# **Advanced Product Quality Planning**





### ADVANCED PRODUCT QUALITY PLANNING (APQP) AND CONTROL PLAN

**Reference Manual** 

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## FOREWORD

This Reference Manual and Reporting Format were developed by the Advanced Product Quality Planning (APQP) and the Control Plan teams that were sanctioned by Chrysler, Ford, General Motors Supplier Quality Requirements Task Force.

The 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, approved and endorsed by Chrysler, Ford and General Motors, should be used by suppliers implementing APQP techniques into their design/manufacturing processes.

In the past, Chrysler, Ford, and General Motors each had their own guidelines and formats for ensuring supplier APQP 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 distribute this Manual. The work group responsible for this Manual was led by Mike Mazur of Ford Motor Company.

This manual provides general guidelines for preparing plans and checklists for ensuring that Advanced Product Quality Planning is in actuality carried out at the supplier. It does not give specific instructions on how to arrive at each APQP or Control Plan entry, a task best left to each component review team.

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

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This document, which includes a reference manual and reporting format, represents the consensus of the members of the Advanced Product Quality Planning and Control Plan teams sanctioned by the Chrysler, Ford, General Motors Supplier Quality Requirements Task Force. Team members, whose names appear below, wish to acknowledge the many contributions made by individuals from within their respective organizations, individuals without whose support and assistance this document would not have been possible.

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Introduction

#### INTRODUCTION

The purpose of this manual is to communicate to suppliers (internal and external) and subcontractors, common Product Quality Planning and Control Plan guidelines developed jointly by Chrysler, Ford and General Motors. The manual provides guidelines designed to produce a product quality plan which will support the development of a product or service that will satisfy the customer (see Section 1.6). The term "product" will be used throughout this manual and is meant as either product or service. The term "supplier" will also be used throughout this manual and is meant to apply to suppliers and subcontractors. Some of the expected benefits in using these guidelines are:

- A reduction in the complexity of product quality planning for the customers and suppliers.
- A means for suppliers to easily communicate product quality planning requirements to subcontractors.

This reference manual contains guidelines that support the requirements described in the *Chrysler*, *Ford, and General Motors Quality System Requirements*.

All forms in this manual are provided as examples only. The purpose is to assist the Product Quality Planning Team in developing the appropriate communication forms to support meeting customer requirements, needs, and expectations.

The words "shall," "will" and "must" indicate mandatory requirements. The word "should" indicates a preferred approach. Suppliers choosing other approaches must be able to show that their approach meets the intent of this manual. Where the words "typical" and "examples" are used, the appropriate alternative for the particular commodity or process should be chosen.

The Product Quality Planning Cycle shown on the facing page is a graphic depiction of a typical program. The various phases are sequenced to represent planned timing to execute the functions described. The purpose of the Product Quality Cycle is to emphasize:

- Up-front planning. The first three quarters of the cycle are devoted to up-front product quality planning through product/process validation.
- The act of implementation. The fourth quarter is the stage where the importance of evaluating the output serves two functions: to determine if customers are satisfied, and to support the pursuit of continual improvement.

Depicting product quality planning as a cycle illustrates the never-ending pursuit of continual improvement that can only be achieved by taking the experience in one program and applying that acquired knowledge to the next program.