

National Transportation Safety Board

Office of the Chairwoman

Washington, DC 20594



June 18, 2025

Mr. Christopher J. Rocheleau
Acting Administrator
Federal Aviation Administration
Washington, DC 20591

Dear Mr. Rocheleau:

This letter provides information about the National Transportation Safety Board's (NTSB) June 18, 2025, report *Mitigations Concerning Load Reduction Device Activation in CFM International LEAP-1B Engines*, AIR-25-03. The details of relevant accident investigations and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

As a result of this investigation, we identified the following safety issues:

- As currently designed, load reduction device (LRD) activation in LEAP-1B engines (and potentially LEAP-1A and -1C engines) may damage an oil component and allow smoke to enter the cockpit or cabin of the airplane.
- Pilots who fly airplanes equipped with affected engines may not be aware of this potential for smoke in the cockpit or cabin as a result of LRD activation or the actions they should take if it should occur.

Accordingly, the NTSB makes the following safety recommendations to the FAA:

- Ensure operators inform flight crews of airplanes equipped with CFM International LEAP-1B engines of the circumstances described in National Transportation Safety Board Aviation Investigation Report AIR-25-03, emphasizing Boeing's changes to the quick reference handbook and flight crew operations manual so pilots are aware of actions to take if they encounter smoke in the cockpit or cabin after load reduction device activation. (A-25-10) Urgent
- Once CFM International and Boeing complete the development and certification process for software modifications to the CFM International LEAP-1B engines, require all operators of airplanes equipped with CFM International LEAP-1B engines to incorporate the software modification

developed in response to Safety Recommendations A-25-13 and A-25-14 to prevent or limit the amount of smoke released into the cockpit or cabin after load reduction device activation. (A-25-11)

- Work with CFM International, Airbus, and the Commercial Aircraft Corporation of China to determine if CFM International LEAP-1A or -1C engines are at risk of smoke in the cockpit or cabin as a result of load reduction device activation and require affected operators to incorporate any modification that results. (A-25-12)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 30 days of the date of this letter, detailing the actions you have taken or intend to take to implement the urgent recommendation (Safety Recommendation A-25-10). Please respond within 90 days of the date of this letter regarding the other two recommendations (Safety Recommendations A-25-11 and A-25-12). When replying, please refer to the safety recommendation by number (for example, Safety Recommendation A-25-10) and submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

Sincerely,

[Original Signed]

Jennifer L. Homendy
Chairwoman
On behalf of the entire Board

Attachment

National Transportation Safety Board

Office of the Chairwoman

Washington, DC 20594



June 18, 2025

Mr. Florian Guillermet
European Union Aviation Safety Agency

Dear Mr. Guillermet:

This letter provides information about the National Transportation Safety Board's (NTSB) June 18, 2025, report *Mitigations Concerning Load Reduction Device Activation in CFM International LEAP-1B Engines*, AIR-25-03. The details of relevant accident investigations and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

As a result of this investigation, we identified the following safety issues:

- As currently designed, load reduction device (LRD) activation in LEAP-1B engines (and potentially LEAP-1A and -1C engines) may damage an oil component and allow smoke to enter the cockpit or cabin of the airplane.
- Pilots who fly airplanes equipped with affected engines may not be aware of this potential for smoke in the cockpit or cabin as a result of LRD activation or the actions they should take if it should occur.

Accordingly, the NTSB makes the following safety recommendations to the EASA:

- Once CFM International and Boeing complete the development and certification process for software modifications to the CFM International LEAP-1B engines, require all operators of airplanes equipped with CFM International LEAP-1B engines to incorporate the software modification developed in response to Safety Recommendations A-25-13 and A-25-14 to prevent or limit the amount of smoke released into the cockpit or cabin after load reduction device activation. (A-25-11)
- Work with CFM International, Airbus, and the Commercial Aircraft Corporation of China to determine if CFM International LEAP-1A or -1C engines are at risk of smoke in the cockpit or cabin as a result of load reduction device activation and require affected operators to incorporate any modification that results. (A-25-12)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement this urgent recommendation. When replying, please refer to the safety recommendation by number (Safety Recommendations A-25-11 and -12). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

Sincerely,

[Original Signed]

Jennifer L. Homendy
Chairwoman
On behalf of the entire Board

Attachment

National Transportation Safety Board

Office of the Chairwoman

Washington, DC 20594



June 18, 2025

Mr. Zhiyong Song
Administrator
Civil Aviation Administration of China
c/o Captain Hang Lin
Accident Investigation Division
Office of Aviation Safety

Dear Mr. Song:

This letter provides information about the National Transportation Safety Board's (NTSB) June 18, 2025, report *Mitigations Concerning Load Reduction Device Activation in CFM International LEAP-1B Engines*, AIR-25-03. The details of relevant accident investigations and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

As a result of this investigation, we identified the following safety issues:

- As currently designed, load reduction device (LRD) activation in LEAP-1B engines (and potentially LEAP-1A and -1C engines) may damage an oil component and allow smoke to enter the cockpit or cabin of the airplane.
- Pilots who fly airplanes equipped with affected engines may not be aware of this potential for smoke in the cockpit or cabin as a result of LRD activation or the actions they should take if it should occur.

