function Without Signal	1.4%	0.7%	Catastrophic-Functioned Without Signal (18175-000,2.0%)
	Unknown	------	44.0%	Unknown (18175-000,34.0%) (18175-000,49.0%) (18175-000,49.0%)
	Induced	------	6.7%	Degraded - Functioned At Improper Signal Level (18175-000,19.0%), Degraded - Intermittent Operation (18175-000,1.0%)
Sensor,Radiation				Sources:1
	Degraded Output	54.3%	44.0%	Degraded - Erratic Output (18175-000,22.0%) (18175-000,22.0%), Degraded - High Output (18175-000,11.0%) (18175-000,11.0%), Degraded - Low Output (18175-000,11.0%) (18175-000,11.0%)
	Zero or Maximum Output	25.9%	21.0%	Catastrophic-Zero Or Maximum Output (18175-000,21.0%) (18175-000,21.0%)
	No Operation	19.8%	16.0%	Catastrophic-No Change/Output With Change/Input (18175-000,16.0%) (18175-000,16.0%)
	Unknown	------	19.0%	Unknown (18175-000,19.0%) (18175-000,19.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Sensor,Recorder				Sources:1
	Degraded Output	47.4%	18.0%	Degraded - Erratic Output (18175-000,12.0%), Degraded - High Output (18175-000,3.0%), Degraded - Low Output (18175-000,3.0%)
	No Operation	42.1%	16.0%	Catastrophic-No Change/Output With Change/Input (18175-000,16.0%)
	Zero or Maximum Output	10.5%	4.0%	Catastrophic-Zero Or Maximum Output (18175-000,4.0%)
	Induced	------	43.0%	Degraded - No Chart Motion (18175-000,NR) (18175-000,19.0%), Degraded - No Recording (18175-000,24.0%)
	Unknown	------	19.0%	Unknown (18175-000,19.0%)
Sensor,Seismic Instrument				Sources:1
	Degraded Output	50.7%	34.0%	Degraded - Erratic Output (18175-000,27.0%), Degraded - High Output (18175-000,2.0%), Degraded - Low Output (18175-000,5.0%)
	No Operation	29.9%	20.0%	Catastrophic-No Change/Output With Change/Input (18175-000,20.0%)
	Zero or Maximum Output	19.4%	13.0%	Catastrophic-Zero Or Maixmum Output (18175-000,13.0%)
	Unknown	------	33.0%	Unknown (18175-000,33.0%)
Sensor,Shock				Sources:1
	Degraded Output	50.7%	34.0%	Degraded - Erratic Output (18175-000,20.0%), Degraded - High Output (18175-000,7.0%), Degraded - Low Output (18175-000,7.0%)
	No Operation	32.8%	22.0%	Catastrophic-No Change/Output With Change/Input (18175-000,22.0%)
	Zero or Maximum Output	16.4%	11.0%	Catastrophic-Zero Or Maximum Output (18175-000,11.0%)
	Unknown	------	33.0%	Unknown (18175-000,33.0%)
Sensor,Signal Modifier				Sources:1
	Degraded Output	74.0%	37.0%	Degraded - Erratic Output (18175-000,14.0%), Degraded - High Output (18175-000,14.0%), Degraded - Low Output (18175-000,9.0%)
	Zero or Maximum Output	22.0%	11.0%	Catastrophic-Zero Or Maximum Output (18175-000,11.0%)
	No Operation	4.0%	2.0%	Catastrophic-No Change/Output With Change/Input (18175-000,2.0%)
	Unknown	------	50.0%	Unknown (18175-000,50.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Sensor,Speed				Sources:1
	Degraded Operation	100.0%	50.0%	Degraded (18175-000,50.0%)
	Unknown	------	50.0%	Unknown (18175-000,50.0%)
Sensor,Speed,Centrifugal Switch				Sources:1
	No Operation	79.8%	35.1%	Catastrophic-No Function With Signal (18175-000,39.0%) (18175-000,40.0%)
	Function Without Signal	20.2%	8.9%	Catastrophic-Functioned Without Signal (18175-000,10.0%) (18175-000,10.0%)
	Induced	------	56.0%	Degraded - Functioned At Improper Signal Level (18175-000,25.0%) (18175-000,25.0%), Degraded - Intermittent Operation (18175-000,25.0%) (18175-000,26.0%), Degraded - Functioned At Improper Speed Level (18175-000,25.0%)
Sensor,Speed,Transducer				Sources:1
	Degraded Output	50.0%	50.0%	Degraded - Erratic Output (18175-000,5.0%) (18175-000,5.0%), Degraded - High Output (18175-000,10.0%) (18175-000,10.0%), Degraded - Low Output (18175-000,35.0%) (18175-000,35.0%)
	Zero or Maximum Output	40.0%	40.0%	Catastrophic-Zero Or Maximum Output (18175-000,40.0%) (18175-000,40.0%)
	No Operation	10.0%	10.0%	Catastrophic-No Change/Output With Change/Input (18175-000,10.0%) (18175-000,10.0%)
Sensor,Temperature				Sources:2
	Change in Resistance	55.1%	50.0%	Low Resistance Values (10722-000,Qty:1)
	Zero or Maximum Output	20.9%	19.0%	Catastrophic-Zero Or Maximum Output (18175-000,18.0%) (18175-000,58.0%)
	Degraded Output	17.1%	15.5%	Degraded - Erratic Output (18175-000,10.0%) (18175-000,23.0%), Degraded - High Output (18175-000,8.0%) (18175-000,9.0%), Degraded - Low Output (18175-000,3.0%) (18175-000,9.0%)
	No Operation	3.9%	3.5%	Catastrophic-No Change/Output With Change/Input (18175-000,2.0%) (18175-000,2.0%), Catastrophic-No Function With Signal (18175-000,10.0%)
	Function Without Signal	3.0%	2.8%	Catastrophic-Functioned Without Signal (18175-000,11.0%)
	Induced	------	5.5%	Degraded - Functioned At Improper Signal Level (18175-000,17.0%), Degraded - Intermittent Operation (18175-000,5.0%)
	Unknown	------	3.8%	Unknown (18175-000,15.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Sensor,Temperature,Element Transducer				Sources:1
	Zero or Maximum Output	65.0%	65.0%	Catastrophic-Zero Or Maximum Output (18175-000,65.0%)
	Degraded Output	33.0%	33.0%	Degraded - Erratic Output (18175-000,19.0%), Degraded - High Output (18175-000,6.0%), Degraded - Low Output (18175-000,8.0%)
	No Operation	2.0%	2.0%	Catastrophic-No Change/Output With Change/Input (18175-000,2.0%)
Sensor,Temperature,Process Switch				Sources:1
	Function Without Signal	54.3%	19.0%	Catastrophic-Functioned Without Signal (18175-000,19.0%) (18175-000,19.0%)
	No Operation	45.7%	16.0%	Catastrophic-No Function With Signal (18175-000,16.0%) (18175-000,16.0%)
	Induced	------	65.0%	Degraded - Functioned At Improper Signal Level (18175-000,50.0%) (18175-000,50.0%), Degraded - Intermittent Operation (18175-000,15.0%) (18175-000,15.0%)
Sensor,Temperature,Transmitter				Sources:1
	Degraded Output	49.4%	41.0%	Degraded - Erratic Output (18175-000,14.0%) (18175-000,15.0%), Degraded - High Output (18175-000,23.0%) (18175-000,24.0%), Degraded - Low Output (18175-000,3.0%) (18175-000,3.0%)
	Zero or Maximum Output	42.2%	35.0%	Catastrophic-Zero Or Maximum Output (18175-000,35.0%) (18175-000,35.0%)
	No Operation	8.4%	7.0%	Catastrophic-No Change/Output With Change/Input (18175-000,7.0%) (18175-000,7.0%)
	Unknown	------	17.0%	Unknown (18175-000,17.0%) (18175-000,17.0%)
Sensor,Totalizer				Sources:1
	Degraded Output	43.8%	31.8%	Degraded - Erratic Output (18175-000,19.0%), Degraded - High Output (18175-000,11.0%), Degraded - Low Output (18175-000,5.0%)
	No Operation	35.0%	25.5%	Catastrophic-No Change/Output With Change/Input (18175-000,18.0%), Catastrophic-No Change/Output With Change/Time (18175-000,10.0%)
	Zero or Maximum Output	21.3%	15.5%	Catastrophic-Zero Or Maximum Output (18175-000,17.0%)
	Unknown	------	27.3%	Unknown (18175-000,30.0%)
Sensor,Transducer				Sources:2
	Degraded Output	52.2%	52.2%	Incorrect Output (24996-000,52.0%), Incorrect output (24997-000,52.0%)
	Intermittent Operation	22.1%	22.1%	Intermittent (24996-000,22.0%) (24997-000,22.0%)
	Mechanical Failure	19.1%	19.1%	Mechanical Failure (24996-000,19.0%), Mechanical failure (24997-000,19.0%)
	No Output	6.7%	6.7%	No Output (24996-000,6.7%), No output (24997-000,6.7%)

Part Desc. / Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Sensor, Transducer/Transmit			Sources:1
No Operation	42.9%	30.0%	Printer Inoperative (19542-000,30.0%)
Noisy Vacuum Column	28.6%	20.0%	Vacuum Column Noisy (19542-000,20.0%)
Relay Failure	28.6%	20.0%	Relay Defective (19542-000,20.0%)
Unknown	------	30.0%	Unknown (19542-000,30.0%)
Sensor, Vibration			Sources:1
Degraded Output	49.3%	33.0%	Degraded - Erratic Output (18175-000,25.0%), Degraded - High Output (18175-000,3.0%), Degraded - Low Output (18175-000,5.0%)
Zero or Maximum Output	35.8%	24.0%	Catastrophic-Zero Or Maximum Output (18175-000,24.0%)
No Operation	14.9%	10.0%	Catastrophic-No Change/Output With Change Input (18175-000,10.0%)
Unknown	------	33.0%	Unknown (18175-000,33.0%)
Sensor, Water Chemistry			Sources:1
Degraded Output	62.3%	33.0%	Degraded - Erratic Output (18175-000,21.0%) (18175-000,21.0%), Degraded - High Output (18175-000,1.0%) (18175-000,1.0%), Degraded - Low Output (18175-000,11.0%) (18175-000,11.0%)
No Operation	32.1%	17.0%	Catastrophic-No Change/Output With Change/Input (18175-000,17.0%) (18175-000,17.0%)
Zero or Maximum Output	5.7%	3.0%	Catastrophic-Zero Or Maximum Output (18175-000,3.0%) (18175-000,3.0%)
Unknown	------	47.0%	Unknown (18175-000,47.0%) (18175-000,47.0%)
Servo, Motor Starter			Sources:1
Low Resistance	100.0%	100.0%	Low Resistance-Voided Epoxy Over Coat (10722-000,Qty:1)
Servo, Stepping Motor			Sources:1
Induced	------	<0.1%	Extreme Overvoltage (24417-001,NR)
Other	------	100.0%	
Control Winding Phase Shift		NR	Improper Phase Shift for Control Winding (24417-001,NR)
Loose		NR	Radial/End Play of Shaft (24417-001,NR)
Motor Failure		NR	Overloading of Motor (24417-001,NR)
Wire Failure		NR	Defective Wire/Insulation (24417-001,NR)
Bearing Failure		NR	Brinelled or Damaged Bearings-Shock Loads (24417-001,NR), Misapplication of Bearing Type (24417-001,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Servo,Tachometer,Generator				Sources:1
	Induced	------	<0.1%	Reduced Air Gap-Mech. Overstress due to Handling (24417-001,NR), Inaccurate Output-Improper Selection of Parts (24417-001,NR)
	Other	------	100.0%	
	Drift		NR	Drift in Performance (24417-001,NR)
Shaft				Sources:3
	Seized	47.4%	33.3%	Worn Shaft/Keyway - Seized (25101-000,Qty:1)
	Cracked/Fractured	35.5%	25.0%	Cracked/Fractured (20609-000,Qty:3)
	Bent/Dented/Warped	11.8%	8.3%	Warped (20609-000,Qty:1)
	Rust/Rusted	5.3%	3.7%	Rust Under Gusset (19542-000,11.1%)
	Unknown	------	22.2%	Unknown (19542-000,66.7%)
	Induced	------	7.4%	Hinge Redesign Required (19542-000,11.1%), Unit Had Grease Which Has Frozen (19542-000,11.1%)
Shaft Assembly				Sources:1
	Out of Adjustment	35.0%	33.3%	Out Of Adjustment - Excessive Play (25101-000,Qty:6), Out Of Adjustment - Inop/Unserviceable (25101-000,Qty:1)
	Broken	30.0%	28.6%	Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1), Broken/Damaged (25101-000,Qty:5)
	Bent/Dented/Warped	25.0%	23.8%	Collapsed/Bent (25101-000,Qty:1) (25101-000,Qty:2), Warped/Bent - Excessive Play (25101-000,Qty:1), Warped/Bent - Binding/Sticking (25101-000,Qty:1)
	Binding/Sticking	5.0%	4.8%	Binding/Sticking (25101-000,Qty:1)
	Excessive Play	5.0%	4.8%	Worn Shaft/Keyway - Excessive Play (25101-000,Qty:1)
	Induced	------	4.8%	Lack Of Lubrication - Binding/Sticking (25101-000,Qty:1)
Shaft Collar				Sources:1
	Loose	100.0%	100.0%	Loose Clamp(s) - Excessive Play (25101-000,Qty:1)
Shaft,Drive				Sources:1
	Broken	25.0%	25.0%	Broken/Damaged (25101-000,Qty:1)
	Worn	25.0%	25.0%	Worn - Inop Man Traverse (25101-000,Qty:1)
	Bent/Dented/Warped	25.0%	25.0%	Warped/Bent - Binding/Sticking (25101-000,Qty:1)
	Out of Adjustment	25.0%	25.0%	Out Of Adjustment - Excessive Play (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Shaft,Equilibrator				Sources:1
	Broken	100.0%	25.0%	Poor Design - Broken/Damaged (25101-000,Qty:1)
	Induced	------	75.0%	Poor Design - Fnd In TI/PMCS/INSP (25101-000,Qty:2), Poor Design - Preventive Action (25101-000,Qty:1)
Shaft,Shouldered				Sources:1
	Worn	34.8%	29.6%	Worn Out (25101-000,Qty:1) (25101-000,Qty:2), Worn - Inop/Unserviceable (25101-000,Qty:3), Worn - Noisy (25101-000,Qty:1), Worn - Inop Man Traverse (25101-000,Qty:1)
	Bent/Dented/Warped	26.1%	22.2%	Warped/Bent - Inop Man Elevation (25101-000,Qty:1), Warped/Bend - Noisy (25101-000,Qty:1), Warped/Bent - Binding/Sticking (25101-000,Qty:1), Collapsed/Bent (25101-000,Qty:1) (25101-000,Qty:2)
	Broken	17.4%	14.8%	Part Struck/Damaged - Inop Man Elevation (25101-000,Qty:1), Worn/Stripped - Broken/Damaged (25101-000,Qty:1), Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1)
	Binding/Sticking	13.0%	11.1%	Part Struck/Damaged - Binding/Sticking (25101-000,Qty:2), Binding/Sticking (25101-000,Qty:1)
	Excessive Play	8.7%	7.4%	Worn - Excessive Play (25101-000,Qty:1) (25101-000,Qty:1)
	Induced	------	14.8%	Caused By Other Failure - Found In TI/PMCS/Insp (25101-000,Qty:1), Improper Maintenance - Broken/Damaged (25101-000,Qty:1), Improper Maintenance - Stripped (25101-000,Qty:1), Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1)
Shaft,Straight				Sources:1
	Loose	40.0%	40.0%	Out Of Adjustment - Loose (25101-000,Qty:2)
	Worn	40.0%	40.0%	Worn Out (25101-000,Qty:2)
	Out of Adjustment	20.0%	20.0%	Out Of Adjustment - Inop Man Elevation (25101-000,Qty:1)
Shaft,Worm				Sources:1
	Broken	22.2%	15.4%	Broken/Damaged (25101-000,Qty:1), Shaft Broken - Binding/Sticking (25101-000,Qty:1)
	Excessive Play	22.2%	15.4%	Worn - Excessive Play (25101-000,Qty:2)
	Seized	11.1%	7.7%	Seized (25101-000,Qty:1)
	Worn	11.1%	7.7%	Worn/Shaft/Keyway - Loose (25101-000,Qty:1)
	Bent/Dented/Warped	11.1%	7.7%	Warped/Bent - Inaccurate (25101-000,Qty:1)
	Loose	11.1%	7.7%	Oversize - Loose (25101-000,Qty:1)
	Out of Adjustment	11.1%	7.7%	Out Of Adjustment - Inaccurate (25101-000,Qty:1)
	Induced	------	30.8%	Overtorqued - Stripped (25101-000,Qty:1), Caused By Other Failure-Excessive Play (25101-000,Qty:1), Caused By Other Failure-Broken/Damaged (25101-000,Qty:1), Dropped - Broken/Damaged (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Shield,Collimator				Sources:1
	Bent/Dented/Warped	100.0%	100.0%	Collapsed/Bent (25101-000,Qty:1)
Shim				Sources:1
	Binding/Sticking	50.0%	20.0%	Oversize - Binding/Sticking (25101-000,Qty:1)
	Excessive Play	50.0%	20.0%	Vibration - Excessive Play (25101-000,Qty:1)
	Induced	------	60.0%	Improper Install - Found In TI/PMCS/Insp (25101-000,Qty:1), Improper Installation - Cracked (25101-000,Qty:1), Missing (25101-000,Qty:1)
Shock Absorber				Sources:1
	Aged/Deteriorated	100.0%	25.0%	Requires Refurbishing (19542-000,25.0%)
	Induced	------	50.0%	Improper Mount (19542-000,50.0%)
	Unknown	------	25.0%	Unknown (19542-000,25.0%)
Sight Case Stow Brkt				Sources:1
	Worn	100.0%	66.7%	Deteriorated/Aged - Worn Out (25101-000,Qty:2)
	Unknown	------	33.3%	Unknown (25101-000,Qty:1)
Siren,Annunciator Module				Sources:1
	Degraded Operation	58.9%	58.9%	Degraded (18175-000,53.0%)
	Fails to Op. on Demand	40.0%	40.0%	Catastrophic-Fails To Operate On Demand (18175-000,36.0%)
	Spurious/False Operation	1.1%	1.1%	Catastrophic-Operates Spurious Or False Response (18175-000,1.0%)
Sleeve Assembly				Sources:1
	Loose	100.0%	100.0%	Internal Failure - Loose (25101-000,Qty:1)
Sleeve,Spacer				Sources:1
	Induced	------	100.0%	Improper Maintenance - Slams Into Battery (25101-000,Qty:1)
Socket,Ball Seat				Sources:1
	Loose	89.5%	85.0%	Loose (25101-000,Qty:1) (25101-000,Qty:4) (25101-000,Qty:11), Out Of Adjustment - Loose (25101-000,Qty:1)
	Excessive Play	5.3%	5.0%	Excessive Play (25101-000,Qty:1)
	Binding/Sticking	5.3%	5.0%	Binding/Sticking (25101-000,Qty:1)
	Unknown	------	5.0%	Unknown (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Socket, IC				Sources:1
	Induced	------	<0.1%	Repeated Insertions (22540-000,NR), Incompatible I.C. Socket Plating and Lead Plating (22540-000,NR)
	Other	------	100.0%	
	Change in Resistance		NR	High Contact Resistance (22540-000,NR)
	Insulation Failure		NR	Loss of Insulation Integrity (22540-000,NR)
	Walk-Out		NR	Failure to Hold I.C. in Place (Walk-Out) (22540-000,NR)
Socket, Tube				Sources:1
	Unstable Operation	71.4%	71.4%	Unstable (24992-000,71.4%)
	Shorted	14.3%	14.3%	Short (24992-000,14.3%)
	Opened	14.3%	14.3%	Open (24992-000,14.3%)
Software				Sources:2
	Design Changes	45.9%	43.8%	Design Changes (24996-000,43.8%) (24997-000,43.8%)
	Design Error	40.9%	39.0%	Software Design Errors (24996-000,39.0%), S/W Design Errors (24997-000,39.0%)
	User Error	7.4%	7.0%	Error in Keybrd/Coding/Handling (24996-000,7.0%) (24997-000,7.0%)
	Documentation Error	5.7%	5.5%	Documentation Error (24996-000,5.5%) (24997-000,5.5%)
	Unknown	------	4.7%	Unknown (24996-000,4.7%) (24997-000,4.7%)
	Other	------	0.0%	
	Output Errors		NR	Modes: Output Errors (24996-000,NR) (24997-000,NR)
	Program Halts		NR	Modes: Program Halts (24996-000,NR) (24997-000,NR)
Solenoid (Summary)				
	Shorted	51.5%		
	Binding/Sticking	28.7%		
	Spring Failure	14.9%		
	Opened	5.0%		
Solenoid				Sources:3
	Shorted	51.5%	34.3%	Short (24996-000,52.0%) (24997-000,52.0%)
	Binding/Sticking	28.7%	19.1%	Mechanical Binding & Sticking (24996-000,29.0%), Mechanical binding and sticking (24997-000,29.0%)
	Spring Failure	14.9%	9.9%	Weak Spring Action (24996-000,15.0%), Weak spring action (24997-000,15.0%)
	Opened	5.0%	3.3%	Open Circuit (24996-000,5.0%) (24997-000,5.0%)
	Unknown	------	33.3%	Unknown (19542-000,100.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Spindle Assembly				Sources:1
	Cracked/Fractured	100.0%	100.0%	Cracked (25101-000,Qty:1)
Spindle,Brake,Group				Sources:1
	Cracked/Fractured	55.2%	41.0%	Cracked (25101-000,Qty:1) (25101-000,Qty:11), Poor Design - Cracked (25101-000,Qty:4)
	Broken	37.9%	28.2%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2) (25101-000,Qty:5), Poor Design - Broken/Damaged (25101-000,Qty:1), Broken/Separated - Broken/Damaged (25101-000,Qty:1)
	Worn	3.4%	2.6%	Worn Out (25101-000,Qty:1)
	Out of Adjustment	3.4%	2.6%	Brakes Not Adjusted (25101-000,Qty:1)
	Induced	------	25.6%	Improper Maintenance - Missing (25101-000,Qty:1), Item Abuse/Neglect - Worn Out (25101-000,Qty:2), Improper Maintenance - Broken/Damaged (25101-000,Qty:2), Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1), Caused By Other Failure-Broken/Damaged (25101-000,Qty:4)
Spindle,Brake,Support				Sources:1
	Cracked/Fractured	39.1%	22.0%	Cracked Weld-Cracked (25101-000,Qty:3) (25101-000,Qty:3), Vibration - Cracked (25101-000,Qty:1) (25101-000,Qty:1), Part Struck/Damaged - Cracked (25101-000,Qty:1)
	Broken	30.4%	17.1%	Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1), Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1), Part Struck/Damaged - Broken Bolt(s) (25101-000,Qty:1), Part Struck/Damaged - Inop/Unserviceable (25101-000,Qty:2)
	Bent/Dented/Warped	8.7%	4.9%	Collapsed/Bent (25101-000,Qty:1) (25101-000,Qty:1)
	Excessive Vibration	8.7%	4.9%	Vibration - Fnd In TI/PMSC/INSP (25101-000,Qty:2)
	Bearing Failure	4.3%	2.4%	Bearing Failure-Worn Out (25101-000,Qty:1)
	Out of Adjustment	4.3%	2.4%	No Failure - Out Of Adjustment (25101-000,Qty:1)
	Loose	4.3%	2.4%	No Failure - Loose (25101-000,Qty:1)
	Induced	------	43.9%	Improper Adjustment - Loose (25101-000,Qty:1), Lack Of Lubrication - Seized (25101-000,Qty:3), Improper Adjustment - Out Of Adjustment (25101-000,Qty:1), Improper Maintenance - Missing (25101-000,Qty:1), Fell Off Or Lost - Missing (25101-000,Qty:4), Vibration - Missing (25101-000,Qty:1), Improper Maintenance - Collapsed/Bent (25101-000,Qty:1), Item Abuse/Neglect - Collapsed/Bent (25101-000,Qty:1) (25101-000,Qty:1), Lack Of Lubrication - Binding/Sticking (25101-000,Qty:1), Lack Of Maintenance - Binding/Sticking (25101-000,Qty:1), Lack Of Maintenance - Noisy (25101-000,Qty:1), Improper Installation - Binding/Sticking (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Spindle,Flange				Sources:1
	Bent/Dented/Warped	100.0%	100.0%	Collapsed/Bent (25101-000,Qty:1)
Spindle,Handwheel				Sources:1
	Broken	50.0%	33.3%	Broken/Damaged (25101-000,Qty:1)
	Binding/Sticking	50.0%	33.3%	Worn - Binding/Sticking (25101-000,Qty:1)
	Induced	------	33.3%	Caused By Other Failure-Broken/Damaged (25101-000,Qty:1)
Splice,Fiber Optic				Sources:1
	Induced	------	<0.1%	Bad Cleaves (23413-000,NR), Improper Assembly Techniques (23413-000,NR)
	Other	------	100.0%	
	Broken		NR	Fiber Breakage (23413-000,NR)
	Fiber Endface Seperation		NR	Fiber Endface Seperation due to Improper Assembly (23413-000,NR)
	Contaminated		NR	Dirt (23413-000,NR)
	Excessive Vibration		NR	Vibration (23413-000,NR)
Spring (Summary)				
	Creep	27.2%		
	Broken	22.6%		
	Worn	19.9%		
	Weakened	11.7%		
	Dragging	11.2%		
	Bearing Failure	7.5%		
Spring				Sources:2
	Broken	41.8%	27.3%	Broken (20609-000,Qty:15), Broken/Damaged (25101-000,Qty:2)
	Weakened	24.6%	16.1%	Weak (20609-000,Qty:2), Spring Weak - Inop/Unserviceable (25101-000,Qty:1), Spring Weak - Excessive Play (25101-000,Qty:1), Spring Weak - Locked (25101-000,Qty:2), Spring Weak - Binding/Sticking (25101-000,Qty:1)
	Binding/Sticking	12.1%	7.9%	Binding/Sticking (25101-000,Qty:2), Sticking - Loose (25101-000,Qty:1)
	Scored	9.0%	5.9%	Scored (20609-000,Qty:4)
	Excessive Play	8.0%	5.3%	Excessive Play (25101-000,Qty:2)
	Worn	4.5%	2.9%	Worn Out (20609-000,Qty:2)
	Unknown	------	16.2%	Unknown (20609-000,Qty:11)
	Induced	------	13.2%	Improper Maintenance - Missing (25101-000,Qty:1), Lack Of Lubrication - Broken/Damaged (25101-000,Qty:2), Lack Of Lubrication - Seized (25101-000,Qty:2)
	Other (<%5)	------	5.3%	
	Corroded		2.6%	Corroded-Seized (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Spring (continued)				
Other (continued)				
	Aged/Deteriorated		2.6%	Deteriorated/Aged - Binding/Sticking (25101-000,Qty:1)
Spring Brake Assy				Sources:1
	Binding/Sticking	100.0%	100.0%	Shaft Binding (10722-000,Qty:1)
Spring,Brake				Sources:1
	Dragging	50.0%	33.3%	Brake Dragging-Conductive Contam./Inad. Clearance (10722-000,Qty:1), Brake Dragging (10722-000,Qty:1), Brake Dragging-Insuff. Clearance Spring Disc>Case (10722-000,Qty:1)
	Bearing Failure	33.3%	22.2%	Seized Bearing (10722-000,Qty:1), Bearing Seizure-Improper Bearing (10722-000,Qty:1)
	Connection Failure	16.7%	11.1%	Open Connection Between Magnet Wire & Termination (10722-000,Qty:1)
	Unknown	------	22.2%	Unknown (10722-000,Qty:1) (10722-000,Qty:1)
	Induced	------	11.1%	Excessive Drag-Improperly Installed Brake Disk (10722-000,Qty:1)
Spring,Helical				Sources:1
	Weakened	37.1%	25.0%	Spring Weak - Inop/Unserviceable (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2), Spring Weak - Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:2), Spring Weak - Misfire (25101-000,Qty:1), Spring Weak - Found In TI/PMCS/Insp (25101-000,Qty:2), Spring Weak - Inoperative Charging (25101-000,Qty:1), Spring Weak - Binding/Sticking (25101-000,Qty:1)
	Bent/Dented/Warped	28.6%	19.2%	Warped/Bent - Inop/Unserviceable (25101-000,Qty:1) (25101-000,Qty:1), Warped/Bent - Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:3), Collapsed/Bent (25101-000,Qty:2), Warped/Bent - Found In TI/PMCS/Insp (25101-000,Qty:1), Warped/Bent - Binding/Sticking (25101-000,Qty:1)
	Aged/Deteriorated	14.3%	9.6%	Deteriorated/Aged - Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:2), Deteriorated/Aged - Leaking Hydraulic Oil (25101-000,Qty:1), Deteriorated/Aged - Fnd In TI/PMSC/INSP (25101-000,Qty:1)
	Broken	11.4%	7.7%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:2), Broken/Separated - Inop/Sluggish Breech (25101-000,Qty:1)
	Loose	8.6%	5.8%	Part Missing/Loose - Inop/Unserviceable (25101-000,Qty:1), Part Missing/Loose - Misfire (25101-000,Qty:1), Part Missing/Loose - Broken/Damaged (25101-000,Qty:1)
	Induced	------	23.1%	Improper Install - Inop/Sluggish Breech (25101-000,Qty:1), Improper Maintenance - Missing (25101-000,Qty:1), Operator Error - Inop/Unserviceable (25101-000,Qty:1), Dropped - Inop/Unserviceable (25101-000,Qty:1), Improper Install - Misfire (25101-000,Qty:1), Improper Install - Inop/Unserviceable (25101-000,Qty:3), Stepped On - Collapsed/Bent (25101-000,Qty:1), Caused By Other Failure-Broken/Damaged (25101-000,Qty:1), Lack Of Lubrication - Binding/Sticking (25101-000,Qty:1), Lack Of Maintenance - Seized (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Spring,Helical (continued)				
	Unknown	------	1.9%	Unknown (25101-000,Qty:1)
	Other (<%4)	------	7.7%	
	Binding/Sticking		1.9%	Stepped On - Binding/Sticking (25101-000,Qty:1)
	Worn		1.9%	Worn - Inop/Unserviceable (25101-000,Qty:1)
	Seized		1.9%	Seized/Frozen - Inop/Unserviceable (25101-000,NR), Seized/Frozen - Excessive Play (25101-000,Qty:1)
	Excessive Play		1.9%	Broken/Separated - Excessive Play (25101-000,Qty:1)
Spring,Instrument,Light Loads				Sources:2
	Creep	57.5%	36.5%	Change of Parameter-Creep/set- (24996-000,73.0%)
	Worn	36.2%	23.0%	Wear (ends) (24996-000,23.0%) (24997-000,23.0%)
	Broken	6.3%	4.0%	Breakage or Mechanical Failure (24996-000,4.0%), Breakage or mechanical failure (24997-000,4.0%)
	Unknown	------	36.5%	Unknown (24997-000,73.0%)
Staff Assembly				Sources:1
	Broken	90.0%	47.4%	Poor Design - Broken/Damaged (25101-000,Qty:16), Broken/Damaged (25101-000,Qty:1), Broken Bolt(s) (25101-000,Qty:1)
	No Operation	10.0%	5.3%	Poor Design - Inop/Unserviceable (25101-000,Qty:2)
	Unknown	------	47.4%	Unknown (25101-000,Qty:18)
Starter,Motor				Sources:1
	Shorted	100.0%	100.0%	Intrawinding Short B Phase-Mechanical Stress (10722-000,Qty:1)
Stem Crank Assembly				Sources:1
	Broken	87.5%	87.5%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:5)
	Worn	12.5%	12.5%	Worn - Inop/Unserviceablee (25101-000,Qty:1)
Strap Assembly				Sources:1
	Broken	50.0%	25.0%	Broken/Damaged (25101-000,Qty:2)
	Bent/Dented/Warped	25.0%	12.5%	Collapsed/Bent (25101-000,Qty:1)
	Worn	25.0%	12.5%	Dropped - Worn Out (25101-000,Qty:1)
	Induced	------	37.5%	Fell Off Or Lost - Missing (25101-000,Qty:2), Missing (25101-000,Qty:1)
	Unknown	------	12.5%	Unknown (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Strap,Webbing				Sources:1
	Aged/Deteriorated	100.0%	60.0%	Deteriorated/Aged - Broken/Damaged (25101-000,Qty:1), Deteriorated/Aged - Inop/Unserviceable (25101-000,Qty:2)
	Induced	------	40.0%	Fell Off Or Lost - Missing (25101-000,Qty:2)
Stud,Nut,Hex				Sources:1
	Cracked/Fractured	100.0%	100.0%	Fractured-Over Torqued (10722-000,Qty:1)
Stud,Plain				Sources:1
	Broken	85.7%	66.7%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:4), Operation Error - Broken/Damaged (25101-000,Qty:1)
	Bent/Dented/Warped	14.3%	11.1%	Collapsed/Bent (25101-000,Qty:1)
	Induced	------	22.2%	Fell Off Or Lost - Fnd In TI/PMCS/INSP (25101-000,Qty:1), Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1)
Support Assembly				Sources:1
	Out of Adjustment	28.6%	14.8%	Out Of Adjustment - Inop/Unserviceable (25101-000,Qty:1), Out Of Adjustment - Excessive Play (25101-000,Qty:3)
	Broken	28.6%	14.8%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1), Out Of Adjustment - Broken/Damaged (25101-000,Qty:1)
	Seized	14.3%	7.4%	Seized (25101-000,Qty:2)
	Excessive Play	7.1%	3.7%	Contact Defective - Excessive Play (25101-000,Qty:1)
	Bent/Dented/Warped	7.1%	3.7%	Collapsed/Bent (25101-000,Qty:1)
	Loose	7.1%	3.7%	Part Struck/Damaged - Loose (25101-000,Qty:1)
	Worn	7.1%	3.7%	Worn Out (25101-000,Qty:1)
	Induced	------	48.1%	Improper Install - Loose (25101-000,Qty:1), Improper Install - Out Of Adjustment (25101-000,Qty:1), Improper Install - Inop/Unserviceable (25101-000,Qty:1), Improper Install - Binding/Sticking (25101-000,Qty:1), Improper Install - Out Of Synch (25101-000,Qty:2), Improper Install - Imp Assembly/Install (25101-000,Qty:3), Abnormal Operation (25101-000,Qty:4)
Support Assembly,Left				Sources:1
	Excessive Play	100.0%	100.0%	Excessive Play (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Support Assembly,Right				Sources:1
	Excessive Play	62.5%	50.0%	Excessive Play (25101-000,Qty:1) (25101-000,Qty:3), Undersize - Excessive Play (25101-000,Qty:1)
	Loose	25.0%	20.0%	Loose (25101-000,Qty:1) (25101-000,Qty:1)
	Seized	12.5%	10.0%	Seized (25101-000,Qty:1)
	Induced	------	10.0%	Stolen - Missing (25101-000,Qty:1)
	Unknown	------	10.0%	Unknown (25101-000,Qty:1)
Support Cradle Assy				Sources:1
	Worn	75.0%	60.0%	Worn - Inop/Unserviceable (25101-000,Qty:1), Worn - Inaccurate (25101-000,Qty:1), Worn - Found In TI/PMCS/Insp (25101-000,Qty:1)
	Broken	25.0%	20.0%	Broken/Damaged (25101-000,Qty:1)
	Induced	------	20.0%	Caused By Other Failure-Broken/Damaged (25101-000,Qty:1)
Support Rocker Assy				Sources:1
	Broken	60.0%	42.9%	Broken/Damaged (25101-000,Qty:3)
	Cracked/Fractured	20.0%	14.3%	Cracked (25101-000,Qty:1)
	Excessive Play	20.0%	14.3%	Internal Failure - Excessivve Play (25101-000,Qty:1)
	Unknown	------	14.3%	Unknown (25101-000,Qty:1)
	Induced	------	14.3%	Caused By Other Failure-Broken/Damaged (25101-000,Qty:1)
Surface Acoust. Wave				Sources:1
	Induced	------	<0.1%	Degradation-Surface Contamination (22540-000,NR)
	Other	------	100.0%	
	Variable Properties		NR	Highly Variable Properties-Strain (22540-000,NR)
	Electrical Overstress		NR	Electro-Static Discharge (22540-000,NR)
	Wire Bond Failure		NR	Wire Bond Failure (22540-000,NR)
	Opened		NR	Open Ground Wire (22540-000,NR)
	Cracked/Fractured		NR	Cracks in Substrate (22540-000,NR), Cracks in Polymide (22540-000,NR)
	Aluminum Migration		NR	Aluminum Migration (22540-000,NR)
	Oxide Defects		NR	Growth of Aluminum Oxide (22540-000,NR)
	Shorted		NR	Short/Open Fingers (22540-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Switch (Summary)				
	Opened	31.8%		
	Mechanical Failure	22.6%		
	Shorted	18.4%		
	High Contact Resistance	14.2%		
	Drift	13.0%		
Switch				Sources:16
	High Contact Resistance	30.4%	16.9%	Open (19542-000,1.6%) (23038-004,Qty:1) (23038-004,Qty:2) (23038-004,Qty:2) (23038-004,Qty:321) (24992-000,22.3%), High Z (24991-000,50.0%), High On Resistance Between S2 (Pin 9) and D2 (10722-000,Qty:1), Open Contacts (24417-002,NR), Open Coils (24417-002,NR)
	Mechanical Failure	18.3%	10.2%	Connector Base Pulled Out (19542-000,1.6%), Broken/Fractured (23038-001,Qty:1) (23038-001,Qty:1) (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:5), Loose (23038-001,Qty:1) (23038-001,Qty:4) (23038-002,Qty:1) (23038-004,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-006,Qty:1), Broken Or Fractured (23038-002,Qty:1) (23038-006,Qty:4), Mechanical Failure (24996-000,51.0%), Broken Contacts (24417-002,NR), Mechanical failure (24997-000,51.0%)
	Shorted	14.3%	8.0%	Q-3 Leads Shorted (19542-000,1.6%), Short (19542-000,3.2%) (20609-000,Qty:31) (24992-000,2.1%) (24996-000,9.0%) (24997-000,9.0%) (25038-000,8.0%), Low Z (24991-000,50.0%), Shorted Or Grounded (23038-001,Qty:1) (23038-003,Qty:1) (23038-004,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:2) (23038-006,Qty:3), Grounded Electrically (23038-002,Qty:1) (23038-002,Qty:1) (23038-004,Qty:1), Shorted/Ground (23038-003,Qty:2), Shorted or Grounded (23038-003,Qty:1), Shorted/Grounded (23038-006,Qty:1)
	Broken	12.7%	7.0%	Broken (23038-001,Qty:1) (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:5) (23038-003,Qty:1) (23038-003,Qty:2) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:2) (23038-004,Qty:3) (23038-004,Qty:4) (23038-005,Qty:1) (23038-005,Qty:2) (23038-005,Qty:2) (23038-005,Qty:3) (23038-005,Qty:3) (23038-005,Qty:9) (23038-006,Qty:1) (23038-006,Qty:4) (25464-000,Qty:196)
	Binding/Sticking	10.4%	5.8%	Binding Stuck or Jammed (25464-000,Qty:118), Sticky (23038-002,Qty:1) (23038-002,Qty:2) (23038-003,Qty:2) (23038-003,Qty:3) (23038-004,Qty:1) (23038-004,Qty:2) (23038-005,Qty:2) (23038-005,Qty:6) (23038-006,Qty:1) (23038-006,Qty:1) (23038-006,Qty:4), Sticky; Broken (23038-002,Qty:2), Bind/Size/Friction (23038-003,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:3), Binding (23038-003,Qty:1) (23038-004,Qty:1), Friction Excessive (23038-005,Qty:6), Binding of Moving Parts (24417-002,NR)
	Intermittent Operation	7.4%	4.1%	Intermittent (20609-000,Qty:73) (23038-001,Qty:1) (23038-003,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (25038-000,19.0%), Intermittent Circuit (24996-000,13.0%), Intermittent circuit (24997-000,13.0%)
	Noisy/Unstable/Chatter	6.5%	3.6%	Unstable (20609-000,Qty:40) (23038-005,Qty:1) (24992-000,40.6%), Noisy/Chattering (25464-000,Qty:26)
	Unknown	------	15.6%	Unknown (19542-000,1.6%) (19542-000,1.6%) (19542-000,1.6%) (19542-000,43.5%) (20609-000,Qty:17) (20609-000,Qty:354) (23038-001,Qty:1) (23038-001,Qty:2) (23038-001,Qty:6) (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:2) (23038-002,Qty:3) (23038-002,Qty:3) (23038-002,Qty:5) (23038-002,Qty:7) (23038-003,Qty:1) (23038-003,Qty:5) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Switch (continued)				
Unknown (continued)				
				(23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:2) (23038-004,Qty:2) (23038-004,Qty:2) (23038-004,Qty:4) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:4) (23038-005,Qty:9) (23038-006,Qty:1) (23038-006,Qty:4) (25038-000,18.0%)
	Induced	------	6.3%	Damaged (19542-000,4.8%), Improper Connection (19542-000,3.2%), Improper Installation (19542-000,6.5%), Improper Wiring (19542-000,9.7%), Improper Bonded (19542-000,1.6%), Reversed Leads (19542-000,1.6%), Improper Energy Resp (23038-001,Qty:4), Missing (23038-001,Qty:4) (23038-002,Qty:3) (23038-003,Qty:1) (23038-003,Qty:1) (23038-003,Qty:1) (23038-004,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:2) (23038-006,Qty:1), Manufacturer Defect (23038-001,Qty:1), Disconnected (23038-001,Qty:1), Twisted (23038-001,Qty:1), Wrong Part (23038-002,Qty:1), Improper Fit (23038-002,Qty:1), Miswired (23038-003,Qty:1), Disconnected/Disenga (23038-003,Qty:1), Cold Solder Joint (23038-004,Qty:1), Caused By Other Dev. (23038-004,Qty:1) (23038-004,Qty:1), Maintenance Error (23038-004,Qty:1) (23038-004,Qty:1), Improper Adjustment (23038-005,Qty:2), Operating Error (23038-005,Qty:1), Undersize (23038-005,Qty:1), Workmanship (20609-000,Qty:11), Poor Terminal Plating (24417-002,NR)
	Other (<%5)	------	22.6%	
	Opened		2.8%	Opened (20609-000,Qty:58), Open (24996-000,9.0%) (24997-000,9.0%) (25038-000,15.0%)
	Audio Fault/Failure		2.4%	Audio Faulty (23038-002,Qty:1) (23038-003,Qty:1) (23038-003,Qty:7) (23038-004,Qty:1) (23038-004,Qty:3) (23038-005,Qty:2) (23038-005,Qty:2) (23038-005,Qty:2) (23038-005,Qty:2) (23038-006,Qty:1)
	Drift		2.3%	Fluctuates, Unstable or Errati (25464-000,Qty:21), Fail To Tune/Drift (23038-002,Qty:1) (23038-004,Qty:1), Fluctuates, Unstable (23038-003,Qty:1), Drift (24996-000,8.0%) (24997-000,8.0%) (25038-000,9.0%)
	Dielectric Breakdown		1.8%	Dielectric Breakdokwn (24992-000,26.8%)
	No Operation		1.5%	Inoperative (23038-002,Qty:1), No Operation (20609-000,Qty:9), Fail to Operate (24996-000,10.0%), Fail to operate (24997-000,10.0%)
	Loss of Control		1.5%	Control Inoperative (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:1) (23038-002,Qty:1) (23038-003,Qty:1) (23038-003,Qty:2) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-006,Qty:1) (23038-006,Qty:1)
	Out of Spec.		1.2%	Out of Specification (20609-000,Qty:29), Out of Spec. (25038-000,14.0%)
	Worn		1.0%	Worn, Chaffed, Frayed, or Torn (25464-000,Qty:41), Worn Excessively (23038-004,Qty:1) (23038-004,Qty:2) (23038-004,Qty:5) (23038-005,Qty:1), Wore Excessively (23038-005,Qty:1), Brush Fail/Worn Exce (23038-005,Qty:1), Worn Out (20609-000,Qty:5)
	Leaking		1.0%	Leaking Internal or External (25464-000,Qty:7), Leaking (20609-000,Qty:8) (23038-006,Qty:2) (25038-000,7.0%)
	Contact Failure		1.0%	Contact Chatter (24992-000,8.0%), Contact/Conn Defect (23038-006,Qty:1) (25464-000,Qty:11), Contact Defective (23038-002,Qty:1), Deformed Contacts (24417-002,NR), Loose

