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BUSINESS

Boeing Signals Additional Software Problem Affecting 737 MAX Airliners

Company reveals glitch can render a type of safety alert inoperable on the now-grounded plane



The Boeing 737 MAX 8 airliner was grounded world-wide after deadly crashes in Indonesia and Ethiopia. PHOTO: TED S. WARREN/ASSOCIATED PRESS

By Andy Pasztor and Andrew Tangel

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Boeing Co. on Monday said certain safety alerts on its 737 MAX jets didn't operate as airlines would have anticipated because of a previously undisclosed error on its part.

Boeing's statement came a day after The Wall Street Journal reported the company hadn't told airlines flying 737 MAX jets that certain safety alerts wouldn't function as expected. The issue of nonfunctioning alerts came to light after the crash of a Lion Air jet in October in Indonesia, but there were no indications since then that it stemmed from a mistake on the part of the plane maker.

The alerts offer an extra safeguard for pilots in the event a separate stall-prevention system called MCAS, suspected in the deadly Lion Air crash and the crash of an Ethiopian Airlines 737 MAX in March, may be on the verge of misfiring. The two crashes took a total of 346 lives, leading regulators around the world to ground the 737 MAX fleet.

The Monday statement suggests Boeing engineers and management, as well as U.S. air-safety regulators, either missed or overlooked one more software design problem when the model was certified two years ago. Before Monday,

neither Boeing nor the Federal Aviation Administration had disclosed that an additional software glitch—rather than an intentional plan by the plane maker—rendered so-called angle of attack alerts inoperable on most MAX aircraft. The alerts warn pilots when there is a disagreement between two separate sensors measuring the angle of a plane’s nose.

Boeing’s disclosure comes as the plane maker scrambles to win FAA and international approval of a software fix for MCAS, making it less potent and less likely to misfire. In addition to the challenges already facing the MAX fleet, revelations of the additional software difficulties are likely to be scrutinized by airlines, passengers and regulators world-wide as Boeing strives to restore their trust and return the MAX fleet to service.

The alerts, intended to tell cockpit crews if sensors are transmitting errant data, had been standard on earlier 737 models. Officials at airlines around the globe, including Southwest Airlines Co., the largest 737 MAX customer, assumed the alerts remained standard until details emerged in the wake of the Lion Air crash. At that point, the industry and FAA inspectors monitoring Southwest realized the alerts hadn’t operated on most MAX aircraft, including Southwest jets.

For the first year of MAX operations, only those airlines that paid extra for certain associated features had the alerts operational.

Accident investigators have linked bad angle of attack data, fed into the MCAS system, to both the Lion Air and Ethiopian accidents.

In Monday’s statement, Boeing for the first time explicitly said the alert “was intended to be a standard, stand-alone feature on MAX airplanes.” But the company went on to say the goal wasn’t achieved “because the feature was not activated as intended” when the jets rolled out of the factory.

In the wake of the fatal accidents, Boeing said it would make the alerts standard for all MAX planes.

Until now, the primary focus of the investigations and regulatory reviews swirling around the beleaguered aircraft has been on the original design of MCAS and what pilots initially were told about its operation. Monday’s statement raises new questions about what Boeing told customers, pilots, regulators and others in the wake of the first MAX crash in October.

Little more than a month after the accident, some FAA inspectors shared concerns with each other that the crux of the problem may have stemmed from Boeing missteps, according to internal FAA documents reviewed by The Wall Street Journal. One email distributed to a handful of midlevel FAA officials asked: “Did Boeing foul up on the MAX by not ensuring” the alerts would operate even “if the customer chose not to pay for” associated safety features? Such issues, however, didn’t become public at the time.

On Monday, Boeing Chairman and Chief Executive Dennis Muilenburg

discussed the issue—and the headlines it has generated—during the company’s annual shareholder meeting in Chicago. He said “we’ve been taking a look at some of the [news] reports that are out, even again today, taking a look at the design of that original system.”

Last week, a Boeing spokesman said new software will separate various features, making the alerts standard on all 737 MAX jets at no charge, as initially anticipated. On Monday, the spokesman declined to elaborate on the precise reason for the mix-up.

Mr. Muilenburg reiterated that the alerts are considered to provide secondary or supplemental information, not critical safety data pilots must rely on to fly.

An FAA spokesman said operation of the alerts “is one aspect we are examining closely” through a previously announced international technical review committee looking broadly into certification of MCAS and other 737 MAX systems.

In a sign of confusion surrounding the angle of attack, or AOA alert, United Continental Holdings Inc.’s 737 pilot manuals reference an “AOA Disagree” emergency procedure about the alert that didn’t work, according to a person familiar with its contents. A United spokesman said the alerts were referenced in manuals because they were included on a previous 737 model and were planned for the MAX.

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