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Test Pilot

# Technical Flight Familiarization

## 1. Introduction

Airline pilots are trained to deliver safety, efficiency and comfort in line operations.

However, in addition to normal revenue flights, operators may perform technical flights following aircraft maintenance visits or major repairs.

Non-revenue flights after maintenance are only required by Airbus after very specific actions and if some items cannot be properly ground tested, to verify that the aircraft's operational characteristics have not been adversely affected.

These technical flights require a different mindset compared to normal line operation.

To fill this need, Airbus has created the Technical Flight Familiarization course (TFF).

## 2. Sharing experience

Airbus' Flight Test Division has developed over the years an expertise in aircraft flight testing. Beyond the development of new aircraft types, the test crews have to support the acceptance of hundreds of production aircraft each year.

During the acceptance phase, these crews take the aircraft to the limits of the flight envelope and validate the proper operation of aircraft, engines and systems.

They are made of test pilots and flight test engineers working together to check that the airplanes, released by the assembly lines, are ready to be delivered to the customers and to start line operations.

The goal of the TFF is to share expertise with the operators by training crews, selected by their airline, to safely perform technical flights.

## 3. Technical flight crews

Technical flights necessitate technical flight crews made of:

- Two pilots, qualified and current on the type (Airbus recommends at least 6 months experience).

► One technical flight engineer who may be:

- A third pilot qualified on the type.
- A maintenance engineer, who has followed the maintenance type rating course.
- A flight operations engineer, who has followed an aircraft type familiarization course.

## 4. Presentation of the TFF

The Technical Flight Familiarization course is available for the A320 family, A330, A340 and A380.

The TFF lasts 5 days and is divided into 3 phases:

- Ground school
- Full flight simulator training
- Actual aircraft flight training

### 3.1. Ground school

This first part of the course lasts for 2 days and covers:

- The concept of Technical Flight Crew and the associated task sharing.
- The preparation of a technical flight and the writing of a Technical Flight Order.
- The recording of in-flight parameters and the utilization of Airbus' on-board Aircraft Integrated Data System (AIDS) and Central Maintenance System (CMS).

The course includes the following key aircraft checks:

- ▶ Taxi
- ▶ Flight controls
- ▶ Pressurization
- ▶ Systems (fuel, electrical, hydraulic etc...)
- ▶ High speed
- ▶ Low speed
- ▶ Engine shutdown and relight
- ▶ Rejected take-off

### **3.2. Full flight simulator training**

This phase includes 2 sessions lasting 4 hours each and includes training on:

- ▶ The key checks performed in normal operations.
- ▶ The knowledge, skills and attitude needed to deal with abnormal situations.

### **3.3. Actual aircraft flight training**

This last phase of the course is made of a 4-hour-flight (2 hours per pilot) to allow trainees to perform normal operations checks in a real operating environment.

## **4. Conclusion**

During their flying careers, airline crews may have to perform technical flights for which they have never been prepared for. Technical flights require knowledge, skills and attitudes which are different from that required for normal revenue flights. This is why Airbus encourages operators to pay specific attention to this type of operations.

To fill this need for a specific technical flight training, Airbus created the Technical Flight Familiarization course.

The first TFF took place September 2009 in Toulouse, France with two airline Technical Flight Crews. The feedback was positive and the TFF course is now offered on a monthly basis.



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