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Switch (continued)				
Other (continued)				
				Contacts (24417-002,NR)
	Out of Adjustment		0.8%	Needs Repositioning (19542-000,4.8%), Out Of Adjustment (23038-004,Qty:1) (23038-005,Qty:1) (23038-006,Qty:1), Adjustment Improper (23038-004,Qty:1), Out of Adjustment (20609-000,Qty:16)
	Spurious/False Operation		0.7%	Faulty Reading (23038-002,Qty:1) (23038-004,Qty:1) (23038-004,Qty:2) (23038-004,Qty:2) (23038-006,Qty:3)
	Unstable Operation		0.7%	Unstable (25038-000,10.0%)
	Jammed/Stuck		0.6%	Jammed (23038-001,Qty:1) (23038-005,Qty:1) (23038-005,Qty:4)
	Loose		0.6%	Connection Loose (19542-000,1.6%), Loose Due to Excessive Vibrations (19542-000,1.6%), Loose Installation (19542-000,1.6%), Loose,Damaged,or Missing Har (25464-000,Qty:3), Loose (23038-001,Qty:1)
	Loss of Power		0.4%	Electrical Pwr Loss (23038-006,Qty:1) (23038-006,Qty:1)
	Wire Failure		0.3%	Defective Wiring (19542-000,4.8%)
	Change in Capac.		0.3%	Capacitance Incorrect (25464-000,Qty:21)
	Bent/Dented/Warped		0.3%	Switch Is Bent (19542-000,1.6%), Dented Start (23038-001,Qty:1)
	Lamp Failure		0.2%	Burned Out Or Defective Lamp, (25464-000,Qty:2), No Indicating Light (23038-002,Qty:1) (23038-002,Qty:1)
	Stripped		0.2%	Stripped (23038-001,Qty:1) (23038-004,Qty:1), Shripped (23038-004,Qty:1)
	Corroded		0.2%	Corroded (23038-003,Qty:1) (23038-004,Qty:2)
	Clogged/Clogging		0.2%	Clogged (23038-002,Qty:1), Clogged, Leaky (23038-002,Qty:1)
	Cut/Scarred/Punctured		0.2%	Cut/Torn (23038-002,Qty:2)
	Cracked/Fractured		0.2%	Cracked (23038-001,Qty:1) (25464-000,Qty:1)
	Connection Failure		0.2%	Connection Defective (23038-001,Qty:1)
	Contaminated		<0.1%	Contaminated (20609-000,Qty:5), Contaminated Contacts (24417-002,NR)
	Degraded Operation		<0.1%	Beyond Spec. Tol. (23038-004,Qty:1)
	Limit Unadjuctable		<0.1%	Unable To Adjust Lim (23038-004,Qty:1)
	Degraded Contact		NR	Poor Contact Alignment (24417-002,NR), Pitted Contacts (24417-002,NR)
	Spring Failure		NR	Loss of Resiliency in Springs (24417-002,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Switch,Control				Sources:1
	Opened	33.0%	33.0%	Open Circuit (24996-000,33.0%)
	Drift	27.0%	27.0%	Parameter Change (24996-000,27.0%)
	Shorted	22.0%	22.0%	Short (24996-000,22.0%)
	Mechanical Damage	18.0%	18.0%	Mechanical Damage (24996-000,18.0%)
Switch,Float				Sources:2
	No Operation	37.6%	22.9%	No Operation (20609-000,Qty:3) (25038-000,23 0%)
	Spurious/False Operation	37.6%	22.9%	False Response (20609-000,Qty:3) (25038-000,23.0%)
	Out of Adjustment	24.8%	15.1%	Out of Adjustment (20609-000,Qty:2) (25038-000,15.0%)
	Other (<%9)	------	39.0%	
	Cracked/Fractured		7.8%	Cracked/Fractured (20609-000,Qty:1) (25038-000,8.0%)
	Leaking		7.8%	Leaking (20609-000,Qty:1) (25038-000,8.0%)
	Seized		7.8%	Seized (20609-000,Qty:1) (25038-000,8.0%)
	Stuck Closed		7.8%	Stuck Closed (20609-000,Qty:1) (25038-000,8.0%)
	Stuck Open		7.8%	Stuck Open (20609-000,Qty:1) (25038-000,8.0%)
Switch,Flow				Sources:1
	Out of Adjustment	16.7%	9.1%	Out Of Adjustment (23038-005,Qty:1)
	Lamp Failure	16.7%	9.1%	No Indicating Light (23038-005,Qty:1)
	Shorted	16.7%	9.1%	Shorted Or Grounded (23038-005,Qty:1)
	Clogged/Clogging	16.7%	9.1%	Clogged (23038-005,Qty:1)
	No Operation	16.7%	9.1%	Inoperative (23038-005,Qty:1)
	Drift	16.7%	9.1%	Fluctuates, Unstable (23038-005,Qty:1)
	Unknown	------	45.5%	Unknown (23038-005,Qty:2) (23038-005,Qty:3)
Switch,Foot				Sources:1
	Binding/Sticking	41.7%	38.5%	Sticky (23038-001,Qty:5)
	Cracked/Fractured	25.0%	23.1%	Broken/Fractured (23038-001,Qty:3)
	Worn	16.7%	15.4%	Worn Excessively (23038-001,Qty:2)
	Loose	16.7%	15.4%	Loose (23038-001,Qty:2)
	Unknown	------	7.7%	Unknown (23038-001,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Switch, Interconnect, Master				Sources:1
	Shorted	100.0%	100.0%	Short-Overstress (10722-000,Qty:1)
Switch, Magnetic				Sources:1
	Mechanical Damage	60.0%	60.0%	Mechanical Damage (25000-000,Qty:24)
	Intermittent Operation	15.0%	15.0%	Intermittent-Noise (25000-000,Qty:3), Intermittent-General (25000-000,Qty:3)
	Short - Open	12.5%	12.5%	Short-Open (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:3)
	Drift	7.5%	7.5%	Parameter Drift-High Contact Resistance (25000-000,Qty:1) (25000-000,Qty:1), Parameter Drift-Insulation Resistance (25000-000,Qty:1)
	Shorted	5.0%	5.0%	Short (25000-000,Qty:2)
Switch, Manual				Sources:1
	Drift	53.1%	45.7%	Parameter Drift-High Contact Resistance (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:17), Parameter Drift-General (25000-000,Qty:1) (25000-000,Qty:6) (25000-000,Qty:34), Parameter Drift-Insulation Resistance (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:6) (25000-000,Qty:17)
	Opened	22.9%	19.7%	Open-Open Contacts (25000-000,Qty:4), Open-General (25000-000,Qty:4) (25000-000,Qty:12) (25000-000,Qty:21)
	Mechanical Damage	9.5%	8.2%	Mechanical Damage (25000-000,Qty:17)
	Intermittent Operation	9.5%	8.2%	Intermittent-Noise (25000-000,Qty:3), Intermittent-General (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:8)
	Shorted	5.0%	4.3%	Short-Dielectric Strength (25000-000,Qty:4), Short (25000-000,Qty:1) (25000-000,Qty:4)
	Unknown	------	13.9%	Unknown (25000-000,Qty:4) (25000-000,Qty:11) (25000-000,Qty:14)
Switch, Micro				Sources:1
	Change in Resistance	60.0%	60.0%	High Resistance (24990-000,60.0%)
	Opened	30.0%	30.0%	Open (24990-000,30.0%)
	No Operation	10.0%	10.0%	No Function (24990-000,10.0%)
Switch, Pressure				Sources:8
	Degraded Operation	25.2%	13.7%	Fluctuates (23038-001,Qty:2) (23038-001,Qty:2) (23038-001,Qty:4), Incorrect Frequency (23038-001,Qty:1), Incorrect Oil Pressu (23038-001,Qty:1) (23038-001,Qty:2) (23038-001,Qty:6), Incorrect Temp/Melt (23038-001,Qty:1), Incorrect Pressure (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:2) (23038-001,Qty:2) (23038-005,Qty:1) (23038-005,Qty:3), Incorrect Oil Press (23038-001,Qty:1) (23038-004,Qty:2) (23038-005,Qty:1) (23038-005,Qty:2) (23038-006,Qty:1), Temp. Incorrect/Melt (23038-001,Qty:2), Output Too High (23038-001,Qty:1), Incorrect Fuel Press

