

SPECIFICATION SR-001-00
PROCESSING PARTS FAILURE AND SERVICE DIFFICULTIES REPORT (PFSDR)
01 JANUARY 2005

I. ANALYSIS OF DEFICIENCY REPORT (DR) EXHIBITS

A. The Supplier shall perform disassembly and analysis of DR Exhibits and provide information resulting there from relating to the cause of failure of said Exhibits in support of Buyer's program for responding to the Customer when subsequently authorized by the Buyer by Purchase Order (PO).

1. The word "Exhibit", as used in relation to PFSDRs in this Item, is the official term used to refer to a specific article of hardware, and/or associated software, being processed under the Deficiency Reporting System for analysis of the cause of its failure.
2. Exhibits will be returned to the Supplier by the Buyer or directly to the aircraft users on either a Form DD1348-1 or 1149 and will be tagged with a DD Form 2332 and DD Form 1575 Suspended Exhibit Tag. The applicable DR number will be in Block Y of the DD 1348 or Block 1B under the National Stock (NSN) number of the DD 1149.
3. As the Supplier may receive the Exhibit prior to Buyer's receiving notice that it has been sent, Supplier shall in all instances acknowledge receipt of Exhibit by written communication within twenty-four (24) hours, identifying the part number, PFSDR number and serial number of the article if serialized.

Send FAX to: Buyer
 Lockheed Martin Aeronautics
 Material Management Center

With copy to: Lockheed Martin Aeronautics Company
 Customer Support Engineering
 Dept 3E3-F
 PFSDR Administrator
 MZ 1045

4. Upon receipt of a requisition, the Buyer will prepare and forward a PO which indicates when the proposal is due, identifying the task and identifying the Exhibit by:
 - a. Part Number and Nomenclature
 - b. Serial Number (if available)
 - c. PFSDR Number (with LM Aero engineer's comments).

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I. ANALYSIS OF DEFICIENCY REPORT (DR) EXHIBITS (continued)

A. 4. (continued)

Note: The term "Parts Failure Service Difficulties Report (PFSDR)" is the LM Aero designation of Customer Deficiency Reports.

The Buyer's Authorization will include a copy of the PFSDR, Engineer's comments and the Exhibit Request Form.

5. Supplier shall prepare and submit a cost proposal for performance of tasks set forth in the Buyer's authorization.
6. Upon receipt of the Buyer's authorization and the Exhibit, Supplier will perform only that disassembly and/or analysis that is necessary to permit determination of the "most probable cause of failure". Any additional analysis/reporting requirements pertaining to the Exhibit Analysis task will be documented on the associated Exhibit Request Form (FWP-1189-11-79) or (FWP4686C-3-86). Upon completion of the analysis, Supplier will prepare and submit a report providing the "most probable cause of failure", as defined in Paragraph B below (unless a greater or different task is identified in the PO).

The report shall be in accordance with the format provided in Paragraph D and shall include a statement of the current condition of the Exhibit, (i.e., serviceable as is; repairable; repairable at no cost; non-repairable). The Supplier shall provide the Buyer the report within thirty (30) days after receipt of the Authorization and Exhibit, or an interim report within thirty (30) days giving analysis details known at the time and a target date for submittal of the final report. A monthly status report on all PFSDRs will be submitted to LM Aero with details of events on the analysis and the anticipated completion date. All PFSDR final analysis will be completed within thirty (30) days of receipt of authorization and receipt of exhibit. Until notified otherwise, no reassembly or further testing of the Exhibit is to be performed by the Supplier.

