United States Senate

WASHINGTON, DC 20510

January 24, 2024

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

Dear Administrator Whitaker:

I strongly oppose Boeing's petition to the Federal Aviation Administration (FAA) requesting an exemption from safety standards to prematurely allow the 737 MAX 7 to enter commercial service.

The exemption Boeing seeks involves an anti-ice system that can overheat and cause the engine nacelle to break apart and fall off. This could generate fuselage-penetrating debris, which could endanger passengers in window seats behind the wing and/or result in a loss of control of the aircraft.[1]

Boeing does not anticipate it will have a permanent fix for this until 2026. In the meantime, it is asking the FAA to allow the MAX 7 to fly with merely a warning to flight crews to remember to manually turn off the anti-ice system when the aircraft emerges from icy conditions. This is a request for the FAA to certify a commercial aircraft with a single point of failure subject to human error with potentially catastrophic consequences.

The life-threatening risk of engine debris is not just theoretical. In 2018, a woman died on a Southwest flight when a previous iteration of the 737 experienced an uncontained engine failure that resulted in debris penetrating a window in the fuselage. She suffered blunt force trauma to the head, neck and torso when violently pulled out of the broken window.[2]

Alarmingly, this same anti-ice system defect is also present on the MAX 8 and MAX 9 aircraft, which have already been certified and are now in commercial service. To date, Boeing has also

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[1] Associated Press, Boeing still hasn't fixed this problem on Max jets, so it's asking for an exemption to safety rules, January 5, 2024, accessed here: https://apnews.com/article/boeing-exemption-safety-rules-max-10be423759080f64d4418019e4e4874d; Dominic Gates, Boeing wants FAA to exempt MAX 7 from safety rules to get it in the air, *Seattle Times*, January 5, 2024, accessed here: https://www.seattletimes.com/business/boeing-aerospace/boeing-wants-faa-to-exempt-max-7-from-safety-rules-to-get-it-in-the-air/

[2] Vince Lattanzio, Alicia Victoria Lozano, Denise Nakano, Brian McCrone, Woman Partially Sucked out of Jet When Window Breaks Mid-Flight; Plane Makes Emergency Landing in Philadelphia, NBC 10 Philadelphia, April 17, 2018, accessed here: https://www.nbcphiladelphia.com/news/national-international/airplane-makes-emergency-landing-at-philadelphia-international-airport/52411/

failed to implement a mechanical fix for those variants, and thus, the MAX 8 and 9 are also vulnerable to the same single point of failure subject to human error.[3]

Boeing's resignation to the fact that it won't be able to fix this flaw until 2026 – while prioritizing putting a new flawed MAX variant into commercial use – constitutes a stunning lack of urgency on safety and suggests the company has yet to learn the most basic lesson from its terrible 737 MAX history: safety must come before profit. Granting the requested exemption will only lessen Boeing's incentive to prioritize long-term passenger and crew safety over short-term profit concerns.

FAA should deny Boeing's petition for an exemption and press the company to accelerate implementation of a mechanical fix to its faulty anti-ice system.

Boeing's troubled history with multiple variants of the 737 MAX is well-known. From the 737 MAX 8 experiencing two deadly crashes that killed a total of 346 people, to the door plug on a 737 MAX 9 detaching during flight, resulting in a chaotic rapid depressurization incident that could have been catastrophic but for the expert emergency actions of a highly experienced Alaska Airlines flight crew. The crew managed to safely land the aircraft despite an emergency procedure checklist being sucked out of the cockpit and a loss of some flight crew communications equipment (a challenging situation caused by the MAX 9 cockpit door unlocking during a sudden depressurization event, an aircraft feature that was never disclosed to Alaska Airline pilots).

Simply put, **FAA has certified two MAX variants to date—and both variants ended up grounded. Boeing and FAA are 0 for 2 in the design and certification of 737 MAX variants free of potentially deadly safety flaws**.

FAA owes it to the flying public, and the families who lost loved ones in the deadly 737 MAX 8 crashes, to hold firm in rejecting Boeing's reckless attempts to cut corners on safety by putting the 737 MAX 7 into service before a fix is implemented to eliminate its known safety flaw that is subject to a single point of failure.

FAA denying Boeing's request would also demonstrate the agency's commitment to improve its own safety performance by applying lessons learned from previous regulatory failures associated with certification of the MAX.

FAA must improve its inconsistent record enforcing the MAX's approved type design, holding Boeing accountable for safety standards and vetting Boeing employees authorized to perform certification work on behalf of the FAA.