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Switch,Pressure (continued)				
Degraded Operation (continued)				
				(23038-001,Qty:8), Incorrect Feedback (23038-001,Qty:1), Pressure Incorrect (23038-002,Qty:2) (23038-003,Qty:3) (23038-004,Qty:4), Fluctured, Unstable (23038-002,Qty:1), Oil Pressure Incorrect (23038-002,Qty:1), Surged (23038-002,Qty:1), Fluctuates Unstable (23038-003,Qty:1), Oil Pressure Incorre (23038-003,Qty:1), Fluctuates, Unstable (23038-004,Qty:1) (23038-005,Qty:1) (23038-005,Qty:2), Incorrect Temperatur (23038-005,Qty:1), Incorrect Output (23038-006,Qty:4) (23038-006,Qty:5), Setting Drift and Lack of Repeatability (24417-002,NR)
	Spurious/False Operation	19.4%	10.5%	Faulty Reading (23038-001,Qty:1) (23038-001,Qty:4) (23038-001,Qty:5) (23038-001,Qty:7) (23038-001,Qty:8) (23038-002,Qty:5) (23038-002,Qty:5) (23038-003,Qty:4) (23038-003,Qty:8) (23038-004,Qty:1) (23038-004,Qty:6) (23038-005,Qty:1) (23038-005,Qty:7) (23038-006,Qty:1)
	Loss of Control	18.0%	9.8%	Control Inoperative (23038-001,Qty:3) (23038-001,Qty:3) (23038-001,Qty:6) (23038-002,Qty:2) (23038-003,Qty:3) (23038-003,Qty:8) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:3) (23038-004,Qty:6) (23038-005,Qty:2) (23038-005,Qty:2) (23038-005,Qty:5) (23038-006,Qty:1) (23038-006,Qty:2)
	Closed	13.2%	7.1%	Close (24992-000,50.0%)
	Opened	13.2%	7.1%	Open (24992-000,50.0%)
	Mechanical Failure	11.1%	6.0%	Clogged (23038-001,Qty:1) (23038-001,Qty:3) (23038-002,Qty:1) (23038-003,Qty:1), Broken (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:7) (23038-003,Qty:2) (23038-003,Qty:3) (23038-004,Qty:1) (23038-004,Qty:2) (23038-005,Qty:1) (23038-005,Qty:3), Cracked (23038-001,Qty:1), Broken/Fractured (23038-001,Qty:1) (23038-002,Qty:1) (23038-002,Qty:4) (23038-006,Qty:1), Tooth Broken On Gear (23038-002,Qty:1)
	Unknown	------	25.2%	Unknown (23038-001,Qty:1) (23038-001,Qty:2) (23038-001,Qty:2) (23038-001,Qty:7) (23038-001,Qty:10) (23038-001,Qty:18) (23038-001,Qty:31) (23038-001,Qty:36) (23038-002,Qty:2) (23038-002,Qty:4) (23038-002,Qty:15) (23038-003,Qty:1) (23038-003,Qty:2) (23038-003,Qty:3) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:2) (23038-004,Qty:4) (23038-004,Qty:5) (23038-004,Qty:6) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1) (23038-005,Qty:2) (23038-005,Qty:2) (23038-005,Qty:2) (23038-005,Qty:34) (23038-006,Qty:1) (23038-006,Qty:2)
	Induced	------	2.4%	Caused By Other Dev (23038-001,Qty:1), Maintenance Error (23038-001,Qty:1), Caused By Other Dev. (23038-001,Qty:1) (23038-001,Qty:4) (23038-002,Qty:1) (23038-005,Qty:1), Missing (23038-001,Qty:1) (23038-001,Qty:3) (23038-002,Qty:2) (23038-003,Qty:1) (23038-004,Qty:1) (23038-005,Qty:1), Improper Fit (23038-003,Qty:1)
	Other (<%6)	------	18.1%	
	Shorted		3.6%	Short (23038-001,Qty:1) (23038-001,Qty:4), Short Or Grounded (23038-001,Qty:3) (23038-002,Qty:2) Shorted Or Grounded (23038-001,Qty:1) (23038-003,Qty:1) (23038-005,Qty:3), Shorted/Grounded (23038-003,Qty:2) (23038-006,Qty:1) (23038-006,Qty:1), Grounded Electricaly (23038-005,Qty:1)
	No Output		3.3%	No Output (23038-001,Qty:1) (23038-003,Qty:2) (23038-004,Qty:1) (23038-004,Qty:1) (23038-005,Qty:3) (23038-006,Qty:1), Inoperative (23038-002,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-005,Qty:1), Did

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Switch,Pressure (continued)				
Other (continued)				
				Not Work,Test Ok (23038-004,Qty:2)
	Leaking		3.0%	Leaking (23038-001,Qty:2) (23038-005,Qty:1) (23038-006,Qty:3), Leaking Liquid (23038-003,Qty:1) (23038-005,Qty:1), Leaks (23038-006,Qty:1)
	Lamp Failure		1.9%	No Indicating Light (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:2) (23038-002,Qty:3), Light Bulb Failure (23038-004,Qty:1) (23038-004,Qty:1), No Indicating Lights (23038-004,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1)
	Binding/Sticking		1.5%	Jammed (23038-001,Qty:1), Sticky (23038-002,Qty:1) (23038-004,Qty:1) (23038-005,Qty:2), Fused; Bind/Friction (23038-002,Qty:2), Bind/Size/Friction (23038-004,Qty:1)
	Out of Adjustment		1.0%	Out Of Adjustment (23038-001,Qty:1) (23038-001,Qty:1) (23038-002,Qty:1) (23038-002,Qty:1) (23038-004,Qty:1), Adjustment Improper (23038-004,Qty:1)
	Improper Output		0.9%	Improper Output Sour (23038-001,Qty:1), Improper Source Output (23038-001,Qty:1) (23038-002,Qty:1) (23038-004,Qty:1) (23038-005,Qty:2)
	Loose		0.8%	Loose (23038-001,Qty:3) (23038-003,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1)
	Contact Failure		0.6%	Defective Contact (23038-001,Qty:1), Contact/Conn Defect (23038-004,Qty:1) (23038-005,Qty:1) (23038-005,Qty:1)
	Worn		0.5%	Worn Excessively (23038-002,Qty:1) (23038-005,Qty:2)
	Intermittent Operation		0.5%	Intermittent (23038-001,Qty:1) (23038-002,Qty:2)
	Incorrect Voltage		0.2%	Incorrect Voltage (23038-004,Qty:1)
	Burred		0.2%	Burred (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:1)
	Loss of Power		<0.1%	Loss Of Elec. Power (23038-001,Qty:1)
	Connection Failure		<0.1%	Connection Defective (23038-001,Qty:1)
	Seized		<0.1%	Excessive Sized Bind (23038-001,Qty:1)
	Seal/Gasket Failure		NR	Seal Failures of Bellows, Diaphragms, etc. (24417-002,NR)
Switch,Pressure,Fluid				Sources:1
	Intermittent Operation	44.9%	44.9%	Intermittent-Noise (25000-000,Qty:16), Intermittent-General (25000-000,Qty:3) (25000-000,Qty:5) (25000-000,Qty:7)
	Drift	30.4%	30.4%	Parameter Drift-High Contact Resistance (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:4), Parameter Drift-Insulation Resistance (25000-000,Qty:1) (25000-000,Qty:3), Parameter Drift-General (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:4) (25000-000,Qty:4)
	Opened	21.7%	21.7%	Open-Open Contacts (25000-000,Qty:1), Open-General (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:8)
	Seal Failure	1.4%	1.4%	Seal Leak (25000-000,Qty:1)
	Shorted	1.4%	1.4%	Short (25000-000,Qty:1)

Part Desc. / Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Switch,Push Button			Sources:5
Opened	60.0%	45.0%	Open (24990-000,80.0%), High Z (24991-000,100.0%)
Contaminated	33.3%	25.0%	Sticking Flux Penetrating Into Cavity (10722-000,Qty:2), In-House Contact Contamination (24417-002,NR)
Shorted	6.7%	5.0%	Short (24990-000,20.0%), Low Z (24991-000,NR)
Induced	------	25.0%	Design Problem (23037-000,Qty:1)
Switch,Push Button,Illuminated			Sources:2
Unknown	------	<0.1%	Unknown (24996-000,NR) (24997-000,NR)
Other	------	100.0%	
Change in Resistance		NR	High Resistance or Intermittent Contact (24996-000,NR)
Opened		NR	Lamp Failure (24996-000,NR)
Fails to Close		NR	Fails to Close (24996-000,NR), Fails to close (24997-000,NR)
Fails to Open		NR	Fails to Open (24996-000,NR), Fails to open (24997-000,NR)
High Contact Resistance		NR	High resistance or intermittent contact (24997-000,NR)
Lamp Failure		NR	Lamp failure (24997-000,NR)
Switch,Push Button,Pendant-Hoist Key			Sources:5
Binding/Sticking	31.6%	23.1%	Sticky (23038-001,Qty:1) (23038-002,Qty:9) (23038-004,Qty:1) (23038-005,Qty:2), Binding (23038-006,Qty:1), Sticky/Binding (23038-006,Qty:5)
Loss of Control	22.1%	16.2%	Control Inoperative (23038-001,Qty:2) (23038-004,Qty:6) (23038-005,Qty:1) (23038-006,Qty:1) (23038-006,Qty:1) (23038-006,Qty:1)
Mechanical Failure	21.0%	15.4%	Broken/Fractured (23038-001,Qty:2) (23038-002,Qty:1), Broken (23038-001,Qty:1) (23038-002,Qty:1) (23038-004,Qty:5) (23038-005,Qty:1) (23038-006,Qty:1), Distorted (23038-002,Qty:1), Friction Excessive (23038-002,Qty:1)
Degraded Operation	9.6%	7.0%	Faulty Reading (23038-001,Qty:2) (23038-001,Qty:3), Fluctuate (23038-001,Qty:1), Incorrect Oil Pressu (23038-001,Qty:1)
Worn	7.2%	5.3%	Worn Excessively (23038-001,Qty:1) (23038-002,Qty:1) (23038-004,Qty:1) (23038-005,Qty:1)
Contact Failure	6.2%	4.5%	Dirty (23038-002,Qty:1), Corroded (23038-002,Qty:1), Contact Defect (23038-002,Qty:1), Contact/Conn Defect (23038-005,Qty:1)
Jammed/Stuck	2.3%	1.7%	Jammed (23038-001,Qty:1) (23038-002,Qty:1)
Unknown	------	24.4%	Unknown (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:1) (23038-001,Qty:2) (23038-002,Qty:1) (23038-002,Qty:2) (23038-002,Qty:2) (23038-002,Qty:5) (23038-004,Qty:2) (23038-004,Qty:2) (23038-005,Qty:1) (23038-005,Qty:1) (23038-006,Qty:1) (23038-006,Qty:1)
Induced	------	1.3%	Missing (23038-002,Qty:2)
Other (<%3)	------	1.1%	

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Switch,Push Button,Pendant-Hoist Key (continued)				
Other (continued)				
	Intermittent Operation		1.1%	Intermittent (23038-004,Qty:1)
Switch,Reed				Sources:2
	Out of Spec.	30.0%	30.0%	Out of Specification (20609-000,Qty:3), Out of Spec. (25038-000,30.0%)
	No Operation	30.0%	30.0%	No Operation (20609-000,Qty:3) (25038-000,30.0%)
	Spurious/False Operation	20.0%	20.0%	False Response (20609-000,Qty:2) (25038-000,20.0%)
	Opened	10.0%	10.0%	Opened (20609-000,Qty:1), Open (25038-000,10.0%)
	Intermittent Operation	10.0%	10.0%	Intermittent (20609-000,Qty:1) (25038-000,10.0%)
Switch,Rotary,Manual				Sources:1
	High Z	80.0%	80.0%	High Z (24991-000,Qty:3)
	Shorted	20.0%	20.0%	Low Z (24991-000,25.0%)
Switch,Sensitive Micro				Sources:2
	Binding/Sticking	78.3%	52.9%	Jammed (23038-004,Qty:1), Sticky (23038-005,Qty:1)
	Broken	8.7%	5.9%	Broken (23038-004,Qty:1) (23038-004,Qty:1)
	No Output	4.3%	2.9%	No Output (23038-004,Qty:1)
	Shorted	4.3%	2.9%	Short Or Grounded (23038-004,Qty:1)
	Contaminated	4.3%	2.9%	Dirty (23038-004,Qty:1)
	Unknown	------	29.4%	Unknown (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:1) (23038-004,Qty:2) (23038-004,Qty:2) (23038-004,Qty:3)
	Induced	------	2.9%	Incorrect Voltage (23038-004,Qty:1)
Switch,Slide				Sources:1
	Corroded	16.7%	11.1%	Corroded (23038-004,Qty:1)
	No Operation	16.7%	11.1%	Inoperative (23038-004,Qty:1)
	Broken	16.7%	11.1%	Broken (23038-004,Qty:1)
	Shorted	16.7%	11.1%	Shorted Or Grounded (23038-004,Qty:1)
	Loss of Control	16.7%	11.1%	Control Inoperative (23038-004,Qty:1)
	Lamp Failure	16.7%	11.1%	Light Bulb Failure (23038-004,Qty:1)
	Unknown	------	33.3%	Unknown (23038-004,Qty:3)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Switch, Snap				Sources:2
	Opened	75.0%	75.0%	Open (24992-000,50.0%), N.O. Contact Not Closing (10722-000,Qty:1)
	Shorted	12.5%	12.5%	Short (24992-000,25.0%)
	Mechanical Failure	12.5%	12.5%	Mechanical Failure (24992-000,25.0%)
Switch, Thermal				Sources:9
	Drift	41.2%	28.1%	Parameter Drift-Insulation Res. (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:5), Parameter Drift-General (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:5) (25000-000,Qty:6) (25000-000,Qty:8) (25000-000,Qty:15), Parameter Drift-High Contact Resistance (25000-000,Qty:3) (25000-000,Qty:4), Faulty Reading (23038-003,Qty:1) (23038-005,Qty:1), Out Of Adjustment (23038-006,Qty:1), Out of Adjustment (20609-000,Qty:4), Erratic (20609-000 3), Drift (20609-000,Qty:36)
	Mechanical Failure	27.2%	18.6%	Broken/Fractured (23038-001,Qty:1), Broken (23038-003,Qty:1) (23038-004,Qty:1) (23038-005,Qty:1)
	Opened	19.6%	13.4%	Open (25000-000,Qty:2) (25000-000,Qty:3), High Z (24991-000,100.0%)
	Degraded Operation	4.4%	3.0%	Oil Pressure Incorre (23038-003,Qty:1), Beyond Spec. Tol. (23038-004,Qty:1)
	No Output	3.0%	2.1%	No Output (23038-003,Qty:1)
	Loss of Control	2.6%	1.8%	Control Inoperative (23038-004,Qty:2)
	Shorted	2.1%	1.4%	Short-Dielectric (25000-000,Qty:3), Low Z (24991-000,NR), Shorted Or Grounded (23038-004,Qty:1)
	Unknown	------	22.5%	Unknown (20609-000,Qty:20) (20609-000,Qty:32) (23038-003,Qty:2) (23038-004,Qty:6) (23038-006,Qty:1)
	Melted	------	7.1%	Melted (23038-004,Qty:1), Caused By Other Dev. (23038-005,Qty:1)
	Other (<%3)	------	1.9%	
	Binding/Sticking		1.0%	Sticky (23038-004,Qty:1), Sticking (20609-000,Qty:1)
	Loss of Power		0.9%	Electrical Pwr Loss (23038-004,Qty:1)
	Seal/Gasket Failure		NR	Seal Failure (24417-002,NR)
Switch, Toggle				Sources:11
	Mechanical Failure	42.5%	29.8%	Mechanical Failure (24992-000,66.6%) (24996-000,NR), Bent (23038-001,Qty:1), Broken/Fractured (23038-001,Qty:1) (23038-001,Qty:1), Broken (23038-002,Qty:2) (23038-003,Qty:1) (23038-004,Qty:2), Broked/Fractured (23038-006,Qty:1), Mechanical failure (24997-000,NR), Mechanical (25038-000,35.0%)
	Opened	25.1%	17.6%	Open (23038-002,Qty:1) (23038-002,Qty:2) (23038-004,Qty:1) (23038-005,Qty:1) (24992-000,16.7%) (25038-000,24.0%), No Output (23038-001,Qty:1), Corroded (23038-006,Qty:1), Open Circuit (24996-000,NR) (24997-000,NR)
	Contact Failure	9.1%	6.3%	Intermittent Contact (24993-000,50.0%), Contact/Conn Defect (23038-004,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Switch,Toggle (continued)				
	Shorted	8.1%	5.7%	Short (24992-000,16.7%) (24996-000,NR) (24997-000,NR) (25038-000,16.0%), Shorted Or Grounded (23038-001,Qty:1)
	Spring Failure	6.3%	4.4%	Spring Breakage (Fatigue) (24993-000,40.0%)
	Intermittent Operation	5.0%	3.5%	Intermittent (25038-000,35.0%)
	Binding/Sticking	3.8%	2.6%	Sticky (23038-004,Qty:1) (23038-005,Qty:1)
	Unknown	------	23.1%	Unknown (23038-002,Qty:1) (23038-002,Qty:1) (23038-003,Qty:1) (23038-003,Qty:1) (23038-004,Qty:1) (23038-004,Qty:2) (23038-004,Qty:2) (23038-005,Qty:1) (23038-005,Qty:1) (23038-006,Qty:1) (24993-000,10.0%)
	Induced	------	4.5%	Damaged For Test Pur (23038-004,Qty:1), Missing (23038-005,Qty:1), Maintenance Error (23038-005,Qty:1)
	Other (<%3)	------	2.4%	
	Lamp Failure		0.8%	Light Bulb Failure (23038-004,Qty:1)
	Burned/Charred		0.8%	Burned (23038-004,Qty:1)
	Worn		0.8%	Worn Excessively (23038-004,Qty:1)
Synchro				Sources:2
	Winding Failure	44.4%	40.0%	Winding Failures (24993-000,40.0%)
	Bearing Failure	33.3%	30.0%	Bearing Failures (24993-000,30.0%)
	Brush Failure	22.2%	20.0%	Slipring And Brush Failures (24993-000,20.0%)
	Unknown	------	10.0%	Unknown (24993-000,10.0%)
	Other	------	0.0%	
	Degraded Operation		NR	Null Voltage and Error Changes (24417-001,NR), Incorrect Zeroing (24417-001,NR)
	Opened		NR	Open Slip Ring Contact (24417-001,NR) (24417-001,NR), Open Slip Ring Contact-Insufficient Spring Pressur (24417-001,NR), Open Slip Ring Contact-Loose Slip Ring Assemblies (24417-001,NR)
Synchro,Resolver				Sources:1
	Loose	100.0%	100.0%	Loose,Damaged,or Missing Har (25464-000,Qty:3)
Tank				Sources:1
	Leaking	80.6%	64.1%	Leaking (20609-000,Qty:25)
	Cracked/Fractured	9.7%	7.7%	Cracked/Fractured (20609-000,Qty:3)
	Burst/Ruptured	3.2%	2.6%	Ruptured (20609-000,Qty:1)
	Cut/Scarred/Punctured	3.2%	2.6%	Ripped/Torn/Cut (20609-000,Qty:1)
	Spurious/False Operation	3.2%	2.6%	Erratic (20609-000,Qty:1)
	Unknown	------	20.5%	Unknown (20609-000,Qty:8)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Tank, Storage, Low Pressure				Sources:1
	Mechanical Failure	65.0%	65.0%	Mechanical Failure (24996-000,65.0%)
	Metallurgical Failure	35.0%	35.0%	Metallurgical Failure (24996-000,35.0%)
Telephone System, PBX				Sources:1
	Induced	------	<0.1%	Degradation of Service (24996-000,NR)
	Unknown	------	<0.1%	Unknown (24996-000,NR)
	Other	------	100.0%	
	System Outage		NR	System Outage (24996-000,NR)
Telephone System, PBX, PABX				Sources:1
	Induced	------	<0.1%	Degradation of service (24997-000,NR)
	Unknown	------	<0.1%	Unknown (24997-000,NR)
	Other	------	100.0%	
	System Outage		NR	System outage (24997-000,NR)
Telephone System, Switching, Electronic				Sources:1
	Induced	------	<0.1%	Operator errors (24997-000,NR), Maintenance actions effects (24997-000,NR)
	Other	------	100.0%	
	Software Failure		NR	S/W errors; 6-18 month to stability (1-2 per mo.) (24997-000,NR)
	Hardware Failure		NR	Hardware malfunction (24997-000,NR)
Telescope				Sources:2
	Leaking	33.3%	5.9%	Internal Failure - Leaking Nitrogen (25101-000,Qty:1), Leak/Temp Drop - Low Pow Pl Oil Press (25101-000,Qty:1)
	Worn	16.7%	2.9%	Unknown - Worn Out (25101-000,Qty:1)
	Broken	16.7%	2.9%	Broken/Damaged (25101-000,Qty:1)
	Seal/Gasket Failure	16.7%	2.9%	Seals Worn - Internal Moisture (25101-000,Qty:1)
	Out of Adjustment	16.7%	2.9%	Internal Failure - Out Of Adjustment (25101-000,Qty:1)
	Induced	------	45.6%	Damaged (19542-000,50.0%), Improper Maintenance - Internal Moisture (25101-000,Qty:1), Lack Of Maintenance - Internal Moisture (25101-000,Qty:5), Abnormal Operation (25101-000,Qty:1)
	Unknown	------	36.8%	Unknown (19542-000,50.0%) (25101-000,Qty:1) (25101-000,Qty:3)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Telescope,Elbow				Sources:1
	Binding/Sticking	36.4%	21.6%	Binding/Sticking (25101-000,Qty:1) (25101-000,Qty:6), Part Struck/Damaged - Binding/Sticking (25101-000,Qty:1)
	Seized	36.4%	21.6%	Seized (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2), Locked (25101-000,Qty:1) (25101-000,Qty:2), Internal Failure - Seized (25101-000,Qty:1)
	Loose	18.2%	10.8%	Poor Binding - Loose (25101-000,Qty:1), Vibration - Loose (25101-000,Qty:3)
	Bond/Beam Failure	9.1%	5.4%	Poor Bonding - Inop/Unserviceable (25101-000,Qty:2)
	Induced	------	18.9%	Fell Off Or Lost - Missing (25101-000,Qty:7)
	Unknown	------	8.1%	Unknown (25101-000,Qty:1) (25101-000,Qty:2)
	Other (<%5)	------	13.5%	
	Out of Adjustment		2.7%	Out Of Adjustment - Locked (25101-000,Qty:1)
	Leaking		2.7%	Undersize - Leaking Nitrogen (25101-000,Qty:1)
	Bent/Dented/Warped		2.7%	Warped Bent - Seized (25101-000,Qty:1)
	Moisture Intrusion		2.7%	Internal Moisture (25101-000,Qty:1)
	Excessive Vibration		2.7%	Vibration - Inop/Unserviceable (25101-000,Qty:1)
Telescope,Mount				Sources:1
	Broken	32.4%	23.1%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:2) (25101-000,Qty:2) (25101-000,Qty:3), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:2), Part Struck/Damaged - Out Of Synch (25101-000,Qty:1)
	Excessive Play	24.3%	17.3%	Excessive Play (25101-000,Qty:1) (25101-000,Qty:1), Worn - Excessive Play (25101-000,Qty:1), Poor Design - Excessive Play (25101-000,Qty:1) (25101-000,Qty:5)
	Worn	13.5%	9.6%	Worn - Inop/Unserviceable (25101-000,Qty:1), Poor Design - Worn Out (25101-000,Qty:4)
	Binding/Sticking	10.8%	7.7%	Chipped-Binding/Sticking (25101-000,Qty:1), Gears Binding - Binding/Sticking (25101-000,Qty:2), Binding/Sticking (25101-000,Qty:1)
	Cracked/Fractured	8.1%	5.8%	Cracked (25101-000,Qty:1), Cracked/Split-Inop/Unserviceable (25101-000,Qty:1), Vibration - Cracked (25101-000,Qty:1)
	Out of Synch.	5.4%	3.8%	Out Of Synch (25101-000,Qty:1), Vibration - Out Of Synch (25101-000,Qty:1)
	Out of Adjustment	5.4%	3.8%	Out Of Adjustment - Excessive Play (25101-000,Qty:1), Out Of Adjustment - Binding/Sticking (25101-000,Qty:1)
	Induced	------	19.2%	Improper Adjustment - Out Of Adjustment (25101-000,Qty:1), Improper Maintenance - Out Of Synch (25101-000,Qty:1), Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2), Caused By Other Failure-Binding/Sticking (25101-000,Qty:1), Item Abuse/Neglect - Cracked (25101-000,Qty:1), Lack Of Maintenance - Loose (25101-000,Qty:1), Improper Maintenance - Stripped (25101-000,Qty:1)
	Unknown	------	1.9%	Unknown (25101-000,Qty:1)
	Other (<%4)	------	7.7%	

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Telescope,Mount (continued)				
Other (continued)				
	Seal/Gasket Failure		1.9%	Seals Worn - Out OF Adjustment (25101-000,Qty:1)
	Bent/Dented/Warped		1.9%	Collapsed/Bent (25101-000,Qty:1)
	Lamp Failure		1.9%	Inop Fire Control Light (25101-000,Qty:1)
	Spring Failure		1.9%	Spring Weak - Out Of Adjustment (25101-000,Qty:1)
Telescope,Pan				Sources:1
	Binding/Sticking	31.3%	18.6%	Gears Binding - Binding/Sticking (25101-000,Qty:1) (25101-000,Qty:1), Worn/Stripped - Binding/Sticking (25101-000,Qty:1) (25101-000,Qty:1), Poor Design - Binding/Sticking (25101-000,Qty:15), Gears Binding - Inop/Unserviceable (25101-000,Qty:1), Worn - Binding/Sticking (25101-000,Qty:1), Internal Failure - Binding/Sticking (25101-000,Qty:3), No Failure - Binding/Sticking (25101-000,Qty:1), Unknown - Binding/Sticking (25101-000,Qty:1)
	Worn	25.3%	15.0%	Worn Out (25101-000,Qty:20), Worn - Inop/Unserviceable (25101-000,Qty:1)
	Excessive Play	12.0%	7.1%	Excessive Play (25101-000,Qty:1) (25101-000,Qty:1), Internal Failure - Excessive Play (25101-000,Qty:6), No Failure - Excessive Play (25101-000,Qty:2)
	Broken	10.8%	6.4%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:2) (25101-000,Qty:2), Poor Design - Broken/Damaged (25101-000,Qty:1), Vibration - Broken/Damaged (25101-000,Qty:1), Unknown - Broken/Damaged (25101-000,Qty:2)
	Moisture Intrusion	8.4%	5.0%	Internal Moisture (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:5)
	Out of Adjustment	7.2%	4.3%	Out Of Adjustment (25101-000,Qty:1), Out Of Adjustment - Excessive Play (25101-000,Qty:1), Out Of Adjustment - Binding/Sticking (25101-000,Qty:1), Vibration - Out Of Adjustment (25101-000,Qty:1) (25101-000,Qty:1), Out Of Adjustment - Out Of Adjustment (25101-000,Qty:1)
	Seized	4.8%	2.9%	Worn - Seized (25101-000,Qty:2), Worn/Stripped - Seized (25101-000,Qty:1), Internal Failure - Seized (25101-000,Qty:1)
	Induced	------	23.6%	Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2), Lack Of Maintenance - Out Of Adjustment (25101-000,Qty:1), Abnormal Operation (25101-000,Qty:1), Safety Wire/Key Failure - Missing (25101-000,Qty:1), Fell Off Or Lost - Missing (25101-000,Qty:11), Vibration - Missing (25101-000,Qty:1) (25101-000,Qty:1), Dropped - Broken/Damaged (25101-000,Qty:1), Item Abuse/Neglect - Inop/Unserviceable (25101-000,Qty:1), Improper Maintenance - Internal Moisture (25101-000,Qty:1), Internal Failure - Inaccurate (25101-000,Qty:5), Lack Of Maintenance - Internal Moisture (25101-000,Qty:3), Overtorqued - Out Of Adjustment (25101-000,Qty:1), Overtorqued - Binding/Sticking (25101-000,Qty:1)
	Unknown	------	3.6%	Unknown (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1)
	Other (<%4)	------	13.6%	
	Seal/Gasket Failure		2.1%	Seals Worn - Internal Moisture (25101-000,Qty:3)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Telescope,Pan (continued)				
Other (continued)				
	Loose		2.1%	Part Missing/Loose - Missing (25101-000,Qty:1), Loose Screw(s) - Inop/Unserviceable (25101-000,Qty:1) (25101-000,Qty:1)
	Bent/Dented/Warped		2.1%	Collapsed/Bent (25101-000,Qty:3)
	Aged/Deteriorated		1.4%	Deteriorated/Aged - Inop/Unserviceable (25101-000,Qty:1), Deteriorated/Aged - Inop Fire Control Light (25101-000,Qty:1)
	Spring Failure		0.7%	Spring Weak - Inop/Unserviceable (25101-000,Qty:1)
	Excessive Vibration		0.7%	Vibration - Inop/Unserviceable (25101-000,Qty:1)
	Cracked/Fractured		0.7%	Part Struck/Damaged - Cracked (25101-000,Qty:1)
	Corroded		0.7%	Corroded-Seized (25101-000,Qty:1)
	Lamp Failure		0.7%	Internal Failure - Inop Fire Control Light (25101-000,Qty:1)
	Degraded Operation		0.7%	No Failure - Abnormal Operation (25101-000,Qty:1)
	Stripped		0.7%	Stripped (25101-000,Qty:1)
	Cut/Scarred/Punctured		0.7%	Cut/Scarred (25101-000,Qty:1)
Terminal Connection,Crimp				Sources:1
Induced		------	<0.1%	Low Tensile Strength-Undercrimping (13741-000,NR), Low Tensile Strength-Overcrimping (13741-000,NR)
Other		------	100.0%	
	Change in Resistance		NR	Increased Contact Resist-Stress Relaxation: Creep (13741-000,NR), Increased Contact Resist-Stress Relax:Recrystal. (13741-000,NR), Increased Contact Resistance-Corrosion: Atmospheri (13741-000,NR), Increased Contact Resistance-Corrosion: Galvanic (13741-000,NR), Increased Contact Resistance-Undercrimping (13741-000,NR)
	Wire Failure		NR	Wire Breakage Near Terminal-Overcrimping (13741-000,NR), Wire Breakage Near Terminal-High Vibration (13741-000,NR)
Terminal Connection,Lug,Strip				Sources:1
Broken		100.0%	100.0%	Broken (25464-000,Qty:8)
Terminal Connection,Terminal Board				Sources:2
Induced		------	<0.1%	Terminals: Intermittent Contact (24996-000,NR)
Unknown		------	<0.1%	Unknown (24997-000,NR)
Other		------	100.0%	
	Flashover		NR	Terminal Boards: Flashover (24996-000,NR)
	Broken		NR	Terminal Boards: Mechanical Breakage (24996-000,NR)
	Contact Failure		NR	Terminals: (Intermittent contact) (24997-000,NR)
	Mechanical Failure		NR	Terminals: Mechanical Separation (24996-000,NR),

