MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

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AIRCRAFT / AERO ENGINE RELIABILITY MAINTENANCE PLANNING & COST OPTIMIZATION

""Enhancing Aircraft Reliability and Maintenance Efficiency while Reducing Costs""

Schedule

Date	Venue	Fees (Face-to-Face)
04 – 08 May 2026	Dubai, UAE	USD 3495 per delegate
06 – 10 Jul 2026	Dubai, UAE	USD 3495 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

Aircraft and aero engine reliability are critical factors in ensuring operational safety, minimizing downtime, and optimizing maintenance costs. This 5-day course is designed for maintenance planners, engineers, and managers seeking to improve the reliability of aircraft and engines, while also managing maintenance planning and costs more effectively. The course covers advanced strategies for predicting maintenance needs, implementing reliability-centered maintenance (RCM), and optimizing maintenance schedules.

Through case studies, practical exercises, and expert-led sessions, participants will gain the tools and techniques needed to enhance maintenance strategies, reduce costs, and improve the overall operational efficiency of aircraft fleets and aero engines. The course will also address how to integrate cost optimization with the goal of maintaining high standards of reliability and safety.

Objectives

By the end of this course, participants will be able to:

- Understand the principles of aircraft and aero engine reliability.
- Apply reliability-centered maintenance (RCM) strategies to optimize aircraft and engine performance.
- Develop cost-effective maintenance planning models and strategies.
- Predict maintenance needs and plan accordingly to minimize downtime and costs.
- Analyze the impact of maintenance decisions on aircraft reliability and operational efficiency.
- Implement best practices in aircraft and aero engine maintenance cost optimization.

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Why Attend

- Gain advanced knowledge in aircraft and aero engine reliability management.
- Learn to apply RCM techniques for proactive maintenance and performance optimization.
- Develop skills in predicting and planning maintenance activities to reduce unscheduled downtime.
- Learn cost optimization strategies that improve both maintenance efficiency and profitability.
- Improve your ability to manage maintenance budgets while ensuring safety and compliance.
- Understand the latest trends and tools in maintenance planning for modern aircraft and engines.

Target Audience

This program is designed for:

- Aircraft maintenance engineers, planners, and managers
- Aviation fleet operators and maintenance teams responsible for aircraft reliability
- Aero engine maintenance engineers and reliability specialists
- Quality control and safety managers in the aviation industry
- Anyone involved in the planning and management of aircraft and aero engine maintenance activities

Individual Benefits

Key competencies that will be developed include:

- Advanced understanding of aircraft and engine reliability, including failure modes and effects.
- Expertise in reliability-centered maintenance (RCM) and its application in aviation.
- Skills in cost-effective maintenance planning and optimization strategies.
- Proficiency in assessing and managing the impact of maintenance activities on operational efficiency.
- Knowledge of the latest technologies and practices in aviation maintenance.

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved ability to predict maintenance needs and reduce unplanned downtime.
- Enhanced capacity to optimize maintenance schedules and improve fleet reliability.
- Increased ability to manage maintenance budgets more effectively while maintaining high safety standards.
- Stronger decision-making skills in balancing maintenance costs with operational efficiency.
- Greater alignment of maintenance strategies with organizational goals and industry standards.

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Detailed sessions on aircraft reliability, RCM techniques, and maintenance cost optimization strategies.
- Case Studies – Real-world examples of successful and challenging maintenance strategies in aviation.
- Workshops – Hands-on exercises for developing maintenance plans, optimizing schedules, and assessing reliability.
- Peer Exchange – Group discussions and collaborative learning to share insights and best practices.
- Tools – Practical tools and templates for applying RCM and cost optimization strategies in aircraft and engine maintenance.

