

Aircraft Maintenance Manual – General Introduction

Sofema Online (SOL) www.sofemaonline.com looks at the format & structure of the Aircraft Maintenance Manual

Introduction

The Aircraft Maintenance Manual (AMM) is a manual developed by the manufacturer that provides detailed technical maintenance instructions for a specific type of Aircraft.

- The content of the Aircraft Maintenance Manual (AMM) is part of the Instructions for Continued Airworthiness (ICA) that the Type Certificate Holder is required to provide and maintain.
- The data contained in this AMM is in general compliance with ATA 100 Specification (updated by iSpec2200, Information Standards for Aviation Maintenance, and supported by ASD-STE100 Simplified Technical English).
- The AMM text is in Standard Generalized Markup Language (SGML) format. The standard illustrations are in Computer Graphics Metafile (CGM) format.
- The AMM contains the instructions for the on-aircraft maintenance necessary to ensure the continued airworthiness of the aircraft.
- The AMM contains information required to service, repair, replace, adjust, inspect and check equipment and systems on the aircraft. These tasks are normally performed on the ramp or in the maintenance hangar.
- The AMM also contains information about inspections and maintenance of aircraft structures. However, repair of structure is contained in the Structural Repair Manual (SRM)

Concerning AMM Revisions

The maintenance manual is kept current by the Revision Service. A list of effective pages (LEP) is provided with each revision.

There are two types of revisions –

1. Normal Revisions (periodic Update & Consolidation of TR)
2. Temporary Revisions (TR) – Urgent information which the release of which must be prioritized before the next formal release

A Typical AMM Consists of the following

- Title section provides the name of the manual, the revision date, and the revision number.
- manufacturer's contact address and legal notice.
- Transmittal letter.
- The Highlights section provides the reason for the revision of text and/or illustrations. They are sorted by ATA Chapter.
- List of Effective Temporary Revisions – This list is always empty at the delivery of each normal revision. A list of Effective Temporary Revisions is dispatched with each Temporary Revision issued.
- The Introduction provides general information on how to use the manual.
- Effectivity Table that provides the correspondence between Fleet Serial Number (FSN) and Manufacturer Serial Number (MSN).
- List of the Service Bulletins.
- Customer Originated Changes (COC).

Aircraft Maintenance Manual Features

- Servicing
- Removal and Installation
- Deactivation and Reactivation
- Test and Adjustment
 - Operational Test
 - Functional Test
 - System Test
 - BITE Test
- Inspection/Check
 - Detailed Inspection
 - General Visual Inspection
 - Special Detailed Inspection
- Cleaning and Painting
- Repairs

Locating Information within the AMM

ATA 00	General
ATA 01	Maintenance Policy

ATA 02	Operations
ATA 03	Support
ATA 04	Airworthiness Limitations
ATA 05	Time Limits/Maintenance Checks
ATA 06	Dimensions and Areas
ATA 07	Lifting and Shoring
ATA 08	Leveling and Weighing
ATA 09	Towing and Taxiing
ATA 10	Parking, Mooring, Storage and Return To Service
ATA 11	Placards and Markings
ATA 12	Servicing
ATA 13	Hardware and General Tools
ATA 15	Aircrew Information
ATA 16	Change of Role
ATA 18	Vibration and Noise Analysis (Helicopter Only)
ATA 20	Standard Practices- Airframe
ATA 21	Air Conditioning
ATA 22	Auto Flight
ATA 23	Communication
ATA 24	Electrical Power
ATA 25	Equipment /Furnishings
ATA 26	Fire Protection
ATA 27	Flight Controls
ATA 28	Fuel
ATA 29	Hydraulic Power
ATA 30	Ice and Rain Protection
ATA 31	Indicating / Recording System
ATA 32	Landing Gear

ATA 33	Lights
ATA 34	Navigation
ATA 35	Oxygen
ATA 36	Pneumatic
ATA 37	Vacuum
ATA 38	Water / Waste
ATA 39`	Electrical - Electronic Panels And Multipurpose Components
ATA 40	Multisystem
ATA 41	Water Ballast
ATA 42	Integrated Modular Avionics
ATA 44	Cabin Systems
ATA 45	Onboard Maintenance Systems (Oms)
ATA 46	Information Systems
ATA 47	Inert Gas System
ATA 48	In Flight Fuel Dispensing
ATA 49	Airborne Auxiliary Power

Structure

ATA 50	Cargo and Accessory Compartments
ATA 51	Standard Practices and Structures - General
ATA 52	Doors
ATA 53	Fuselage
ATA 54	Nacelles/Pylons
ATA 55	Stabilizers
ATA 56	Windows
ATA 57	Wings

Propeller/Rotor

ATA 60	Standard Practices - Prop. /Rotor
ATA 61	Propellers/ Propulsors
ATA 62	Main Rotor(S)
ATA 63	Main Rotor Drive(S)
ATA 64	Tail Rotor
ATA 65	Tail Rotor Drive
ATA 66	Folding Blades/Pylon
ATA 67	Rotors Flight Control

Power Plant

ATA 71	Power Plant
ATA 72	Engine
ATA 72T	Engine - Turbine/Turboprop, Ducted Fan/Unducted Fan
ATA 72R	Engine - Reciprocating
ATA 73	Engine - Fuel And Control
ATA 74	Ignition
ATA 75	Bleed Air
ATA 76	Engine Controls
ATA 77	Engine Indicating
ATA 78	Exhaust
ATA 79	Oil
ATA 80	Starting
ATA 81	Turbines (Reciprocating Engines)
ATA 82	Water Injection
ATA 83	Accessory Gear Box (Engine Driven)

ATA 84 Propulsion Augmentation

Miscellaneous

ATA 91 Charts

ATA 97 Wiring Reporting

ATA 115 Flight Simulator Systems

ATA 116 Flight Simulator Cuing System

Peculiar Military Chapters

ATA 92 Electrical Power Multiplexing

ATA 93 Surveillance

ATA 94 Weapon System

ATA 95 Crew Escape and Safety

ATA 96 Missiles, Drones and Telemetry

ATA 98 Meteorological and Atmospheric Research

ATA 99 Electronic Warfare System

AMM Description and Operation (D/O)

The purpose of the D/O is to familiarize maintenance personnel with the aircraft systems and give them sufficient information to understand how the systems operate.

Component Location

System/Component Description

Power Supply (if applicable)

Interface with other systems (if applicable)

Operation/Control and Indicating

System/BITE Test

AMM Maintenance Procedure (MP)

A Maintenance Procedure is made up of Task(s) and Subtasks. Each Task is broken down into the following paragraphs:

- **Procedure Title** – The title of a maintenance procedure associated with an MPD task is generally identical to the MPD task description.
- **Reason for the Job** – Explains the reason for the task.
- **Job Set-Up Information** – Equipment required for maintenance.
- **Job Set-Up or Preparation** – This includes Aircraft Maintenance Configuration, Circuit Breakers, and Safety Precautions.
- **Procedure** – Work steps and also includes sub-tasks.
- **Close-Up** – Work steps in order to put the aircraft back into its initial configuration.

Job Set-Up Information includes –

- **Fixtures, Tools, Test, and Support Equipment** – This table provides the fixtures, tools, and equipment that are required for maintenance operation and not part of the mechanic toolbox (standard hand-tool). Fixtures, tools, and equipment are classified into two types of items:
 - The **non-specific items** – also referred to as “NO-SPECIFIC” or “STANDARD”. These items are identified by their main features and should be purchased or manufactured freely on the market.
 - The **specific items** – These items are identified by a PNR (Part Number) and listed in the TEM (Tool and Equipment Manual).
- **Consumable Materials** – Gives a list of all the materials called up in the maintenance procedure.
- **Work Zones and Access Panels** – The zones are identified by a three-digit numerical code. This includes all location and access panel information required to perform the task.
- **Expendable Parts** – Use the Illustrated Parts Catalog (IPC) or the Power Plant Illustrated Parts Catalog (PIPC) to find the corresponding Part Numbers.
- **Referenced Information** – Any additional information which is necessary to perform a maintenance procedure (task).

AMM Task may contain WARNING, CAUTION, and Note.

WARNING: CALLS ATTENTION TO USE OF MATERIAL, PROCESSES, METHODS, PROCEDURES OR LIMITS WHICH MUST BE FOLLOWED PRECISELY TO AVOID INJURY OR DEATH TO PERSONS.

CAUTION: CALLS ATTENTION TO METHODS AND PROCEDURES WHICH MUST BE FOLLOWED TO AVOID DAMAGE TO EQUIPMENT.

NOTE: Calls attention to methods which make the job easier or provide supplementary or explanatory information.

Next Steps

Sofema Aviation Services (www.sassofia.com) and Sofema Online (www.sofemaonline.com) provides EASA compliant Regulatory & Vocational Training – please see the websites or email team@sassofia.com