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FINAL REPORT

**Investigation into the incident
of aircraft SAAB-SAFIR 91D,
registration OE-KSS,
at LKTB on 11 September 2005**

Prague
October 2005

A) Introduction

Operator: Natural person who resides on the territory of the Austria
Aircraft type: SAAB-SAFIR 91D
Registration: OE-KSS
Place of Incident: Brno/Tuřany Airport (LKTB)
Date and Time: 11.9. 2005, 10:30 (All times in this report are UTC)

B) Synopsis

On 11 September 2005 Air Accidents Investigation Institute of the Czech Republic (AAll) received a report on the incident of an SAB-SAFIR 91 airplane of the Austrian operator. The pilot of the plane was taxiing from the parking area to the group of aircraft TEAM 2000 to be on CIAF 2005 show at the Brno Tuřany Airport. When leaving the grass surface to get on a taxiway (TWY A), the nose undercarriage wheel sank into a hollow between the grass surface and the edge of the TWY A concrete drain canal. As the airplane nose dropped, the propeller hit the concrete surface, deformed and the engine stopped forcibly.

The plane was given assistance by the airport fire rescue service and after the incident had been announced its investigation got started.

On 13 September 2005 the AAll sent a notification to Aircraft Accident Investigation Branch (AAIB) Austria.

The cause of the incident was investigated by an AAll commission comprising:

Investigator in charge: Ing Stanislav Suchý

Member: Ing. Lubomír Střihavka

The Final report was released by:

ÚSTAV PRO ODBORNĚ TECHNICKÉ ZJIŠŤOVÁNÍ PŘÍČIN LETECKÝCH NEHOD
Beranových 130
199 01 PRAHA 99

On the 11 October 2005.

C) The Final report includes the following main parts:

- 1) Factual information
- 2) Analysis
- 3) Conclusions
- 4) Safety recommendation
- 5) Annexes (to copy No.1 stored in AAll archive)

1 Factual information

1.1 History of the incident

On 11 September at 10:26:55 a group of four airplanes SAAB-SAFIR 91D (TEAM 2000) was cleared to taxi to take off for a flight show in the CIAF 2005 programme. The pilot of OE-KSS plane started taxiing as the second to the leading plane of the group. The planes taxied from the parking area on the grass surface allocated to them by the apron controller after they had arrived at LKTB.

The pilot, who followed the leading plane of the group, travelled straight ahead 45 m on the grass surface and was heading perpendicularly onto TWY A at 10:30. In front of the concrete edge of the TWY A drain canal the soil caved in and the nose undercarriage wheel sank into a hollow ca 35 cm deep. During the sudden drop of the airplane's nose the propeller blades hit the concrete taxiway, the tips of both of the blades were deformed and the engine stopped.

The plane stood at the taxiway edge and then assisted by rescue and fire service was lifted and pushed back onto the parking area. A traffic controller examined and marked the place properly to ensure safety of other traffic participants.

1.2 Injuries to persons

Injuries	Crew	Passengers	Others
Fatal	0	0	0
Serious	0	0	0
Minor/ None	0/1	0	0

1.3 Damage to aircraft

Both of the propeller blades were destroyed by the shock as the tips were deformed in a length of 230 mm.

1.4 Other damage

There was no other damage.

1.5 Personnel information

1.5.1 The pilot, aged 39, was a holder of CPL, had a valid medical certificate. He has flown around 3,500 flying hours of which 500 flying hours on type SAAB-SAFIR 91D.

1.6 Aircraft information

1.6.1 General

Type and Model:	SAAB-SAFIR 91D
Registration:	OE-KSS
Manufacturer:	SAAB
Serial number:	91 456
Year of manufacture:	1964
Total flight time:	3721 hours

1.6.2 Powerplat

Engines/Type: Lycoming 0-360-A1A
Propellers/Type: McCauley Verstallpropeller
Serial number: 633583

1.7 Meteorological information

According The Air Weather Service was following meteorological conditions on the 11 September 2005 during incident of aircraft at LKTB:

The surface winds: VRB/ 2 kt
The visibility: over 10 km
Weather conditions: FEW 1500 ft TCU, STC 1700 ft.

1.8 Aids to navigation

Radio-navigation at LKTB had no effect on the incident.

1.9 Communications

The communication between the pilot and TWR was on the notified CIAF 2005 flying display frequency 125,425 MHz.

1.10 Aerodrome information

RWY 10 was in use at the LKTB airport. The airplanes of TEAM 2000 group stood on the grass parking area, 45 m from the taxiway edge, reserved for them by the apron controller as they arrived at LKTB. The grass parking area had sufficient pavement strength, an adequate even surface, and was good for airplane taxiing. At a distance of one or one and a half meter from the edge it slopes down toward the edge of the drain canal of the taxiway.

At the boundary between the canal and the grass area there was a hollow 50 cm wide and ca 35 cm deep covered in grass. The surface of the hollow edge was not able to carry the load from the nose undercarriage, so the front wheel sank as it ran over the hole.

1.11 Flight recorders

The aircraft was not equipped with a flight recorder.

1.12 Description of incident site

NIL

1.13 Medical and pathological information

Immediately the incident the pilot was tested without any evidence of alcohol.

1.14 Fire

The airport rescue and fire unit found there had been no fuel leak and no fire risk when the aircraft had stopped on the parking area.

1.15 Survival aspects

NIL

1.16 Tests and research

NIL

1.17 Organizational and management information

NIL

1.18 Additional information

NIL

1.19 Useful or effective investigation techniques

The incident has been investigated in accordance with Annex 13.

2 Analysis

2.1 Circumstances relating to aircraft operation

2.1.1 The pilot parked the plane in an area reserved for this purpose by the apron controller. The space for entering TWY A was delimited by a fence of the meteorological station from the right-hand side and by a taxiway side light from the left.

2.1.2 The planes of the group were taxiing from their parking area after being cleared by TWR without assistance of the apron controller, who at that time controlled movement of aircraft at the stand of military planes.

2.1.3 The pilot was taxiing from the grass surface to the taxiway at approximately the same place at which the TEAM 2000 planes travelled during the air show training and at the air show on September 10, 2005, the day before.

2.1.4 When taxiing to the taxiway, the pilot's forward view of the terrain ahead of the front wheel was obstructed.

2.1.5 The pilot could not react to the wheel dropping into the hollow.

2.2 The airport

2.3.1 The airport operator only exceptionally uses for airplane parking the portion of the grass surface where the hollow at the edge of the drain canal was.

3 Conclusions

3.1 The commission has come to the following conclusions:

- The pilot had adequate qualification for the flight, valid medical certificate and experience;
- The aircraft had valid certificates of airworthiness, maintenance, and release to operation;
- The airport operator approved the place designated by the apron controller to park TEAM 2000 planes as good to operations of SAAB-SAFIR 91D aircraft.
- The airport operator did not discover the hollow into which the nose wheel dropped as the movement areas were checked before being used by CIAF 2005 planes.

3.2 The cause of the incident was the sudden drop of the nose wheel into the hollow, which was probably due to long soil erosion where the grass surface joins the concrete edge of the taxiway.

4 Safety recommendantions

Decision for the purpose of accident prevention is up to the airport operator.