

Safety Investigation Report

Ref. AAIU-2022-07-19-01
Issue date: 21 February 2023
Status: Final

Scope: Data-collection only

As per ICAO Annex 13 and EU regulation EU 996/2010, decisions regarding whether to conduct a civil aviation safety investigation, and the extent of an investigation, are based on many factors, including the level of safety benefit expected to be drawn from such an investigation.

For this occurrence, a data-collection only report has been produced, detailing the factual information as received in the initial notification and any follow-up enquiries. . In the absence of a real investigation, they allow for awareness amongst the aviation community of potential safety issues and possible safety actions. The AAIU(Be) did not verify the accuracy of all information.

SYNOPSIS

Occurrence class	Serious Incident
Occurrence category	Loss of control - ground (LOC-G) Runway excursion (RE) - veer off
Date and time ¹	Tuesday 19 July 2022 07:10 UTC
Location	Airport of Kortrijk-Wevelgem (EBKT)
Aircraft	Europa (Classic)
Aircraft category	Fixed wing - Small aeroplane - Amateur-built
Location of departure	Brickwall Farm Airstrip, UK (ICAO: GB-0929)
Planned destination	Airport of Kortrijk-Wevelgem (ICAO: EBKT)
Type of operation	Non-commercial - Cross-country
Phase of flight	Landing
Injuries	None
Aircraft damage	Minor

What happened

The pilot was flying from a farm strip in the UK, Brickwall Farm to Belgium to meet a friend. After clearing customs at EBKT the plan was to fly on to the aerodrome of Kiewit-Hasselt (EBZH). The pilot reported that up to the arrival at EBKT the flight had been uneventful.

Upon landing on the runway 06 at Kortrijk during the ground run the aircraft began to swing. In hindsight, the pilot believes that he over corrected with rudder input and simultaneously pulled on the brake which exacerbated the swing to the right. This caused the aircraft to swing through 90 degrees, tipping on to the left wing tip and pitching forward breaking the propeller and causing a scrape on the

¹ All time data in this report are indicated in UTC, unless otherwise specified

lower cowling. The aircraft remained all the time within the runway. Wind was about 6 kt coming from 130°. The pilot was not injured and could vacate the aircraft himself and afterwards assisted the Rescue Services to push the aircraft clear of the runway.

What the AAIU(Be) found as safety topics

Systemic	Organisational	Non determined
	Technical	Performance – Directional control - Design
	Operational	Non determined
	Human	Incorrect action
	Environmental	Wind – Crosswind – Effect on operation

AAIU(Be) comments

The wind was almost cross on the runway (coming from 130 on runway heading 60°), necessitating for the pilot the correction to stay on heading. Yet, the Europa has different ground handling characteristics than aircraft with tricycle undercarriages because of the main gear being in front of the aircraft's centre of gravity. The characteristics are even more pronounced than conventional tail draggers because the latter have differential brakes on the 2 main gear, providing directional control and the pivot point will be on the outside wheel during a turn, reducing a bit the slingshot effect that occurs with a monowheel. The problem with having the C of G behind a single main wheel is that as soon as a turn is started (in the absence of sufficient speed to make the tail fin offer directional stability) there is a tendency for that turn to increase. the centrifugal force on the C of G produced by the turn, makes it want to sling shot outwards, and any braking or just friction on the main wheel accentuates this tendency.

Safety message

When feeling that the aircraft is going to the edge of the runway, it is better to let it run onto the grass than to brake because braking will certainly cause a ground loop. Even applying power is more likely to regain the runway heading than braking (and especially if a left turn is needed to get back straight (known as the P-factor). Next to that it is reportedly for the Europa important to maintain significant pressure on both rudder pedals.

FACTUAL INFORMATION

Damage

Limited to broken propeller and scratches on cowling and lower left wing.
No damage to other objects.



Figure 1 : Pictures of the damage taken when aircraft removed from the runway

Personnel information

Table 1 : General pilot data

Age	69
License	ATPL(A) and PPL(A) initially issued on 24 March 2008
Medical certificate	Class 2 issued on 18 December 2021

Table 2 :Flying experience pilot

Total hours	12000 hours
Total on type	130 hours
Last 90 days:	36 hours (all on the Europa)
Last 28 days:	11,5 hours (all on the Europa)
Previous flight	2 flights on 15 July 2022

Aircraft information

The Europa Classic Monowheel version is a single-engine two-seat light cabin with a single retractable wheel in the centre of the fuselage and retractable outriggers on each wing that are lowered with the flaps.



Figure 2 : Europa Classic Monowheel with the flaps and outriggers retracted

Table 3: Aircraft data

Model:	Europa Classic (Monowheel)
Year of built:	1999
MTOW:	1370 lb (621 kg)
Registration	Foreign
Airworthiness	Foreign Permit to Fly last issued on 23 June 2022
Total hours:	631 hours
Engine type	Horizontally-opposed 4-cylinder, 4-stroke, aspirated
Engine mfr. and model	Rotax 912-UL
Propeller type	3-blade composite, constant-speed, clockwise rotating
Propeller mfr. and model	Airmaster AP332 63"

Meteorological information

METAR at Lille (32 km away):

09:00: Wind 130° 6 kt, CAVOK, temperature 26°C, dew point 13°C, QNH 1016 hPa

09:30: Wind 130° 7 kt, CAVOK, temperature 28°C, dew point 13°C, QNH 1016 hPa

Aerodrome information

ICAO Code: EBKT
 Bidirectional runway 06/24
 Dimensions: 1900 m x 45 m
 Surface: asphalt

Survival aspects

The pilot wore a 4-point upper torso restraint

ABOUT THIS REPORT

General	
What?	Safety investigation reports are a technical document that reflects the views of the investigation team on the circumstances that led to the accident or serious incident and is conducted in accordance with Annex 13 to the Convention on International Civil Aviation and Regulation (EU) No 996/2010.
Objective	The sole objective of safety investigations is the determination of the causes, and to define safety recommendations in order to prevent future accidents and incidents. It is not the purpose of this investigation to apportion blame or liability. In particular, Article 17-3 of Regulation (EU) 996/2010 stipulates that the safety recommendations made in this report do not constitute any suspicion of guilt or responsibility.
Investigation authority	The Air Accident Investigation Unit of Belgium, (AAIU(Be) for the rest of this publication). It is the Belgian permanent national civil aviation safety investigation authority as defined in Article 4 of Regulation (EU) No 996/2010 and established in accordance with the Royal Decree of 8 December 1998. This unit is part of the Federal Public Service Mobility and Transport and is functionally independent from the Belgian Civil Aviation Authority and other interested parties.
This investigation	
Investigation initiation	AAIU(Be) was notified of the occurrence by Skeyes at 09:05 UTC on 19 July 2022. Considering the nature and limited damage it was decided to not travel to the scene of this incident.
Scope	<p>Data collection only</p> <p>As per ICAO Annex 13 and EU regulation EU 996/2010, decisions regarding whether to conduct a civil aviation safety investigation, and the extent of an investigation, are based on many factors, including the level of safety benefit expected to be drawn from such an investigation.</p> <p>For this occurrence, a data-collection only report has been produced, detailing the factual information as received in the initial notification and any follow-up enquiries. . In the absence of a real investigation, they allow for awareness amongst the aviation community of potential safety issues and possible safety actions. The AAIU(Be) did not verify the accuracy of all information.</p>
Other parties involved	Air Accidents Investigation Branch (AAIB) UK
	AAIU(Be) would like to thank the mentioned parties above and all other entities and individuals that have contributed to this safety investigation.