



AEROSPACE RECOMMENDED PRACTICE

ARP1217™

REV. B

Issued 1979-05
Reaffirmed 1989-05
Revised 2024-06

Superseding ARP1217A

(R) Instrumentation Requirements for Turboshaft Engine Performance Measurements

RATIONALE

During the SAE Five-Year Review, it was identified that although ARP1217A's scope states that it provides "the measurement parameters that may be used by a pilot or operator to monitor the thermodynamic health of a turboshaft engine," the actual content seemed more oriented on providing guidance to the airframe or engine manufacturers for the selection of the parameters and instrumentation and for which the pilot or operator would have little to no impact as the product end user. In addition, it was found that relevant reference documents providing complementary information were not referenced in ARP1217A. Finally, instrumentation accuracy/uncertainty being something that evolves through the years, a thorough review was deemed required to make sure that ARP1217 is aligned with the current state/understanding of the respective technologies.

FOREWORD

Changes in this revision have been made to reflect the current state/understanding of engine performance instrumentation accuracy/uncertainty and recommendations. Various relevant references on the topic of engine instrumentation and engine health assessment/monitoring were also added. Format/editorial changes were also made to improve clarity and conform to the latest format of SAE aerospace standards documents.

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1. SCOPE

This SAE Aerospace Recommended Practice (ARP) provides guidance on the engine performance parameters that may be selected by airframe and engine manufacturers, and used by a pilot or operator, to monitor the thermodynamic health of a turboshaft engine installed in a rotorcraft and the measurement system accuracies desired. Different accuracies may be required for in-flight operations such as engine control.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AIR1900	Guide to Temperature Monitoring in Aircraft Gas Turbine Engines
ARP485	Temperature Measuring Devices Nomenclature
ARP1587	Aircraft Gas Turbine Engine Health Management System Guide
ARP5120	Aircraft Gas Turbine Engine Health Management System Development and Integration Guide
AS755	Aircraft Propulsion System Performance Station Designation
AS6502	Aircraft Propulsion System Performance Nomenclature

2.1.2 FAA Publications

Available from Federal Aviation Administration, 800 Independence Avenue, SW, Washington, DC 20591, Tel: 866-835-5322, www.faa.gov.

14 CFR Part 27	Airworthiness Standards: Normal Category Rotorcraft
14 CFR Part 29	Airworthiness Standards: Transport Category Rotorcraft
14 CFR Part 33	Airworthiness Standards: Aircraft Engines

2.1.3 Other Publications

AGARD-AR-245	Recommended Practices for Measurement of Gas Path Pressures and Temperatures for Performance Assessment of Aircraft Turbine Engines and Components
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