

**BAe ATP,
SE-LPS**

**Ronaldsway Airport,
Isle of Man**

9 April 2021

Serious Incident

Investigation Synopsis

SE-LPS was on approach to Ronaldsway Airport, Isle of Man with the co-pilot as PF. As the aircraft approached the minimum descent altitude, the co-pilot attempted to disengage the autopilot. There was no audio tone to indicate the disengagement and the co-pilot felt there was resistance in the flying controls. Both pilots checked the cockpit indications which seemed to show that the autopilot had disengaged. The commander took control and also felt resistance in the flying controls. He pressed and held the synchronisation (syn) button on the control column which he felt released the controls and was able to land the aircraft normally.

A definite cause could not be found for the autopilot not disengaging as designed. The manufacturer responsible for the design of the autopilot identified a possible scenario where the autopilot servomotors could remain engaged after the autopilot disengaged. This would result in higher-than-normal forces at the cockpit controls.

On 2 December 2021, another autopilot occurrence on an ATP, registration SE-MAJ, was reported to the AAIB. The results of this investigation are included in this report.

Safety action was taken by the CAA to include additional testing of the autopilot system as part of the continued airworthiness programme of the ATP. The operator took safety action to reconfigure their fleet so that either pilot could override either autopilot via the syn button on their respective control wheel. The operator also initiated remedial action to try and prevent water ingress into the cockpit.

Two Safety Recommendations have been made to the CAA regarding the use of magnetic tape recorders.

Safety Recommendation 2022-014

Justification

Magnetic tape recorders are still being used on aircraft beyond the date that EASA believed they would no longer be in service and a number of them have been involved in AAIB investigations. The extent to which magnetic tape flight recorders are used by UK Air Operator Certificate holders is not known.

Therefore, the following safety recommendation was made:

Safety Recommendation 2022-014

It is recommended that the Civil Aviation Authority review the use of magnetic tape flight data recorders used in aircraft operated by UK Air Operator Certificate holders and establish if there is a practical way to comply with the ICAO requirement to cease their use.

Date Safety Recommendation made: 19 August 2022

LATEST RESPONSE

Response received: 09 May 2023

A review of regulations CAT.IDE. A.190 & CAT.IDE. H.190 (Compliant with EUROCAE ED-112) for flight data recorders has been carried out. A new policy mandate has been submitted to the UK CAA policy department to update both regulations with an additional line (f) to include:

(f) By 1 January 20XX at the latest, the FDR shall record on means other than magnetic tape or magnetic wire.

This will bring both regulations in line with the CVR, CAT.IDE.A.185 and comply with the ICAO requirement.

Safety Recommendation Status Open

AAIB Assessment Partially Adequate

Action Status Planned Action Ongoing Update Due 23 October 2023

Feedback rationale

The CAA action meets the intent of the Safety Recommendation to ensure that UK Air Operator Certificate holders comply with the ICAO requirement to cease using magnetic tape recorders. However, at this stage there is no indication as to when this requirement will be implemented.

The AAIB would request an update on the actions taken and implementation date by 23 October 2023. (EU Regulation 996/2010 article 18 refers).

RESPONSE HISTORY

Response received: 20 October 2022

Airworthiness have carried out a survey of prominent UK operators and none of the responses received indicate use of magnetic tape flight data recorders.

We will review the existing regulation CAT.IDE. A.190 & CAT.IDE. H.190 (Compliant with EUROCAE ED-112) for flight data recorders and consider if a change to the existing regulations are required to align with Cockpit Voice Recorders.

AAIB Assessment – Adequate Open

Safety Recommendation 2022-015

Justification

The quality of magnetic tape recordings can vary significantly throughout the recording, and currently only a quality check of a sample of the recording is required.

Therefore, the following safety recommendation was made:

Safety Recommendation 2022-015

It is recommended that the Civil Aviation Authority require that magnetic tape flight data recorders, used in aircraft operated by UK Air Operator Certificate holders, comply with the Civil Aviation Authority Specification No 10, regarding the error rate requirements, by checking the complete recording rather than by undertaking a sample check.

Date Safety Recommendation made: 19 August 2022

LATEST RESPONSE

Response received: 09 May 2023

The CAA have reviewed CAP 731 which details the UK requirements for maintenance of Flight data recorders. An initial review of this document has taken place with a revision update inserted to capture the updated maintenance requirements of Magnetic Tape recorders to include the review of the complete recording. This document which has not been reviewed for some time requires further updates to capture the latest standards for digital Flight Data recorders. This further review combined with our current workload is expected to be completed by Quarter 4, 2023.

The CAA would like to propose that the next update to these AAIB recommendations shall be provided by the end of November 2023.

Safety Recommendation Status Open

AAIB Assessment Adequate

Action Status Planned Action Ongoing Update Due 30 November 2023

Feedback rationale

The AAIB notes the actions planned and requests an update by 30 November 2023. (EU Regulation 996/2010 article 18 refers).

RESPONSE HISTORY

Response received: 20 October 2022

The CAA have agreed to review CAP 731 which details the UK requirements for maintenance of Flight data recorders in order to capture the appropriate error rate requirements of the complete recording.

This is a substantial technical document and will take some time to review and update in order to capture the requirements in recommendation 2022-015 and latest standards for digital as well as magnetic tape flight data recorders.

The CAA would like to propose that the next update to these AAIB recommendations shall be provided by the end of April 2023.

AAIB Assessment – Adequate Open