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Terminal Connection,Terminal Board (continued)				
Other (continued)				
				Terminals: (Mechanical separation) (24997-000,NR)
	Mechanical Damage		NR	Terminal Boards: (Mechanical breakage) (24997-000,NR)
	Shorted		NR	Terminal Boards: Shorts (24996-000,NR), Terminal Boards: (Shorts) (24997-000,NR)
Timer (Summary)				
	Out of Adjustment	100.0%		
Timer,Electromechanical				Sources:1
	Out of Adjustment	100.0%	33.3%	Needs Adjustment (19542-000,33.3%)
	Unknown	------	66.7%	Unknown (19542-000,66.7%)
Tin Alloy Ingot				Sources:1
	Broken	100.0%	100.0%	Broken/Separated-Seized (25101-000,Qty:1)
Tire (Summary)				
	Cut/Scarred/Punctured	63.7%		
	Worn	11.8%		
	Aged/Deteriorated	10.8%		
	Leaking	5.9%		
	Broken	5.9%		
	Stripped	1.0%		
	Loose	1.0%		
Tire				Sources:1
	Cut/Scarred/Punctured	59.0%	57.1%	Cut-Inop/Unserviceable (25101-000,Qty:2), Cut-Punctured (25101-000,Qty:2), Cut-Leaking Air (25101-000,Qty:19), Cut-Cut/Scarred (25101-000,Qty:5), Punctured (25101-000,Qty:7), Cut/Scarred (25101-000,Qty:1)
	Worn	19.7%	19.0%	Worn Out (25101-000,Qty:5), Worn - Inop/Unserviceable (25101-000,Qty:7)
	Leaking	9.8%	9.5%	Leaking Air (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2), Overheated - Leaking Air (25101-000,Qty:1), Part Struck/Damaged - Leaking Air (25101-000,Qty:1)
	Aged/Deteriorated	8.2%	7.9%	Deteriorated/Aged - Inop/Unserviceable (25101-000,Qty:2), Deteriorated/Aged - Fnd In TI/PMSC/INSP (25101-000,Qty:1), Deteriorated/Aged - Abnormal Operation (25101-000,Qty:1), Deteriorated (25101-000,Qty:1)
	Broken	3.3%	3.2%	Part Struck/Damaged - Missing Rubber (25101-000,Qty:1), Broken/Separated - Leaking Air (25101-000,Qty:1)
	Unknown	------	1.6%	Unknown (25101-000,Qty:1)
	Induced	------	1.6%	Improper Alignment - Inop/Unserviceable (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Tire Roller Assembly				Sources:1
	Cut/Scarred/Punctured	70.7%	56.9%	Cut/Scarred (25101-000,Qty:1) (25101-000,Qty:2) (25101-000,Qty:4) (25101-000,Qty:9), Cut-Cut/Scarred (25101-000,Qty:3), Part Struck/Damaged - Cut/Scarred (25101-000,Qty:10)
	Aged/Deteriorated	14.6%	11.8%	Deteriorated/Aged - Inop/Unserviceable (25101-000,Qty:6)
	Broken	9.8%	7.8%	Broken/Damaged (25101-000,Qty:1), Part Struck/Damaged - Fnd In TI/PMCS/INSP (25101-000,Qty:3)
	Loose	2.4%	2.0%	Loose (25101-000,Qty:1)
	Stripped	2.4%	2.0%	Part Missing/Loose - Stripped (25101-000,Qty:1)
	Induced	------	19.6%	Item Abuse/Neglect - Cut/Scarred (25101-000,Qty:10)
Tool Box Cover				Sources:1
	Broken	94.4%	81.0%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1), Poor Design - Broken/Damaged (25101-000,Qty:14), Broken/Separated - Inop/Unserviceable (25101-000,Qty:1)
	Cracked/Fractured	5.6%	4.8%	Cracked (25101-000,Qty:1)
	Induced	------	14.3%	Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:3)
Trail & Bracket Assy				Sources:1
	Induced	------	100.0%	Lack Of Maintenance - Low Pow Pl Oil Press (25101-000,Qty:1)
Trail Box				Sources:1
	Cracked/Fractured	66.7%	15.4%	Vibration - Cracked (25101-000,Qty:2)
	Bent/Dented/Warped	33.3%	7.7%	Collapsed/Bent (25101-000,Qty:1)
	Induced	------	76.9%	Caused By Other Failure-Cracked (25101-000,Qty:1), Caused By Other Failure-Broken/Damaged (25101-000,Qty:1), Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1), Item Abuse/Neglect - Collapsed/Bent (25101-000,Qty:7)
Transceiver				Sources:1
	Power Supply Failure	52.4%	17.8%	Failure of Power Supply (C10573) (25027-000,14.8%), Failure of Power Supply (C10573)-Vibration (25027-000,Qty:28)
	Flex-Rigid Failure	31.8%	10.8%	Failure of Flex-Rigid, MIB (16VE279) (25027-000,9.0%), Failure of Flex-Rigid, MIB (16VE279)-Vibration (25027-000,Qty:17)
	I/O Status Logic Failure	5.6%	1.9%	Failure of I/O Status Logic (16E10154) (25027-000,6.9%), Failure of I/O Status Logic (16E10154)-Vibration (25027-000,Qty:3)
	Housing Failure	5.6%	1.9%	Failure of AMRIU Housing (16E1611) (25027-000,2.7%), Failure of AMRIU Housing (16E1611)-Vibration (25027-000,Qty:3)
	Relay Failure	4.6%	1.6%	Chassis/Relays (25027-000,1.6%)
	Unknown	------	66.0%	Unknown (25027-000,Qty:104) (25027-000,62.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transducer (Summary)				
	Contaminated	44.4%		
	Out of Spec.	27.3%		
	Opened	7.2%		
	Shorted	5.8%		
	Resistor Failure	5.3%		
	Degraded Operation	5.3%		
	Out of Adjustment	4.8%		
Transducer				Sources:1
	Out of Spec.	81.6%	52.3%	Out of Tolerance (20609-000,Qty:163), Out of Specification (20609-000,Qty:107)
	Contaminated	7.3%	4.7%	Contaminated (20609-000,Qty:24)
	Intermittent Operation	4.2%	2.7%	Intermittent (20609-000,Qty:14)
	Burned/Charred	3.0%	1.9%	Burned (20609-000,Qty:10)
	Opened	2.4%	1.6%	Opened (20609-000,Qty:8)
	No Operation	1.5%	1.0%	No Operation (20609-000,Qty:5)
	Unknown	------	35.1%	Unknown (20609-000,Qty:47) (20609-000,Qty:134)
	Other (<%2)	------	0.8%	
	Leaking		0.6%	Leaking (20609-000,Qty:3)
	Binding/Sticking		0.2%	Binding (20609-000,Qty:1)
Transducer,Pressure				Sources:1
	Contaminated	72.7%	66.7%	PIND Noise-Conductive Particles/Potential Short (10722-000,Qty:8)
	Degraded Operation	9.1%	8.3%	Drop In Output Voltage-Mechanical Overstress (10722-000,Qty:1)
	Shorted	9.1%	8.3%	Internal Short-Conductive Mobile Particle Leadwire (10722-000,Qty:1)
	Resistor Failure	9.1%	8.3%	Intermittent Open Thin Film Bridge Resistors (10722-000,Qty:1)
	Unknown	------	8.3%	Unknown (10722-000,Qty:1)
Transducer,Sensor (Summary)				
	Out of Adjustment	40.6%		
	Out of Spec.	19.5%		
	Burned/Charred	11.7%		
	Opened	10.2%		
	Spurious/False Operation	7.0%		
	Intermittent Operation	6.3%		
	Shorted	4.7%		

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transducer,Sensor				Sources:1
	Out of Adjustment	46.0%	24.2%	Out of Adjustment (20609-000,Qty:46)
	Burned/Charred	15.0%	7.9%	Burned (20609-000,Qty:15)
	Opened	13.0%	6.8%	Opened (20609-000,Qty:13)
	Out of Spec.	9.0%	4.7%	Out of Specification (20609-000,Qty:9)
	Spurious/False Operation	6.0%	3.2%	Erratic (20609-000,Qty:6)
	Shorted	6.0%	3.2%	Short (20609-000,Qty:6)
	Intermittent Operation	5.0%	2.6%	Intermittent (20609-000,Qty:5)
	Unknown	------	44.2%	Unknown (20609-000,Qty:2) (20609-000,Qty:82)
	Other (<%3)	------	3.2%	
	Contaminated		1.1%	Contaminated (20609-000,Qty:2)
	Cracked/Fractured		0.5%	Cracked/Fractured (20609-000,Qty:1)
	Corroded		0.5%	Corroded (20609-000,Qty:1)
	Broken		0.5%	Broken (20609-000,Qty:1)
	Leaking		0.5%	Leaking (20609-000,Qty:1)
Transducer,Sensor,Light				Sources:1
	Out of Spec.	65.2%	53.6%	Out of Specification (20609-000,Qty:15)
	Out of Adjustment	21.7%	17.9%	Out of Adjustment (20609-000,Qty:5)
	Spurious/False Operation	13.0%	10.7%	False Response (20609-000,Qty:3)
	Other (<%5)	------	17.9%	
	Stuck Closed		3.6%	Stuck Closed (20609-000,Qty:1)
	No Operation		3.6%	No Operation (20609-000,Qty:1)
	Leaking		3.6%	Leaking (20609-000,Qty:1)
	Intermittent Operation		3.6%	Intermittent (20609-000,Qty:1)
	Cracked/Fractured		3.6%	Cracked/Fractured (20609-000,Qty:1)
Transducer,Sensor,Pneumatic				Sources:1
	Out of Adjustment	50.0%	50.0%	Out of Adjustment (20609-000,Qty:1)
	No Operation	50.0%	50.0%	No Operation (20609-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transducer, Sensor, Solid State				Sources:1
	Intermittent Operation	66.7%	66.7%	Intermittent (20609-000,Qty:2)
	Out of Spec.	33.3%	33.3%	Out of Specification (20609-000,Qty:1)
Transducer, Temperature				Sources:1
	Opened	100.0%	100.0%	Open Lead-Cyclic Fatigue Of A Leadwire (10722-000,Qty:1)
Transformer (Summary)				
	Opened	37.5%		
	Shorted	37.4%		
	Degraded Output	8.5%		
	Drift	6.2%		
	Mechanical Failure	5.2%		
	Worn	5.1%		
Transformer				Sources:11
	Opened	40.1%	31.5%	Open (24991-000,33.0%) (24991-000,40.0%) (24991-000,50.0%) (24991-000,100.0%) (24992-000,25.0%) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:6) (25000-000,Qty:7) (25000-000,Qty:11) (25000-000,Qty:14) (25000-000,Qty:17) (25027-000,Qty:1), Open - Primary (24990-000,50.0%), Open - Secondary (24990-000,10.0%), Open Circuits (24993-000,5.0%), Open Magnet Wire-Mechanical Stress (10722-000,Qty:1), Open Primary Winding (10722-000,Qty:1), Open Magnet Wires-Manufacturing Defects (10722-000,Qty:4), Open Primary Windings-Ext. Electrical Overstress (10722-000,Qty:2), Verified Open Magnet Wire (10722-000,Qty:1), Intermittent Opens (10722-000,Qty:3), Open In One Of Secondary Windings-Ext. Overstress (10722-000,Qty:1), Open Windings-Tensile Fractures Of The Magnet Wire (10722-000,Qty:2), Faulty Leads (25038-000,5.0%)
	Shorted	39.5%	31.1%	Short- Dielectric Strength (25000-000,Qty:1) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:5), Short- General (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:21), Short-Dielectric Strength (25000-000,Qty:1) (25000-000,Qty:1), Short (20609-000,Qty:2) (24991-000,NR) (24991-000,50.0%) (24991-000,60.0%) (24991-000,66.0%) (24992-000,25.0%) (25000-000,Qty:20), Breakdown Between Windings, Core and Case Surface (25016-000,NR), Short - Primary (24990-000,30.0%), Short - Secondary (24990-000,10.0%) Shorted Turns (24993-000,80.0%), Catastrophic-Due To Shorts (18175-000,14.0%), Intra Winding Short (10722-000,Qty:1), Short-Excessive Lengths Of Crossed & Bare Lead Wir (10722-000,Qty:1), Primary To Secondary Short (10722-000,Qty:1), Lamination-Solder Particle (10722-000,Qty:1), Insulation Breakdown (25038-000,25.0%), Insulation Deterioration (25038-000,20.0%)
	Dielectric Breakdown	6.4%	5.0%	Dielectric Breakdokwn (24992-000,50.0%)
	Drift	6.2%	4.9%	Parameter Drift- Delta L (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1), Parameter Drift- Delta R (25000-000,Qty:27) (25000-000,Qty:37), Parameter Drift- Insulation Resistance (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:4) (25000-000,Qty:6) (25000-000,Qty:6) (25000-000,Qty:6) (25000-000,Qty:6) (25000-000,Qty:6) (25000-000,Qty:6) (25000-000,Qty:6) (25000-000,Qty:6) (25000-000,Qty:7) (25000-000,Qty:8) (25000-000,Qty:8) (25000-000,Qty:9)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transformer (continued)				
Drift (continued)				
				(25000-000,Qty:10) (25000-000,Qty:17), Parameter Drift-General (25000-000,Qty:23) (25000-000,Qty:54)
	Corroded	4.2%	3.3%	Corrosion (25000-000,Qty:2) (25000-000,Qty:6) (25000-000,Qty:17) (25000-000,Qty:18), Corroded Windings (25038-000,25.0%)
	Wire Failure	3.6%	2.9%	Tensile Fracture Of Magnet Wire (10722-000,Qty:1), Wire over-stress (25038-000,25.0%)
	Unknown	------	5.7%	Unknown (10722-000,Qty:1) (10722-000,Qty:1) (18175-000,15.0%) (20609-000,Qty:1) (24993-000,15.0%) (25000-000,Qty:2) (25000-000,Qty:6) (25000-000,Qty:11)
	Induced	------	3.6%	Catastrophic-No Output Due To Automatic Removal (18175-000,42.0%), Incorrect Output Due To Faulty Tap Changer (18175-000,5.0%)
	Other (<%4)	------	12.1%	
	Open Circuit		2.7%	Catastrophic-No Output Due To Open Circuit (18175-000,35.0%)
	Intermittent Operation		2.0%	Intermittent (20609-000,Qty:1) (25000-000,Qty:2)
	Degraded Operation		2.0%	Degraded (20609-000,Qty:1)
	Mechanical Damage		1.8%	Mechanical Damage (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:5) (25000-000,Qty:6) (25000-000,Qty:10) (25000-000,Qty:30), Degraded - Mechanical Damage (18175-000,9.0%)
	Lead Damage		1.1%	Low Cycle Fatigue-Fractured Leads (10722-000,Qty:3)
	Cracked/Fractured		0.7%	Fractured Lead-Torsional Fatigue (10722-000,Qty:1), Fractured Wire-Mechanical Overstress (10722-000,Qty:1)
	Seal Failure		0.5%	Leakage (seal) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:8), Leakage(Seal) (25000-000,Qty:14)
	Degraded Output		0.5%	Degraded - Output Less Than Rated Capacity (18175-000,6.0%)
	No Output		0.5%	Catastrophic-No Output Due To Manual Removal (18175-000,6.0%)
	Electrical Overstress		0.4%	Overstress (10722-000,Qty:1)
	Winding Failure		NR	Open or Short Circuit in Windings (25016-000,NR)
	Change in Resistance		NR	Decrease in Insul. Resis. Between Windings & Core (25016-000,NR), Change in DC Resistance in Windings (25016-000,NR)
	Decrease in Exciting Current		NR	Radical Decrease in Excitation Current (25016-000,NR)
	Change in Value		NR	Radical Decrease or Loss of Inductance (25016-000,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transformer Assembly				Sources:1
	Opened	100.0%	100.0%	Open-Faulty Solder Joint (10722-000,Qty:1), Pin 20 To Pin 16 Is Open-Fractured Magnet Wire (10722-000,Qty:1), Pin 10 To Pin 11 Is Open-Fracture Magnet Wire (10722-000,Qty:1), Open Between Pins 17 And 3-Fractured Magnet Wire (10722-000,Qty:1), Open Between Pins 10 And 11-Fractured Magnet Wire (10722-000,Qty:1)
Transformer Assembly,Dual				Sources:1
	Opened	80.0%	80.0%	Open-Diode Cracked (10722-000,Qty:1), Noisy-Fractured Magnet Wire (10722-000,Qty:1), Fractured/Open Magnet Wire-Mechanical Overstress (10722-000,Qty:1), Open Output Winding (10722-000,Qty:1)
	Degraded Operation	20.0%	20.0%	Excessive Reverse Breakdown Voltage (10722-000,Qty:1)
Transformer,Audio				Sources:3
	Opened	55.0%	36.7%	Open (24994-000,60.0%), Open Primary (10722-000,Qty:1)
	Shorted	45.0%	30.0%	Short (24994-000,40.0%), Short Primary (10722-000,Qty:1)
	Induced	------	33.3%	Inconsistent Inductance Ranges-Manufacturing Error (25027-000,Qty:1)
	Other	------	0.0%	
	Drift		NR	Drift (24994-000,NR)
Transformer,Auto,Liquid Filled				Sources:1
	Degraded Output	43.8%	14.0%	Degraded - Incorrect Output Due To Faulty Tap (18175-000,8.0%), Degraded - Output Less Than Rated Capacity (18175-000,6.0%)
	Mechanical Damage	25.0%	8.0%	Degraded - Mechanical Damage (18175-000,8.0%)
	No Output	18.8%	6.0%	Catastrophic-No Output Due To Manual Removal (18175-000,6.0%)
	Open Circuit	12.5%	4.0%	Catastrophic-No Output Due To Open Circuit (18175-000,4.0%)
	Induced	------	59.0%	Catastrophic-No Output Due To Automatic Removal (18175-000,59.0%)
	Unknown	------	9.0%	Unknown (18175-000,9.0%)
Transformer,Auto,Liquid Filled,Single Phase				Sources:1
	Degraded Output	37.7%	11.2%	Degraded - Incorrect Output Due To Faulty Tap (18175-000,4.0%) (18175-000,4.0%) (18175-000,5.0%) (18175-000,7.0%) (18175-000,7.0%) (18175-000,7.0%) (18175-000,7.0%) (18175-000,8.0%) (18175-000,10.0%) (18175-000,10.0%), Degraded - Output Less Than Rated Capacity (18175-000,3.0%) (18175-000,3.0%) (18175-000,3.0%) (18175-000,3.0%) (18175-000,4.0%) (18175-000,4.0%) (18175-000,4.0%) (18175-000,4.0%) (18175-000,5.0%) (18175-000,8.0%) (18175-000,8.0%), Degraded - Incorrect Output Data To Faulty Tap (18175-000,4.0%), Degraded - Output Less Than Capacity (18175-000,5.0%)
	Mechanical Damage	28.5%	8.5%	Degraded - Mechanical Damage (18175-000,3.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transformer,Auto,Liquid Filled,Single Phase (continued)				
	Mechanical Damage (continued)			(18175-000,5.0%) (18175-000,5.0%) (18175-000,7.0%) (18175-000,7.0%) (18175-000,7.0%) (18175-000,7.0%) (18175-000,10.0%) (18175-000,11.0%) (18175-000,15.0%) (18175-000,16.0%)
	No Output	17.8%	5.3%	Catastrophic-No Output Due To Manual Removal (18175-000,3.0%) (18175-000,4.0%) (18175-000,4.0%) (18175-000,4.0%) (18175-000,4.0%) (18175-000,5.0%) (18175-000,7.0%) (18175-000,8.0%) (18175-000,9.0%), Catastrophic-No Output Due To Manual Removal 1 (18175-000,6.0%), Catastrophic-No Output Due to Manual Removal (18175-000,4.0%)
	Open Circuit	16.0%	4.7%	Catastrophic-No Output Due To Open Circuit (18175-000,1.0%) (18175-000,2.0%) (18175-000,2.0%) (18175-000,2.0%) (18175-000,2.0%) (18175-000,5.0%) (18175-000,7.0%) (18175-000,9.0%) (18175-000,10.0%) (18175-000,10.0%), Catastophic-No Output Due To Open Circuit (18175-000,2.0%)
	Induced	------	60.4%	Catastrophic-No Output Due To Automatic Removal (18175-000,40.0%) (18175-000,40.0%) (18175-000,60.0%) (18175-000,61.0%) (18175-000,63.0%) (18175-000,64.0%) (18175-000,64.0%) (18175-000,64.0%) (18175-000,65.0%) (18175-000,71.0%) (18175-000,72.0%)
	Unknown	------	10.0%	Unknown (18175-000,3.0%) (18175-000,5.0%) (18175-000,8.0%) (18175-000,8.0%) (18175-000,9.0%) (18175-000,9.0%) (18175-000,9.0%) (18175-000,11.0%) (18175-000,16.0%) (18175-000,16.0%) (18175-000,16.0%)
Transformer,Auto,Liquid Filled,Three Phase				Sources:1
	Degraded Output	49.3%	12.0%	Degraded - Incorrect Output Due To Faulty Tap (18175-000,4.0%) (18175-000,6.0%) (18175-000,6.0%) (18175-000,7.0%) (18175-000,11.0%) (18175-000,16.0%), Degraded - Output Less Than Rated Capacity (18175-000,2.0%) (18175-000,2.0%) (18175-000,3.0%) (18175-000,4.0%) (18175-000,5.0%) (18175-000,6.0%)
	Mechanical Damage	24.0%	5.8%	Degraded - Mechanical Damage (18175-000,5.0%) (18175-000,5.0%) (18175-000,5.0%) (18175-000,5.0%) (18175-000,6.0%) (18175-000,9.0%)
	No Output	19.9%	4.8%	Catastrophic-No Output Due To Manual Removal (18175-000,3.0%) (18175-000,4.0%) (18175-000,5.0%) (18175-000,5.0%) (18175-000,6.0%) (18175-000,6.0%)
	Open Circuit	6.8%	1.7%	Catastrophic-No Output Due To Open Circuit (18175-000,1.0%) (18175-000,1.0%) (18175-000,2.0%) (18175-000,2.0%) (18175-000,4.0%)
	Induced	------	65.0%	Catastrophic-No Output Due To Automatic Removal (18175-000,54.0%) (18175-000,60.0%) (18175-000,64.0%) (18175-000,66.0%) (18175-000,69.0%) (18175-000,77.0%)
	Unknown	------	10.7%	Unknown (18175-000,4.0%) (18175-000,7.0%) (18175-000,10.0%) (18175-000,14.0%) (18175-000,14.0%) (18175-000,15.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transformer,Boost Converter				Sources:1
	Shorted	100.0%	100.0%	Short-Stray Wire Shorted To Threaded Insert (10722-000,Qty:1), Winding To Insert Short-Inadequate Clearance (10722-000,Qty:1)
Transformer,Choke				Sources:1
	Opened	100.0%	100.0%	Open (24994-000,100.0%)
	Other	------	0.0%	
	Shorted		NR	Short (24994-000,NR)
	Drift		NR	Drift (24994-000,NR)
Transformer,Coil				Sources:2
	Opened	45.7%	44.5%	Open (24992-000,89.0%)
	Worn	28.1%	27.4%	Worn, Chaffed, Frayed, or Torn (25464-000,Qty:231)
	Mechanical Failure	20.3%	19.8%	Broken (25464-000,Qty:158), Cracked (25464-000,Qty:4), Loose,Damaged,or Missing Har (25464-000,Qty:5)
	Shorted	5.7%	5.5%	Short (24992-000,11.0%)
	Drift	0.1%	0.1%	Fluctuates, Unstable or Errati (25464-000,Qty:1)
	Unknown	------	2.7%	Unknown (25464-000,Qty:3) (25464-000,Qty:20)
Transformer,Dither				Sources:1
	Opened	100.0%	100.0%	Open Windings-Mechanical Overstress (10722-000,Qty:2), Open-Cut Wire (10722-000,Qty:1)
Transformer,Dual Sense				Sources:1
	Shorted	100.0%	100.0%	Internal Short-Part Misplacement Vendor Defect (10722-000,Qty:1)
Transformer,FET				Sources:1
	Shorted	100.0%	100.0%	Shorted Drain To Source To Gate (10722-000,Qty:3)
Transformer,High Voltage				Sources:1
	Shorted	75.0%	75.0%	Winding Short-Lakcck Of Adequate Insulation (10722-000,Qty:1), Low Secondary Voltage-Intrawinding Short (10722-000,Qty:1), Short-Inadequate Insulation (10722-000,Qty:1)
	Opened	25.0%	25.0%	Secondary Winding Open (10722-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transformer, Inductor, Assembly				Sources:1
	Shorted	75.0%	75.0%	Inductor L1 Shorted To L2 (10722-000,Qty:1), Short-Insert Contacting Coil Windings (10722-000,Qty:2)
	Inductor Failure	25.0%	25.0%	Inductors (10722-000,Qty:1)
Transformer, Inductor, Audio, High Power & Pulse				Sources:1
	Induced	------	<0.1%	Excessive Primary Voltage (24417-002,NR), Excessive Secondary Current (24417-002,NR), Input Frequency Fluctuations (24417-002,NR)
	Other	------	100.0%	
	Corona		NR	Corona (24417-002,NR)
	Shorted		NR	Insulation Breakdown (24417-002,NR), Short-Uninsulated Current Carying Parts (24417-002,NR)
	Opened		NR	Open-Poor Wire Terminations (24417-002,NR)
Transformer, Instrument, Current				Sources:1
	Shorted	66.9%	57.3%	Catastrophic-No Output Due To Shorts (18175-000,55.0%) (18175-000,57.0%) (18175-000,60.0%)
	Open Circuit	19.1%	16.3%	Catastrophic-No Output Due To Open Circuit (18175-000,15.0%) (18175-000,17.0%) (18175-000,17.0%)
	Degraded Operation	14.0%	12.0%	Degraded (18175-000,10.0%) (18175-000,12.0%) (18175-000,14.0%)
	Unknown	------	14.3%	Unknown (18175-000,13.0%) (18175-000,14.0%) (18175-000,16.0%)
Transformer, Instrument, Potential				Sources:1
	Shorted	70.8%	60.0%	Catastrophic-No Output Due To Shorts (18175-000,55.0%) (18175-000,61.0%) (18175-000,61.0%) (18175-000,63.0%)
	Open Circuit	18.0%	15.3%	Catastrophic-No Output Due To Open Circuit (18175-000,14.0%) (18175-000,15.0%) (18175-000,15.0%) (18175-000,17.0%)
	Degraded Operation	11.2%	9.5%	Degraded (18175-000,9.0%) (18175-000,9.0%) (18175-000,9.0%) (18175-000,11.0%)
	Unknown	------	15.3%	Unknown (18175-000,14.0%) (18175-000,15.0%) (18175-000,15.0%) (18175-000,17.0%)
Transformer, Output				Sources:1
	Opened	100.0%	100.0%	Open In Secondary-Tensil Failure Magnet Wire (10722-000,Qty:1)

Part Desc. / Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transformer,Power,Distribution			Sources:1
Opened	50.0%	50.0%	Open Circuit (24996-000,50.0%)
Shorted	50.0%	50.0%	Short (24996-000,50.0%)
Transformer,Power,Filter			Sources:1
Shorted	60.0%	60.0%	Short (24994-000,60.0%)
Opened	40.0%	40.0%	Open (24994-000,40.0%)
Other	------	0.0%	
Drift		NR	Drift (24994-000,NR)
Transformer,Power,Gen/Unit			Sources:1
Degraded Output	43.8%	14.0%	Degraded - Incorrect Output Due To Faulty Tap (18175-000,6.0%), Degraded - Output Less Than Rated Capacity (18175-000,8.0%)
No Output	43.8%	14.0%	Catastrophic-No Output Due To Manual Removal (18175-000,14.0%)
Open Circuit	12.5%	4.0%	Catastrophic-No Output Due To Open Circuit (18175-000,4.0%)
Induced	------	54.0%	Catastrophic-No Output Due To Automatic Removal (18175-000,48.0%), Degraded - Mechanical (18175-000,6.0%)
Unknown	------	14.0%	Unknown (18175-000,14.0%)
Transformer,Power,Gen/Unit,Liquid Fill 1-Phase			Sources:1
Degraded Output	32.9%	10.7%	Degraded - Incorrect Output Due To Faulty Tap (18175-000,2.0%) (18175-000,3.0%) (18175-000,4.0%) (18175-000,5.0%) (18175-000,5.0%) (18175-000,7.0%) (18175-000,8.0%), Degraded - Output Less Than Rated Capacity (18175-000,4.0%) (18175-000,4.0%) (18175-000,5.0%) (18175-000,5.0%) (18175-000,6.0%) (18175-000,8.0%) (18175-000,9.0%)
No Output	30.3%	9.9%	Catastrophic-No Output Due To Manual Removal (18175-000,4.0%) (18175-000,6.0%) (18175-000,6.0%) (18175-000,9.0%) (18175-000,9.0%) (18175-000,17.0%) (18175-000,18.0%)
Open Circuit	23.2%	7.6%	Catastrophic-No Output Due To Open Circuit (18175-000,1.0%) (18175-000,2.0%) (18175-000,6.0%) (18175-000,6.0%) (18175-000,10.0%) (18175-000,25.0%), Catastrophic-No Output Due To Open Circuit (18175-000,3.0%)
Mechanical Damage	13.6%	4.4%	Degraded - Mechanical Damage (18175-000,3.0%) (18175-000,5.0%) (18175-000,6.0%) (18175-000,7.0%) (18175-000,10.0%)
Induced	------	50.6%	Catastrophic-No Output Due To Automatic Removal (18175-000,38.0%) (18175-000,41.0%) (18175-000,42.0%) (18175-000,46.0%) (18175-000,48.0%) (18175-000,64.0%) (18175-000,67.0%), Degraded - Mechanical (18175-000,2.0%), Degraded - Mechanical Damage (18175-000,6.0%)
Unknown	------	16.7%	Unknown (18175-000,14.0%) (18175-000,15.0%) (18175-000,15.0%) (18175-000,16.0%) (18175-000,17.0%) (18175-000,17.0%) (18175-000,23.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transformer,Power,Gen/Unit,Liquid Fill 3-Phase				Sources:1
	Degraded Output	42.8%	13.4%	Degraded - Incorrect Output Due To Faulty Tap (18175-000,4.0%) (18175-000,6.0%) (18175-000,7.0%) (18175-000,8.0%) (18175-000,8.0%) (18175-000,10.0%) (18175-000,10.0%), Degraded - Output Less Than Rated Capacity (18175-000,3.0%) (18175-000,4.0%) (18175-000,4.0%) (18175-000,5.0%) (18175-000,5.0%) (18175-000,7.0%) (18175-000,9.0%) (18175-000,9.0%), Degraded - Incorrect Damage Due To Faulty Tap (18175-000,8.0%)
	Mechanical Damage	24.4%	7.6%	Degraded - Mechanical Damage (18175-000,5.0%) (18175-000,5.0%) (18175-000,5.0%) (18175-000,6.0%) (18175-000,7.0%) (18175-000,10.0%) (18175-000,10.0%) (18175-000,13.0%)
	No Output	18.8%	5.9%	Catastrophic-No Output Due To Manual Removal (18175-000,2.0%) (18175-000,4.0%) (18175-000,5.0%) (18175-000,7.0%) (18175-000,7.0%) (18175-000,7.0%) (18175-000,7.0%) (18175-000,8.0%)
	Open Circuit	14.0%	4.4%	Catastrophic-No Output Due To Open Circuit (18175-000,3.0%) (18175-000,3.0%) (18175-000,3.0%) (18175-000,4.0%) (18175-000,4.0%) (18175-000,4.0%) (18175-000,7.0%) (18175-000,7.0%)
	Induced	------	52.9%	Catastrophic-No Output Due To Automatic Removal (18175-000,46.0%) (18175-000,47.0%) (18175-000,49.0%) (18175-000,49.0%) (18175-000,52.0%) (18175-000,53.0%) (18175-000,59.0%) (18175-000,68.0%)
	Unknown	------	15.9%	Unknown (18175-000,3.0%) (18175-000,11.0%) (18175-000,14.0%) (18175-000,17.0%) (18175-000,17.0%) (18175-000,18.0%) (18175-000,23.0%) (18175-000,24.0%)
Transformer,Power,Gen/Unit,Liquid Filled				Sources:1
	No Output	50.0%	17.0%	Catastrophic-No Output Due To Manual Removal (18175-000,17.0%)
	Degraded Output	29.4%	10.0%	Degraded - Incorrect Output Due To Faulty Tap (18175-000,7.0%), Degraded - Output Less Than Rated Capacity (18175-000,3.0%)
	Mechanical Damage	11.8%	4.0%	Degraded - Mechanical Damage (18175-000,4.0%)
	Open Circuit	8.8%	3.0%	Catastrophic-No Output Due To Open Circuit (18175-000,3.0%)
	Induced	------	52.0%	Catastrophic-No Output Due To Automatic Removal (18175-000,52.0%)
	Unknown	------	14.0%	Unknown (18175-000,14.0%)
Transformer,Power,Phase,Three				Sources:1
	Opened	100.0%	100.0%	Primary Winding Open-Tensile Failure (10722-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transformer,Power,Set Up				Sources:1
	Opened	100.0%	100.0%	Winding 7/8 Open-Tensile Failure (10722-000,Qty:1)
Transformer,Pulse				Sources:2
	Opened	80.0%	80.0%	Open (24994-000,60.0%), Open-Wire Damage Prior To Potting (10722-000,Qty:1)
	Shorted	20.0%	20.0%	Short (24994-000,40.0%)
	Other	------	0.0%	
	Drift		NR	Drift (24994-000,NR)
Transformer,Pulse,Dual				Sources:1
	Opened	100.0%	100.0%	Open-Tensile Fracture Of Magnet Wire (10722-000,Qty:1), Open At Pin 4-Mechanical Damage (10722-000,Qty:1)
Transformer,Pulse,High Power				Sources:1
	Mechanical Failure	68.6%	16.3%	Mech (25030-000,Qty:1) (25030-000,Qty:1) (25030-000,Qty:1) (25030-000,Qty:2) (25030-000,Qty:5) (25030-000,Qty:25), Mech. (25030-000,Qty:6) (25030-000,Qty:29)
	Shorted	12.7%	3.0%	Die Breakdown (25030-000,Qty:13)
	Exciting Current	7.8%	1.9%	Exciting Current (25030-000,Qty:4) (25030-000,Qty:4)
	Opened	3.9%	0.9%	Open (25030-000,Qty:1) (25030-000,Qty:3)
	High Secondary Resistence	3.9%	0.9%	Sec. Res. OHL (25030-000,Qty:4)
	Turns Ratio	2.9%	0.7%	Turns Ratio (25030-000,Qty:1) (25030-000,Qty:2)
	Unknown	------	39.2%	Unknown (25030-000,Qty:1) (25030-000,Qty:1) (25030-000,Qty:4) (25030-000,Qty:5) (25030-000,Qty:6) (25030-000,Qty:7) (25030-000,Qty:8) (25030-000,Qty:10) (25030-000,Qty:10) (25030-000,Qty:11) (25030-000,Qty:12) (25030-000,Qty:17) (25030-000,Qty:32) (25030-000,Qty:44)
	Induced	------	37.1%	Assembled Wrong (25030-000,Qty:1) (25030-000,Qty:5) (25030-000,Qty:48) (25030-000,Qty:105)
Transformer,Pulse,Low Power				Sources:3
	Degraded Output	61.4%	54.0%	Parameter Change (24996-000,54.0%), Change in Core Characteristics (24417-002,NR), Parameter change (24997-000,54.0%)
	Shorted	22.7%	20.0%	Short (24996-000,20.0%) (24997-000,20.0%)
	Opened	15.9%	14.0%	Open Circuit (24996-000,14.0%) (24997-000,14.0%)
	Unknown	------	12.0%	Unknown (24996-000,12.0%) (24997-000,12.0%)
	Other	------	0.0%	
	Broken		NR	Broken Coil Wire (24417-002,NR)
	Insulation Failure		NR	Insulation Failure (24417-002,NR)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transformer,RF & Coil				Sources:1
	Drift	85.0%	85.0%	Drift (24994-000,85.0%)
	Opened	15.0%	15.0%	Open (24994-000,15.0%)
	Other	------	0.0%	
	Shorted		NR	Short (24994-000,NR)
Transformer,Rectifier				Sources:1
	No Output	32.6%	14.0%	Catastrophic-No Output Due To Manual Removal (18175-000,14.0%)
	Degraded Output	30.2%	13.0%	Degraded - Output Less Than Rated Capacity (18175-000,13.0%)
	Mechanical Damage	25.6%	11.0%	Degraded - Mechanical Damage (18175-000,11.0%)
	Open Circuit	11.6%	5.0%	Catastrophic-No Output Due To Open Circuit (18175-000,5.0%)
	Induced	------	48.0%	Catastrophic-No Output Due To Automatic Removal (18175-000,48.0%)
	Unknown	------	9.0%	Unknown (18175-000,9.0%)
Transformer,Rectifier,Excitation				Sources:1
	Degraded Output	42.9%	21.0%	Degraded - Output Less Than Rated Capacity (18175-000,21.0%)
	No Output	32.7%	16.0%	Catastrophic-No Output Due To Manual Removal (18175-000,16.0%)
	Open Circuit	12.2%	6.0%	Catastrophic-No Output Due To Open Circuit (18175-000,6.0%)
	Mechanical Damage	12.2%	6.0%	Degraded - Mechanical Damage (18175-000,6.0%)
	Induced	------	42.0%	Catastrophic-No Output Due To Automatic Removal (18175-000,42.0%)
	Unknown	------	9.0%	Unknown (18175-000,9.0%)
Transformer,Rectifier,Precipitator				Sources:1
	Degraded Output	58.2%	32.0%	Degraded - Output Less Than Rated Capacity (18175-000,32.0%)
	Mechanical Damage	21.8%	12.0%	Degraded - Mechanical Damage (18175-000,12.0%)
	No Output	14.5%	8.0%	Catastrophic-No Output Due To Manual Removal (18175-000,8.0%)
	Open Circuit	5.5%	3.0%	Catastrophic-No Output Due To Open Circuit (18175-000,3.0%)
	Induced	------	40.0%	Catastrophic-No Output Due To Automatic Removal (18175-000,40.0%)
	Unknown	------	5.0%	Unknown (18175-000,5.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transformer,Sense Digit				Sources:1
	Opened	87.5%	87.5%	Open-Fractured Diode (10722-000,Qty:1), Open-Fractured Magnet Wire (10722-000,Qty:1), Fractured Magnet Wire-Process Damage (10722-000,Qty:1), Intermittent Open-Manufacturing Process Defect (10722-000,Qty:1), Open-Fractured WIre In Transformer (10722-000,Qty:1), Internal Wire Fractured-Cyclic Fatigue (10722-000,Qty:1), Intermittent Open-Fractured Magnet Wire (10722-000,Qty:1)
	Shorted	12.5%	12.5%	Low Resistance Short (10722-000,Qty:1)
Transformer,Station Service Incl				Sources:1
	No Output	28.0%	7.0%	Catastrophic-No Output Due To Manual Removal (18175-000,7.0%)
	Open Circuit	24.0%	6.0%	Catastrophic-No Output Due To Open Circuit (18175-000,6.0%)
	Mechanical Damage	24.0%	6.0%	Degraded - Mechanical Damage (18175-000,6.0%)
	Degraded Output	24.0%	6.0%	Degraded - Incorrect Output Due To Faulty Tap (18175-000,3.0%), Degraded - Output Less Than Rated Capacity (18175-000,3.0%)
	Induced	------	63.0%	Catastrophic-No Output Due To Automatic Removal (18175-000,63.0%)
	Unknown	------	12.0%	Unknown (18175-000,12.0%)
Transformer,Station Service Incl,Dry Type,1-Phase				Sources:1
	Mechanical Damage	33.3%	10.3%	Degraded - Mechanical Damage (18175-000,9.0%) (18175-000,10.0%) (18175-000,10.0%) (18175-000,12.0%)
	No Output	23.6%	7.3%	Catastrophic-No Output Due To Manual Removal (18175-000,7.0%) (18175-000,7.0%) (18175-000,7.0%) (18175-000,8.0%)
	Degraded Output	22.0%	6.8%	Degraded - Incorrect Output Due To Faulty Tap (18175-000,4.0%) (18175-000,4.0%) (18175-000,4.0%) (18175-000,6.0%), Degraded - Output Less Than Rated Capacity (18175-000,2.0%) (18175-000,2.0%) (18175-000,2.0%) (18175-000,3.0%)
	Open Circuit	21.1%	6.5%	Catastrophic-No Output Due To Open Circuit (18175-000,6.0%) (18175-000,6.0%) (18175-000,7.0%) (18175-000,7.0%)
	Induced	------	55.8%	Catastrophic-No Output Due To Automatic Removal (18175-000,54.0%) (18175-000,54.0%) (18175-000,57.0%) (18175-000,58.0%)
	Unknown	------	13.5%	Unknown (18175-000,13.0%) (18175-000,13.0%) (18175-000,13.0%) (18175-000,15.0%)
Transformer,Station Service Incl,Dry Type,3-Phase				Sources:1
	No Output	35.8%	10.8%	Catastrophic-No Output Due To Manual Removal (18175-000,9.0%) (18175-000,11.0%) (18175-000,11.0%) (18175-000,12.0%)
	Open Circuit	23.3%	7.1%	Catastrophic-Nc Output Due To Open Circuit (18175-000,5.0%) (18175-000,7.0%) (18175-000,8.0%) (18175-000,8.0%)
	Mechanical Damage	23.3%	7.1%	Degraded - Mechanical Damage (18175-000,6.0%) (18175-000,7.0%) (18175-000,7.0%) (18175-000,8.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transformer,Station Service Incl,Dry Type,3-Phase (continued)				
	Degraded Output	17.5%	5.3%	Degraded - Incorrect Output Due To Faulty Tap (18175-000,2.0%) (18175-000,4.0%) (18175-000,5.0%) (18175-000,5.0%), Degraded - Output Less Than Rated Capacity (18175-000,1.0%) (18175-000,1.0%) (18175-000,1.0%) (18175-000,2.0%)
	Induced	------	56.9%	Catastrophic-No Output Due To Automatic Removal (18175-000,55.0%) (18175-000,56.0%) (18175-000,56.0%) (18175-000,59.0%)
	Unknown	------	12.8%	Unknown (18175-000,12.0%) (18175-000,12.0%) (18175-000,13.0%) (18175-000,14.0%)
Transformer,Station Service Incl,Liquid Filled,1-PhaseSources:1				
	No Output	30.7%	7.8%	Catastrophic-No Output Due To Manual Removal (18175-000,5.0%) (18175-000,6.0%) (18175-000,8.0%) (18175-000,12.0%)
	Open Circuit	24.8%	6.3%	Catastrophic-No Output Due To Open Circuit (18175-000,4.0%) (18175-000,6.0%) (18175-000,7.0%) (18175-000,8.0%)
	Mechanical Damage	22.8%	5.8%	Degraded - Mechanical Damage (18175-000,5.0%) (18175-000,5.0%) (18175-000,6.0%) (18175-000,7.0%)
	Degraded Output	21.8%	5.6%	Degraded - Incorrect Ouput Due To Faulty Tap (18175-000,4.0%), Degraded - Output Less Than Rated Capacity (18175-000,2.0%) (18175-000,2.0%) (18175-000,3.0%) (18175-000,3.0%), Degraded - Incorrect Output Due To Faulty Tap (18175-000,2.0%) (18175-000,3.0%) (18175-000,3.0%)
	Induced	------	61.5%	Catastrophic-No Output Due To Automatic Removal (18175-000,54.0%) (18175-000,60.0%) (18175-000,63.0%) (18175-000,66.0%)
	Unknown	------	12.9%	Unknown (18175-000,12.0%) (18175-000,13.0%) (18175-000,13.0%) (18175-000,13.0%)
Transformer,Station Service Incl,Liquid Filled,3-PhaseSources:1				
	No Output	37.3%	10.3%	Catastrophic-No Output Due To Manual Removal (18175-000,8.0%) (18175-000,9.0%) (18175-000,12.0%) (18175-000,12.0%)
	Degraded Output	24.5%	6.8%	Degraded - Incorrect Output Due To Faulty Tap (18175-000,3.0%) (18175-000,3.0%) (18175-000,4.0%) (18175-000,9.0%), Degraded - Output Less Than Rated Capacity (18175-000,1.0%) (18175-000,2.0%) (18175-000,2.0%) (18175-000,3.0%)
	Open Circuit	20.0%	5.5%	Catastrophic-No Output Due To Open Circuit (18175-000,4.0%) (18175-000,5.0%) (18175-000,6.0%) (18175-000,7.0%)
	Mechanical Damage	18.2%	5.0%	Degraded - Mechanical Damage (18175-000,5.0%) (18175-000,6.0%) (18175-000,9.0%)
	Induced	------	52.4%	Catastrophic-No Output Due To Automatic Removal (18175-000,38.0%) (18175-000,52.0%) (18175-000,58.0%) (18175-000,61.0%)
	Unknown	------	20.1%	Unknown (18175-000,9.0%) (18175-000,12.0%) (18175-000,14.0%) (18175-000,45.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transformer,Substation,Liquid Filled,1-Phase				Sources:1
	Degraded Output	41.7%	12.2%	Degraded - Incorrect Output Due To Faulty Tap (18175-000,3.0%) (18175-000,5.0%) (18175-000,6.0%) (18175-000,6.0%) (18175-000,6.0%) (18175-000,8.0%) (18175-000,10.0%) (18175-000,10.0%) (18175-000,15.0%), Degraded - Output Less Than Rated Capacity (18175-000,2.0%) (18175-000,3.0%) (18175-000,3.0%) (18175-000,4.0%) (18175-000,4.0%) (18175-000,4.0%) (18175-000,6.0%) (18175-000,6.0%) (18175-000,9.0%)
	Mechanical Damage	27.7%	8.1%	Degraded - Mechanical Damage (18175-000,5.0%) (18175-000,6.0%) (18175-000,7.0%) (18175-000,7.0%) (18175-000,7.0%) (18175-000,8.0%) (18175-000,8.0%) (18175-000,12.0%) (18175-000,13.0%)
	No Output	22.0%	6.4%	Catastrophic-No Output Due To Manual Removal (18175-000,3.0%) (18175-000,3.0%) (18175-000,4.0%) (18175-000,4.0%) (18175-000,5.0%) (18175-000,6.0%) (18175-000,6.0%) (18175-000,12.0%) (18175-000,15.0%)
	Open Circuit	8.7%	2.6%	Catastrophic-No Output Due To Open Circuit (18175-000,1.0%) (18175-000,1.0%) (18175-000,2.0%) (18175-000,2.0%) (18175-000,2.0%) (18175-000,3.0%) (18175-000,3.0%) (18175-000,3.0%) (18175-000,6.0%)
	Induced	------	53.4%	Catastrophic-No Output Due To Automatic Removal (18175-000,14.0%) (18175-000,28.0%) (18175-000,55.0%) (18175-000,57.0%) (18175-000,58.0%) (18175-000,63.0%) (18175-000,63.0%) (18175-000,71.0%) (18175-000,72.0%)
	Unknown	------	17.2%	Unknown (18175-000,8.0%) (18175-000,10.0%) (18175-000,10.0%) (18175-000,11.0%) (18175-000,12.0%) (18175-000,13.0%) (18175-000,19.0%) (18175-000,32.0%) (18175-000,40.0%)
Transformer,Substation,Liquid Filled,3-Phase				Sources:1
	Degraded Output	39.9%	9.1%	Degraded - Incorrect Output Due To Faulty Tap (18175-000,3.0%) (18175-000,3.0%) (18175-000,4.0%) (18175-000,5.0%) (18175-000,6.0%) (18175-000,7.0%) (18175-000,8.0%) (18175-000,9.0%), Degraded - Output Less Than Rated Capacity (18175-000,1.0%) (18175-000,2.0%) (18175-000,3.0%) (18175-000,3.0%) (18175-000,3.0%) (18175-000,5.0%) (18175-000,5.0%) (18175-000,6.0%)
	Mechanical Damage	29.5%	6.7%	Degraded - Mechanical Damage (18175-000,5.0%) (18175-000,6.0%) (18175-000,6.0%) (18175-000,6.0%) (18175-000,7.0%) (18175-000,7.0%) (18175-000,8.0%) (18175-000,9.0%)
	No Output	20.2%	4.6%	Catastrophic-No Output Due To Manual Removal (18175-000,4.0%) (18175-000,4.0%) (18175-000,4.0%) (18175-000,4.0%) (18175-000,5.0%) (18175-000,5.0%) (18175-000,6.0%), Catastrophic-No Output Due to Manual Removal (18175-000,5.0%)
	Open Circuit	10.4%	2.4%	Catastrophic-No Output Due To Open Circuit (18175-000,1.0%) (18175-000,1.0%) (18175-000,1.0%) (18175-000,2.0%) (18175-000,2.0%) (18175-000,3.0%) (18175-000,4.0%) (18175-000,5.0%)
	Induced	------	65.7%	Catastrophic-No Output Due To Automatic Removal (18175-000,61.0%) (18175-000,62.0%) (18175-000,64.0%) (18175-000,65.0%) (18175-000,66.0%) (18175-000,69.0%) (18175-000,69.0%) (18175-000,71.0%)
	Unknown	------	11.5%	Unknown (18175-000,7.0%) (18175-000,8.0%) (18175-000,8.0%) (18175-000,10.0%) (18175-000,10.0%) (18175-000,11.0%) (18175-000,19.0%) (18175-000,19.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transformer,Toridal				Sources:1
	Shorted	100.0%	100.0%	Primary To Shield Shorts (10722-000,Qty:5)
Transformer,Transmission Tile				Sources:1
	Degraded Output	37.5%	12.0%	Degraded - Incorrect Output Due To Faulty Tap (18175-000,7.0%), Degraded - Output Less Than Rated Capacity (18175-000,5.0%)
	Open Circuit	21.9%	7.0%	Catastrophic-No Output Due To Open Circuit (18175-000,7.0%)
	Mechanical Damage	21.9%	7.0%	Degraded - Mechanical Damage (18175-000,7.0%)
	No Output	18.8%	6.0%	Catastrophic-No Output Due To Manual Removal (18175-000,6.0%)
	Induced	------	58.0%	Catastrophic-No Output Due To Automatic Removal (18175-000,58.0%)
	Unknown	------	10.0%	Unknown (18175-000,10.0%)
Transformer,Transmission Tile,Liquid Filled,1-Phase				Sources:1
	Degraded Output	30.0%	9.5%	Degraded - Incorrect Output Due To Faulty Tap (18175-000,3.0%) (18175-000,4.0%) (18175-000,5.0%) (18175-000,6.0%) (18175-000,6.0%) (18175-000,6.0%) (18175-000,7.0%) (18175-000,7.0%), Degraded - Output Less Than Rated Capacity (18175-000,3.0%) (18175-000,3.0%) (18175-000,4.0%) (18175-000,5.0%) (18175-000,5.0%) (18175-000,5.0%) (18175-000,7.0%)
	No Output	26.5%	8.4%	Catastrophic-No Output Due To Manual Removal (18175-000,5.0%) (18175-000,7.0%) (18175-000,7.0%) (18175-000,8.0%) (18175-000,8.0%) (18175-000,9.0%) (18175-000,10.0%) (18175-000,13.0%)
	Open Circuit	20.6%	6.5%	Catastrophic-No Output Due To Open Circuit (18175-000,3.0%) (18175-000,3.0%) (18175-000,3.0%) (18175-000,4.0%) (18175-000,6.0%) (18175-000,7.0%) (18175-000,10.0%) (18175-000,16.0%)
	Mechanical Damage	20.2%	6.4%	Degraded - Mechanical Damage (18175-000,2.0%) (18175-000,4.0%) (18175-000,4.0%) (18175-000,4.0%) (18175-000,7.0%) (18175-000,8.0%) (18175-000,10.0%) (18175-000,12.0%)
	Degraded Operation	2.8%	0.9%	Output Less Than Rated Capacity (18175-000,7.0%)
	Induced	------	51.5%	Catastrophic-No Output Due To Automatic Removal (18175-000,20.0%) (18175-000,33.0%) (18175-000,51.0%) (18175-000,54.0%) (18175-000,58.0%) (18175-000,64.0%) (18175-000,70.0%), Catastrophic-No Output Due To Automatic Removal (18175-000,62.0%)
	Unknown	------	16.9%	Unknown (18175-000,10.0%) (18175-000,11.0%) (18175-000,12.0%) (18175-000,12.0%) (18175-000,12.0%) (18175-000,15.0%) (18175-000,18.0%) (18175-000,45.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transformer,Transmission Tile,Liquid Filled,3-PhaseSources:1				
	Degraded Output	32.3%	11.8%	Degraded - Incorrect Output Due To Faulty Tap (18175-000,4.0%) (18175-000,5.0%) (18175-000,5.0%) (18175-000,6.0%) (18175-000,7.0%) (18175-000,8.0%) (18175-000,10.0%), Degraded - Output Less Than Rated Capacity (18175-000,2.0%) (18175-000,3.0%) (18175-000,3.0%) (18175-000,4.0%) (18175-000,5.0%) (18175-000,6.0%) (18175-000,7.0%) (18175-000,8.0%), Degraded - Incorrecct Output Due To Faulty Tap (18175-000,11.0%)
	Mechanical Damage	25.4%	9.3%	Degraded - Mechanical Damage (18175-000,2.0%) (18175-000,3.0%) (18175-000,5.0%) (18175-000,5.0%) (18175-000,6.0%) (18175-000,12.0%) (18175-000,15.0%) (18175-000,26.0%)
	No Output	22.3%	8.1%	Catastrophic-No Output Due To Manual Removal (18175-000,6.0%) (18175-000,6.0%) (18175-000,7.0%) (18175-000,7.0%) (18175-000,8.0%) (18175-000,9.0%) (18175-000,10.0%) (18175-000,12.0%)
	Open Circuit	19.9%	7.3%	Catastrophic-No Output Due To Open Circuit (18175-000,3.0%) (18175-000,4.0%) (18175-000,5.0%) (18175-000,5.0%) (18175-000,7.0%) (18175-000,7.0%) (18175-000,12.0%) (18175-000,15.0%)
	Induced	------	52.4%	Catastrophic-No Output Due To Automatic Removal (18175-000,38.0%) (18175-000,41.0%) (18175-000,46.0%) (18175-000,47.0%) (18175-000,54.0%) (18175-000,60.0%) (18175-000,65.0%) (18175-000,68.0%)
	Unknown	------	11.3%	Unknown (18175-000,8.0%) (18175-000,8.0%) (18175-000,9.0%) (18175-000,11.0%) (18175-000,12.0%) (18175-000,12.0%) (18175-000,12.0%) (18175-000,18.0%)
Transistor				Sources:13
	Shorted	23.4%	17.4%	Short (24417-002,NR) (24990-000,30.0%) (24992-000,30.0%) (24992-000,31.5%) (24994-000,20.0%) (24997-000,37.0%) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:6) (25000-000,Qty:7) (25000-000,Qty:23) (25000-000,Qty:24) (25000-000,Qty:34) (25000-000,Qty:40) (25000-000,Qty:257) (25000-000,Qty:595) (25014-000,Qty:17) (25027-000,Qty:2) (25027-000,Qty:4), Short-Thermal Expansion Mismatch (25016-000,NR), Short-Foreign Particles (25016-000,NR), Short-Surface Defects (25016-000,NR), Short-Defective Bonds (25016-000,NR), Intermittent Short (10722-000,Qty:1)
	Opened	22.9%	16.9%	Open (24417-002,NR) (24992-000,52.6%) (24992-000,70.0%) (24994-000,15.0%) (24997-000,29.0%) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:7) (25000-000,Qty:8) (25000-000,Qty:8) (25000-000,Qty:12) (25000-000,Qty:14) (25000-000,Qty:15) (25000-000,Qty:17) (25000-000,Qty:17) (25000-000,Qty:19) (25000-000,Qty:24) (25000-000,Qty:106) (25000-000,Qty:517) (25014-000,Qty:49), Interconnect (24417-002,NR) (25014-000,Qty:8), Open-Defective Bonds (25016-000,NR), Open-Thermal Expansion Mismastch (25016-000,NR), High Saturation Resistance-Defective Bonds (25016-000,NR), High Thermal Resistance-Thermal Expansion Mismatch (25016-000,NR), Open Circuit (24990-000,30.0%), Open Terminals (24993-000,4.0%), Excessive On-Voltage Drop (24417-002,NR), Open Circuit Between Anode and Cathode Terminals (24417-002,NR)
	Reduced Beta	15.0%	11.1%	Parameter Drift-hFE (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transistor (continued)				
Reduced Beta (continued)				(25000-000,Qty:5) (25000-000,Qty:5) (25000-000,Qty:7), Low Beta-Surface Defects (25016-000,NR), Low Beta-Junction Profile Changes (25016-000,NR), Low Gain (24990-000,20.0%), Output Low (24991-000,67.0%), Low gain (25027-000,Qty:10)
	Base Opened	12.5%	9.3%	Open base-Base bond wire fused open (25001-000,Qty:1), Base&Emitter Bond Leads Melted Open-Overstress (10722-000,Qty:1)
	Drift	11.2%	8.3%	Parameter Drift-General (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:5) (25000-000,Qty:7) (25000-000,Qty:8) (25000-000,Qty:19) (25000-000,Qty:43) (25000-000,Qty:184), Parameter Drift-I CBO (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:10), Parameter Drift-IEBO (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:6), Parameter Drift-ICBO (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:4) (25000-000,Qty:6) (25000-000,Qty:6) (25000-000,Qty:13), Parameter Drift-VBE,VCE,VCB (25000-000,Qty:3) (25000-000,Qty:7), Drift (24992-000,5.3%) (24994-000,65.0%), Parameter change (24997-000,15.0%)
	High Leakage Current	10.8%	8.0%	High Leakage-Thermal Expansion Mismatch (25016-000,NR), High Leakage-Surface Defects (25016-000,NR), High Leakage-Foreign Particles (25016-000,NR), High Leakage (24990-000,20.0%), High Collector To Base Leakage Current (24993-000,59.0%), Junction Leakages (10722-000,Qty:1), Leakage current (24997-000,5.8%)
	Low Breakdown Voltage	4.2%	3.1%	Low BVceo-Surface Defects (25016-000,NR), Low Collector To Emitter Breakdown Voltage (BVCEO) (24993-000,37.0%)
	Unknown	------	3.7%	Unknown (24417-002,7.0%) (24997-000,12.6%) (25000-000,Qty:1) (25000-000,Qty:2) (25000-000,Qty:3) (25000-000,Qty:21) (25000-000,Qty:34) (25014-000,Qty:7) (25014-000,Qty:34)
	Induced	------	1.3%	External Mechanical Degradation (24417-002,NR), Bulk Defect (24417-002,NR), Photolithography Defects (24417-002,4.0%), Electrical Defects (24417-002,12.0%)
	Other (<%4)	------	20.9%	
	Metallization		2.8%	Metalization (25014-000,Qty:14), Metallization (24417-002,26.0%)
	Output Stuck High		2.8%	Output High (24991-000,33.0%)
	Mechanical Damage		1.9%	Mechanical Damage (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:4) (25000-000,Qty:5) (25000-000,Qty:21), Mechanical (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:3) (25000-000,Qty:4) (25000-000,Qty:7), Degraded (25014-000,Qty:14), Broken Lead (25027-000,Qty:3)
	Bond/Beam Failure		1.9%	Internal Bonds (24417-002,23.0%)
	Emitter Opened		1.9%	Open Emitter-Bond Wires Open Due To Ext. Overstres (10722-000,Qty:2)
	Die/Attachment Failure		1.8%	Die (25014-000,Qty:7), Lifted Die (25014-000,Qty:1), Die

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transistor (continued)				
Other (continued)				
				Attachment (24417-002,NR), Die to Header Bond Defects (24417-002,17.0%)
	Collector-Base Opened		1.3%	Open - Collector to Emitter-Overstress-High Curren (25027-000,Qty:1), Emitter Leadwire Was Fused Open (10722-000,Qty:1)
	Wire Bond Failure		1.2%	Wire Bond (25014-000,Qty:26)
	Collector-Emitter Shorted		0.9%	Verified C-E Short-External Overstress (10722-000,Qty:1)
	Collector-Base Shorted		0.9%	Emitter Was Open And Collector To Base Was Shorted (10722-000,Qty:1)
	Leaking		0.9%	B-C Leakage Confirmed (10722-000,Qty:1)
	Contaminated		0.6%	Contamination (25014-000,Qty:1), Surface Contamination (24417-002,NR) (24417-002,7.0%), Contaminated Gas Ambient (24417-002,NR)
	Degraded Operation		0.4%	Bad Output (25027-000,Qty:1)
	Base-Emitter Opened		0.4%	Open B-E (25027-000,Qty:1)
	Intermittent Operation		0.4%	Intermittent (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:1) (25000-000,Qty:3) (25000-000,Qty:4) (25014-000,Qty:7), Intermittent-Noise (25000-000,Qty:2), Intermittent Operation-Foreign Particles (25016-000,NR), Intermittent Operation-Loose Bonds (25016-000,NR), Intermittent Operation (24417-002,NR)
	Unstable Operation		0.3%	Unstable (24992-000,8.3%)
	Hermetic Leakage		0.3%	Hermeticity (24417-002,4.0%)
	Oxide Defects		0.1%	Oxide Defect (25014-000,Qty:3), Oxide Defects (24417-002,NR)
	Noisy		<0.1%	Noisy (24992-000,2.3%)
	Seal Failure		<0.1%	Seal Leakage (25000-000,Qty:2) (25000-000,Qty:2) (25000-000,Qty:3)
	Corroded		<0.1%	Corrosion (25000-000,Qty:1)
	Cracked/Fractured		NR	Cracks-Thermal Expansion Mismatch (25016-000,NR)
	Electrical Overstress		NR	Electrical Stress (24417-002,NR)
	Seal/Gasket Failure		NR	Degraded Seals (24417-002,NR)
	Package/Related Failure		NR	Degraded Part Package (24417-002,NR), Mismarked/Umarked Package (24417-002,NR)
	Failure to Turn On		NR	Failure to Turn On When Properly Triggered (24417-002,NR)

Transistor,Bipolar (Summary)	
Shorted	53.7%
Base-Emtter Shorted	15.5%
Emitter Opened	15.4%
Opened	11.5%
Collector-Emitter Shorted	3.8%

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transistor,Bipolar				Sources:1
	Collector-Emitter Shorted	100.0%	100.0%	Collector To Emitter Short-Overvoltage EOS (10722-000,Qty:1)
Transistor,Bipolar,NPN				Sources:2
	Shorted	46.2%	46.2%	Short C-E-Electrical (thermal) Overstress (25027-000,Qty:5), Short C-B-Electrical (thermal) Overstress (25027-000,Qty:2), Short E-C-Electrical (thermal) Overstress (25027-000,Qty:2), Short E-B-Electrical (thermal) Overstress (25027-000,Qty:12), Short B-C-Electrical (thermal) Overstress (25027-000,Qty:2), Short B-E-Electrical Overstress (25027-000,Qty:1)
	Emitter Opened	33.3%	33.3%	Open Emitter-Current Surge (10722-000,Qty:2), Open Emitter (10722-000,Qty:2)
	Base-Emtter Shorted	20.5%	20.5%	Short B-E-Electrical (thermal) Overstress (25027-000,Qty:2), Short B-E (10722-000,Qty:2)
Transistor,Bipolar,PNP				Sources:2
	Shorted	65.9%	56.5%	Short C-E-Electrical Overstress (25027-000,Qty:28), Short C-B-Electrical Overstress (25027-000,Qty:29), Short E-C-Electrical Overstress (25027-000,Qty:27), Short E-B-Electrical Overstress (25027-000,Qty:27), Short B-C-Electrical Overstress (25027-000,Qty:30), Collector-Base Short-High Volt,Low Energy Transien (10722-000,Qty:1), Short C-E-B-Overstress (10722-000,Qty:1)
	Opened	25.0%	21.4%	Emitter To Base And To Collector Open (10722-000,Qty:1), Open B-E and C-E, but Shorted B-C-Overcurrent (10722-000,Qty:1), Open B-C, B-E, and C-E-Overstress (10722-000,Qty:1)
	Base-Emtter Shorted	9.1%	7.8%	Short B-E-Electrical Overstress (25027-000,Qty:26)
	Induced	------	14.3%	B-C Degraded-Conduct. Particle Under Base Leadwire (10722-000,Qty:1), Degraded-Premature Breakdown In Transistor (10722-000,Qty:1)
Transistor,Field Effect (Summary)				
	Gate-Source Shorted	27.4%		
	Shorted	23.4%		
	Output Stuck Low	21.9%		
	Drift	16.5%		
	Output Stuck High	5.5%		
	Opened	5.3%		
Transistor,Field Effect				Sources:5
	Output Stuck Low	28.6%	26.7%	Output Low (24991-000,80.0%)
	Shorted	28.6%	26.7%	Short (24994-000,20.0%) (24994-000,20.0%), Shorted D-S-G-Overstress (10722-000,Qty:2), Short-High Voltage Overstress (10722-000,Qty:1)
	Drift	23.2%	21.7%	Drift (24994-000,65.0%) (24994-000,65.0%), Instability or Reversible Drift (24417-002,NR)
	Opened	12.5%	11.7%	Open (24994-000,15.0%) (24994-000,15.0%), Shorted Drain to Gate, Open Source (10722-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transistor,Field Effect (continued)				
	Output Stuck High	7.1%	6.7%	Output High (24991-000,20.0%)
	Unknown	------	6.7%	Unknown (10722-000,Qty:1)
	Induced	------	<0.1%	Instantaneous Burnout (25037-000,NR), Channel Degradation (25037-000,NR)
	Other	------	0.0%	
	Degraded Operation		NR	Long-term Gradual Dergradation (24417-002,NR)
	Electrical Overstress		NR	Electrical Overstress (24417-002,NR)
	Gate Metal Sinking		NR	Gate Metal Sinking (25037-000,NR)
	Surface Defects		NR	Surface Degradation (25037-000,NR)
	Change in Resistance		NR	Ohmic Contact Degradation (25037-000,NR)
	Long Term Burnout		NR	Long Term Burnout (25037-000,NR)
	Intermetallic Phase Formation		NR	Intermetallic Phase Formation (25037-000,NR)
Transistor,Field Effect,HEX,N-Channel				Sources:1
	Shorted	100.0%	100.0%	Shorted G-S-D-Overstress (10722-000,Qty:1)
Transistor,Field Effect,Junction				Sources:2
	Gate-Source Shorted	50.0%	50.0%	Short Source to Gate (25027-000,Qty:4)
	Electrical Overstress	50.0%	50.0%	Source 2 Metallization Was Fused Open-Overstress (10722-000,Qty:1)
Transistor,Field Effect,Power				Sources:1
	Shorted	85.7%	60.0%	Shorted S-G-D-Die Cracked From Physical Stress (10722-000,Qty:1), Short Between The Source And The Gate-Overstress (10722-000,Qty:1) (10722-000,Qty:1), Shorted D-G-S-Severe Overstress Damage (10722-000,Qty:1), Short Between The Source And The Drain-Overstress (10722-000,Qty:1), Shorted Gate To Drain With An Open At The Source (10722-000,Qty:1)
	Contaminated	14.3%	10.0%	PIND Failures-Sodium Particle Found (10722-000,Qty:1)
	Induced	------	30.0%	Degraded-Overstressed (10722-000,Qty:3)
Transistor,Field Effect,R.F.				Sources:1
	Drift	50.0%	50.0%	Drift (24994-000,50.0%)
	Shorted	40.0%	40.0%	Short (24994-000,40.0%)
	Opened	10.0%	10.0%	Open (24994-000,10.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transistor,GaAs FET				Sources:1
	Opened	56.0%	56.0%	Open (25028-000,Qty:1) (25028-000,Qty:1) (25028-000,Qty:1) (25028-000,Qty:3) (25028-000,Qty:4) (25028-000,Qty:4)
	Shorted	24.0%	24.0%	Short (25028-000,Qty:1) (25028-000,Qty:1) (25028-000,Qty:1) (25028-000,Qty:1) (25028-000,Qty:2)
	Drift	12.0%	12.0%	Vt Drift (25028-000,Qty:1) (25028-000,Qty:2)
	VT Extraction	8.0%	8.0%	Vt Extraction (25028-000,Qty:1) (25028-000,Qty:1)
Transistor,High Power				Sources:4
	Shorted	44.0%	40.5%	Short-Electrical Overstress (25027-000,Qty:4) (25027-000,Qty:26), Short-External Electrical Overstress (10722-000,Qty:2), Transistor Shorted C-B-E-Overstress From VCE/ICE (10722-000,Qty:1), Short Case To Bracket-External Particle Indicated (10722-000,Qty:1), Short C-E-Secondary Breakdown (24417-002,NR)
	Degraded Operation	36.2%	33.3%	Output Low (24991-000,43.0%), Output High (24991-000,57.0%)
	Bond/Beam Failure	9.1%	8.3%	Lifted Emitter Die Bond (10722-000,Qty:1) (10722-000,Qty:1)
	Electrical Overstress	4.5%	4.2%	Forward Bias Overstress Shorted (10722-000,Qty:1)
	Mechanical Overstress	4.5%	4.2%	Q2 Die Cracked; Mechanical Stress (10722-000,Qty:1)
	Opened	1.7%	1.6%	Open-Electrical Overstress (25027-000,Qty:2)
	Induced	------	7.9%	Degredation-Electrical Overstress (25027-000,Qty:10)
	Other	------	0.0%	
	Wire Bond Failure		NR	Wire Bond Failure (24417-002,NR)
Transistor,Lead				Sources:1
	Cracked/Fractured	100.0%	100.0%	Fracture-Lack Of Solder Wetting (10722-000,Qty:2)
Transistor,Linear				Sources:1
	Drift	65.0%	65.0%	Drift (24994-000,65.0%)
	Shorted	20.0%	20.0%	Short (24994-000,20.0%)
	Opened	15.0%	15.0%	Open (24994-000,15.0%)
Transistor,Microwave				Sources:2
	High Return Loss	100.0%	100.0%	High Return Loss (25027-000,Qty:6)
	Other	------	0.0%	
	Aluminum Migration		NR	Aluminum Migration (24417-002,NR)
	Die/Attachment Failure		NR	Die Attach Failure (24417-002,NR)
	Oxide Defects		NR	Metal-Over-Oxide-Step Coverage (24417-002,NR)
	Wire Bond Failure		NR	Lead Bond Failures (24417-002,NR)
	No Operation		NR	Device Inability to Operate into a Mismatched Load

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transistor,Microwave (continued)				
Other (continued)				
				(24417-002,NR)
Transistor,Multiple				Sources:1
	Shorted	100.0%	100.0%	Shorted Off Base Emitter And Degraded Collector (10722-000,Qty:1)
Transistor,Multiple,Darlington				Sources:1
	Shorted	100.0%	100.0%	Short C-E-Cracked Die (25027-000,Qty:1), Short C-B-Cracked Die (25027-000,Qty:1)
Transistor,Multiple,Darlington,Power				Sources:1
	Shorted	100.0%	100.0%	Short-Cracked Die (25027-000,Qty:2), Short-Electrical Overstress (25027-000,Qty:1)
Transistor,Multiple,Dual,PNP				Sources:1
	Shorted	100.0%	100.0%	Collector Base Short-Overstress (10722-000,Qty:1)
Transistor,Multiple,Quad				Sources:1
	Base Opened	50.0%	50.0%	Open Base Pin 6-Excessive Intermetallic (10722-000,Qty:1)
	Emitter Opened	50.0%	50.0%	Emitter Open-Lifted Chip Bond (10722-000,Qty:1)
Transistor,R.F.				Sources:1
	Drift	50.0%	50.0%	Dirft (24994-000,50.0%), Drift (24994-000,50.0%) (24994-000,50.0%)
	Shorted	40.0%	40.0%	Short (24994-000,40.0%) (24994-000,40.0%) (24994-000,40.0%)
	Opened	10.0%	10.0%	Open (24994-000,10.0%) (24994-000,10.0%) (24994-000,10.0%)
Transistor,Small Signal				Sources:1
	Low Output	80.0%	80.0%	Output Low (24991-000,80.0%)
	High Output	20.0%	20.0%	Output High (24991-000,20.0%)
Transistor,Switching,High Speed,NPN				Sources:1
	High Leakage Current	100.0%	100.0%	Excessive current draw-NPN junction degradation (25001-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Transistor,Switching,Logic				Sources:1
	Shorted	60.0%	60.0%	Short (24994-000,60.0%)
	Opened	40.0%	40.0%	Open (24994-000,40.0%)
	Other	------	0.0%	
	Drift		NR	Drift (24994-000,NR)
Transistor,Unijunction				Sources:1
	Drift	65.0%	65.0%	Drift (24994-000,65.0%)
	Shorted	20.0%	20.0%	Short (24994-000,20.0%)
	Opened	15.0%	15.0%	Open (24994-000,15.0%)
Traveling Handwheel.Assembly				Sources:1
	Corroded	50.0%	50.0%	Corroded-Broken/Damaged (25101-000,Qty:1)
	Binding/Sticking	50.0%	50.0%	Worn - Binding/Sticking (25101-000,Qty:1)
Traveling Lock Assy				Sources:1
	Bushing Failure	42.9%	42.9%	Worn Bushing - Excessive Play (25101-000,Qty:3)
	Excessive Play	14.3%	14.3%	Excessive Play (25101-000,Qty:1)
	Binding/Sticking	14.3%	14.3%	Gears Binding - Inop/Unserviceable (25101-000,Qty:1)
	Broken	14.3%	14.3%	Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1)
	Seal/Gasket Failure	14.3%	14.3%	Seals Worn - Worn Out (25101-000,Qty:1)
Tube				Sources:2
	Broken	40.6%	27.9%	Broken (20609-000,Qty:53)
	Excessive Play	36.4%	25.0%	Worn - Excessive Play (25101-000,Qty:1)
	Opened	10.0%	6.8%	Opened (20609-000,Qty:13)
	Cracked/Fractured	8.4%	5.8%	Cracked/Fractured (20609-000,Qty:11)
	Shorted	3.1%	2.1%	Short (20609-000,Qty:4)
	Out of Spec.	1.5%	1.1%	Out of Tolerance (20609-000,Qty:2)
	Unknown	------	31.3%	Unknown (20609-000,Qty:12) (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Tube Metal Assembly				Sources:1
	Broken	100.0%	33.3%	Part Struck/Damaged - Broken/Damaged (25101-000,Qty:1)
	Induced	------	33.3%	Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1)
	Unknown	------	33.3%	Unknown (25101-000,Qty:1)
Tube,Cannon				Sources:1
	Worn	40.0%	33.3%	Worn Out (25101-000,Qty:1) (25101-000,Qty:1)
	Excessive Play	20.0%	16.7%	Worn - Excessive Play (25101-000,Qty:1)
	Cracked/Fractured	20.0%	16.7%	Cracked (25101-000,Qty:1)
	Broken	20.0%	16.7%	Broken/Damaged (25101-000,Qty:1)
	Induced	------	16.7%	Caused By Other Failure-Broken/Damaged (25101-000,Qty:1)
Tube,Electron				Sources:3
	Drift	46.6%	45.3%	Drift (20609-000,Qty:2,036) (24992-000,30.0%), Change or loss of parameters (24997-000,NR)
	Opened	21.9%	21.3%	Open (24992-000,35.0%), Opened (20609-000,Qty:257)
	Unstable Operation	12.8%	12.5%	Unstable (24992-000,25.0%)
	Noisy	9.6%	9.3%	Noisy (20609-000,Qty:292) (24992-000,10.0%)
	Shorted	6.5%	6.3%	Short (20609-000,Qty:426)
	Contaminated	2.1%	2.1%	Contaminated (20609-000,Qty:140)
	Leaking	0.4%	0.4%	Leaking (20609-000,Qty:26)
	Unknown	------	2.7%	Unknown (20609-000,Qty:180)
	Other	------	0.0%	
	Open Cathode		NR	Open cathode (24997-000,NR)
Tube,Electron,Microwave,TWT				Sources:6
	Decreased Output Power	60.7%	50.3%	Low Output Power (25015-000,21.0%), Low Power & High Helix Current (25015-000,45.0%), Cathode-Decreasing Emission (23185-037,35.0%), Output Power Decrease-Cathode Activity Degradation (17950-030,21.0%) (18800-001,50.8%), Output Power Decrease & Helix Current Increase (17950-030,45.3%) (18800-001,28.2%), Low Power Output (23546-000,Qty:6) (23546-001,22.0%) (23546-001,39.0%), Low RF Power (23546-000,Qty:120), Gain Variations (23546-001,6.0%) (23546-001,11.0%)
	High Helix Current	9.5%	7.9%	High Helix Current (25015-000,18.0%), Helix Current Increase (17950-030,17.5%) (18800-001,10.0%), Excessive Helix Current (23546-000,Qty:11), Increased Helix Current (23546-000,Qty:2)
	Mechanical Failure	8.5%	7.0%	Windows - Leakage (23185-037,2.0%), Pressure Leak at Waveguide Transistion (23546-000,Qty:19), Output Window Cracked (23546-000,Qty:2), Mechanical Damage (23546-000,Qty:2), Potting Failure (23546-000,Qty:140), Cracked Window (23546-001,1.0%) (23546-001,4.0%), Oil Leak (23546-001,4.0%) (23546-001,9.0%), Physical Damage

