

MECHANICAL SYSTEMS ASSEMBLER-FITTER



RNCP CODE: 40681

JOB DESCRIPTION

Mechanical Systems Assembler-Fitters assemble mechanical mechanisms and various mechanical, hydraulic, pneumatic or electrical components. They use specialised tools and equipment to carry out a complete system assembly or to assemble a mechanical sub-assembly.

MAIN TASKS

- Mechanical Systems Assembler-Fitters refer to a manufacturing file to carry out assembly operations, in order to produce compliant mechanical sub-assemblies using a pre-defined assembly process.
- Depending on the type of assembly to be carried out, Mechanical Systems Assembler-Fitters assemble mechanisms of varying degrees of complexity and adjust the different parts so that they fit together perfectly. They may be required to carry out additional operations such as welding, riveting or bonding.

TRAINING PROGRAMME

OBJECTIVES

The course is designed to prepare the trainees to carry out the work of a Mechanical Systems Assembler-Fitter.

The content of the course aims to teach trainees the skills needed to become a Mechanical Systems Assembler-Fitter, in order to validate the five specialisations required for the French Vocational Diploma (TPFP) "Mechanical Systems Assembler-Fitter" - MQ 1991 0082. For more information, please consult the *France Compétences* website (<https://www.francecompetences.fr>), specifying the French National Register of Professional Qualifications (RNCP) code corresponding to the course, which can be found in the downloadable programme available on the specific page devoted to the course. This will provide you with detailed information about the certification.

At the end of the course, trainees will be able to:

- Check the supply of equipment, tools and components required for assembling mechanical parts.
- Prepare the sequence of assembly operations for mechanical components.
- Fit sub-assemblies.
- Assemble sub-assemblies.
- Adjust and test the operation of sub-assemblies.

TARGET AUDIENCE

This course is open to all types of profiles.

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PREREQUISITES, enrolment conditions and deadlines

Candidates must be interested in manual trades in the aeronautical industry.

- French: Equivalent competence level "Elementary A2" (CEFR Global scale of common reference levels for skills).
- Mathematics: Equivalent level of competence to "Cycle 3" according to the French government gazette (*Bulletin Officiel*) of 26/11/2015.

The Recruitment and Training Department reserves the right to accept any application that does not fully meet these pre-requisites, based on a study of the application and the candidate's interview.

DURATION

- Theoretical and practical training: 455 hours of on-site training.
- Practical internship: according to the schedule.
- Dates: according to the course schedule.

ORGANISATIONAL ARRANGEMENTS

- Continuous on-site training – Course divided into modules
- Minimum number of trainees: 8 – maximum number of trainees: 12.
- Location: 3 rue Jules Védrynes, 31400 TOULOUSE or on the customer's site.

DISABLED ACCESS

For people with disabilities, tailor-made support can be provided to facilitate the training period. For any requests or information, please contact the Disability correspondent on the following number: +33 (0)6 21 67 66 25.

TEACHING RESOURCES/METHODS

A classroom equipped with a video projector is provided for the duration of the training course. Trainees are given a summary of the course content.

For practical work, two fitting workshops with 61 workbenches are made available.

A warehouse area is set aside to provide shared tools and consumables in order to ensure that the course runs smoothly; each trainee is provided with an individual toolbox.

The training centre also has: changing rooms for men/women/disabled persons, a canteen, a rest room, a self-service resource room equipped with 5 computer stations connected to a printer, a photocopier and a telephone.

Please note that there is a defibrillator in the training centre.

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COURSE CONTENT

General aeronautical principles – the different ATA chapters

General aeronautical principles
Composition of a plane
Industrial drawings
ATA 52 Doors
ATA 21 Air Conditioning
ATA 24 Electrical power
ATA 27 Flight controls
ATA 28 Fuel systems
ATA 29 Hydraulic systems
ATA 32 Landing gear
ATA 35 Oxygen
ATA 35 Oxygen masks
ATA 38 Fuel circuits
ATA 92 Electrical System Installation
Water Air Fire
ATA 36 Pneumatics (OHDS)
ATA 26 Fire Extinguishers
General cabin features

Mechanics

Materials technology
Reading and filling in a work process sequence
Guide for taking measurements
Tightening and locking
Pipe crimping
Tension and shearing forces
Corrosion
Technological study of how hydraulic circuits operate
Hydraulic connections
Adjusting 3D fasteners
Fitting single composite parts
Gluing labels
Gluing/bonding large parts
Thread wire-locking
Gestures and posture - Confined spaces
Air-conditioning connections
Hydraulic connections
Fuel connections
Adjusting connecting rods
Adjusting doors
SPI seal assembly
Fitting and removing bearings
Fuel tank safety

Wiring Basics

Electrical bonding Electro-Static Discharges
Wires and connectors
Practical work (PW) on connections & Inspection exercises
Crimping contacts and terminals
Inspection exercises
Harness installation rules

Fitting Basics

Reading Drawings & Training
Tolerances
Adjustments
Sealants
Aeronautical fasteners
Reading inspection tools
Practical work on inspecting fasteners
Patching and corrosion protection
PW recording patching & protection defects
PW on fitting (functional clearance)
Practical work tapping
Countersinking
Counterboring – Sawing
PW on assembly by riveting and screwing
PW on assembly with interposition sealants
Practical work on liquid & solid shimming
Automatic Drilling Units

Practical work

Cross-cutting work on technical platforms in the workshop (equipped with individual workbenches and a sufficient number of individual and collective tools per participant) and on the ATR, A340 and A320 aircraft structures provided for practical exercises.

Technical English

Quality:

Lean Management
Metrology
Quality in the aeronautical environment
Best practices
Inspection tools
Metrology
Human factors

Tests – Revision – Exercises – Mock oral exams

Practical exam for the French Vocational Diploma (TPFP)

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TRAINER BACKGROUND

Our trainers, who have significant experience in the aerospace sector and are experts in the area covered by the course, will be responsible for designing, developing and delivering the technical modules.

COURSE ASSESSMENT AND SUPERVISION

The course is supervised by the Training Coordinator under the management of the Operations Manager at Derichebourg Aeronautics Training.

Continuous assessment of knowledge is carried out throughout the course via MCQs and practical simulations in workshops. Regular assessments are organised every 4 weeks, and the assessment tables can be sent to the parties responsible for funding the course. The trainees take the CQPM examination, involving an interview with a panel of professionals.

COURSE MONITORING SYSTEM

- Attendance sheet
- Course assessment by the trainees
- Training certificate