Federal Public Service
Mobility and Transport
Air Accident Investigation Unit

Air Accident Investigation Unit
(Belgium)
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Safety Investigation Report

Ref. AAIU-2014-17
Issue date:14 June 2017
Status: Final

SYNOPSIS

Classification:	Accident
Level of investigation:	Standard
Date and time:	03 August 2014 at 11:00 UTC
Aircraft:	Piper PA-28-235. C/N: 28-7110004 (manufactured in 1971) registered in the Netherlands.
Type of engine:	One Lycoming O-540 engine
Accident location:	Aerodrome of Koksijde (EBFN)
Type of flight:	General Aviation – Cross-Country
Phase:	Landing
Persons on board:	2 pilots, Dutch Nationals.
Injuries:	None

Abstract

The airplane took off from Lelystad, the Netherlands (EHLE) to go to Koksijde (EBFN) were a fly-in event was organised by the West Aviation Aeroclub. Upon landing, the airplane deviated to the left and departed the runway.

Runway 29 was in use. The pilot reported a normal approach with good meteorological conditions.

The pilots on board could not prevent the deviation, in spite of their efforts, and the airplane came to a stop in an adjacent field.

FACTUAL INFORMATION

History of flight

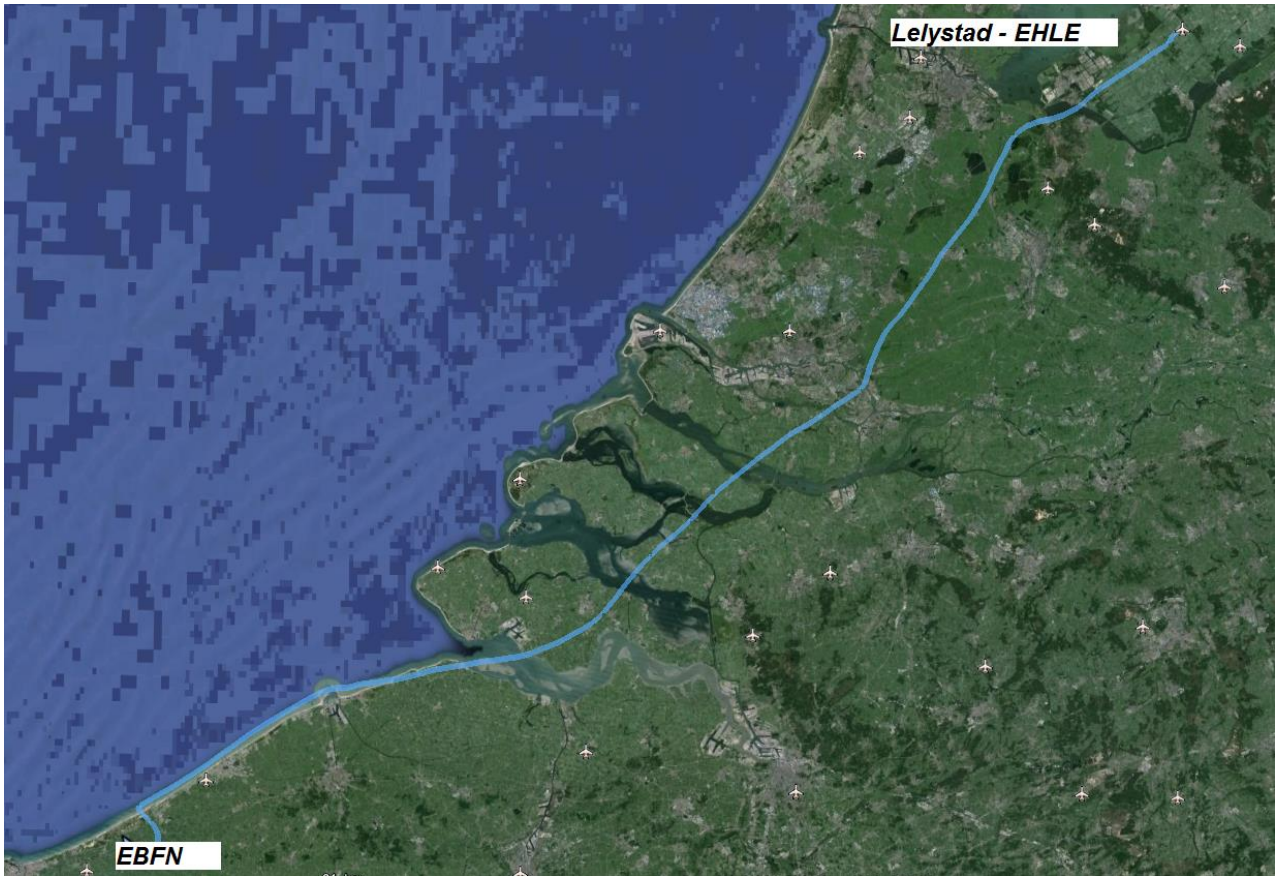

Figure 1: Flight track

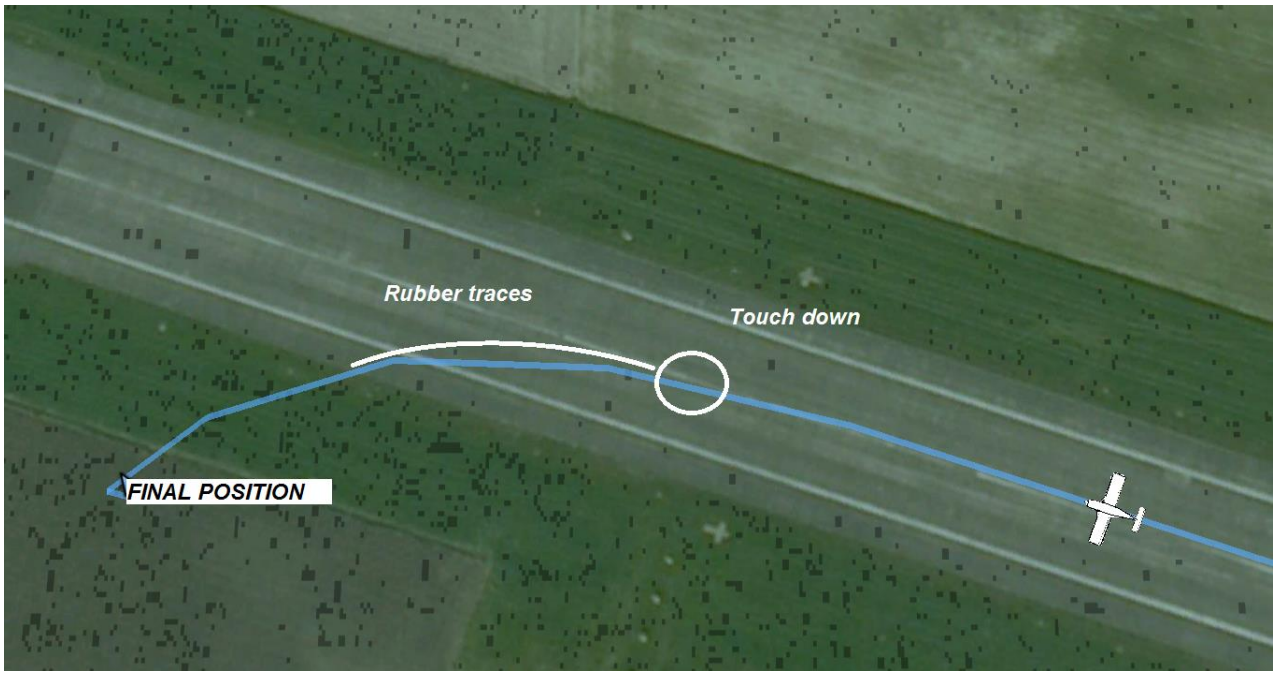

Figure 2: touchdown and deviation on RWY 29 at EBFN

Figure 3: final rest position

Damage

The nose landing gear leg was broken, the propeller bent, and there was visible damage to the engine firewall.

Figure 4

Meteorological data

Taken at 11 UTC on EBFN airfield.

Wind:
Direction: 260°
Wind speed: 8 kt

Visibility: + 15km

Temperature: 27,2°C dew point: 12,6°C

QNH: 1012,5 hPa

Clouds:
2/8 Cumulus at 1500ft
5/8 Stratocumulus at 4000ft
6/8 at 6000ft

Inspection of the wreckage.

First inspection

The damage is localised at the nose landing gear and one propeller blade.

The nose landing gear leg is bent 90° rearward.

The nose wheel steering was checked and found functioning. All damages found were due to the impact of the airplane with the ground during the last meters of the ground run in the grass.

One propeller blade is bent backwards.

Some tubes of the nose landing gear support structure were found deformed.

Pictures show the rudder deflected to the left when the airplane was resting.

Second inspection

