

Interim Safety Investigation Report

Ref. AAIU-2015-12

Classification: Serious incident

Level of investigation: Standard

Date and hour: 4 August 2015 at 18:25 UTC

Aircraft: Diamond Aircraft Industries DA-42 msn 42-252. The aircraft was registered in France and held a Certificate of Airworthiness, delivered by DGAC, France on 03 September 2010 and a valid Airworthiness Review Certificate (ARC), valid until 03 September 2015

Type of engine: Two Thielert / Continental TAE 125-02-99 equipped with MTV-6-A-C-F/CF187-129 propellers

Accident location: on EBCI airport

Type of flight: training

Phase: landing

Persons on board: 2 (one instructor and one student).

Injuries: None

Abstract

At the end of a navigation flight, the airplane with one instructor and a student on-board, was performing a go-around, followed by a one-engine out exercise. When landing on runway 24 of EBCI, the crew realised the landing gear was not extended. The airplane landed on its belly.

Investigation Status.

In Progress

Factual Information

History of the flight

F-GUPM was performing an IFR training flight. It took off from EBCI with an instructor and a student on board. The airplane flew from EBCI to EBKT, where it landed. The airplane then returned to EBCI, with the intention to perform a “go-around followed by one engine out” exercise. The airplane approached Runway 25 for landing, performed the go-around, assuming the failure of the Right engine; the airplane climbed to 1500ft, after rising the flaps and landing gear. The airplane turned to the left and joined the circuit.

The right engine (engine simulated out) setting was set to 20%, in order to compensate the effect of the drag.

According to the instructor on board, the airplane was requested to extend the downwind part of the circuit, due to other traffic. Flaps were selected down (“approach flaps”). Upon turning for the base leg, the instructor recalled the student to lower the landing gear.

The airplane turned for the final approach. The landing gear warning horn went on, after the crew retarded the engine throttle, indicating the landing gear was still up. The instructor decided to proceed with the landing.

The crew reported that the belly landing was remarkably smooth. The airplane skidded on the two footsteps, the two engine exhaust and the tail pad. It stopped after 300-400m.

The wooden propeller blades of the two engines were grated.

Damage

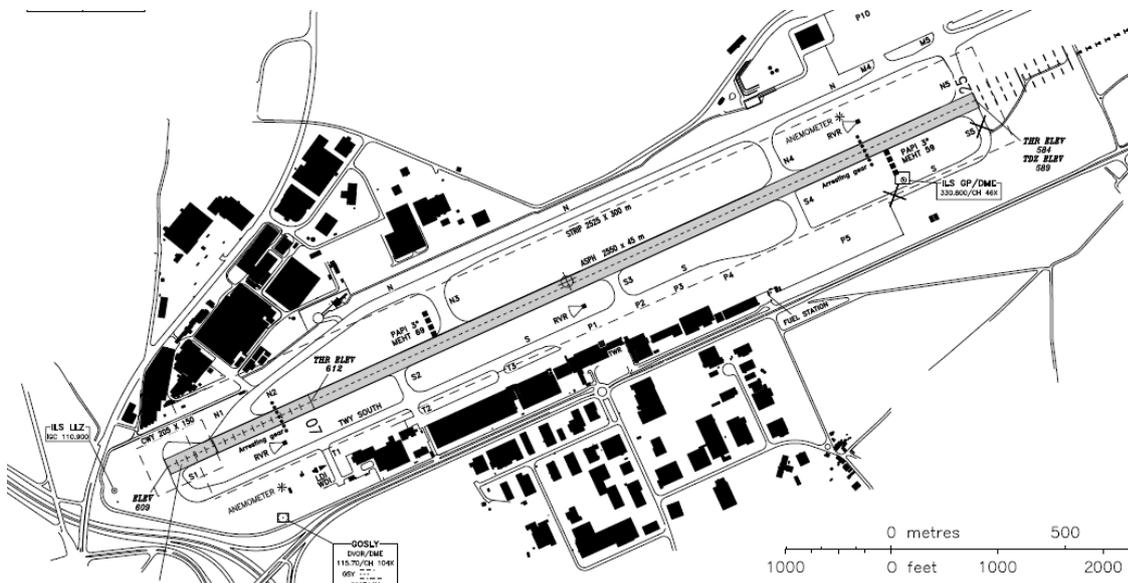
AAIU(be) inspected the airplane after it was towed out of the runway:

The findings are:

- Damaged left engine propeller blades:
 - o All blades fractured from the original 78cm length, the remaining length of the blades were respectively: 54, 51 and 51 cm.
 - o All three propeller’s rubber boots were still attached.
- Damaged right engine propeller blades:
 - o All blades fractured from the original 78cm length, the remaining length of the blades were respectively: 52, 51 and 50 cm.
 - o All three propeller’s rubber boots were still attached.
- No obvious trace of friction wear on the lower external surface of the engine cowling.
- Worn out damage on the exhaust pipe of the left and right engine.
- Deformation due to overheat of the lower external cowling in the immediate vicinity of the exhaust pipes (both engines)
- Worn out damage on the left foot step. The step itself was separated and found on the runway.
- No damage on the landing gear doors
- Lower central Com antenna was undamaged
- Friction grit on the tail skid.



Airfield information



Brussels South Charleroi Airport (BSCA), also called Charleroi Airport, (IATA: CRL, ICAO: EBCI) is located 7 km north of Charleroi and 46 kilometers south of Brussels. Geographical coordinates are 502736N – 0042710E and elevation is 614ft.

