

Boeing's New Flagship 737-MAX: The Airplane Full of Fatal Errors

By Kaan ERTAN

The Boeing 737-MAX is the 4th generation of the famous Boeing 737 aircraft family. But recently, it is better known for its unreliability and crashes. After experiencing 2 fatal crashes within 5 months, all the 737-MAX planes remain grounded. Since March 2019, no airline is allowed to operate 737-MAX planes until Boeing fixes the plane's issues. However, with 1 year already passed, the planes remain grounded.

Boeing 737's started their flights in 1967 and since then, there has always been a huge interest in this family by the airlines. The 737's have an outstanding overall performance, as well as a decent range and a customizable passenger configuration, which makes it a profitable plane for many airlines with commercial plans of any kind. Since 1967, more than 10.000 Boeing 737's of 22 different variations have been built.

But why did Boeing decide to build a new generation of 737's? In 2010, Airbus announced that they are planning to update their A320 family with the A320 Neo plane. With A320 already being the main rival of the 737 family, Boeing knew that they needed to act as well. After a period of evaluation, Boeing engineers decided to update the existing 737 3rd generation. The main update was replacing the engines with much bigger ones. However, due to aerodynamic reasons, this caused the plane's nose to pitch up in some situations. In order to avoid this, engineers implemented an automatic anti-pitching system (MCAS) in the plane. The system was meant to lower the plane's nose when it was flown slowly, to avoid stalling. However, since the system was automatic, the pilots weren't instructed about it.

The 737-MAX made its first flight on 22 May 2017. On 29 October 2018, Lion Air Flight 610 crashed shortly after take-off and on 10 March 2019 did the Ethiopian Airlines Flight 302, killing all 346 people on board. Both planes were 737-MAX models. In March 2019, aviation authorities across the world ordered the 737-MAX planes to be grounded, since the accidents were similar and thought to be related to the aircraft. It was quickly understood that the crashes were largely due to the faulty MCAS system which forced the plane's nose downwards uncontrollably until the plane crashed. After the crashes, investigations and lawsuits started. Both the FAA (Federal Aviation Administration) and Boeing are blamed because they overlooked the potential danger that MCAS possessed.

In April, Boeing stated that it was working on software enhancements. Together with the procedure of getting FAA certificates for the plane, the whole process of grounding was planned to end in the 4th quarter of 2019. However, in December 2019; the FAA stated that Boeing's projection was optimistic, and the recertification of the plane could take more time, possibly until mid-2020. By this time, many airlines had already cancelled their 737-MAX orders that hadn't been delivered yet. Foreseeing this, Boeing cut its production of the plane from 52 to 42 per month, in April 2019. In the meantime, Boeing CEO Dennis Muilenburg testified in the US Congress and was later fired from his position. The new CEO David Calhoun immediately halted all 737-MAX production.

It is still unclear that when will the 737-MAX return to service and how much will all these issues cost Boeing. However, one thing is for certain: the 737 family lost its title of "The Best-Selling Airplane Ever" to its European counterpart Airbus' A320 family.