A second inspection was performed on 11 September 2014 with the support of the maintenance organization coming to EBFN to disassemble the airplane for transportation by road.

The nose wheel steering, the rudder control system and the brake system were inspected and tested as far as possible.

Continuity of the nose wheel steering and the rudder control was verified and no pre impact anomaly could be found. The rudder pedals were moved in both directions showing the torque tubes were turning and the rudder deflected accordingly.
Pressure was applied and released few times on the brake pedals (installed on pilot side only) and the airframe was moved from forwards & backwards and vice versa, showing that each brake was working normally.

The parking brake was also tested, showing no anomaly.

CONCLUSIONS

Findings

- No mechanical anomaly could be found explaining the deviation of the airplane at landing
- The meteorological conditions, particularly the wind speed and direction was acceptable (Headwind: +/-7,8 kt, Crosswind: +/- 4,3 kt).

Cause

The pilot probably applied pressure on both brake pedals at or immediately after the landing causing a right wheel lock up and an unbalance between the braking efficiency of the wheels. The wheel locking up (right in this case) will brake less than the other wheel causing a deviation to the left. A reflex reaction of the pilot could have been that he increased the pressure on the right rudder/brake pedal, causing the phenomenon to be maintained.

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SAFETY ACTIONS AND RECOMMENDATIONS

As no generic safety issue was identified during the investigation, no safety recommendation was made.

About this report

As per Annex 13 and EU regulation EU 996/2010, each safety investigation shall be concluded with a report in a form appropriate to the type and seriousness of the accident and serious incident. For this occurrence, a limited-scope, fact-gathering investigation and analysis was conducted in order to produce a short summary report.
It is not the purpose of the Air Accident Investigation Unit to apportion blame or liability. The sole objective of the investigation and the reports produced is the determination of the causes, and, where appropriate define recommendations in order to prevent future accidents and incidents.