A new terminal opened in 2008, located north of the runways, is only used for commercial air transport while the old infrastructures south of the airport are dedicated to general aviation.

The airport is provided with an asphalt 25/07 bi-directional runway. Dimensions of runway 07 are 2550m X 45m while runway 25 is 2450m X 45m.

Personnel information.

Pilot - Instructor:

Sex: Male
Age: 70 years old
Nationality: Belgian

Licenses:

Belgian License:

Holder of a Belgian CPL(A), first issued on 18 July 1972.

Ratings:

Multiple Engine Piston (land), Single Engine Piston (land)

Flight instructor (FI(A))

Instruments Flight

Medical certificate class 1, valid until 11 December 2012.

Experience.

Former military pilot, extensive experience – 20000 FH

Student pilot

Sex: Male
Age: 22 years old
Nationality: Dutch

Belgian License:

Holder of a Belgian PPL(A), first issued on 04 April 2012.

Ratings:

Single Engine Piston (land)

Instruments flights

Experience.

On 30/6/2015:

Total: 196:45 FH (including 4 flight

PIC: 108:08

Aircraft Information

Aircraft TT: : 3.629,FH at the time of the accident

LH Engine : TAE 125-02-099 N/S :02-02-03597 TSN : 635H42

RH Engine : TAE 125-02-099 N/S :02-02-03384 TSN : 932H18

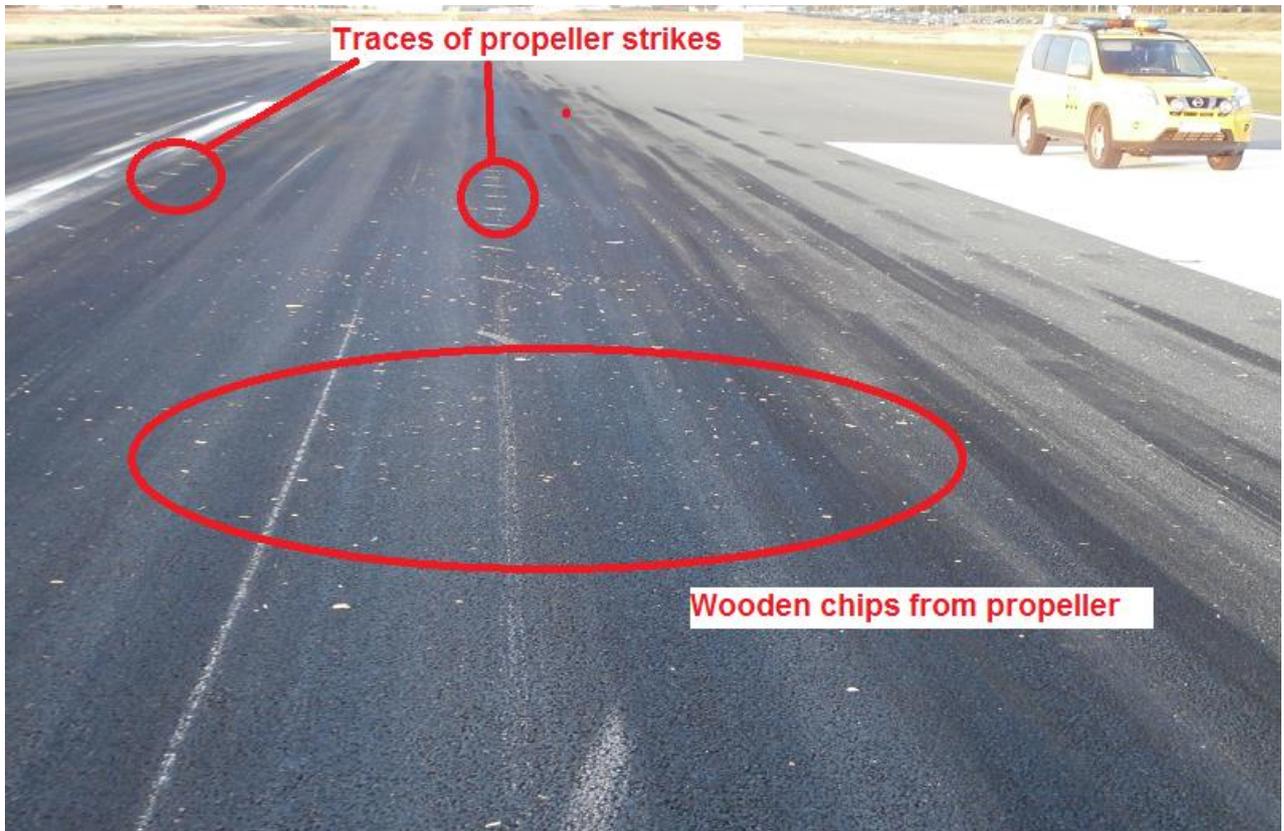
LH Propeller: MTV-6-A-C-F/CF187-129 N/S: 070082 TSN: 3591H37 TSO:1208H42

RH Propeller: MTV-6-A-C-F/CF187-129 N/S: 061224 TSN: 3596H06 TSO:33H00

Meteorological information

Wind direction : 290 degrees, variable between 260 and 350
Wind speed: 4 kts, max 10kts
Temperature: 19°C
Dew point: 7 °C
QNH: 1018.4 hPa
CAVOK

Impact information





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.