

AEROSPACE RECOMMENDED PRACTICE

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REV. B

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Gas Motor

RATIONALE

This document has been determined to contain basic and stable technology which is not dynamic in nature.

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1. SCOPE:

1.1 General:

It is intended that this SAE Aerospace Recommended Practice (ARP) will set down guidelines for the development and test of gas motors to provide a practical and reliable hot gas rotary actuation mechanism. Specific operational and test requirements shall be specified in a detail specification.

1.2 Specific:

The areas to be discussed are: Requirements (performance, environment, life, and reliability), design and fabrication, and test considerations.

1.2.1 Life: This ARP will define in a general way the life requirements of "gas motors" for three broad categories of flight vehicles.

1.2.1.1 Long-Range Air Breathing Vehicles: The motors for vehicles, which will have a long operational life in proportion to their ground checkout life.

1.2.1.2 Manned Reentry Vehicles: The motors for vehicles, which will have a moderately long operational life and will be significantly less than their ground checkout life.

1.2.1.3 Single Use Vehicles: The motors for vehicles, which have a long ground checkout life in proportion to their operational life and that range from seconds to an hour or more.

1.2.2 Environment and Performance: This ARP will be confined to discussing the environments and gas temperatures most likely to be encountered, listing some of the performance parameters without numerically defining them, and to specifying tests to show compliance with the performance and reliability requirements under the expected environmental conditions. This ARP will not define a specific "gas motor."

2. REFERENCES:

2.1 Applicable Documents:

The following documents form part of this ARP specified herein. The latest issue of SAE documents shall apply. The applicable issue of other documents shall be as specified in the procurement specification.

2.1.1 U.S. Government Publications:

Military Specifications

MIL-P-8564 Pneumatic System Components, Aeronautical, General Specification