

Potential Failure Mode and Effects Analysis

FMEA
Third Edition



POTENTIAL FAILURE MODE AND EFFECTS ANALYSIS (FMEA)

REFERENCE MANUAL

The content of this document is the technical equivalent of SAE J-1739. Potential Failure Mode and Effects Analysis (FMEA) should be used by suppliers to companies subscribing to QS-9000 or equivalent document.

This is a preview of "AIAG FMEA-3:2001". [Click here to purchase the full version from the ANSI store.](#)

FOREWORD

1st and 2nd Edition

This reference Manual and Reporting Format was developed by the Failure Mode and Effects Analysis (FMEA) teams at Chrysler, Ford and General Motors, working under the auspices of the Automotive Division of the American Society for Quality Control (ASQC) and the Automotive Industry Action Group (AIAG).

The ASQC/AIAG Task Force charter is to standardize the reference manuals, procedures, reporting formats and technical nomenclature used by Chrysler, Ford, and General Motors in their respective supplier quality systems. Accordingly, this manual and format, which is approved and endorsed by Chrysler, Ford and General Motors, should be used by suppliers implementing FMEA techniques into their design/manufacturing processes.

In the past, Chrysler, Ford and General Motors each had their own guidelines and formats for insuring supplier FMEA compliance. Differences between these guidelines and formats resulted in additional demands on supplier resources. To improve upon this situation, Chrysler, Ford and General Motors agreed to develop, and, through AIAG, distribute this Manual. The work group responsible for the Manual was led by George Baumgartner of Ford Motor Company.

This Manual provides general guidelines for preparing an FMEA. It does not give specific instructions on how to arrive at each FMEA entry, a task best left to each FMEA team. This Manual also is not intended to be a comprehensive FMEA reference source or training document.

While these guidelines are intended to cover all situation normally occurring either in the design phase or process analysis, there will be questions that arise. These questions should be directed to your customer's Supplier Quality Assurance (SQA) activity. If you are uncertain as to how to contact the appropriate SQA activity, the buyer in your customer's Purchasing office can help.

The Task Force gratefully acknowledges: the leadership and commitment of Vice Presidents Thomas T. Stallkamp at Chrysler, Norman F. Ehlers at Ford, and J. Ignacio Lopez de Arriortua of General Motors; the assistance of the AIAG in the development, production, and distribution of the Procedure; the guidance of Task Force principals Russ Jacobs (Chrysler), Steve Walsh (Ford), Dan Reid (General Motors), and Rad Smith; and the assistance of the ASQC Automotive Division Reading Team. This team, led by Tripp Martin (Peterson Spring), reviewed the Manual for technical content and accuracy and made valuable contributions to form and content. Since the Manual was developed to meet specific needs of the automotive industry, the ASQC voluntary standards process defined by ASQC policies and procedures was not used in its development.

Additional copies can be ordered from AIAG and/or permission to copy portions of this Procedure for use within supplier organizations should be obtained from AIAG at 248-358-3003.

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FOREWORD

3rd Edition

The FMEA 3rd Edition (QS-9000) is a reference manual to be used by suppliers to DaimlerChrysler, Ford Motor Company, and General Motors Corporation as a guide to assist them in the development of both Design and Process FMEAs. This reference manual is intended to clarify questions concerning the technical development of FMEAs.

This reference manual is consistent with the Supplier Quality Requirements Task Force charter to standardize the reference manuals, procedures, reporting formats and technical nomenclature used by suppliers to DaimlerChrysler, Ford Motor Company, and General Motors Corporation. Accordingly the FMEA, 3rd Edition Manual is written to provide guidance for the supplier. The manual does not define requirements, it does provide general guidelines intended to cover situations normally occurring when preparing FMEAs during the design phase or process analysis phase.

This manual is the technical equivalent of SAE J1739, for Design and Process FMEAs. However, it does not include an application for Machinery FMEA. Interested parties in Machinery FMEA may refer to SAE J1739 for a related example.

The Supplier Quality Requirements Task Force would like to thank the following individuals, and their companies, who have contributed their time and efforts to the development of either this edition of the FMEA manual or earlier editions.

3rd Edition

Kevin A. Lange - DaimlerChrysler
Steven C. Leggett - General Motors Corporation
Beth Baker - AIAG

Earlier Editions

Howard Riley - DaimlerChrysler	Mark T. Wrobbel - DaimlerChrysler
George R. Baumgartner - Ford Motor Company	Rebecca French - General Motors
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