

# SURFACE VEHICLE/ AEROSPACE RECOMMENDED PRACTICE

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## A Guide to the Reliability-Centered Maintenance (RCM) Standard

**Foreword**—Reliability-Centered Maintenance (RCM) was first documented in a report written by F.S. Nowlan and H.F. Heap of United Airlines and published by the U.S. Department of Defense in 1978. It described the then-current state-of-the-art processes used to develop maintenance programs for commercial aircraft. Since then, the RCM process has been widely used by other industries, and has been extensively refined and developed. These refinements have been incorporated into numerous application documents, published by a variety of organizations around the world. Many of these documents remain faithful to the basic principles of RCM as expounded by Nowlan and Heap.

However in the development of some of these documents, key elements of the RCM process have been omitted or misinterpreted. Due to the growing popularity of RCM, other processes have emerged that have been given the name "RCM" by their proponents, but that are not based on Nowlan and Heap at all. While most of these processes may achieve some of the goals of RCM, a few are actively counterproductive, and some are even dangerous.

As a result, there has been a growing international demand for a standard that sets out the criteria that any process must comply with in order to be called "RCM." SAE JA1011 meets that need. However SAE JA1011 presupposes a high degree of familiarity with the concepts and terminology of RCM. This Guide amplifies, and where necessary clarifies, those key concepts and terms, especially those that are unique to RCM.

Note that this Guide is not intended to be a manual or a procedural guide for performing RCM. Those who wish to apply RCM are strongly encouraged to study the subject in greater detail, and to develop their competency under the guidance of experienced RCM practitioners.

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