United States Senate

WASHINGTON, DC 20510

April 4, 2024

The Honorable Michael Whitaker
Administrator
Federal Aviation Administration
800 Independence Ave, SW
Washington, DC 20591

Administrator Whitaker:

The ongoing National Transportation Safety Board (NTSB) investigation into Alaska Airlines flight 1282 has revealed alarming details about the cockpit door on the Boeing 737 MAX 9, which I urge the Federal Aviation Administration (FAA) to examine.

According to NTSB, the cockpit door was designed to automatically open on the 737 MAX 9 during a rapid depressurization event,[1] but the flight crew on Alaska was unaware of this because it wasn't included in the flight manual.[2] This unknown, undisclosed feature resulted in the flight crew being surprised when the rapid depressurization event caused the cockpit door to slam open, sucking an emergency checklist out of the cockpit and removing one of the pilots' headsets, reportedly making communicating between pilots and flight attendants difficult during this emergency.[3] Boeing's failure to disclose this feature is chilling given its history of concealing 737 MAX information from pilots.

As a pilot, I cannot convey strongly enough how critical it is for the flight crew to be fully informed of all features on the flight deck. Yet, keeping pilots in the dark about features on the MAX has become a pattern at Boeing. This is the third time Boeing has failed to disclose a flight deck feature to 737 MAX pilots. This is dangerous, and FAA must not view this latest omission in isolation. Instead, FAA should consider regulatory action informed by Boeing's past pattern of deceptive conduct in developing and delivering the MAX series of aircraft *and* a strong commitment to avoid repeating past FAA mistakes in deferring to Boeing.

Boeing's Failure to Inform Pilots about MCAS

Boeing failed to initially include MCAS in the 737 MAX 8 flight manual, which left a terrified Lion Air crew with no clue the system was manipulating their aircraft when it plunged nose-first into the Java Sea. The crash killed all 189 people on board.
The omission of MCAS from the flight manual was not a unilateral decision by Boeing. FAA

[1] NTSB Preliminary Report on Accident Number DCA24MA063, p. 9, accessed here: https://www.ntsb.gov/investigations/Documents/DCA24MA063%20Preliminary%20report.pdf
[2] Politico, Alaska flight incident reveals another feature Boeing didn't inform pilots about, January 9, 2024, accessed here: https://www.politico.com/news/2024/01/09/alaska-flight-incident-boeing-pilots-cockpit-00134515
[3] NTSB Media Brief, Jennifer Homendy, January 7, 2024, accessed here: https://www.ntsb.gov/investigations/Pages/DCA24MA063.aspx

allowed Boeing to remove MCAS from the flight manual, and subsequent investigations raised serious questions about how forthcoming Boeing had been with FAA when seeking this flight manual modification. Internal Boeing meeting minutes documented Boeing employees planning to mislead a regulator by downplaying the significance of MCAS. According to the meeting minutes, the plan was to not use the term "MCAS" outside of Boeing because, "If we emphasize MCAS is a new function there may be greater certification and training impact." [4]

Worse, an Authorized Representative (AR) - a Boeing employee authorized by the FAA to conduct certification work on behalf of agency as a member of the Boeing's Organization Designation Authorization (ODA) – approved of this plan to downplay the significance of MCAS to avoid additional certification and training impact for the MAX.[5]

Boeing ultimately informed FAA about the existence of MCAS, but a joint investigation by civil aviation regulatory agencies from around the world – the Joint Authorities Technical Review (JATR) – found the way Boeing presented MCAS to the FAA left the agency with a less than complete understanding of the new system:

> "The FAA was not completely unaware of MCAS; however, because the information and discussions about MCAS were so fragmented and were delivered to disconnected groups within the process, it was difficult to recognize the impacts and implications of this system. If the FAA technical staff had been fully aware of the details of the MCAS function, the JATR team believes the agency likely would have required an issue paper for using the stabilizer in a way that it had not previously been used. MCAS used the stabilizer to change the column force feel, not trim the aircraft. This is a case of using the control surface in a new way that the regulations never accounted for and should have required an issue paper for further analysis by the FAA. If an issue paper had been required, the JATR team believes it likely would have identified the potential for the stabilizer to overpower the elevator." [6]

