

Continued Airworthiness Notification

Subject: Recommended guidance for upset prevention and recovery practices, and maintenance of unresolved or deferred autoflight systems issues as part of ongoing continued operational safety activities related to an accident of a Boeing Model 737-500 airplane.

Date: 1 March 2021

For the attention of: Aircraft Operators and Approved Maintenance Organisations (AMO)

Applicability: Boeing Model 737-300/-400/-500 series airplanes.

Purpose: An FAA Continued Airworthiness Notification to the International Community (CAN-2021-03), on the above subject, was issued on 15 February 2021 (refer Reference). This CAAT CAN is issued to encourage concerned stakeholders to take action in accordance with the recommendations listed below.

Recommendations:

1. Aircraft Operators are encouraged to emphasize to flightcrew the importance of monitoring the status of the autoflight systems, the effect on the flight path of the aircraft while autoflight systems are engaged, and the importance of upset prevention and recovery practices and guidance. Ensure that an Upset Prevention and Recovery Training (UPRT) curriculum provides pilots with the knowledge and skills related to aircraft upset prevention, recognition, and recovery.
2. Aircraft Operators and AMOs are recommended to
 - a) Identify repeat maintenance issues of autoflight systems and subject them to higher scrutiny including more in-depth maintenance evaluations and risk assessments.
 - b) Encourage maintenance personnel to recognise and report aircraft systems requiring an abnormal level of repeat maintenance.
 - c) Avoid deferring maintenance of repeat malfunctions or defects in autoflight systems.
 - d) Subject such malfunctions or defects to in-depth maintenance evaluations and risk assessments before the airplane is returned to service.
 - e) Establish a standard for maximum occurrence of repeat malfunctions or defects, so that maintenance organisations can assist their personnel in making risk assessments to implement actions needed to address irregularities that prove to be more difficult to resolve.
 - f) Instruct maintenance personnel and flightcrews to enter clear information, including specific descriptions of the malfunctions or defects, in the Aircraft Maintenance Log

Reference:

FAA Continued Airworthiness Notification to the International Community (CANIC) No. CAN-2021-03

If you have any queries, or any problems accessing any of the reference documents, please do not hesitate to contact us.

For further information, please contact
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Continued Airworthiness Notification to the International Community (CANIC)

To: Civil Aviation Authorities (CAAs)
From: Federal Aviation Administration
Aircraft Certification Service
Compliance & Airworthiness Division

Date: February 15, 2021

Subject: FAA's recommended guidance for upset prevention and recovery practices, and maintenance of unresolved or deferred autoflight systems issues as part of ongoing continued operational safety activities related to an accident of a Boeing Model 737-500 airplane.

Accident/Incident Description: On January 9, 2021, a Sriwijaya Air Boeing Model 737-500 airplane, registration PK-CLC, operating flight SJ182 from Jakarta (CGK) to Pontianak (PNK), crashed shortly after departure from Jakarta. As discussed in KNKT Preliminary Accident Investigation Report (Ref. 1), as the aircraft climbed past 8,150 feet, the autothrottle began to reduce power. The left thrust lever reduced power while the right thrust lever remained at climb power. This ultimately resulted in a significant thrust asymmetry. The aircraft autopilot was commanding a right bank to capture a selected heading. As the thrust asymmetry increased, the autopilot could not maintain the right bank and the aircraft began to roll left. The aircraft entered a left bank, and the left thrust lever continued to reduce power while the right thrust lever remained unchanged. The autopilot disengaged, accelerating the left roll. It is unknown if the autopilot was disengaged by the flightcrew or due to exceeding autopilot roll control limits. The aircraft entered a dive and impacted the water. The maintenance records for the airplane showed that there was recent and recurring maintenance on the autothrottle system.

Aircraft/ Engine Make, Model and Series: Boeing Model 737-300/-400/-500 series airplanes; CAAs may consider expanding this guidance to other transport category airplanes.

U.S.-registered fleet: 143; **Worldwide fleet:** 1041; **Operators:** numerous worldwide operators of these airplanes.

Ongoing activities: Komite Nasional Keselamatan Transportasi (KNKT), the Indonesian National Transportation Safety Committee (NTSC), continues to lead the investigation into the accident. The National Transportation Safety Board (NTSB) is assisting. The FAA is serving as technical adviser to the Accredited Representative. The investigation is ongoing, and no probable causes have been identified.

Advisory Information: The FAA is releasing this CANIC to notify the CAAs of the importance of having operators of Boeing Model 737-300, -400, and -500 series airplanes do the following in accordance with existing guidance that is listed in the references below:

- Emphasize to flightcrew the importance of monitoring the status of the autoflight systems, the effect on the flight path of the aircraft while autoflight systems are engaged, and the importance of upset prevention and recovery practices and guidance.
- Emphasize to maintenance organizations the need to subject repeat maintenance issues of autoflight systems to higher scrutiny including more in-depth maintenance evaluations and risk assessments by operators.

Transport category airplanes are operated using autoflight systems during most of the flight (e.g., autopilot and autothrottle). It is important to ensure that an Upset Prevention and Recovery Training (UPRT) curriculum, as required by many regulatory authorities (e.g., Ref. 2), provides pilots with the knowledge and skills related to aircraft upset prevention, recognition, and recovery. CAAs should reinforce air carriers' training for UPRT as described in Section 2-2.e. of Ref. 3. Good practices for upset prevention and recovery from a loss of control in flight may be found in Ref. 4.

This CANIC is also intended to raise awareness that aviation maintenance organizations should encourage their personnel to recognize and report aircraft systems requiring an abnormal level of repeat maintenance. Air carriers should not defer maintenance of repeat malfunctions or defects in autoflight systems. Such malfunctions or defects should be subject to in-depth maintenance evaluations and risk assessments before the airplane is returned to service. Air carriers should establish a standard for maximum occurrence of repeat malfunctions or defects, so that maintenance organizations can assist their personnel in making risk assessments to implement actions needed to address irregularities that prove to be more difficult to resolve (Ref. 5 and 6). Maintenance personnel and flightcrews should enter clear information, including specific descriptions of the malfunctions or defects, in the Aircraft Maintenance Log. This may provide the flightcrews with information on aircraft status and may assist maintenance personnel in addressing the writeup. Sound safety management practices are important to address potential maintenance program risks.

References (Ref.):

1. KNKT Preliminary Accident Investigation Report KNKT.21.01.01.04, dated February 9, 2021 (<http://knkt.go.id/>)
2. U.S. Title 14 CFR 121.423
3. FAA Advisory Circular AC No: 120-111, Change 1, Upset Prevention and Recovery Training, dated January 4, 2017
4. ICAO Doc 10011 - Manual on Aeroplane Upset Prevention and Recovery Training, First Edition 2014
5. FAA Advisory Circular AC No: 120-17B, Reliability Program Methods – Standards for Determining Time Limitations, dated December 19, 2018
6. ICAO Doc 9760 Airworthiness Manual, 3rd Edition 2014

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