

Basic Training

Structure training at a glance



Lufthansa
Technical Training

Member of the Lufthansa Technik Group

In general

Our structure repair courses provide essential technical information as well as the basic and special knowledge required for maintenance personnel who are involved in the repair of aircraft structures in the field of commercial aviation.

Each training course is aimed at creating confidence based on knowledge and understanding.

Our structure training is built on a firm basis that will enable the student to perceive:

- knowledge about materials on modern transport aircraft and their application
- design principles and their derivatives
- categorization of different types of damage on aircraft structures
- basic application of aircraft manuals such as Structure Repair Manual
- overhaul procedures linked to the Structure Repair Manual
- conduction of typical repairs based on the Structure Repair Manual as well as the operation of special tooling
- safety precautions related to aircraft structures

Your benefits

- We offer a wide range of structure related training courses.
- All instructors have real life MRO experience and latest information regarding these repair processes.
- The practical exercises are close to “real life” and are carried out on original aircraft parts with original aircraft materials.
- Our workshops in Frankfurt and Hamburg are very well equipped. We have access to our own training aircraft.
- We are able to conduct most of these training courses at your premises too. We will bring along our equipment and material if necessary.
- Due to the modularization of our products, we can tailor made our structure basic courses to suit your participant’s unique needs.



All structure courses can be found here:
www.ltt.aero/en/basic-structure-and-cabin





Flap peening procedure



GLARE material



Split sleeve cold expansion process

Flap Peening

Flap peening is a difficult procedure and it is getting more and more important while working with high strength aluminum alloy. Especially on aircraft structure it should be done by trained personnel only. This course informs the student about the fundamentals of Flap Peening procedures on metallic aircraft structures. The course includes lecture, demonstration and hands-on practice. All practical exercises follow the guidelines of the Structural Repair Manual. This course satisfies ATA 104 Level IV objectives. Structure repair technicians are the target group of this course. Participants should have prior structure experience and they should be able to speak fluently English or German. Practical exercises will be assessed individually.

Glare Repair

When repairing GLARE, various factors play a role. This course provides airframe mechanics with the theoretical and practical knowledge to perform GLARE repairs on structural aircraft parts. Participants will acquire the practical skills to conduct structural inspection and repair work during line and base maintenance. They will learn how to repair GLARE. Become a specialist and learn to make the right decisions! Airframe mechanics and structure repair technicians belong to the target group of this training. A minimum of two years experience on aircraft is a prerequisite to join this course.

Cold Working

Cold Working as procedure is often given to increase the fatigue life of metallic structure after repair and you have to have the specific knowledge about this process. Students will get to know the fundamentals of Splitsleeve Cold Expansion procedures on metallic aircraft structures. The course includes lecture, demonstration and hands-on practice. Structural repair technicians involved in structure repair and maintenance of modern aircraft are the target group. Participants should have prior structure experience and they should be able to speak fluently English or German. Practical exercises will be assessed individually.

Course ID	Subject	Duration in days
FS106	Flap Peening	2 (1 theory, 1 practical exercises)
FS109	Glare Repair	3 (1 theory, 2 practical workshop training)
FS105	Cold Working	2 (1 theory, 1 practical exercises)



Sheet metal repair



Damage evaluation

Structure Repair OJT

This course prepares structural technicians with previous practical experience to make repairs to structural aircraft parts. The participant will acquire the practical skills to conduct structural inspection and repair work during line and base maintenance. All repairs performed in the practical training follow the guidelines of the Structural Repair Manual. Original aircraft components during practical training are used to increase the realism of the training and boost the confidence of the trainee to work on the aircraft in the future. Exercises will be adapted to customer's fleet. Maintenance technicians involved in structure repair are the target group of this training.

Structure Damage Evaluation

This course enables the participant to become confident with the damage evaluation of metallic aircraft structure to determine the appropriate allowable damage in accordance to either the Airbus or Boeing Structural Repair Manual. Practical usage of measurement tools, damage mapping and SRM usage will help to achieve these objectives. Maintenance technicians involved in damage evaluation (not repair) are the target group of this training.

