

# FAA concealed flaws in Boeing aircraft after Lion Air crash in Indonesia

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A newly uncovered risk assessment published internally within the Federal Aviation Administration (FAA) after Lion Air Flight 610 crashed into the Java Sea last October, killing all 189 people aboard, shows that the regulator was aware of potentially catastrophic flaws in the Boeing 737 Max 8 aircraft.

The agency's analysis concluded that it "didn't take that much" for the malfunction that doomed the plane to occur, yet US regulators allowed the plane to continue to fly until the same fatal flaw caused the crash less than five months later of Ethiopian Airlines Flight 302, which plunged to the earth just outside of Addis Ababa, killing a further 157 passengers and crew.

Both planes crashed within minutes of takeoff when a newly installed automated flight control system, the Maneuvering Characteristics Augmentation System (MCAS), malfunctioned, repeatedly pitching the nose of the plane downward and overriding attempts by the pilots to gain control and stabilize the aircraft. Boeing installed MCAS in its recently introduced 737 Max 8 short- and medium-haul work horse model as a low-cost means of compensating for the upgraded 737's tendency to stall. The stalling problem was caused by retrofitting the half-century-old 737 design with new and bigger engines, rather than designing a new airframe to properly incorporate the changes.

The world's largest aircraft manufacturer rushed the plane into production in 2017 to counter a challenge from its European rival, Airbus. The 737 Max quickly became Boeing's best-selling commercial aircraft, accounting for some 40 percent of the company's record profits and pushing its stock price to new heights, fueling the stock market surge that followed Trump's election.

The design and production shortcuts provided enormous savings for Boeing, which the company used

to shell out \$43 billion dollars to its shareholders in the form of stock buybacks.

The findings, first reported by the *Wall Street Journal*, further expose the collusion between Boeing and the FAA in developing the 737 Max 8. After the first crash, the regulator concealed the seriously flawed nature of the plane. It even issued a "continued airworthiness notification" to Boeing 737 Max operators for three days after the second crash, withdrawing it only after regulators in the rest of the world had grounded the plane.

Boeing's largest shareholders include investment companies and mutual fund managers such as the Vanguard Group, Newport Trust Co. and Blackrock Fund Advisors. They also include individuals such as CEO Dennis Muilenburg, who has made \$30 million during his tenure as Boeing CEO since 2015, including the profits from selling off \$9.5 million of Boeing stock in February 2019, one month before the Ethiopian Airlines crash.

The study produced by the FAA after the October crash showed that the risks of keeping the Max 8 in the air were unacceptably high and exceeded internal FAA safety standards. An unnamed FAA official told the *Wall Street Journal* that the chance of another catastrophe similar to the Lion Air crash occurring "was over our threshold" and that "it was not an acceptable situation."

Instead of grounding the plane, however, the US regulator determined that all it needed to do was remind cockpit crews that they could disable MCAS by following already established procedures for flight and autopilot problems that can push an aircraft's nose down. It claimed that, since it had issued this "interim" warning to pilots, the risk was "acceptable." On this basis the agency allowed Boeing to begin developing a

software patch to fix the problems caused by MCAS.

The *Wall Street Journal* noted: “When the FAA determines an aircraft poses an unacceptably high safety risk, it typically mandates targeted equipment changes, inspections or training to alleviate the hazard. It is unusual for the agency to conclude that reiterating cockpit emergency procedures or tweaking manuals will suffice.”

The FAA’s remedy was clearly inadequate, as the near universal response of pilots themselves after the Ethiopian Airlines crash showed. The system was not included in the pilots’ training manual and very few of them even knew MCAS existed.

Since then, a variety of other potentially deadly issues have come to light, including unreliable angle-of-attack sensors, difficulty in manipulating the manual trim wheel, problems with the microprocessors, poorly designed training features, an autopilot that can fail to disengage and a potential loss of control of the plane’s rudder.

It has also been revealed that the FAA had virtually no oversight of the development of the aircraft, instead delegating the task to Boeing employees under the 2005 Organization Designation Authorization program. This allowed Boeing to conceal changes made to MCAS after it had been approved, giving the software a much greater degree of control over a plane than was publicly known.

In a Senate hearing last Wednesday, FAA Acting Deputy Administrator Carl Burleson defended the agency leadership’s decisions, stating, “We do not and never have allowed self certification, whether it’s Boeing or any other product,” despite reports that day indicating that in 2018, Boeing did 96 percent of its own certifications.

Burleson also claimed that the FAA was “fully knowledgeable in dealing with the development of the plane.” It true, this amounts to a tacit admission that the regulator was aware of the problems of Boeing’s latest plane and aided and abetted the company in developing what was known to be a faulty aircraft.

During the same hearing, top FAA safety official Ali Bahrami continued in this vein, saying, “From the safety perspective, we felt strongly that what we did was adequate.” He continued, “We felt we had sufficient time to be able to do the modification [of MCAS after the Lion Air crash] and get the final fix.”

Bahrami has a variety of vested interests in downplaying the role of the FAA in causing 346 deaths. He was the head of the Boeing Aviation Safety Oversight Office, the department within the agency that oversaw the development of the 737 Max, until he left the FAA in 2013. He then spent the next four years as a vice president of the Aerospace Industries Association, a lobbyist group that advocates total deregulation of the airline industry, before rejoining the FAA and becoming its associate administrator for aviation safety in 2017.

Despite attempts by these and other FAA officials such as former acting administrator Dan Elwell to bolster Boeing’s beleaguered aircraft, it is unclear when or if the 737 Max 8 will fly again. While Boeing claims it will submit a final fix to the plane’s problems in September, the numerous problems that have been uncovered will likely push back the jet’s reintroduction to January 2020 at the earliest.

This has already had reverberations across the economy. Boeing itself has lost at least \$5 billion from the grounding and General Electric has lost \$1.5 billion since it supplies the engines for the aircraft. Pilots, flight attendants, mechanics, engineers and other airline workers have collectively lost tens of millions of dollars in pay as a result of canceled flights and a reduced need to maintain the aircraft.

Last week Boeing suggested it may suspend production of the 737 Max 8, a move that would lead to the layoff of thousands of production workers at Boeing and supplier plants. This makes clear that the company will seek to place the full burden of its crisis on the backs of its workers.



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