Accordingly, the NTSB makes the following safety recommendation to the CAAC:

Work with CFM International, Airbus, and the Commercial Aircraft Corporation of China to determine if CFM International LEAP-1A or -1C engines are at risk of smoke in the cockpit or cabin as a result of load reduction device activation and require affected operators to incorporate any modification that results. (A-25-12)

The NTSB is vitally interested in this recommendation because it is designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement this recommendation. When replying, please refer to the safety recommendation by number (Safety Recommendation A-25-12). We encourage you to

submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

Sincerely,

[Original Signed]

Jennifer L. Homendy
Chairwoman
On behalf of the entire Board

Attachment

National Transportation Safety Board

Office of the Chairwoman

Washington, DC 20594



June 18, 2025

Ms. Stephanie Pope
Chief Operating Officer
The Boeing Company
Executive Vice President
President and CEO
Boeing Commercial Airplanes

Dear Ms. Pope:

The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in the other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

We are providing the following information to urge Boeing to act on the safety recommendation in this letter because we believe your organization can help reduce the risk of future accidents.

This letter includes information about our June 18, 2025, report *Mitigations Concerning Load Reduction Device Activation in CFM International LEAP-1B Engines, AIR-25-03*. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

As a result of this investigation, we identified the following safety issues:

- As currently designed, load reduction device (LRD) activation in LEAP-1B engines (and potentially LEAP-1A and -1C engines) may damage an oil component and allow smoke to enter the cockpit or cabin of the airplane.

- Pilots who fly airplanes equipped with affected engines may not be aware of this potential for smoke in the cockpit or cabin as a result of LRD activation or the actions they should take if it should occur.

Accordingly, the NTSB makes the following safety recommendation to Boeing. Additional information regarding this recommendation can be found in the noted sections of the report.

- Work with CFM International to complete the development and certification process for a software modification for CFM International LEAP-1B engines that will prevent or limit the amount of smoke released into the cockpit or cabin after load reduction device activation. (A-25-13)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement this recommendation. When replying, please refer to the safety recommendation by number (Safety Recommendation A-25-13). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. For your convenience, please refer to additional [guidance on responding to our safety recommendations](#) on our website.

If your reply, including attachments, exceeds 20 megabytes, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

All communications regarding safety recommendations are stored by the NTSB and viewable by the public. Please do not send privileged or confidential communications in response to this/these recommendation(s). Responses marked as confidential or privileged (or similar designations) will be considered nonresponsive. In the likely event that your company uses auto-generated and/or preformatted confidentiality statements on letterhead or outgoing e-mails, please include a statement in your letter indicating that the information can be publicly released. If you have concerns about this protocol, please contact us at ExecutiveSecretariat@ntsb.gov.

Sincerely,

[Original Signed]

Jennifer L. Homendy
Chairwoman
On behalf of the entire Board

cc: Ms. Stella Weidner

Ms. Rebecca Ragar

Mr. Tom Galantowicz

Ms. Elisabeth Martini

National Transportation Safety Board

Office of the Chairwoman

Washington, DC 20594



June 18, 2025

Mr. Florent Loquet
Safran Aircraft Engines

Mr. Alvaro Hernandez
GE Aerospace, US

Dear Mr. Loquet and Mr. Hernandez:

The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in the other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

We are providing the following information to urge CFM International to act on the safety recommendation in this letter because we believe your organization can help reduce the risk of future accidents.

This letter includes information about our June 18, 2025, report *Mitigations Concerning Load Reduction Device Activation in CFM International LEAP-1B Engines, AIR-25-03*. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

As a result of this investigation, we identified the following safety issues:

- As currently designed, load reduction device (LRD) activation in LEAP-1B engines (and potentially LEAP-1A and -1C engines) may damage an oil component and allow smoke to enter the cockpit or cabin of the airplane.

- Pilots who fly airplanes equipped with affected engines may not be aware of this potential for smoke in the cockpit or cabin as a result of LRD activation or the actions they should take if it should occur.

Accordingly, the NTSB makes the following safety recommendation to CFM International.

- Work with Boeing to complete the development and certification process for a software modification for CFM International LEAP-1B engines that will prevent or limit the amount of smoke released into the cockpit or cabin after load reduction device activation. (A-25-14)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement this recommendation. When replying, please refer to the safety recommendation by number (Safety Recommendation A-25-14). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. For your convenience, please refer to additional [guidance on responding to our safety recommendations](#) on our website.

If your reply, including attachments, exceeds 20 megabytes, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

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Jennifer L. Homendy
Chairwoman
On behalf of the entire Board