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I. ANALYSIS OF DEFICIENCY REPORT (DR) EXHIBITS (continued)

A. 6. (continued)

Send Report to: Lockheed Martin Aeronautics Company
Customer Support Engineering
Dept. 3E3-F
PFSDR Administrator
MZ 1045

With copy to: Buyer, Mail Zone: _____
Lockheed Martin Aeronautics Company
Material Management Center

B. MOST PROBABLE CAUSE OF FAILURE'S DEFINED AS FOLLOWS

1. For purposes of this SR-001-00, the most probable cause of failure is defined as "the initial event that precipitated the departure from normal configuration, function, or operation being investigated". As a general rule, the most probable cause of the failure has been identified when the evidence trail effects have been traced back to a specific causative factor and the nature of this factor has been defined.

a. For example, a broken bolt is not a cause but an effect. The most probable cause of the failed bolt could be an overstress in tension, compression, torsion, fatigue, improper material or heat treatment, corrosion, improper installation, etc. Until the specific mechanism of the failure is identified, the most probable cause of the failure has not been identified.

2. LM Aero realizes that the most probable cause of failure may not be isolated in the exhibit being analyzed. For example, a failed output transistor in an electronic component may only be a manifestation of a causative factor occurring in the interfacing input/output aircraft circuits. However, in terms of the component analysis, the most probable cause of the failure could and should be isolated to the failure mechanism of the output transistor e.g., overvoltage, overcurrent, etc., so that LMTAS can pick up the evidence trail and analyze the aircraft circuits to isolate the root cause.

I. ANALYSIS OF DEFICIENCY REPORT (DR) EXHIBITS (continued)

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C. DEPTH OF ANALYSIS

1. Standard practice in the performance of SR-001-00 Exhibit analysis should include, as a minimum, the following steps:
 - a. A receiving inspection to identify any discrepant condition(s) resulting from improper preservation, packing or handling.
 - b. Conduct a functional test, if exhibit condition allows, to determine actual operating parameters for comparison against established nominal operating parameters. If standard functional testing (ATP, etc.) indicates no failure of an operating parameter that could contribute to the reported failure mode, further testing that duplicates/simulates, if feasible the environment that existed during the reported failure should be conducted.
 - c. Disassembly of the exhibit to the extent necessary to trace the failure sequence back to the root cause component.
 - d. Accomplishment of such examination and/or tests necessary to identify the failure mechanism. Destructive testing of serviceable or repairable hardware should not be accomplished without prior LM Aero approval. (i.e., specific instruction on the Exhibit Request Form).
 - e. Assessment of the evidence generated during the discovery process by a test or design engineer in the system or discipline pertinent to the analysis to (a) verify that the evidence is sufficient to determine the most probable cause of failure, or (b) specify or verify the conclusions reached.
 - f. Specify what actions are required, or have been taken, to preclude recurring failures of this type, e.g., manufacturing, quality control procedure change, Engineering Change Proposal (ECP) action, Class II change action, etc. Where appropriate, recommendations should be made pertaining to measures that LM Aero and/or the aircraft user may take to limit exposure to the identified failure mode. Such measures might include recommendations to inspect in-service and/or spare equipment, revisions to operating or maintenance/servicing procedures, discontinue use of certain serial number blocks of components, etc.

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I. ANALYSIS OF DEFICIENCY REPORT (DR) EXHIBITS (continued)

C. DEPTH OF ANALYSIS (continued)

1.f. (continued)

NOTE: Identification of any exhibit condition that may also involve in-service systems or adversely affect personnel, aircraft or flight safety should be reported immediately to LM Aero by the most expeditious means available.

If it is concluded that the investigated failure is so isolated an occurrence as to not warrant actions to preclude recurrence, supporting rationale for that conclusion should be provided to LM Aero.

D. ANALYSIS REPORTING

1. Understandably, each exhibit analysis performed will have unique circumstances and characteristics that will not allow a specific reporting format to be applicable for all analysis reports. However, a degree of standardization and uniformity in report format and style is desirable to insure that all pertinent data is reported so that the manner in which the data is represented provides a clear explanation of the findings and conclusions. Therefore, use the following criterion.
 - a. The reporting outline provided will be used to the fullest extent possible in rendering reports,
 - b. Documents with the exception of standard engineering references referred to in the text of the report will be provided as attachments or quoted in the report, and
 - c. The name of the cognizant engineer and telephone number will be provided with the report. Reports generated by Supplier subcontractors will include the name and telephone number of the engineer who reviewed and approved the report for submittal to LM Aero.

I. ANALYSIS OF DEFICIENCY REPORT (DR) EXHIBITS (continued)

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D. ANALYSIS REPORTING (continued)

2. Reporting format outline:

a. References

(1) PO Number

(2) Applicable Report Number:

PFSDR No. - Parts Failure Service Difficulties Report
Number.

(3) Part/Assembly Nomenclature: Nomenclature of part or
assembly being analyzed.

(4) Part Number: The Supplier/Subcontractor assigned part or
assembly number

(5) Serial Number: The Supplier/Subcontractor assigned serial
number or (NA) when not applicable.

b. Reported Discrepant Condition: The hardware failure or condition
reported in the PFSDR.

c. Findings:

(1) Receiving inspection results

(2) Functional test results

(3) Findings of teardown inspection

(4) Test and analysis results

d. Conclusions:

(1) Analysis of the finding

(2) Statement of most probable cause

I. ANALYSIS OF DEFICIENCY REPORT (DR) EXHIBITS (continued)

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D. ANALYSIS REPORTING (continued)

2. Reporting format outline:

e. Action Taken/Recommendations:

- (1) Supplier/Subcontractor measures taken that have a bearing on the elimination of the cause of the failure.
- (2) Recommended measures to be taken by LM Aero and/or the aircraft user.
- (3) Current condition of the exhibit; (i.e., serviceable, as is, repairable, repairable at no cost, or non-repairable).

f. The name of the cognizant Supplier/Subcontractor Engineer

3. The Buyer will provide the Supplier with disposition instructions for the Exhibit.

II. PERFORMANCE OF DESK ANALYSIS

A. When authorized by a PO, the Supplier shall perform a desk analysis, in lieu of an exhibit analysis. The purpose of a desk analysis is to establish a most probable cause of failure for the item specified in the DR/PFSDR when no hardware/software is available for analysis.

1. Desk Analysis should include:

- a. A review of historical data: DR/PFSDRs and repair data, etc.
- b. A review of drawings, Technical Orders, manuals, and other appropriate data.
- c. Correlation of possible cause and effect relationships.
- d. Specification of the most probable cause of the reported problem.
- e. Specification of a possible resolution.

II. PERFORMANCE OF DESK ANALYSIS (continued)

A. (continued)

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2. The Buyer's PO will include a copy of the PFSDR and PSE comments.
3. Supplier shall prepare and submit a cost proposal for performance of the task set forth in the Buyer's PO.
4. Upon receipt of the Buyer's PO, Supplier shall perform a desk analysis as described in Paragraph A.1. above. Upon completion of the analysis, Supplier shall prepare and submit a report providing a probable cause and possible resolution. The Supplier shall provide the Buyer the report within thirty (30) days after receipt of the authorization or an interim status report giving analysis details known at the time and a target date for the final report.

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Dept. 3E3-F
PFSDR Administrator
MZ 1045

With copy to: Buyer, MZ _____
Lockheed Martin Aeronautics Company
Material Management Center

III. PROVIDE REPAIR DATA

- A. The Supplier shall, when authorized by the Buyer by PO, provide repair data on those items of hardware identified in the PO as previously repaired by the Supplier under separate authorization.

1. "Repair Data" is hereby defined to include:
 - a. A list of all failed parts.
 - b. The suspected cause of failure.
 - c. All related test results.

III. PROVIDE REPAIR DATA (continued)

- A. (continued)

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2. The Buyer's PO will identify the item of hardware for which repair data is required by:
 - a. Part number and nomenclature.
 - b. Serial number (if available).
 - c. PFSDR/DR number.
 - d. Approximate date part failed.

The Buyer's PO will include a copy of the PFSDR and PSE comments.

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3. Supplier shall prepare and submit a cost proposal for performance of task(s) forth in Buyer's authorization.
 4. Upon receipt of the Buyer's PO, Supplier shall prepare the repair data report to include the information called for by Paragraph A.1. of this Part III. The Supplier shall provide to the Buyer the report within thirty (30) days after receipt of the authorization or an interim status report giving analysis details known at the time and a target date for the final report.

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