- During the MAX 8 rollout, Boeing failed to promptly notify FAA when it discovered the Angle of Attack (AOA) disagree alert was inoperable on most of its 737 MAX 8 aircraft, which was a violation of its approved type design. Even worse, Boeing continued to

[3] FAA Airworthiness Directive 2023-15-05, August 25, 2023, accessed here: https://www.federalregister.gov/documents/2023/08/10/2023-17197/airworthiness-directives-the-boeing-company-airplanes#:~:text=Excessive%20heat%20buildup%20can%20cause,inlet%20inner%20barrel%20to%20date

manufacture and deliver more 737 MAX 8s with this same defect and only disclosed it after the first 737 MAX 8 crash in 2018. Yet, FAA has refused to hold Boeing accountable for repeatedly violating its type design. The Department of Transportation's Inspector General (DOT OIG) is now investigating FAA's oversight of this issue.[4]

- FAA senior management overruled more than six of FAA's own technical experts to allow the MAX to be certified without rudder cable redundancy– which FAA's experts felt was necessary to ensure pilots would still be able to steer a MAX if debris from an uncontained engine failure was to sever the rudder cable. In 1997, when FAA certified the MAX's predecessor – the 737 NG – on which FAA did not require rudder cable redundancy, FAA warned Boeing that if Boeing introduced new engines or increased the engine power on its 737s, rudder cable redundancy would be needed. Years later, when Boeing included larger engines on the MAX, many FAA technical experts balked at certifying the MAX without rudder cable redundancy. Yet, senior FAA management sided with Boeing and allowed the MAX to be certified without the redundancy.[5]

- FAA long resisted inquiries from Members of Congress about whether FAA had gone back to identify any Boeing employees who may have taken part in Boeing's efforts to downplay the Maneuvering Characteristics Augmentation System (MCAS) to ensure that such employees weren't currently authorized to perform certification work on behalf of the FAA. As you recall, a Congressional investigation uncovered an internal Boeing document appearing to show a plan to merely describe MCAS as an addition to speed trim to anyone outside of Boeing to avoid increased regulatory scrutiny or pilot training requirements.[6] The document showed the plan was approved by at least one Boeing employee who had been authorized to perform certification work on behalf of the FAA. The DOT OIG is investigating FAA's oversight of this issue.[7]

Boeing forfeited the benefit of the doubt long ago when it comes to trusting its promises about the safety of 737 MAX, and the FAA must reject its brazen request to cut corners in rushing yet another 737 MAX variant into service—this time with full knowledge of the existence of a safety flaw that could be catastrophic but for the single action of a single pilot each and every flight. Now is the time for FAA to push Boeing to expedite identification and implementation of a mechanical fix well before 2026.

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[4] https://www.oig.dot.gov/sites/default/files/Announcement%20Letter%20FAA%20Oversight%20of%20the%20Maneuvering%20Characteristics%20Augmentation%20System%20and%20the%20Angle-of-Attack%20Disagree%20Indicator%20on%20Boeing%20MAX%20Aircraft.pdf

[5] Final Committee Report on the Design, Development & Certification of the Boeing 737 MAX, House Committee on Transportation and Infrastructure majority, September 2020, pp. 78 – 80, accessed here: https://democrats-transportation.house.gov/imo/media/doc/2020.09.15%20FINAL%20737%20MAX%20Report%20for%20Public%20Release.pdf

[6] Boeing Meeting Minutes, enclosed.

[7] https://www.oig.dot.gov/sites/default/files/Announcement%20Letter%20FAA%20Oversight%20of%20the%20Maneuvering%20Characteristics%20Augmentation%20System%20and%20the%20Angle-of-Attack%20Disagree%20Indicator%20on%20Boeing%20MAX%20Aircraft.pdf

Sincerely,

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

Encl.

[ITRACS Main Menu] [Yiew Verbose] [Yiew Threaded] [Yiew Compressed] [Yiew Summary] [View Alt Format] rset Flag] [Action Request]

6-FEB-2020 14:33:39 **0** **37MAXFCI-PDR AI22** **0**

Item Header:

Title: MCAS/Speed Trim

Primary Resp Person:

Secondary Resp Person:

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		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		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		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		PROP RES	N	27-JUN-2013 10:37:24

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

27-JUN-2013		CLOSURE	N	27-JUN-2013 10:46:49

Action Item is complete and is closed.

Cross Reference: