



MINISTRY OF CONSTRUCTION AND TRANSPORT

TRANSPORTATION SAFETY BUREAU

FINAL REPORT

(English Language Summary)

Mooney M20K, HA-JDZ

Budaörs Airfield (LHBS), 9 May 2022

Incident

2022-0533-4

**This is an English language abstract of the official safety report written in Hungarian.
Final Reports are published at www.kbsz.hu.**

The sole objective of a safety investigation is to find the causes and circumstances of aviation accidents or incidents and to initiate the necessary safety measures; furthermore, to make recommendations in order to prevent similar cases in the future. It is not the objective of an investigation to apportion blame or liability.

Introduction

Synopsis

Occurrence class		Incident
Aircraft	Model	Mooney M20K
	Registration	HA-JDZ
Occurrence	Date and Time	9 May, 2022, 10:40 LT
	Location	Budaörs Airfield (LHBS)
Fatalities / Severe Injuries		0 / 0
Damage to Aircraft		Considerably damaged

The nose landing gear of a Mooney M20 K aircraft (registration sign HA-JDZ) with retractable landing gear collapsed shortly after it started its take-off roll on Runway 27 at Budaörs Airfield (LHBS). No person was injured in the occurrence, but the aircraft was damaged.

During the investigation, the Investigating Committee (hereinafter: 'IC') of the TSB concluded that the root cause of the occurrence was the inaccurate assembling of the parts used for the bolted joint at the forked end of the LH side tube (bungee) of the nose gear retraction truss, which had not been identified during the scheduled maintenances.

The IC of the Transportation Safety Bureau found no grounds to issue a safety recommendation.



Figure 1. The position of the aircraft when the IC arrived on the site.

General information

All times indicated in this report are in local time (LT). LT at the time of the occurrence: UTC+2 hours.

Geographic locations throughout this document are provided in WGS-84 standard.

The capitalised positions used throughout this document (e.g. Captain, Pilot, etc.) refer to the particular persons concerned in the event investigated.

The format and content of this report is in harmony with Chapter 6 of Annex 13 of Act XLVI of 2007 promulgating the Appendices to the Convention on International Civil Aviation, signed in Chicago on 7 December 1944. Appendix, as well as with the requirements set out in ICAO Doc 9756 Part IV.

Reports and Notifications

The occurrence was reported to TSB's call center at 10:40 on 9 May 2022, by the on-call officer of Budaörs Airfield.

In line with Article 9, Section (2) of Regulation (EU) No 996/2010 of the European Parliament and of the Council, TSB of Hungary notified the following organisations.

- Accident Investigation Authority of the State of Design on 10/05/2022 at 15:47.
- Accident Investigation Authority of the State of Manufacture on 10/05/2022 at 15:47.
- EASA on 10/05/2022 at 15:50.

Investigation Committee

The Head of TSB appointed the following persons in the investigating committee (hereinafter: IC).

Investigator-in-Charge	Zsuzsanna Nacsa JD	investigator
Member	Gábor Erdósi	investigator

Overview of the Investigation Process

Receiving event notification, the on-duty manager of the TSB ordered an immediate dispatch to the site.

Pursuant to Article 5 of REGULATION (EU) No 996/2010 of the European Parliament and of the Council of 20 October 2010 on the investigation and prevention of accidents and incidents in civil aviation and repealing Directive 94/56/ECA the TSB is required to initiate an investigation in the following circumstances.

1. *Every accident or serious incident involving aircraft other than specified in Annex II to Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency (6) shall be the subject of a safety investigation in the Member State in the territory of which the accident or serious incident occurred.*
2. *When an aircraft, other than specified in Annex II to Regulation (EC) No 216/2008, registered in a Member State is involved in an accident or serious incident the location of which cannot be definitely established as being in the territory of any State, a safety investigation shall be conducted by the safety investigation authority of the Member State of registration.*
3. *The extent of safety investigations referred to in paragraphs 1, 2 and 4 and the procedure to be followed in conducting such safety investigations shall be determined by the safety investigation authority, taking into account the lessons it expects to draw*

from such investigations for the improvement of aviation safety, including for those aircraft with a maximum take-off mass less than or equal to 2 250 kg.

4. *Safety investigation authorities may decide to investigate incidents other than those referred to in paragraphs 1 and 2, as well as accidents or serious incidents to other types of aircraft, in accordance with the national legislation of the Member States, when they expect to draw safety lessons from them.*

Based on the findings of the site inspection and with regard to Article 5 (4) of Regulation (EU) No 996/2010 of the European Parliament and of the Council, the head of the TSB decided that an investigation is required and will be launched.