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Course Outline

Training Hours: 7:30 AM – 3:30 PM Daily Format: 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Introduction to Aircraft and Aero Engine Reliability

- Module 1: Understanding Aircraft and Engine Reliability (07:30 – 09:30)
- Key concepts in reliability engineering for aviation
- Importance of reliability in aircraft safety and operational performance
- Common failure modes in aircraft and engines
- Module 2: Reliability-Centered Maintenance (RCM) Principles (09:45 – 11:15)
- Overview of RCM and its application in aviation maintenance
- How to identify critical components and prioritize maintenance efforts
- Developing RCM strategies for aircraft and engine systems
- Module 3: Maintenance Planning Fundamentals (11:30 – 01:00)
- Basics of maintenance planning and scheduling
- Developing and managing maintenance plans for fleet operations
- Techniques for reducing downtime and improving maintenance cycle times

Day 2: Maintenance Optimization and Cost Management

- Module 1: Predictive and Preventive Maintenance Techniques (07:30 – 09:30)
- Introduction to predictive maintenance (PdM) and preventive maintenance strategies
- Tools and techniques for forecasting maintenance needs
- How to integrate PdM into an existing maintenance planning framework
- Module 2: Maintenance Cost Optimization Strategies (09:45 – 11:15)
- Techniques for reducing maintenance costs without compromising reliability or safety
- Analyzing the cost-benefit of different maintenance strategies
- How to manage spare parts inventory and reduce stockholding costs
- Module 3: Data Analysis and Performance Monitoring (11:30 – 01:00)
- Using data analytics to improve maintenance decisions
- Monitoring and measuring the effectiveness of maintenance activities
- Key performance indicators (KPIs) for maintenance efficiency

Day 3: Risk Management in Aircraft and Engine Maintenance

- Module 1: Identifying and Assessing Maintenance Risks (07:30 – 09:30)
- Risk management principles in aviation maintenance
- Identifying high-risk components and systems
- Techniques for mitigating maintenance-related risks
- Module 2: Safety Management in Maintenance Operations (09:45 – 11:15)
- Ensuring safety during aircraft and engine maintenance activities
- Managing regulatory compliance and industry standards
- Developing a safety-first maintenance culture
- Module 3: Reliability Data and Root Cause Analysis (11:30 – 01:00)
- Using reliability data for root cause analysis of failures
- Techniques for identifying the underlying causes of maintenance issues
- Implementing corrective actions based on root cause findings

Day 4: Advanced Strategies in Maintenance Planning

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Module 1: Scheduling and Resource Optimization (07:30 – 09:30)

- Best practices for creating efficient maintenance schedules
- Allocating resources effectively to maximize productivity
- Using technology to optimize scheduling and resource planning
- Module 2: Fleet Management and Performance Optimization (09:45 – 11:15)
- Managing a fleet of aircraft for maximum reliability and operational efficiency
- Strategies for fleet-wide performance improvement
- Benchmarking fleet performance and identifying areas for improvement
- Module 3: Integrating Modern Technologies in Maintenance Operations (11:30 – 01:00)
- Exploring the role of automation and digital technologies in maintenance optimization
- Using advanced diagnostic tools and software for predictive maintenance
- Implementing the Internet of Things (IoT) and machine learning in maintenance operations

Day 5: Implementing, Monitoring, and Evaluating Maintenance Plans

- Module 1: Implementing Maintenance Strategies and Action Plans (07:30 – 09:30)
- Developing a comprehensive implementation plan for aircraft and engine maintenance
- Ensuring successful execution of maintenance strategies across the organization
- Monitoring and adjusting strategies as necessary
- Module 2: Performance Monitoring and Evaluation (09:45 – 11:15)
- Tracking the effectiveness of maintenance plans and strategies
- Key metrics and KPIs for evaluating maintenance success
- Continuous improvement in aircraft and engine maintenance
- Module 3: Final Workshop and Course Wrap-Up (11:30 – 01:00)
- Interactive workshop to apply learning from the course
- Review of key strategies, best practices, and tools discussed
- Course wrap-up and certificate distribution

Certification

Upon completing the training course, participants will receive a Certificate of Completion in Aircraft / Aero Engine Reliability Maintenance Planning & Cost Optimization, recognizing their ability to apply advanced strategies for improving aircraft and engine reliability, optimizing maintenance planning, and reducing costs

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
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