MERCURY

Aircraft Spare Parts Procurement and Inventory Management

25 - 29 Apr 2027
Online

Dubai - UAE: +971 4 450 5697
Istanbul - Türkiye: +90 539 599 1206
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Ref.: 16262_1013062 **Date:** 25 - 29 Apr 2027 **Location:** Online **Fees:** 1900 **Euro**

Introduction:

Efficient procurement and management of aircraft spare parts are essential for maintaining operational continuity, safety, and cost control in the aviation industry. This Aircraft Spare Parts Procurement and Inventory Management course equips participants with the necessary tools and methodologies to optimize spare parts sourcing and inventory operations. It covers global best practices in aviation supply chain management, vendor evaluation, stock control, and demand forecasting.

Participants will gain insights into regulatory compliance, lifecycle management, and the economics of inventory for aviation parts. With increasing complexity in aviation logistics, mastering these processes is critical for minimizing downtime and ensuring flight safety. This Aircraft Spare Parts Procurement and Inventory Management training closes the skills gap and elevates professional performance. Participants will contribute meaningfully to reducing inventory costs and strategic procurement planning.

Targeted Groups:

This Aircraft Spare Parts Procurement and Inventory Management training targets professionals seeking specialized knowledge and skills:

- Aircraft maintenance engineers and planners.
- Supply chain and logistics managers in aviation.
- Inventory and warehouse supervisors in MRO facilities.
- Aviation procurement and sourcing specialists.
- Airline fleet and technical managers.
- Ground support logistics officers.
- Aviation operations coordinators.
- Defense aviation logistics personnel.
- Quality assurance professionals in aircraft parts.
- Professionals transitioning into aviation inventory roles.

Targeted Competencies:

Participants will gain the following competencies during the Aircraft Spare Parts Procurement and Inventory Management program:

- Strategic planning in aviation spare parts sourcing.
- Data-driven inventory control and optimization.
- Effective negotiation and supplier performance assessment.
- Compliance with aviation procurement regulations.
- Forecasting demand for scheduled and unscheduled maintenance.
- Minimizing turnaround time through efficient logistics.
- Managing multi-location inventory visibility.
- Enhancing procurement and inventory coordination.
- Reducing operating costs through lean inventory practices.

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Course Objectives:

Participants will achieve the following objectives by completing the Aircraft Spare Parts Procurement and Inventory Management course:

- Understand the principles of aviation spare parts classification and lifecycle.
- Analyze inventory requirements using industry-specific forecasting techniques.
- Apply effective strategies for supplier evaluation and contract negotiation.
- Evaluate spare parts procurement strategies in compliance with aviation standards.
- Optimize inventory levels using reorder point and safety stock models.
- Develop a maintenance-aligned procurement plan that supports aircraft readiness.
- Identify critical and non-critical parts and align procurement accordingly.
- Use demand analysis to reduce overstock and obsolescence.
- Monitor and improve vendor performance using KPIs.
- Integrate technology for real-time inventory tracking and reporting.
- Mitigate supply chain risks through proactive sourcing strategies.
- Prepare audits and reports aligned with international aviation authorities.
- Align procurement objectives with organizational cost-saving goals.
- Improve communication between procurement, maintenance, and finance teams.
- Demonstrate compliance with OEM and regulatory documentation standards.

Course Content:

Unit 1: Fundamentals of Aircraft Spare Parts Procurement:

- Introduction to aviation spare parts categories and standards.
- Lifecycle classification: rotatable, consumable, expendable items.
- Key players in the aviation procurement supply chain.
- Role of OEMs, PMAs, and authorized distributors.
- Legal and regulatory requirements in aviation parts sourcing.
- Criteria for selecting aviation-approved suppliers.
- Documentation and traceability: ATA Spec 2000, FAA Form 8130-3.
- Contracting types: purchase agreements vs. consignment models.
- Ethical considerations and anti-counterfeit policies in aviation.

Unit 2: Inventory Planning and Optimization Techniques:

- Principles of inventory control in aviation operations.
- Calculating reorder points and economic order quantity EOQ.
- Classification techniques: ABC, XYZ, FSN, and VED analyses.
- Managing stockouts and safety stock planning.
- Real-time inventory tracking and serialization practices.
- Forecasting demand using historical consumption data.
- Inventory costing: FIFO, LIFO, and average costing.
- Obsolescence management and write-off policies.
- Use of KPIs in inventory performance monitoring.

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Unit 3: Strategic Procurement and Vendor Management:

- Strategic sourcing models in aviation logistics.
- Supplier qualification and evaluation procedures.
- Request for Quotation RFQ, tendering, and e-procurement.
- Negotiation techniques tailored for aviation contracts.
- SLA development and monitoring for supplier performance.
- Long-term agreements vs. spot procurement.
- Vendor Managed Inventory VMI and consignment models.
- Collaborative planning with suppliers and maintenance teams.
- Managing lead times and emergency procurement protocols.

Unit 4: Technology Integration and Data-Driven Decisions:

- ERP systems in aviation inventory and procurement.
- Aviation-specific software: AMOS, Ramco, and Quantum Control.
- Barcode and RFID technologies for tracking and identification.
- Data analytics for inventory optimization.
- Integration between maintenance planning and procurement modules.
- Blockchain applications for aircraft part authenticity.
- Automation in restocking and procurement triggers.
- Dashboards and real-time reporting for decision-making.
- Cybersecurity and data protection in aviation logistics systems.

Unit 5: Compliance, Risk Management, and Operational Excellence:

- Regulatory bodies: FAA, EASA, IATA, and ICAO roles.
- Compliance audits and documentation standards.
- Managing import/export controls and customs procedures.
- Quality assurance in spare parts procurement.
- Identifying and mitigating supply chain risks.
- Crisis response: handling shortages, delays, and emergencies.
- Sustainable procurement practices in aviation.
- Aligning procurement with maintenance reliability targets.
- Building a culture of continuous improvement in procurement.

Final Insights & Key Takeaways:

Effective spare parts procurement and inventory management are pivotal for sustaining aircraft availability and minimizing costs. This course delivers hands-on frameworks that professionals can apply immediately in real-world aviation environments. Participants will emerge with actionable skills in forecasting, sourcing, compliance, and logistics integration. Mastery of these concepts will drive organizational efficiency and improve operational readiness in aviation fleets.

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Registration form on the :
Aircraft Spare Parts Procurement and Inventory Management

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