

## AN OVERVIEW OF SAE ARP 1587

### "AIRCRAFT GAS TURBINE ENGINE MONITORING SYSTEM GUIDE"

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The Society of Automotive Engineers (SAE) organized the E-32 Engine Monitoring Committee in November, 1976, with Tom Warwick of Pratt and Whitney as Chairman.

The committee is made up of members affiliated with:

- Engine manufacturers
- Equipment suppliers
- Airlines
- Government agencies
- Military services
- Aircraft manufacturers

Members serve as individuals, not as agents of any organization, and are expected to represent and vote their own opinions. Members are chosen because of their knowledge and expertise in the field, and need not belong to the SAE. There are currently 35 committee members. Countries represented, in addition to the USA, include Canada, France, Great Britian, Spain, and the Netherlands.

The primary task of the Committee thus far has been preparation of an SAE Aerospace Recommended Practice (ARP) document. This document has been completed, and is designated ARP 1587 "Aircraft Gas Turbine Engine Monitoring System Guide".

ARP 1587 outlines a systematic approach to developing an Engine Monitoring System (EMS). It presents an extensive shopping list of EMS capabilities and benefits. A team approach to developing an EMS is emphasized with a description of the responsibilities of each team member.

This is considered a keystone document, in that it lays the groundwork for future committee publications and activities. In addition to maintaining ARP 1587, the E-32 Committee is considering engine life usage methodology, "lessons learned" on past EMS programs, and hardware requirements including sensors amd "minimum system" definitions. These follow-on activities will be under the able direction of Bill Peters of General Electric, who is taking over as committee chairman. Tom Warwick will remain on the committee, but will assume a less active role. Tom has done a fantastic job over the past four years of guiding ARP 1587 from concept to reality.

It is planned that ARP 1587 will be available prior to the AIAA/SAE/ASME Joint Propulsion Conference to be held in Colorado Springs, July 27-29, 1981.

The ARP is currently priced at \$6.00 per copy (SAE member or non-member). A companion Special Publication (SP 478), containing ARP 1587 and several related technical papers, will also be available at \$20.00 per copy (\$16.00 to SAE members).

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# ARP 1587 AIRCRAFT GAS TURBINE ENGINE MONITORING SYSTEM GUIDE

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*Recommends Systematic Approach Toward Engine Monitoring*

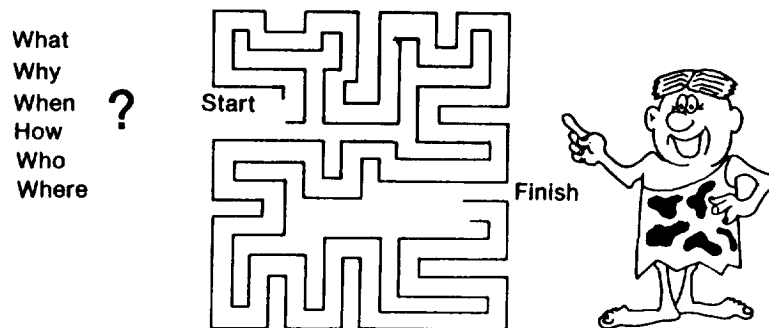


FIGURE 1

# ARP 1587 AIRCRAFT GAS TURBINE ENGINE MONITORING SYSTEM GUIDE

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*Presents Extensive List of Design Options*


	<u>Capability</u>	<u>Benefit</u>
	Limit Exceedance	Safety
	Life Usage	ROI
	BITE	Availability

FIGURE 2

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*Addresses User and Supplier Responsibilities*

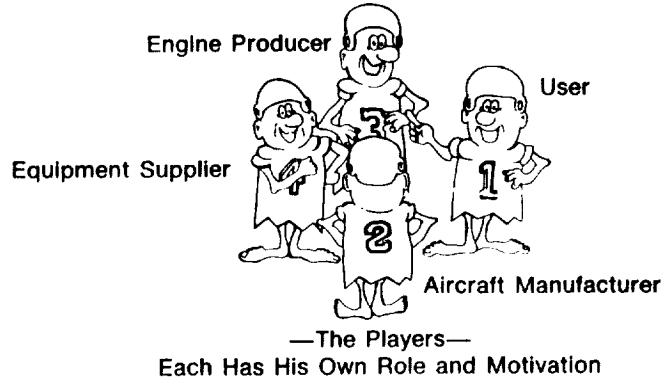


FIGURE 3

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*Gets It All Together with Keystone Document*

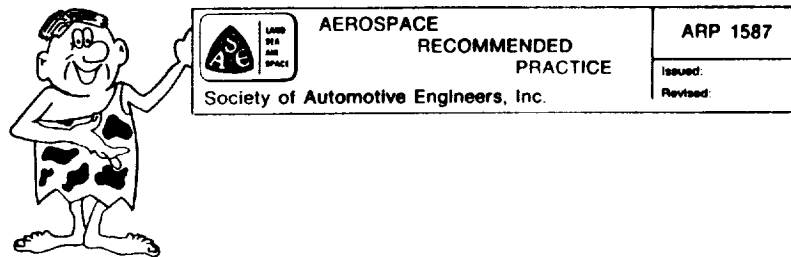


FIGURE 4