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Tube,Electron,Microwave,TWT (continued)				
	Mechanical Failure (continued)			
				(23546-001,2.0%) (23546-001,11.0%), Virtual Leak (23546-001,1.0%) (23546-001,4.0%), Vacuum Leak (23546-001,3.0%)
	Open Helix	8.4%	7.0%	Filament Open/Short (23185-037,14.0%), Helix - Open (23185-037,8.0%), Open Helix (23546-000,Qty:1), Open Helix Output (23546-000,Qty:150), Open Input Helix (23546-000,NR)
	Gun Failure	6.3%	5.2%	Open Heater (23546-000,Qty:4) (23546-000,Qty:15), Low Cathode Activity (23546-000,Qty:140), Ion Pump Failure (23546-001,1.0%) (23546-001,2.0%), Gun Failure (23546-001,4.0%) (23546-001,5.0%), Gun Change (23546-001,4.0%) (23546-001,5.0%)
	Noise/Oscillations	3.4%	2.8%	Noise/Oscillators (25015-000,16.0%), Oscillations (23546-001,2.0%)
	Poor Focus	3.2%	2.6%	Poor Focus (23546-000,Qty:120)
	Unknown	------	7.8%	Unknown (17950-030,16.2%) (18800-001,11.0%) (23546-000,Qty:10) (23546-001,1.0%) (23546-001,1.0%) (23546-001,4.0%) (23546-001,5.0%) (23546-001,6.0%) (23546-001,20.0%)
	Induced	------	0.4%	Workmanship (23546-001,2.0%) (23546-001,3.0%)
	Other (<%3)	------	9.0%	
	Magnetic Strength Change		1.8%	Magnets - Change Strength (23185-037,11.0%)
	Attenuation Change		1.7%	Attenuator-Change Attenuation (23185-037,10.0%)
	Arcing/Sparking		1.5%	Focus Electronics - Arcing (Anode - Case) (23185-037,9.0%), Tube Arcing (23546-000,Qty:2)
	Abnormal Saturation		1.2%	Saturation Not Nominal (23546-001,2.0%) (23546-001,12.0%)
	Collector Failure		1.1%	Collectors-Open/Short (23185-037,5.0%), Collector Shorted (23546-000,Qty:2), TWT Collector Potting (23546-000,Qty:4), Collector Fault (23546-001,1.0%) (23546-001,1.0%)
	Anode Openned		0.7%	Anode Open (23185-037,4.0%)
	Connector Failure		0.3%	Connectors-Wear (23185-037,2.0%)
	Body Current		0.2%	Body Current (23546-001,1.0%) (23546-001,2.0%)
	Power Conditioner Failure		0.1%	Electronic Power Conditioner Failure (23546-000,Qty:6)
	Electrode Leakage		0.1%	Interelectrode Leakage (23546-000,Qty:5)
	RF Leakage		<0.1%	RF Leakage (23546-001,1.0%)
	Inoperative Phaser		<0.1%	Inoperative Phaser (23546-000,Qty:1)
	Degaused Magnet Failure		<0.1%	Degaused Magnet (23546-000,Qty:1)
	Grid-Cathode Short		<0.1%	Grid-Cathode Short (23546-000,Qty:1)

Part Descr.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
,Electron,Modulator				Sources:1
	Semiconductor Failure	50.9%	44.2%	Diodes, Rectifiers, and Transistors (23546-001,44.2%)
	IC Failure	19.0%	16.5%	Hybrids and I.C.'s (23546-001,16.5%)
	Capacitor Failure	16.6%	14.5%	Capacitors (23546-001,14.5%)
	Resistor Failure	10.8%	9.4%	Resistors (23546-001,9.4%)
	Connector Failure	2.1%	1.9%	Connectors-Electrical- (23546-001,1.9%)
	Relay Failure	0.6%	0.5%	Relays, Magnets, Solenoids (23546-001,0.5%)
	Unknown	------	12.0%	Unknown (23546-001,1.9%) (23546-001,2.7%) (23546-001,7.4%)
	Induced	------	1.1%	Templates, Printed Wiring Boards (23546-001,1.1%)
Tube,Electron,Receiving				Sources:1
	Induced	------	<0.1%	Envelope degradation-Excess Heat (24417-000,NR)
	Other	------	100.0%	
	Excessive Heat		NR	Filament / Heater Degradation-Excess Heat (24417-000,NR)
	Gas Evolvement		NR	Gas Evolvement-Excess Heat (24417-000,NR)
	Gas Cleanup		NR	Gas Cleanup (24417-000,NR)
Tube,Electron,Subminiature				Sources:1
	Induced	------	90.0%	Degradation (gm, lhk, lp, etc.) (24993-000,90.0%)
	Unknown	------	10.0%	Unknown (24993-000,10.0%)
Tube,Gimbal				Sources:1
	Loose	100.0%	71.4%	Loose (25101-000,Qty:2), Internal Failure - Loose (25101-000,Qty:3)
	Induced	------	14.3%	Improper Maintenance - Out Of Adjustment (25101-000,Qty:1)
	Unknown	------	14.3%	Unknown (25101-000,Qty:1)
Tubing,End				Sources:1
	Out of Adjustment	63.6%	63.6%	Out Of Adjustment - Found In TI/PMCS/Insp (25101-000,Qty:1), Out Of Adjustment - Out Of Synch (25101-000,Qty:13)
	Broken	27.3%	27.3%	Broken/Damaged (25101-000,Qty:6)
	Bent/Dented/Warped	9.1%	9.1%	Warped/Bent - Broken/Damaged (25101-000,Qty:1), Collapsed/Bent (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Valve (Summary)				
	Leaking	50.0%		
	Seal/Gasket Failure	12.7%		
	Binding/Sticking	10.3%		
	Aged/Deteriorated	10.0%		
	Spurious/False Operation	9.0%		
	Valve Actuator Failure	8.1%		
Valve				Sources:6
	Leaking	44.0%	24.6%	External Leak (24990-000,15.0%) (24992-000,31.6%), Passing (Internal) (24990-000,60.0%), Internal Leak (24992-000,4.2%), Leaking (20609-000,Qty:2,193) (20609-000,Qty:38)
	Seal/Gasket Failure	14.9%	8.3%	Improper Sealing (19542-000,12.5%), Seal Worn Out (19542-000,37.5%)
	Valve Actuator Failure	12.1%	6.8%	Valve Actuators (24996-000,81.2%)
	Opened	8.8%	4.9%	Open (24992-000,29.5%), Opened (20609-000,Qty:1)
	Closed	7.8%	4.4%	Close (24992-000,26.2%), Stuck Closed (20609-000,Qty:1)
	Binding/Sticking	6.3%	3.5%	Sticking (24990-000,20.0%), Bind (24992-000,0.1%), Binding (20609-000,Qty:65)
	Degraded Operation	6.0%	3.3%	Degraded (24996-000,40.0%)
	Unknown	------	35.4%	Unknown (19542-000,12.5%) (19542-000,25.0%) (20609-000,Qty:70) (20609-000,Qty:2,660) (23038-001,Qty:1) (24996-000,60.0%)
	Other (<%5)	------	8.8%	
	Cracked/Fractured		2.1%	Cracks On Body (19542-000,12.5%), Cracked/Fractured (20609-000,Qty:2)
	Valve Mechanism Failure		1.6%	Valve Mechanism (24996-000,18.7%)
	Improper Flow		1.4%	Blocking (24990-000,5.0%), Improper Flow (20609-000,Qty:201)
	Premature Open		1.4%	Premature (24992-000,8.2%)
	Out of Adjustment		1.0%	Out of Adjustment (20609-000,Qty:333) (20609-000,Qty:21)
	Worn		0.9%	Worn Out (20609-000,Qty:328), Fatigue (20609-000,Qty:1)
	Intermittent Operation		0.2%	Intermittent (20609-000,Qty:58) (20609-000,Qty:2)
	No Operation		0.1%	No Operation (20609-000,Qty:50)
	Contaminated		<0.1%	Contaminated (20609-000,Qty:33)
	Out of Spec.		<0.1%	Out of Specification (20609-000,Qty:19)
	Noisy		<0.1%	Noisy (20609-000,Qty:8)
	Stuck Open		<0.1%	Stuck Open (20609-000,Qty:6)
	Unstable Operation		<0.1%	Unstable (20609-000,Qty:3)
	Shorted		<0.1%	Short (20609-000,Qty:2)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Valve,Actuator				Sources:1
	Spurious/False Operation	100.0%	90.0%	Spurious (24990-000,90.0%)
	Unknown	------	10.0%	Unknown (24990-000,10.0%)
Valve,Air Control				Sources:1
	Leaking	100.0%	100.0%	Catastrophic-External Leakage (18175-000,100.0%) (18175-000,100.0%) (18175-000,100.0%)
Valve,By-Pass				Sources:1
	Premature Operation	70.0%	70.0%	Premature Operation (24992-000,70.0%)
	Leaking	30.0%	30.0%	External Leak (24992-000,30.0%)
Valve,Check				Sources:1
	Closed	50.0%	50.0%	Close (24992-000,50.0%)
	Opened	50.0%	50.0%	Open (24992-000,50.0%)
Valve,Check & Relief				Sources:1
	Aged/Deteriorated	55.6%	50.0%	Valve Seat Deterioration (24993-000,50.0%)
	Binding/Sticking	44.4%	40.0%	Poppets Sticking (Open Or Closed) (24993-000,40.0%)
	Unknown	------	10.0%	Unknown (24993-000,10.0%)
Valve,Check,PWR				Sources:1
	Leaking	100.0%	100.0%	Catastrophic-Internal Leakage (18175-000,91.0%) (18175-000,91.0%) (18175-000,92.0%), Catastrophic-External Leakage (18175-000,8.0%) (18175-000,9.0%) (18175-000,9.0%)
Valve,Control				Sources:1
	Closed	50.0%	50.0%	Close (24992-000,50.0%)
	Opened	50.0%	50.0%	Open (24992-000,50.0%)
Valve,Core				Sources:1
	Seal/Gasket Failure	100.0%	33.3%	Seals Worn - Internal Moisture (25101-000,Qty:1)
	Induced	------	66.7%	Improper Installation - Broken/Damaged (25101-000,Qty:1), Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Valve,Fill & Check				Sources:1
	Opened	50.0%	50.0%	Open (24992-000,50.0%)
	Closed	50.0%	50.0%	Close (24992-000,50.0%)
Valve,Filling				Sources:2
	Leaking	50.0%	50.0%	External Leak (24992-000,100.0%)
	Cracked/Fractured	25.0%	25.0%	Cracked/Split-Leaking Hydraulic Oil (25101-000,Qty:1)
	Bent/Dented/Warped	25.0%	25.0%	Warped/Bent - Leaking Hydraulic Oil (25101-000,Qty:1)
Valve,Fuel				Sources:1
	Leaking	60.9%	60.9%	Internal Leak (24992-000,31.5%), External Leak (24992-000,30.0%)
	Opened	15.8%	15.8%	Open (24992-000,16.0%)
	Closed	15.8%	15.8%	Close (24992-000,16.0%)
	Binding/Sticking	7.4%	7.4%	Bind (24992-000,7.5%)
Valve,Fuel,Main Assembly				Sources:1
	Opened	50.0%	50.0%	Open (24992-000,50.0%)
	Closed	50.0%	50.0%	Close (24992-000,50.0%)
Valve,Hydraulic (Summary)				
	Leaking	77.2%		
	Stuck Closed	5.9%		
	Closed	5.8%		
	Opened	5.8%		
	Stuck Open	5.4%		
Valve,Hydraulic				Sources:1
	Unstable Operation	45.0%	45.0%	Unstable (20609-000,Qty:9)
	Leaking	20.0%	20.0%	Leaking (20609-000,Qty:4)
	Stuck Closed	15.0%	15.0%	Stuck Closed (20609-000,Qty:3)
	Stuck Open	5.0%	5.0%	Stuck Open (20609-000,Qty:1)
	Out of Spec.	5.0%	5.0%	Out of Specification (20609-000,Qty:1)
	Intermittent Operation	5.0%	5.0%	Intermittent (20609-000,Qty:1)
	Improper Flow	5.0%	5.0%	Improper Flow (20609-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Valve,Hydraulic,Actuator				Sources:1
	Leaking	75.0%	75.0%	External Leak (24992-000,75.0%)
	Opened	10.0%	10.0%	Open (24992-000,10.0%)
	Closed	10.0%	10.0%	Close (24992-000,10.0%)
	Corroded	5.0%	5.0%	Corroded (24992-000,5.0%)
Valve,Hydraulic,Ball				Sources:1
	Leaking	54.2%	54.2%	Leaking (20609-000,Qty:13)
	Stuck Open	29.2%	29.2%	Stuck Open (20609-000,Qty:7)
	No Operation	8.3%	8.3%	No Operation (20609-000,Qty:2)
	Out of Spec.	4.2%	4.2%	Out of Specification (20609-000,Qty:1)
	Noisy	4.2%	4.2%	Noisy (20609-000,Qty:1)
Valve,Hydraulic,Bellows Diaphragm				Sources:1
	Leaking	58.1%	53.2%	Leaking (20609-000,Qty:25)
	Cracked/Fractured	14.0%	12.8%	Cracked/Fractured (20609-000,Qty:6)
	Intermittent Operation	11.6%	10.6%	Intermittent (20609-000,Qty:5)
	Out of Spec.	7.0%	6.4%	Out of Specification (20609-000,Qty:3)
	No Operation	4.7%	4.3%	No Operation (20609-000,Qty:2)
	Stuck Open	4.7%	4.3%	Stuck Open (20609-000,Qty:2)
	Other (<%4)	------	8.5%	
	Displaced		2.1%	Displaced (20609-000,Qty:1)
	Noisy		2.1%	Noisy (20609-000,Qty:1)
	Stuck Closed		2.1%	Stuck Closed (20609-000,Qty:1)
	Unstable Operation		2.1%	Unstable (20609-000,Qty:1)
Valve,Hydraulic,Check				Sources:1
	Leaking	85.2%	80.9%	Leaking (20609-000,Qty:144)
	Stuck Open	5.9%	5.6%	Stuck Open (20609-000,Qty:10)
	Cracked/Fractured	3.6%	3.4%	Cracked/Fractured (20609-000,Qty:6)
	Improper Flow	3.0%	2.8%	Improper Flow (20609-000,Qty:5)
	Intermittent Operation	2.4%	2.2%	Intermittent (20609-000,Qty:4)
	Other (<%3)	------	5.1%	
	Stuck Closed		1.7%	Stuck Closed (20609-000,Qty:3)
	Out of Spec.		1.7%	Out of Specification (20609-000,Qty:3)
	Unstable Operation		1.1%	Unstable (20609-000,Qty:2)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Valve,Hydraulic,Check (continued)				
Other (continued)				
	Collapsed		0.6%	Collapsed (20609-000,Qty:1)
Valve,Hydraulic,Gate Shear				Sources:1
	Leaking	63.0%	61.5%	Leaking (20609-000,Qty:216)
	Stuck Closed	16.3%	16.0%	Stuck Closed (20609-000,Qty:56)
	Stuck Open	9.3%	9.1%	Stuck Open (20609-000,Qty:32)
	Cracked/Fractured	4.1%	4.0%	Cracked/Fractured (20609-000,Qty:14)
	Out of Spec.	3.8%	3.7%	Out of Specification (20609-000,Qty:13)
	Out of Adjustment	3.5%	3.4%	Out of Adjustment (20609-000,Qty:12)
	Other (<%2)	------	2.3%	
	Intermittent Operation		0.9%	Intermittent (20609-000,Qty:3)
	Improper Flow		0.6%	Improper Flow (20609-000,Qty:2)
	Breach		0.6%	Breach (20609-000,Qty:2)
	Seized		0.3%	Seized (20609-000,Qty:1)
Valve,Hydraulic,Globe Rotary				Sources:1
	Leaking	56.6%	48.0%	Leaking (20609-000,Qty:98)
	Stuck Open	17.3%	14.7%	Stuck Open (20609-000,Qty:30)
	Stuck Closed	12.7%	10.8%	Stuck Closed (20609-000,Qty:22)
	No Operation	7.5%	6.4%	No Operation (20609-000,Qty:13)
	Intermittent Operation	5.8%	4.9%	Intermittent (20609-000,Qty:10)
	Unknown	------	0.5%	Unknown (20609-000,Qty:1)
	Other (<%5)	------	14.7%	
	Cracked/Fractured		3.9%	Cracked/Fractured (20609-000,Qty:8)
	Out of Spec.		3.4%	Out of Specification (20609-000,Qty:7)
	Unstable Operation		3.4%	Unstable (20609-000,Qty:7)
	Out of Adjustment		2.5%	Out of Adjustment (20609-000,Qty:5)
	Improper Flow		1.5%	Improper Flow (20609-000,Qty:3)
Valve,Hydraulic,Manual				Sources:1
	Leaking	50.0%	47.1%	Leaking (20609-000,Qty:8)
	Cracked/Fractured	18.8%	17.6%	Cracked/Fractured (20609-000,Qty:3)
	Unstable Operation	6.3%	5.9%	Unstable (20609-000,Qty:1)
	Out of Spec.	6.3%	5.9%	Out of Specification (20609-000,Qty:1)
	Out of Adjustment	6.3%	5.9%	Out of Adjustment (20609-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Valve,Hydraulic,Manual (continued)				
	Noisy	6.3%	5.9%	Noisy (20609-000,Qty:1)
	No Operation	6.3%	5.9%	No Operation (20609-000,Qty:1)
	Unknown	------	5.9%	Unknown (20609-000,Qty:1)
Valve,Hydraulic,Needle				Sources:1
	Out of Spec.	66.7%	66.7%	Out of Specification (20609-000,Qty:8)
	Stuck Open	16.7%	16.7%	Stuck Open (20609-000,Qty:2)
	Leaking	16.7%	16.7%	Leaking (20609-000,Qty:2)
Valve,Hydraulic,Plug				Sources:1
	Leaking	30.4%	28.0%	Leaking (20609-000,Qty:7)
	Stuck Closed	21.7%	20.0%	Stuck Closed (20609-000,Qty:5)
	Out of Adjustment	17.4%	16.0%	Out of Adjustment (20609-000,Qty:4)
	No Operation	13.0%	12.0%	No Operation (20609-000,Qty:3)
	Out of Spec.	8.7%	8.0%	Out of Specification (20609-000,Qty:2)
	Improper Flow	8.7%	8.0%	Improper Flow (20609-000,Qty:2)
	Other (<%5)	------	8.0%	
	Stuck Open		4.0%	Stuck Open (20609-000,Qty:1)
	Intermittent Operation		4.0%	Intermittent (20609-000,Qty:1)
Valve,Hydraulic,Relief				Sources:1
	Leaking	100.0%	72.7%	Leaking (20609-000,Qty:8)
	Unknown	------	27.3%	Unknown (20609-000,Qty:3)
Valve,Hydraulic,Servo				Sources:1
	Leaking	60.0%	60.0%	Leaking (20609-000,Qty:12)
	No Operation	20.0%	20.0%	No Operation (20609-000,Qty:4)
	Unstable Operation	10.0%	10.0%	Unstable (20609-000,Qty:2)
	Stuck Closed	10.0%	10.0%	Stuck Closed (20609-000,Qty:2)