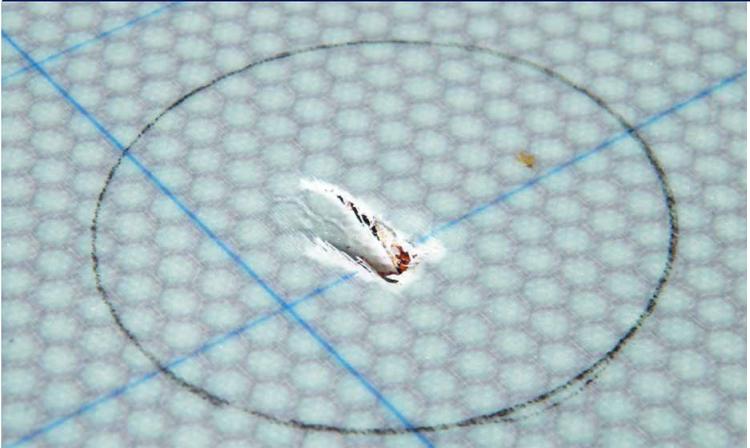
Airbus or Boeing Structure Repair

This course enables maintenance technicians to become confident with the use of the Airbus or Boeing Structure Repair Manual. The participant will acquire the knowledge and the skills required to assess common structure damages and to determine specific repairs on Airbus or Boeing aircraft. In addition a detailed study of aircraft structure including design concepts, construction principles and material application as well as hands-on manual training prepares the student for his day to day maintenance duties or heavy structural repairs. Maintenance and overhaul technicians involved in structure repair belong to the target group.

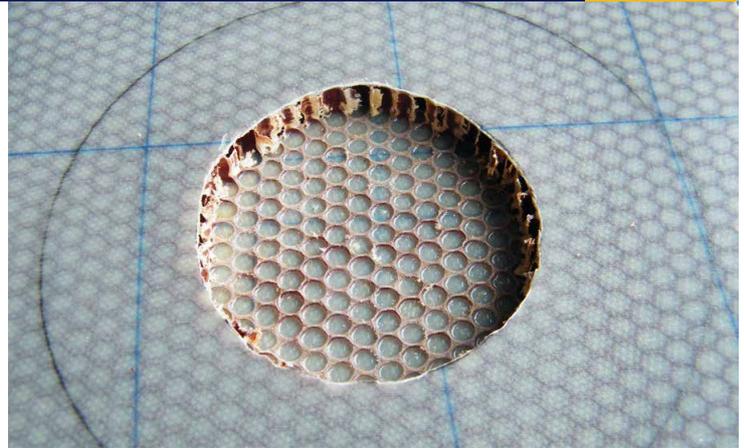
Aircraft Inspection, Findings

Maintenance and overhaul technicians get to know different inspection types, classifications of damages, zonal inspections and the appropriate documentation of damages. Maintenance and overhaul technicians are the target group of this course.

Course ID	Subject	Duration in days
FS007	Structure Repair OJT	7 (1 theory, 6 practical training)
FS015	Structure Damage Evaluation	2 (1 theory, 1 practical exercises)
FS504 FS505	Airbus or Boeing Structure Repair	2 (1 theory, 1 SRM exercises)
FS102	Aircraft Inspection, Findings	3 (2 theory, 1 exercises on aircraft)



Small damage on the thin cover skin



Sandwich after damage removal

Composite Awareness

Composite is a very sensitive material and technicians should have the knowledge to prevent damage and expensive repairs. Participants will get to know safety issues related to composite maintenance and repair. At the end of the training course, the participants will acquire a higher degree of awareness in handling composite materials and components.

This course is relevant for technicians who need to handle composite materials or composite components. They should have basic knowledge about aircraft or component maintenance. Moreover, participants should be able to speak fluent English or German.

Composite Fundamentals

This course familiarizes structural technicians with composite materials and their application on modern transport aircraft. The student will acquire a basic understanding of standard practices for composite repair with reference to the Structure Repair Manual. Entry-level airframe mechanics as well as sheet metal workers belong to the target group of this training.

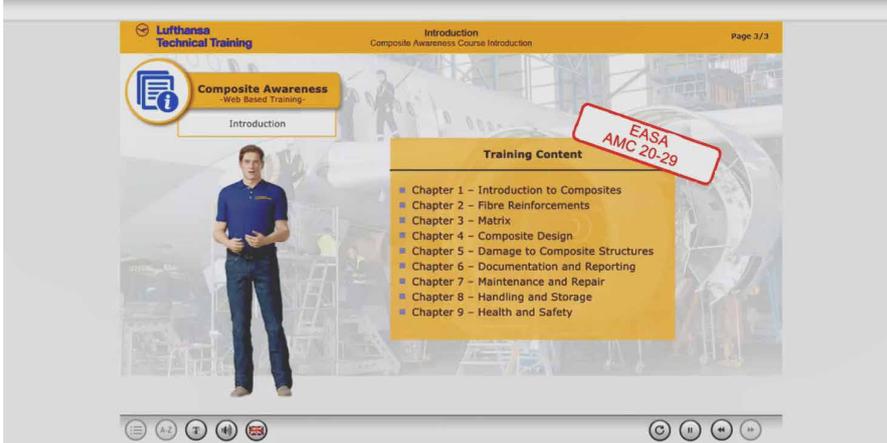
Composite Advanced Repair

This course prepares structural technicians with previous experience on composite repair to evaluate and repair damages to complex composite structure parts. This course is designed as a follow-up to the composite fundamentals course and it assumes the students have the knowledge gained in the first course. It concentrates on difficult and realistic repair situations. It is designed for those who will actually be assessing damages or performing repairs. Most of this class is devoted to hands-on repair practice. All repairs performed in the practical training follow the guidelines of the Structural Repair Manual.

The target group are senior-level airframe mechanics, experienced structural technicians as well as maintenance personnel who are involved in assessing damages on composite parts or performing composite repairs.

What are prerequisites? Previous experience in composite materials and processing, or participants who have already attended the composite fundamentals course. Fluent English or German is important, too.

Course ID	Subject	Duration in days
FS209	Composite Awareness	1 (1 day theory)
FS205	Composite Fundamentals	5 (5 days theory)
FS206	Composite Advanced Repair	10 (2 theory, 8 practical training)



Composite Awareness Web Based Training

The Composite Awareness Web Based Training (WBT) provides basic information about composite material technologies, their respective properties and specific maintenance procedures. Repair techniques required to handle damage composites are introduced and the learner's awareness about possible damage causes and the urge of a proper reporting and documentation is enhanced. The course briefs general handling and storage procedures of composite materials and components and informs about the specific health and safety requirements to minimize harm when dealing with composite materials.

The Composite Awareness WBT reaches three different target groups. Within the initial training employees are familiarized with composite materials in general and they get a detailed overview of repair techniques. In the refresher training every mechanic who is involved in structure repair gets the chance to refresh knowledge about composite structure. The preparatory training is a good basis for all those ones who plan to go to a specialized structure training, for example Composite Advanced Repair.

This 2 hours long web-based training was developed by experts and provides basic knowledge on composite awareness. The practical experience of the world's largest MRO company Lufthansa Technik was integrated in the development process of the web-based training. The WBT itself has a modular structure and offers customers different cost savings through time- and location-independent learning. And additionally, many practical examples help to provide the trainees with the awareness they need to avoid structural damages. Through the use of various media, the WBT offers a high interactivity rate. The trainees learn faster and more efficient. No previous knowledge is required for the web-based training. It is also AMC 20-29 compliant.

Course ID	Subject	Duration in days
WBT0055-02	Composite Awareness WBT	2 hours

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