In the course of the investigation the IC has taken the following steps:

- performed site survey at Budaörs Airfield,
- interviewed witnesses at the site (pilot, passenger),
- members of the IC viewed 3 Mooney M 20 type aircraft for the purpose of obtaining information at Tököl Airport on May 17, 2022,
- an additional survey was carried out in the presence of a forensic expert in a hangar of Budaörs Airfield, on May 24, 2022,
- the available technical documentation of the aircraft was reviewed in the presence of the organization's representatives and the forensic expert of the police at the CAO organisation' archive on May 31, 2022,

Investigation Principles

This investigation is being carried out by Transportation Safety Bureau on the basis of the following disciplines.

- Regulation (EU) No 996/2010 of the European Parliament and of the Council of 20 October 2010 on the investigation and prevention of accidents and incidents in civil aviation and repealing Directive 94/56/EC,
- Act XCVII of 1995 on aviation,
- Annex 13 identified in the Appendix of Act XLVI. of 2007 on the declaration of the annexes to the Convention on International Civil Aviation signed in Chicago on 7th December 1944,
- Act CLXXXIV of 2005 on the safety investigation of aviation, railway and marine accidents and incidents (referred to as Kbvt. throughout the document),
- NFM (Ministry for National Development) Regulation 70/2015 (XII.1) on safety investigation of aviation accidents and incidents, as well as on detailed investigation for operators,
- In matters not covered by Kbvt., Act CL of 2016 on General Public Administration Procedures

The competence of the Transportation Safety Bureau of Hungary is based on Government Regulation № 230/2016. (VII.29.) on the assignment of a transportation safety body and on the dissolution of Transportation Safety Bureau with legal succession.

Pursuant to the aforesaid legislation,

- Transportation Safety Bureau of Hungary shall investigate aviation accidents and serious incidents.
- Transportation Safety Bureau of Hungary may investigate aviation and incidents which – in its judgement – could have led to accidents of more severe consequences in different circumstances.
- Transportation Safety Bureau of Hungary is independent of any person or entity that may have interests in conflict with the objectives of the investigating body.

- In addition to the aforementioned legislation, TSB of Hungary shall conduct safety investigations in line with ICAO Docs 9756 and 6920 Manual of Aircraft Accident Investigation.
- This Report shall not be binding, nor shall an appeal be lodged against it.
- The original of this report was written in Hungarian.

No conflict of interest has been identified between safety investigators appointed to the IC. No investigator assigned with a safety investigation has been involved as an expert in any other procedure pertaining to the same case and shall not do so in the future.

The IC shall retain all data and information having come to their knowledge in the course of the safety investigation. Furthermore, the IC shall not be obliged to make such data and information available to other authorities, whose disclosure could have been legally refused by their original owner.

This Final Report is based on the Draft Report prepared by the IC and shall be sent to all involved parties for comments, as set forth by the relevant regulations.

Within legal deadline in response to the Draft Report, comments have been received articulating alternative opinions or interpretations. The IC has made slight modifications in the wording of the Final Report to reflect these views. The IC maintains their views and issues the Final Report.

Copyright

This report has been issued by

Transportation Safety Bureau

2/A. Kőér St. Budapest H-1103, Hungary

www.kbsz.hu

kbszrepules@ekm.gov.hu

With the exceptions stipulated by law, this report or any part thereof may be used in any form, provided that context is maintained and clear references are made to the cited source.

Translation

This document has been translated from Hungarian. Although efforts have been made to provide a translation as accurate as possible, discrepancies between the versions might occur. In such eventuality, the Hungarian version shall prevail.

Factual information

Flight History

The pilot and his passenger arrived at Budaörs Airfield in the early hours of 9 May, 2022, with the intention of flying an international route according to their flight plan with the pilot-owned aircraft. After arrival, the pilot performed the necessary pre-flight inspection, and after starting the engine he and his passenger began taxiing to the waiting point of runway 27. The pilot found everything correct during the engine check, and then began the take-off roll. During this time, all operating parameters were in the normal operating range (this was also confirmed by IC based on the video footage of the take-off roll). A few seconds after the start - at about 35 knots - the nose gear abruptly collapsed. After that, the aircraft slid 43.7 m on the nose gear's doors on the centreline of the runway, and then came to rest at the coordinates N47°27'04" N18°58'55". The pilot leant the mixture, shut down the engine and de-energized the aircraft. After that the passenger and then the pilot left the plane. The airfield service notified the TSB.

Conclusions

During the investigation, the IC of the TSB concluded that the root cause of the occurrence was the inaccurate assembling of the parts used for the bolted joint at the forked end of the LH side tube (bungee) of the nose gear retraction truss, which had not been identified during the scheduled maintenances.

The IC of the Transportation Safety Bureau found no grounds to issue a safety recommendation.

Safety Recommendations

The IC issued no safety recommendation.

Dated in Budapest, on 01 February 2023