

# Bespoke FMA training for transmissions

## Training Targets

Upgrade the skills of your staff to deal with complex customer technical issues.

The participants will first review the different aspects to be considered when conducting FMA. They will get the tools to conduct efficient FMA. Typical failure modes of transmissions will

be illustrated. Practical sessions in the form of workshops will give the opportunity to the participants to exercise and to improve their FMA skills.



## Staff abilities requirements

FMA training is beneficial to different departments.

The FMA training is recommended to all staff facing customer technical issues. Basic knowledge of mechanics, material sciences

and transmission design is recommended to participate in the FMA training.

## FMA benefits

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Dominant OEM on a globalized market combined with bigger installations capacities show that reliability issues can cause high unexpected costs. Therefore it is essential for the transmission manufacturer to offer appropriate product and services to meet the customer expectation. The customer can quickly have doubts about the product design once a technical issue occurs. The challenge to handle a customer claim has several aspects e.g. costs, technical issues and communication.

EMEC Expertise expert benefits from a large experience to conduct FMA and proposes this unique FMA training. The first FMA training from EMEC Expertise was positively commented by the participants. This second edition is improved on the basis of the first edition evaluations.

# FMA training program

## **First day**

### **Introduction to FMA.**

*The definition and benefits of FMA are presented in the form of a workshop with active participation of the attendees.*

***Exercise 1** : Visual inspection of a damaged gearbox before disassembly.*

### **Tools for FMA.**

*The bullet proof tools to conduct systematic FMA are presented and illustrated with practical examples developed with the participants. Several hints reinforce the participants' abilities to use the FMA tools.*

***Exercise 2** : Visual inspection of a damaged gearbox after disassembly.*

## **Second day**

### **Failure mechanism introduction**

*A revision of material properties and types of loads is followed by an introduction to the different failure mechanism.*

### **Typical failure**

*Failure modes and appearance of transmission components failure can be grouped in different categories. Typical failure modes of components like bearings, gears, seals and couplings are illustrated. The possible causes and remedies are also discussed.*

***Exercise 3** : FMA of the inspected transmission including possible causes e.g. design, lubrication,...*

***Exercise 4** : Set up of an action plan including investigations, quick field / fix and countermeasure.*

***Exercise 5** : Technical report formulation and communication towards the customer.*

### **More information :**

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