FAA's lack of interest in these meeting minutes is astonishing. The Department of Justice (DOJ) and Department of Transportation Office of Inspector General (DOT OIG) conducted a criminal investigation, to which FAA deferred. While FAA should never do anything that could interfere with a DOJ investigation, DOT OIG recently made clear, "Federal law, DOJ policy, and FAA Orders allow for parallel civil and criminal investigations when appropriate."[7]

DOJ never asked FAA not to investigate and worse, it appears FAA did not even consider looking into who these Boeing employees were and whether they were subsequently authorized to conduct certification work on behalf of the agency. DOT OIG found no documentation for

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[4] Meeting Minutes attached.
[5] Id.
[6] Joint Authorities Technical Review, October 11, 2019, pp. 13-14, accessed here: https://www.faa.gov/sites/faa.gov/files/2021-08/Final_JATR_Submittal_to_FAA_Oct_2019.pdf
[7] DOT OIG February 5, 2024 letter, p. 9, accessed here: https://www.oig.dot.gov/sites/default/files/library-items/DOT%20OIG%20Correspondence%20on%20FAA%20Oversight%20of%20MCAS%20and%20AOA%20on%20Boeing%20MAX%20Aircraft.pdf

FAA's decision not to investigate and no one at FAA could recall any formal discussions about a potential investigation of ODA unit members.[8]

Not until years later, after inquiries from multiple members of Congress - including me - did FAA finally check to make sure the AR who thought it was okay for Boeing to deceive a regulator was no longer authorized by FAA to conduct certification work on the agency's behalf. I am still awaiting FAA's assessment of the other Boeing employees involved.

FAA's longstanding disinterest in this matter suggests a profound misunderstanding of its role as a regulator and responsibility to deter this type of dangerously inappropriate conduct.

Boeing's Failure to Inform Pilots about Nonfunctioning Angle of Attack (AOA) Disagree Alert

During the 737 MAX 8 rollout, Boeing knowingly and intentionally hid the fact that the Angle of Attack (AOA) disagree alert was inoperable on most of the 737 MAX 8 aircraft it had produced - in clear violation of its approved type design.[9] Even more egregious, Boeing discovered this in 2017, but decided to postpone fixing it until 2020 – and, until then, keep producing more planes with this same defect – in further violation of the MAX 8's type design – while continuing to conceal this from pilots. [10]

This meant that 737 MAX 8 pilots were flying planes thinking the AOA disagree alert hadn't illuminated because there was nothing wrong – when, actually, it wasn't illuminating because the alert wasn't working.

At one point, someone at Boeing even prepared a "Fleet Team Digest" to inform pilots about the non- functioning AOA disagree alert, but Boeing never actually sent it to airlines.[11]

Boeing's plan to wait until 2020 was cut short when a Lion Air flight 610 crashed on October 29, 2018, drawing worldwide attention to AOA sensors on Boeing's 737 MAX 8. Under fire, Boeing announced that it had long known that the AOA disagree alert was not functioning on most 737 MAX 8s.

While this was not a safety-critical feature, the manufacturer's brazen disregard for type design requirements and lack of candor with pilots is breathtaking. Even more disturbing is FAA's failure to consider any kind of civil enforcement action. DOT OIG recently reaffirmed, "all

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[8] Id. at p. 11

[9] Final Committee Report on the Design, Development & Certification of the Boeing 737 MAX, House Committee on Transportation and Infrastructure majority, September 2020, p. 128, accessed here: https://democrats-transportation.house.gov/imo/media/doc/2020.09.15%20FINAL%20737%20MAX%20Report%20for%20Public%20Release.pdf;

[10] Id. See also DOT OIG February 5, 2024 letter, pp. 4-5, accessed here: https://www.oig.dot.gov/sites/default/files/library-items/DOT%20OIG%20Correspondence%20on%20FAA%20Oversight%20of%20MCAS%20and%20AOA%20on%20Boeing%20MAX%20Aircraft.pdf

