

Engine Condition Trend Monitoring – 1 Day

Introduction

During normal operation all engines will experience rubbing, thermal stress, mechanical stress, dirt accumulation, foreign object ingestion and other events which will eventually result in a measurable decrease in efficiency.

By continuously monitoring the evolution of key parameters that can translate engine condition, deterioration in engine performance can be detected as well as early signs of engine faults and thus appropriate measures can be undertaken.

ECM is the continuous monitoring of key engine parameter to detect impending failures and assess engine performance. ECM uses standard engine and aircraft instrumentation for monitoring.

No additional measurement equipment is needed.

For each Engine a baseline model that represents the expected behaviour of a given engine, The difference over time between measured data and the baseline model is called the parameter Delta.

Monitoring the evolution of these deltas is what gives knowledge about the current state of an engine and allows an estimation of how its performance has deteriorated with each flight cycle.

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Benefits of Developing an ECM Program

- Detect potential failures to avoid/reduce secondary damages
- Improve fleet management (removal and spare engine planning)
- Reduce maintenance cost thanks to early detection
- Lower unscheduled downtime cost
- Optimize on-wing time
- Better estimate shop visit cost
- Improve customize work scoping
- Increase knowledge about engine on-wing behavior
- Optimize shop capacity planning
- ECM operational & financial benefits
- Minimized unscheduled downtime and optimized on-wing times
- Supports early line maintenance decisions to avoid secondary damages and AOG's
- Supports performance prediction and optimum aircraft operational planning
- Allows for better engine removal planning and optimized spare engine management
- Allows for optimized off-wing maintenance planning
- Increased fuel efficiency and overall fuel consumption thanks optimized core engine cleaning
- Lower maintenance cost

Who is the course for?

The Engine Condition Trend Monitoring - 1 Day course is designed for individuals who are involved in the maintenance, repair, and monitoring of aircraft engines. This includes maintenance technicians, mechanics, engineers, quality assurance personnel, and other aviation professionals who are responsible for the performance and safety of aircraft engines. The course is also suitable for aviation industry professionals who are interested in learning about engine condition trend monitoring (ECTM), including pilots, operations managers, and safety officers.

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Detailed Content / Topics - The following Subjects will be addressed

- Abbreviations & Terminology
- Engine Fundamentals - Introduction
- Introduction to Engine Condition Trend Monitoring (ECTM)
- Trend Monitoring Parameters
- Condition-based Engine Maintenance
- Engine Maintenance Economics / Module / LLP
- Understanding EGT Margin
- Abbreviations & Terminology
- Engine Fundamentals - Introduction
- Introduction to Engine Condition Trend Monitoring (ECTM)
- Trend Monitoring Parameters
- Condition-based Engine Maintenance
- Engine Maintenance Economics / Module / LLP
- Understanding EGT Margin

What is the Benefit of this Training - What will I learn?

- Develop an Increased knowledge about engine on-wing behavior
- Understand how to Detect potential failures to avoid/reduce secondary damages
- Provide performance prediction and optimum aircraft operational planning
- Understand how to optimize shop capacity planning
- Be able to proactively Support early line maintenance decisions to avoid secondary damages and AOG's

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Learning Objectives

To develop a deep understanding of the elements related to ECTM. To be able to develop and Manage and Effective ECTM process within your organisation.

Target Groups

This course is aimed at Reliability Department Personnel, Quality Assurance staff, CAMO & Technical Staff.

Pre-requisites

A background in an aviation airworthiness environment will be an advantage as well as a fundamental awareness of current Aero Engine Technology.

What do People Say about Sofema Aviation Services Training?

"I found satisfying answers to all my questions."
"The instructor demonstrated very deep knowledge of the subject."
"The length of the course fit my needs and expectations."
"The content was really effective, I gained a lot of new knowledge."
"The practical examples were perfectly delivered."

Duration

1 day – Start at 09.00 and finish at 17.00, with appropriate refreshment breaks.
To register for this training, please email team@sassofia.com or Call +359 28210806

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