Part Desc. / Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Valve,Hydraulic,Solenoid			Sources:1
Stuck Closed	100.0%	100.0%	Stuck Closed (20609-000,Qty:2)
Valve,Ignition			Sources:1
Closed	50.0%	50.0%	Close (24992-000,72.5%)
Leaking	34.5%	34.5%	External Leak (24992-000,50.0%)
Opened	15.5%	15.5%	Open (24992-000,22.5%)
Valve,Interconnect			Sources:1
Leaking	53.0%	53.0%	External Leak (24992-000,53.0%)
Opened	23.5%	23.5%	Open (24992-000,23.5%)
Closed	23.5%	23.5%	Close (24992-000,23.5%)
Valve,Manual Control			Sources:2
Leaking	91.7%	91.7%	Leak (24992-000,83.3%), External Leakage (18175-000,100.0%) (18175-000,100.0%) (18175-000,100.0%)
Mechanical Failure	8.4%	8.4%	Mechanical Failure (24992-000,16.7%)
Valve,Motor Control			Sources:1
Leaking	65.3%	65.3%	Catastrophic-External Leakage (18175-000,57.0%) (18175-000,62.0%) (18175-000,77.0%)
Plugged	34.7%	34.7%	Catastrophic-Plugged (18175-000,23.0%) (18175-000,38.0%) (18175-000,43.0%)
Valve,Oil			Sources:1
Leaking	66.7%	28.6%	Leaking Hydraulic Oil (25101-000,Qty:2)
Seal/Gasket Failure	33.3%	14.3%	Seals Worn - Leaking Hydraulic Oil (25101-000,Qty:1)
Induced	------	42.9%	Abnormal Operation (25101-000,Qty:1), Improper Installation - Leaking Hydraulic Oil (25101-000,Qty:1), Improper Maintenance - Leaking Hydraulic Oil (25101-000,Qty:1)
Unknown	------	14.3%	Unknown (25101-000,Qty:1)
Valve,Operator,Electric Motor			Sources:1
Degraded Operation	30.0%	30.0%	Degraded (18175-000,60.0%)
Premature/Delayed Actuation	30.0%	30.0%	Degraded - Premature Or Delayed Actuation (18175-000,60.0%)
Spurious Opening	21.0%	21.0%	Catastrophic-Spurious Opening (18175-000,21.0%) (18175-000,21.0%)
Spurious Closing	19.0%	19.0%	Catastrophic-Spurious Closing (18175-000,19.0%) (18175-000,19.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist	Data Source(s)/Details
Valve,Operator,Electric Motor,Composite				Sources:1
	Premature/Delayed Actuation	60.0%	60.0%	Degraded - Premature Or Delayed Actuation (18175-000,60.0%)
	Spurious Opening	20.0%	20.0%	Catastrophic-Spurious Opening (18175-000,20.0%)
	Spurious Closing	20.0%	20.0%	Catastrophic-Spurious Closing (18175-000,20.0%)
Valve,Operator,Electric Solenoid				Sources:1
	Spurious Closing	65.0%	57.2%	Catastrophic-Spurious Closing (18175-000,20.0%) (18175-000,65.0%) (18175-000,65.0%) (18175-000,68.0%) (18175-000,68.0%)
	Spurious Opening	20.0%	17.6%	Catastrophic-Spurious Opening (18175-000,4.0%) (18175-000,4.0%) (18175-000,20.0%) (18175-000,30.0%) (18175-000,30.0%)
	Premature/Delayed Actuation	15.0%	13.2%	Degraded - Premature Or Delayed Actuation (18175-000,5.0%) (18175-000,5.0%) (18175-000,28.0%) (18175-000,28.0%)
	Induced	------	12.0%	Degraded - Premature Or Delayed Acutation (18175-000,60.0%)
Valve,POW				Sources:1
	Leaking	96.7%	96.7%	Leaking Internal or External (25464-000,Qty:1) (25464-000,Qty:28)
	Drift	3.3%	3.3%	Fluctuates, Unstable or Errati (25464-000,Qty:1)
Valve,Pilot				Sources:1
	Closed	50.0%	50.0%	Close (24992-000,50.0%)
	Opened	50.0%	50.0%	Open (24992-000,50.0%)
Valve,Pneumatic (Summary)				
	Broken	22.1%		
	Leaking	20.0%		
	Opened	16.6%		
	Closed	16.6%		
	Spurious Opening	12.4%		
	Spurious Closing	12.4%		
Valve,Pneumatic				Sources:1
	Spurious Opening	46.4%	42.5%	Catastrophic-Spurious Opening (18175-000,42.0%) (18175-000,43.0%)
	Spurious Closing	44.8%	41.0%	Catastrophic-Spurious Closing (18175-000,40.0%) (18175-000,42.0%)
	Premature/Delayed Actuation	8.7%	8.0%	Degraded - Premature Or Delayed Actuation (18175-000,16.0%)
	Induced	------	8.5%	Degraded - Premature Or Delayed Actuation (18175-000,17.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Valve,Pneumatic,Actuator				Sources:1
	Spurious Closing	35.3%	33.5%	Catastrophic-Spurious Closing (18175-000,20.0%) (18175-000,47.0%)
	Spurious Opening	33.2%	31.5%	Catastrophic-Spurious Opening (18175-000,20.0%) (18175-000,43.0%)
	Premature/Delayed Actuation	31.6%	30.0%	Degraded - Premature Or Delayed Actuation (18175-000,60.0%)
	Induced	------	5.0%	Degraded - Premature Or Delayed Actuation (18175-000,10.0%)
Valve,Pneumatic,Actuator,Diaphragm				Sources:1
	Spurious Opening	50.0%	50.0%	Catastrophic-Spurious Opening (18175-000,43.0%)
	Spurious Closing	50.0%	50.0%	Catastrophic-Spurious Closing (18175-000,43.0%)
	Induced	------	<0.1%	Degraded - Premature Or Delayed Actuation (18175-000,NR)
Valve,Pneumatic,Actuator,Diaphragm Spring Opp				Sources:1
	Spurious Opening	50.2%	41.2%	Catastrophic-Spurious Opening (18175-000,40.0%) (18175-000,40.0%) (18175-000,40.0%) (18175-000,40.0%) (18175-000,40.0%) (18175-000,47.0%)
	Spurious Closing	49.8%	40.8%	Catastrophic-Spurious Closing (18175-000,40.0%) (18175-000,40.0%) (18175-000,40.0%) (18175-000,40.0%) (18175-000,40.0%) (18175-000,45.0%)
	Induced	------	18.0%	Degraded - Premature Or Delayed Actuation (18175-000,8.0%) (18175-000,20.0%) (18175-000,20.0%) (18175-000,20.0%) (18175-000,20.0%), Degraded - Premature Or Delayed Acuation (18175-000,20.0%)
Valve,Pneumatic,Actuator,Double Action Piston				Sources:1
	Spurious Opening	50.0%	42.0%	Catastrophic-Spurious Opening (18175-000,42.0%)
	Spurious Closing	50.0%	42.0%	Catastrophic-Spurious Closing (18175-000,42.0%)
	Induced	------	16.0%	Degraded - Premature Or Delayed Actuation (18175-000,16.0%)
Valve,Pneumatic,Actuator,Self Operated				Sources:1
	Spurious Position Change	100.0%	70.0%	Catastrophic-Spurious Position Change (18175-000,70.0%)
	Induced	------	30.0%	Degraded - Premature Or Delayed Actuation (18175-000,30.0%)
Valve,Pneumatic,Ball				Sources:1
	Leaking	40.0%	40.0%	Leaking (20609-000,Qty:2)
	Stuck Open	20.0%	20.0%	Stuck Open (20609-000,Qty:1)
	No Operation	20.0%	20.0%	No Operation (20609-000,Qty:1)
	Intermittent Operation	20.0%	20.0%	Intermittent (20609-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Valve,Pneumatic,Bellows Diaphragm				Sources:1
	Leaking	70.9%	68.2%	Leaking (20609-000,Qty:144)
	Out of Spec.	9.9%	9.5%	Out of Specification (20609-000,Qty:20)
	Stuck Open	6.9%	6.6%	Stuck Open (20609-000,Qty:14)
	No Operation	5.9%	5.7%	No Operation (20609-000,Qty:12)
	Stuck Closed	3.9%	3.8%	Stuck Closed (20609-000,Qty:8)
	Cracked/Fractured	2.5%	2.4%	Cracked/Fractured (20609-000,Qty:5)
	Other (<%3)	------	3.8%	
	Intermittent Operation		1.4%	Intermittent (20609-000,Qty:3)
	Breach		1.4%	Breach (20609-000,Qty:3)
	Spurious/False Operation		0.5%	False Response (20609-000,Qty:1)
	Displaced		0.5%	Displaced (20609-000,Qty:1)
Valve,Pneumatic,Bleed				Sources:1
	Closed	50.0%	50.0%	Close (24992-000,50.0%)
	Opened	50.0%	50.0%	Open (24992-000,50.0%)
Valve,Pneumatic,Check				Sources:1
	Leaking	57.9%	56.4%	Leaking (20609-000,Qty:22)
	Stuck Open	15.8%	15.4%	Stuck Open (20609-000,Qty:6)
	Out of Adjustment	7.9%	7.7%	Out of Adjustment (20609-000,Qty:3)
	No Operation	7.9%	7.7%	No Operation (20609-000,Qty:3)
	Stuck Closed	5.3%	5.1%	Stuck Closed (20609-000,Qty:2)
	Spurious/False Operation	2.6%	2.6%	False Response (20609-000,Qty:1)
	Displaced	2.6%	2.6%	Displaced (20609-000,Qty:1)
	Unknown	------	2.6%	Unknown (20609-000,Qty:1)
Valve,Pneumatic,Gate Shear				Sources:1
	Leaking	62.5%	55.6%	Leaking (20609-000,Qty:25)
	Stuck Open	17.5%	15.6%	Stuck Open (20609-000,Qty:7)
	Out of Spec.	10.0%	8.9%	Out of Specification (20609-000,Qty:4)
	Stuck Closed	5.0%	4.4%	Stuck Closed (20609-000,Qty:2)
	Out of Adjustment	5.0%	4.4%	Out of Adjustment (20609-000,Qty:2)
	Unknown	------	2.2%	Unknown (20609-000,Qty:1)
	Other (<%4)	------	8.9%	
	Unstable Operation		2.2%	Unstable (20609-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Valve,Pneumatic,Gate Shear (continued)				
Other (continued)				
	No Operation		2.2%	No Operation (20609-000,Qty:1)
	Improper Flow		2.2%	Improper Flow (20609-000,Qty:1)
	Cracked/Fractured		2.2%	Cracked/Fractured (20609-000,Qty:1)
Valve,Pneumatic,Globe Rotary				Sources:1
Leaking		65.2%	56.2%	Leaking (20609-000,Qty:159)
Stuck Closed		11.1%	9.5%	Stuck Closed (20609-000,Qty:27)
Out of Spec.		10.2%	8.8%	Out of Specification (20609-000,Qty:25)
Stuck Open		7.0%	6.0%	Stuck Open (20609-000,Qty:17)
Unstable Operation		6.6%	5.7%	Unstable (20609-000,Qty:16)
Other (<%5)		------	13.8%	
	Seized		3.2%	Seized (20609-000,Qty:9)
	Out of Adjustment		3.2%	Out of Adjustment (20609-000,Qty:9)
	No Operation		3.2%	No Operation (20609-000,Qty:9)
	Cracked/Fractured		2.1%	Cracked/Fractured (20609-000,Qty:6)
	Intermittent Operation		1.8%	Intermittent (20609-000,Qty:5)
	Corroded		0.4%	Corroded (20609-000,Qty:1)
Valve,Pneumatic,Needle				Sources:1
Stuck Closed		50.0%	50.0%	Stuck Closed (20609-000,Qty:1)
Spurious/False Operation		50.0%	50.0%	False Response (20609-000,Qty:1)
Valve,Pneumatic,Plug				Sources:1
Leaking		60.0%	60.0%	Leaking (20609-000,Qty:3)
Stuck Open		40.0%	40.0%	Stuck Open (20609-000,Qty:2)
Valve,Pneumatic,Pressure Regulator				Sources:1
Closed		50.0%	50.0%	Close (24992-000,50.0%)
Opened		50.0%	50.0%	Open (24992-000,50.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Valve,Pneumatic,Purge,Stem				Sources:1
	Broken	100.0%	66.7%	Broken/Damaged (25101-000,Qty:1), Broken Damaged (25101-000,Qty:1)
	Induced	------	33.3%	Dropped - Broken/Damaged (25101-000,Qty:1)
Valve,Pressure Test				Sources:1
	Opened	68.5%	68.5%	Open (24992-000,68.5%)
	Leaking	21.5%	21.5%	External Leak (24992-000,12.5%), Internal Leak (24992-000,9.0%)
	Closed	10.0%	10.0%	Close (24992-000,10.0%)
Valve,Prevalve				Sources:1
	Opened	50.0%	50.0%	Open (24992-000,50.0%)
	Closed	50.0%	50.0%	Close (24992-000,50.0%)
Valve,Regulator				Sources:1
	Leaking	53.0%	53.0%	External Leak (24992-000,53.0%)
	Opened	23.5%	23.5%	Open (24992-000,23.5%)
	Closed	23.5%	23.5%	Close (24992-000,23.5%)
Valve,Relief (Summary)				
	Premature Open	58.3%		
	Leaking	17.0%		
	Drift	13.5%		
	Mechanical Failure	9.2%		
	Open - Close	2.0%		
Valve,Relief				Sources:2
	Premature Open	85.0%	85.0%	Premature (24992-000,70.0%), Catastrophic-Premature Open (18175-000,100.0%)
	Leaking	15.0%	15.0%	External Leak (24992-000,30.0%)
Valve,Relief,Pressure				Sources:1
	Drift	30.8%	30.8%	Drift (24992-000,69.0%)
	Leaking	30.8%	30.8%	Leak (24992-000,69.0%)
	Mechanical Failure	30.8%	30.8%	Mechanical Failure (24992-000,69.0%)
	Open - Close	7.7%	7.7%	Open - Close (24992-000,17.2%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Valve,Relief,Thermal				Sources:1
	Drift	45.4%	45.4%	Drift (24992-000,45.4%)
	Leaking	45.4%	45.4%	Leak (24992-000,45.4%)
	Mechanical Failure	9.2%	9.2%	Mechanical Failuer (24992-000,9.2%)
Valve,Safety				Sources:1
	Premature Open	100.0%	100.0%	Catastrophic-Premature Open (18175-000,100.0%)
Valve,Sequence				Sources:1
	Leaking	61.5%	61.5%	Internal Leak (24992-000,31.5%), External Leak (24992-000,30.0%)
	Opened	16.0%	16.0%	Open (24992-000,16.0%)
	Closed	16.0%	16.0%	Close (24992-000,16.0%)
	Binding/Sticking	6.5%	6.5%	Bind (24992-000,6.5%)
Valve,Servo				Sources:1
	Electrical Failure	40.0%	40.0%	Electrical (24992-000,40.0%)
	Mechanical Failure	40.0%	40.0%	Mechanical (24992-000,40.0%)
	Leaking	20.0%	20.0%	Leak (24992-000,20.0%)
Valve,Solenoid				Sources:1
	Mechanical Failure	50.0%	50.0%	Mechanical (24992-000,50.0%)
	Electrical Failure	25.0%	25.0%	Electrical (24992-000,25.0%)
	Leaking	25.0%	25.0%	Leak (24992-000,25.0%)
Valve,Throttling,Bipropell				Sources:1
	Closed	57.9%	57.9%	Close (24992-000,73.5%)
	Leaking	23.6%	23.6%	External Leak (24992-000,30.0%)
	Opened	18.5%	18.5%	Open (24992-000,23.5%)
Valve,Vent				Sources:1
	Opened	50.0%	50.0%	Open (24992-000,50.0%)
	Closed	50.0%	50.0%	Close (24992-000,50.0%)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Vibrator				Sources:1
	Contact Failure	80.0%	80.0%	Contact Failures (24993-000,80.0%)
	Spring Failure	15.0%	15.0%	Spring Fatigue (24993-000,15.0%)
	Opened	5.0%	5.0%	Open Winding (24993-000,5.0%)
Vidicon				Sources:1
	Induced	------	<0.1%	Degradation (22540-000,NR)
	Other	------	100.0%	
	Seal/Gasket Failure		NR	Deterioration of Seal (22540-000,NR)
	Cracked/Fractured		NR	Microcracks in Tube Envelope (22540-000,NR)
	Contaminated		NR	Contaminated Internal Tube Environment (22540-000,NR)
	Open Filament		NR	Open Filament (22540-000,NR)
	Image Lag		NR	Image Lag (22540-000,NR)
	Blooming		NR	Blooming (22540-000,NR)
Washer,Key				Sources:1
	Loose	40.0%	40.0%	Loose Screw(s) - Excessive Play (25101-000,Qty:2)
	Excessive Play	40.0%	40.0%	Excessive Play (25101-000,Qty:1), Broken/Separated - Excessive Play (25101-000,Qty:1)
	Out of Adjustment	20.0%	20.0%	Out Of Adjustment - Binding/Sticking (25101-000,Qty:1)
Washer,Lock				Sources:1
	Loose	50.0%	20.0%	Loose Nut(s) - Abnormal Operation (25101-000,Qty:2)
	Cracked/Fractured	25.0%	10.0%	Cracked/Split-Broken/Damaged (25101-000,Qty:1)
	Broken	25.0%	10.0%	Broken/Separated - Abnormal Operation (25101-000,Qty:1)
	Induced	------	60.0%	Fell Off Or Lost - Missing (25101-000,Qty:1), Improper Maintenance - Missing (25101-000,Qty:1), Improper Installation - Missing (25101-000,Qty:1) (25101-000,Qty:1), Improper Installation - Fnd In TI/PMCS/INSP (25101-000,Qty:1), Improper Maintenance - Broken/Damaged (25101-000,Qty:1)
Wheel				Sources:1
	Broken	71.4%	55.6%	Broken/Damaged (25101-000,Qty:1), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:3), Part Struck/Damaged - Inop/Unserviceable (25101-000,Qty:1)
	Bent/Dented/Warped	28.6%	22.2%	Collapsed/Bent (25101-000,Qty:1), Warped/Bent - Collapsed/Bent (25101-000,Qty:1)
	Unknown	------	11.1%	Unknown (25101-000,Qty:1)
	Induced	------	11.1%	Improper Operatoin - Collapsed/Bent (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Wheel Assembly				Sources:1
	Bent/Dented/Warped	73.5%	71.4%	Collapsed/Bent (25101-000,Qty:1) (25101-000,Qty:4) (25101-000,Qty:20)
	Worn	20.6%	20.0%	Worn Out (25101-000,Qty:6), Worn - Worn Out (25101-000,Qty:1)
	Cut/Scarred/Punctured	2.9%	2.9%	Cut/Scraped (25101-000,Qty:1)
	Broken	2.9%	2.9%	Missing Rubber (25101-000,Qty:1)
	Unknown	------	2.9%	Unknown (25101-000,Qty:1)
Wheel,Reinforced				Sources:1
	Broken	65.1%	57.1%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2) (25101-000,Qty:12), Part Struck/Damaged - Broken/Damaged (25101-000,Qty:11), Part Struck/Damaged - Inop/Unserviceable (25101-000,Qty:1)
	Bent/Dented/Warped	32.6%	28.6%	Collapsed/Bent (25101-000,Qty:4) (25101-000,Qty:4) (25101-000,Qty:5), Warped/Bent - Broken/Damaged (25101-000,Qty:1)
	Cut/Scarred/Punctured	2.3%	2.0%	Cut-Leaking Air (25101-000,Qty:1)
	Induced	------	6.1%	Caused By Other Failure-Inop/Unserviceable (25101-000,Qty:1), Caused By Other Failure-Collapsed/Bent (25101-000,Qty:1), Item Abuse/Neglect - Collapsed/Bent (25101-000,Qty:1)
	Unknown	------	6.1%	Unknown (25101-000,Qty:1) (25101-000,Qty:2)
Wheel,Susp,Grp/Actuatr				Sources:1
	Cracked/Fractured	79.1%	63.1%	Cracked Weld-Cracked (25101-000,Qty:2), Cracked (25101-000,Qty:1) (25101-000,Qty:3) (25101-000,Qty:44), Normal Operater Failure - Cracked (25101-000,Qty:2), Poor Design - Cracked (25101-000,Qty:1)
	Binding/Sticking	9.0%	7.1%	Binding/Sticking (25101-000,Qty:3), Internal Failure - Binding/Sticking (25101-000,Qty:1) (25101-000,Qty:2)
	Broken	3.0%	2.4%	Broken/Damaged (25101-000,Qty:1), Studs Broken - Broken Bolt(s) (25101-000,Qty:1)
	Corroded	3.0%	2.4%	Corroded-Inop/Unserviceable (25101-000,Qty:2)
	Creep	3.0%	2.4%	Internal Failure - Creep (25101-000,Qty:1), Creep (25101-000,Qty:1)
	Skipping	3.0%	2.4%	Internal Failure - Skips (25101-000,Qty:1), Skips (25101-000,Qty:1)
	Induced	------	10.7%	Lack Of Maintenance - Noisy (25101-000,Qty:1), Poor Design - Noisy (25101-000,Qty:1), Improper Installation - Stripped Gear/Spline (25101-000,Qty:7)
	Unknown	------	4.8%	Unknown (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1)
	Other (<%3)	------	4.8%	
	Out of Adjustment		1.2%	Out Of Adjustment - Binding/Sticking (25101-000,Qty:1)
	No Operation		1.2%	Poor Design - Inop/Unserviceable (25101-000,Qty:1)

Part Desc.	Failure Mode/Mech	Norm Dist.	Fail Dist.	Data Source(s)/Details
Wheel,Susp,Grp/Actuatr (continued)				
Other (continued)				
	Noisy		1.2%	Noisy (25101-000,Qty:1)
	Excessive Play		1.2%	Worn - Excessive Play (25101-000,Qty:1)
Window				Sources:1
	Cracked/Fractured	50.0%	40.0%	Croacked (25101-000,Qty:1), Window - Part Struck/Damaged - Cracked (25101-000,Qty:1)
	Bent/Dented/Warped	50.0%	40.0%	Warped/Bent - Leaking Nitrogen (25101-000,Qty:2)
	Induced	------	20.0%	Vibration - Missing (25101-000,Qty:1)
Window,Optical				Sources:1
	Induced	------	100.0%	Item Abuse/Neglect - Broken/Damaged (25101-000,Qty:1), Lack Of Maintenance - Internal Moisture (25101-000,Qty:1)
Worm Shaft Assembly				Sources:1
	Excessive Play	29.1%	26.7%	Excessive Play (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2), Worn - Excessive Play (25101-000,Qty:2) (25101-000,Qty:6), Worn Shaft/Keyway - Excessive Play (25101-000,Qty:1) (25101-000,Qty:2), Improper Adjustment - Excessive Play (25101-000,Qty:1)
	Broken	23.6%	21.7%	Broken/Damaged (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:8), Broken/Separated - Inop/Unserviceable (25101-000,Qty:1)
	Bent/Dented/Warped	14.5%	13.3%	Warped/Bent - Binding/Sticking (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:3), Warped/Bent - Excessive Play (25101-000,Qty:1) (25101-000,Qty:1), Collapsed/Bent (25101-000,Qty:1)
	Loose	12.7%	11.7%	Worn - Loose (25101-000,Qty:1), Loose (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:4)
	Out of Adjustment	10.9%	10.0%	Out Of Adjustment - Binding/Sticking (25101-000,Qty:1), Out Of Adjustment - Excessive Play (25101-000,Qty:1) (25101-000,Qty:3), Out Of Adjustment - Out Of Adjustment (25101-000,Qty:1)
	Binding/Sticking	7.3%	6.7%	Binding/Sticking (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2)
	Worn	1.8%	1.7%	Worn - Inop/Unserviceable (25101-000,Qty:1)
	Unknown	------	8.3%	Unknown (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:1) (25101-000,Qty:2)

SECTION 4
DATA SOURCES

4.0 DATA SOURCES

This section contains brief descriptions of the data sources used in this publication. The source descriptions below reference only the information extracted from the source and do not attempt to describe the full scope of the source. They are presented in numerical order by RAC library Document Number (five digit followed by a three digit number).

10722-000 **Source Proprietary.**

Abstract: A collection of failure analysis reports ranging in date from 1984 to 1990. The data represents both fielded parts and lab test/inspection failures for a wide range of part types.

12702-000 **Reliability Qualification Test of a Horizontal Situation Indicator Set**

Abstract: Failure information for each failure identified during the reliability qualification test of the AN/AJN-18 Horizontal Situation Indicator Set. The report was prepared by Rockwell International Collins Radio Group in January, 1976.

13591-000 **Reliability Model for Miniature Blowers per MIL-B-23071B**

Abstract: RADC Technical Report (RADC-TR-75-178). Information about the failure modes and mechanisms of MIL-B-23071B blowers. The report is dated July 1975.

13740-000 **Quantification of Printed Circuit Board (PCB) Connector Reliability**

Abstract: This source is a RADC Technical Report (RADC-TR-77-433). Included is information concerning the failure mechanisms related to PCB Connectors. The report is dated January 1978.

13741-000 **Crimp Connection Reliability**

Abstract: This source is a RADC Technical Report (RADC-TR-78-15). Included is information concerning the failure modes and mechanisms found in crimp connections. The document is dated January 1978.

13933-000 **Development of Nonelectronic Part Cyclic Failure Rates**

Abstract: This source is a RADC Technical Report (RADC-TR-77-417). Contained is information concerning failure modes and mechanisms of selected non-electronic components. The report is dated December 1977.

17867-000 **Source Proprietary.**

Abstract: This data source is from Reliability Improvement Warranty maintenance records on various equipments in the F-16 aircraft.

17950-030 **Failure Mode Analysis and Life Time Estimation of Traveling Wave Tubes,** Nakamura, S., and Kawashima, F.

Abstract: 1980 International Symposium for Testing and Failure Analysis. This paper contains information regarding failure modes and mechanisms for GW52 Traveling Wave Tubes.

18175-000 **IEEE Standard 500-1984 (1984)**

Abstract: This document deals with collected reliability data on electrical, electronic, sensing and mechanical equipment used in nuclear-power generating stations.

18364-000 **VLSI Device Reliability Models**

Abstract: This is an RADC Technical Report (RADC-TR-84-182) . Included is a discussion of failure modes and mechanisms specifically related to VLSI integrated circuits. The date of the report is December 1984.

18503-007 **Reliability of Fuse Collection Hardware in Subways,** Meyerhoff, N.J., and Kozoil, J.R.

Abstract: 1984 Proceedings Annual Reliability and Maintainability Symposium. This paper presents failure mode data of a BART change machine.

18504-021 **Analysis of the FA-18 Hornet Flight Control Computer Field Mean Time Between Failure,** Griffin, P.

Abstract: . 1985 Proceedings Annual Reliability and Maintainability Symposium. This paper presents observed field failure distribution of the system.

18800-001 **Reliability of Traveling Wave Tubes for use in Microwave Communications Systems NEC Research and Development,** Harada, A., Niihama, S. and Tsuchida, H.

Abstract: Number 67, 1982. This paper details the observed field failure modes and mechanisms for Ghz TWTs.

19542-000 **RADC Nonelectronic Reliability Notebook**

Abstract: This source is a RADC Technical Report (RADC-TR-85-194). Included in this document is malfunction data and frequency of occurrence information for a wide range of nonelectronic parts. The distributions were based on part failure data accumulated over all use environments. The report is from 1985.

20609-000 **Nonelectronic Parts Reliability Data, NPRD-3**

Abstract: Produced by the Reliability Analysis Center. Contains previously published failure mode distributions for a wide range of part types. This document is dated 1985.

22540-000 **Reliability Modeling of Critical Electronic Devices**

Abstract: This source is a RADC Technical Report (RADC-TR-83-108). It described the failure modes and mechanisms associated with various electrical and nonelectronic part types. The report is dated February 1983.

23037-000 **COFT Program - A Tailored R/M Approach**

Abstract: This source contains the detailed backup data for the 1988 R/M Proceedings paper.

23038-000 **Source Proprietary.**

Abstract: The data in these sources is from a U.S. Army maintenance system on selected components in various Army aircraft. The time period of data collected was January 1979 to June 1982. The aircraft corresponding to each source number is:

23038-001	AH-1S
23038-002	OH-58A
23038-003	OH-58C
23038-004	CH-47C
23038-005	UH-1H
23038-006	UH-60A

23185-037 **Satellite Traveling Wave Tubes Reliability Controls,** Behonann, F.F.

Abstract: 1982 Proceedings Annual Reliability and Maintainability Symposium. This document summarizes failure mode data from life tests by analyzing the contribution of each of the TWTs constituent parts.

23413-000 **Impact of Fiber Optics on System Reliability and Maintainability**

Abstract: This source is a RADC Technical Report (RADC-TR-88-124). The report details failure occurrences experienced in fiber optic cables from December 1984 to January 1986. It also covers the basic failure mechanisms associated with fiber optic cables.

23459-008 **Reliability of Plastic Encapsulated Logic Circuits,** Olson, C.

Abstract: Quality and Reliability International Vol. 5, No. 1, 1989. This paper presents failure modes and mechanisms observed in high temperature tests and high humidity tests performed by various vendors.

23546-000 through 23546-002 **Reliability Design Criteria for High Power Tubes-Review of Tube and Tube Related Technology**

Abstract: This source is a RADC Technical Report (RADC-TR-88-304). This document includes failure mode distributions for a variety of tube types used in the ALQ-135, ALQ-119, DSCS-11, etc. Data encompasses both field and factory return data. The report is dated February 1989.

23935-000 **VHSIC/VHSIC-Like Reliability Prediction Modeling**

Abstract: This source is a RADC Technical Report (RADC-TR-89-177). Included in this document is data concerning the failure mode/mechanism distributions, and number of observed failures under given test types for VHSIC/VHSIC-Like CMOS devices. The document is dated October 1989.

24250-037 **Accounting for Soft Errors in Memory Reliability Prediction,** Miller, J.E., Hecht, H., and Maries, S.F.

Abstract: 1989 Proceedings Annual Reliability and Maintainability Symposium. This paper analyzes memory soft errors and quantifies typical distributions of failures between rows, columns, single cell, etc.

24417-000 through 24417-002 **General Electric Component Technology and Standardization Manual**

Abstract: This document describes the most common failure modes and mechanisms for many electrical, electro-mechanical, and mechanical part types. The document is dated May 1989.

24990-000 **Reliability and Maintainability In Perspective,** Smith, D.J.

Abstract: This source contains information concerning the failure mode distributions of many electrical, electro-mechanical, and mechanical part types. The report was published in 1985.

24991-000 **Source Proprietary.**

Abstract: The data from this source is from a previous internal Reliability Analysis Center Study.

24992-000 **Information for Reliability Prediction**

Abstract: This source is from a General Electric Technical Memorandum written by the Apollo Support Department in May of 1964. The data presented encompasses a wide range of part types.

24993-000 **MIL-HDBK-338**

Abstract: This data comes from MIL-HDBK-338 which give the failure mode distributions for a wide range of part types. This edition of MIL-HDBK-338 is dated October 15, 1984.

24994-000 **European Space Agency (ESA) Specification**

Abstract: This is a specification of the European Space Agency (ESA) which provides the failure mode distributions of electrical parts, electromechanical parts, and some mechanical parts for reliability prediction on ESA programs. Data is from February 1976.

24995-000 **Source Proprietary.**

Abstract: This source is a previously published RAC study on microcircuit device reliability trend analysis, dated 1985. The data presented is based on laboratory and field failure data which provide a distribution of observed frequencies of failure for each mode. The study references various microcircuit part types (digital SSI, MSI, LSI, linear, interface, memory and VLSI).

24996-000 **Source Proprietary.**

Abstract: This source contains failure rate and failure mode data on various industrial part types. Published in 1988.

24997-000 **Source Proprietary.**

Abstract: This source contains reliability data on computer, telephone, and electronic parts. Published in 1987.

25000-000 **Rome Laboratory Study of Part Failure Modes,** L.J. Gubbins

Abstract: This discusses the failure modes and their accelerating stresses for a full range of part types. The report is based on field data collected from certain ground electronic equipments and from individual part tests.

25001-000 **Source Proprietary.**

Abstract: This source is a compilation of failure analysis reports on a variety of part types.

25014-000 **Discrete Semiconductor Device Reliability, DSR-4**

Abstract: This source is published by the Reliability Analysis Center and includes failure mode and mechanism data on of various discrete semiconductor device types. The data has been compiled from reports of reliability demonstration tests conducted in accordance with MIL-STD-781. The document is dated 1988.

25015-000 **Source Proprietary**

Abstract: This was a RAC study performed for the USAF. It involved deriving microcircuit failure mode distributions from the RAC's entire failure event data base and applying these distributions to an FMECA. This source also contains failure mode distributions for traveling wave tubes and various microwave devices. These distributions came from the summarization of vendor failure data from 15 manufacturers of microwave devices. The report is dated July 7,1988.

25016-000 **Reliability Data for Electronic and Electromechanical Components**

Abstract: The data from this source was extracted from a Jet Propulsion Laboratory Technical Report . (NASA Tech Brief 74-10230, April 1975). It contains failure mode and mechanism data on various electronic and electromechanical part types.

25027-000 **Field Failure Return Program (FFRP) Failure Analysis Reports**

Abstract: This data source is a collection of failure analysis reports from the studies conducted by the Field Failure Return Program (FFRP). Studies include those performed by Rome Laboratory during the initial pilot study effort, reports submitted to the program by external sources, and studies conducted by the Reliability Analysis Center. These studies deal primarily with semiconductor devices and range in date from 1986 to the 1991.

25028-000 **Failure Modes and Mechanisms in GaAs FETs**

Abstract: This source is a RADC Technical Report Information included detailed GaAs FET failure modes and mechanisms under given test conditions and environments. The report is dated December 1990.

25029-000 **Source Proprietary.**

Abstract: This data source is from failure analysis performed on M2716QM EPROM's. Date of the report is 12/06/84.

25030-000 **Source Proprietary.**

Abstract: Data from this source is analysis of inspection failures on transformers that was collected over a 2 year period.

25031-000 through 25034-000 **Reliability Physics Symposium Papers**

Abstract: These data sources are various papers concerning failure mode and mechanism distributions of microcircuits, taken from the 1978 Reliability Physics Symposium.

25035-001 **GE/AESD Component Engineering Seminar**

Abstract: This data was taken from of the 1985 GE/AESD Component Engineering Seminar. Data included deals with the distribution of failure mechanisms observed in microcircuits for each year from 1970 to 1984.

25036-000 **Handbook of Reliability Prediction Procedures for Mechanical Equipment,** Ploe, R.J., and Skewis, W.H

Abstract: DTRC-90/010 (May 1990). In addition to reliability models this document contains a discussion of the predominant failure modes/mechanisms for mechanical parts.

25037-000 **An Assessment of Gallium Arsenide Device Quality and Reliability**

Abstract: Published by the Reliability Analysis Center. Includes a discussion of failure modes and mechanisms for GaAs MMIC's, digital and discrete components.

25038-000 **Source Proprietary.**

Abstract: This data source is from a previous internal RAC study to quantify the failure mode distributions of selected electronic, and electromechanical part types.

25101-000 **Artillery Sample Data Collection**

Abstract: This data was summarized from a M102 Artillery Sample Data Collection (SDC) printout, received from the United States Army, concerning the M102 and M102-HIP Howitzers. The data sample represents the component part failures of the M102 / M102-HIP system and their mode of failure during a given time period in 1990.

25464-000 **Air Forces Maintenance Database, MODAS**

Abstract: This data source is from the Air Forces Maintenance Database MODAS and contains part failure mode data extracted from the How Malfunction code contained in MODAS. Data was collected on the F-15 aircraft in 1990.

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