[11] Final Committee Report on the Design, Development & Certification of the Boeing 737 MAX, House Committee on Transportation and Infrastructure majority, September 2020, p. 132, accessed here: https://democrats-transportation.house.gov/imo/media/doc/2020.09.15%20FINAL%20737%20MAX%20Report%20for%20Public%20Release.pdf

features included in the type design are mandatory, whether or not they are required for safety."[12]

If Boeing faces no consequence from FAA when it engages in outrageously inappropriate conduct like this—what incentive does the company have to change its behavior?

Boeing's Failure to Inform Pilots about the Cockpit Door on the 737 MAX 9

The FAA needs to work with NTSB and take a hard look at how and why the cockpit door feature was left out of the flight manual and was unknown to pilots until an in-flight emergency. It must closely scrutinize whatever explanation Boeing provides, and what role, if any, delegation to Boeing may have played.

FAA also needs to work with NTSB to consider whether other elements of the cockpit might need improvement in light of the previously undisclosed cockpit door design.

Finally, as noted above, FAA must take into account that this is the third time Boeing has failed to disclose a flight deck feature to 737 MAX pilots.

Thank you for taking decisive action to put safety first when it comes to regulating the 737 MAX, and I hope that under your leadership, FAA will commit to learning from its past mistakes overseeing Boeing's development and delivery of the 737 MAX series of aircraft.

Sincerely,

Tammy Duckworth
Chair
Subcommittee on Aviation
Safety, Operations and
Innovation
Senate Committee on
Commerce, Science and
Transportation

Encl.

[12] DOT OIG February 5, 2024 letter, p. 8, accessed here:
https://www.oig.dot.gov/sites/default/files/library-items/DOT%20OIG%20Correspondence%20on%20FAA

6-FEB-2020 14:33:39 37MAXFCI-PDR_AI22

Item Header:
Title: MCAS/Speed Trim
Primary Resp Person: [redacted]
Secondary Resp Person: [redacted]

Fix Need Date: 01-JUL-2013
ECD:
Phase: CLOSED Item is resolved, no further action required
Model: 737 MAX -8

Information Last Modified: 27-JUN-2013 10:46:49 US(Pacific)

Item Progress:

Date	Resp Person	Type	Attachments	Last Updt (USPac)
21-MAY-2013	[redacted]	ORIG	N	24-MAY-2013 08:38:21

Problem Statement: Every new buzzword represents a company and airline cost via changed manuals, changed training, changed maintenance manuals.

Recommended Action: Investigate deletion of MCAS nomenclature and cover under the umbrella of 'revised speed trim'.

07-JUN-2013	[redacted]	ANALYSIS	N	07-JUN-2013 08:29:23

6/7/13 Meeting Minutes:
1) GTTA left the name as MCAS but treated as analogous function as a speed trim type function.
2) If we emphasize MCAS is a new function there may be a greater certification and training impact.
3) Treat as an addition to Speed Trim.
4) Externally we would communicate it is an addition to Speed Trim.
5) Internally continue using the acronym MCAS (within variable names etc).
6) Work with AR on certification perspective to ensure this strategy is acceptable.
7) Make sure EASA Fam Tech presentation is consistent with intent that MCAS is an addition to Speed Trim.

07-JUN-2013	[redacted]	PROP_RES	N	21-JUN-2013 09:25:42

After speaking with the Autoflight AR, concurrence was provided that we can continue to use the MCAS nomenclature internally (variable names, etc) while still considering MCAS to be an addition to the Speed Trim function. This will allow us to maintain the MCAS nomenclatue while not driving additional work due to training impacts and maintenance manuals.

27-JUN-2013	[redacted]	PROP_RES	N	27-JUN-2013 10:37:24

Accepting team analysis on keeping MCAS nomenclature. Item can be closed.

27-JUN-2013	[redacted]	CLOSURE	N	27-JUN-2013 10:46:49

Action Item is complete and is closed.

Cross Reference: