

# Safety Investigation Report

Ref. AAIU-2023-01-08-01

Issue date: 8 April 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 deeper 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	Incident
Occurrence category	Loss of control - ground (LOC-G) Runway excursion (RE) - veer off
Date and time <sup>1</sup>	Sunday 08 January 2023 12:52 UTC
Location	Airport of Antwerp/Deurne (EBAW)
Aircraft	Tecnam P2010
Aircraft category	Fixed wing - Small aeroplane (MTOW ≤ 5700 kg)
Location of departure	Aerodrome of Hasselt/Kiewit (EBZH)
Planned destination	Airport of Antwerp/Deurne (EBAW)
Type of operation	Non-commercial - Cross-country
Phase of flight	Landing
Injuries	None
Aircraft damage	No damage

## What happened

The aircraft took off at 12:27 from EBZH. Upon landing at Antwerp Airport (EBAW), the aircraft went off runway 29 on the south side slightly past taxiway G and finally gets stuck 5 meters further in the soft grass ground. All persons on board (pilot + 3 passengers) were able to vacate the plane uninjured.

Pilot reported that the wind prevented him from adjusting his steering and he ended up in the grass. At the moment of landing there was a crosswind 190°, 15 kt, gusting 22 kt.

<sup>1</sup> All time data in this report are indicated in UTC, unless otherwise specified

Purpose of the flight was the visit to the open house of a local flight training organisation. Flight was already delayed by the pilot from the morning to the afternoon due to rainy conditions.

### What the AAIU(Be) found as safety topics

Systemic	Organisational	None determined
	Technical	None determined
	Operational	None determined
	Human	Decision making/judgment Expectation/assumption – Underestimation of weather conditions Task performance – Aircraft control
	Environmental	Wind – Crosswind – Effect on operation Wind – Gust – Effect on operation

### AAIU(Be) comments

The pilot declared that he only knew from the prevailing gusting factor *after* the incident. He checked the EBAW METAR before the flight at 11:50 and wind gave 200°/13 kt. ATC-provider Skeyes also declared that, apart from gusts, it was a sunny afternoon with good visibility and clouds SCT 2500 ft.

Although the METAR at time of the landing (wind 190°/15 kt) didn't mention any gusting factor either, the frequency recordings learnt that the peak of 22 kt was indeed given as information to the pilot during the landing clearance for runway 29, even twice; when in base leg turning to final at 12:50:26 and in short final at 12:51:25.

The information of the prevailing gust was also given in information P (Papa) of the ATIS, which was initially issued on 12:50, so just around the time of the landing. But it's not required and even not expedient to continuously listen out the ATIS frequency when already in contact with the tower frequency.

The TAF valid for that period gave temporary gusts of 25 kt between 14:00 and 16:00. That gives also an indication of the trend of that day what to expect of conditions on the hours just before.

### Safety message

It should be reminded that gust is only given in the METAR when the maximum wind speed exceeds the average speed by 5 m/s (10 knot) during the 10-minute interval. So no gust report in the METAR doesn't mean that there are no peaks. Especially in already high crosswind conditions this can be tricky.

Checking METAR's alone isn't sufficient to get an impression of the prevailing and upcoming weather conditions.

### Note on published demonstrated crosswind

The maximum demonstrated crosswind as published in the Aircraft Flight Manual is 12 kt. However this is just a value obtained during a test flight. Type certification requires that aircraft be tested and found to be controllable in a 90 degree crosswind up to a velocity of 20% of the aircraft's stall speed in the power-off, landing configuration without the test pilot possessing any extraordinary skill. As far as it is not explicitly stated in the flight manual, this value is not an operational limitation; nothing prevents pilots from landing in crosswinds stronger than the maximum demonstrated crosswind. However, it might be a good reference to set your own personal limitations.

## FACTUAL INFORMATION

### Damage

None.

### Personnel information

Table 1 : General pilot data

Age	35
License	PPL(A) initially issued on 24 August 2022
Medical certificate	Class 2

Table 2 : Flying experience pilot

Total hours	116:32 hours (on P2008 and P2010)
Total as PIC	50:55 hours
Last 90 days:	06:06 (incident flight included)
Last 28 days:	01:30 (incident flight included)

### Aircraft information

Table 3: Aircraft data

Manufacturer:	Costruzioni Aeronautiche Tecnam
Model:	P2010
Year of built:	2015
MTOW:	1160 kg
Registration	Belgian
Airworthiness	Last ARC issued on 23 June 2022
Total hours:	1148 hours
Engine type	Horizontally-opposed 4-cylinder, 4-stroke, fuel injected
Engine manufacturer and model	Lycoming IO-360
Propeller type	3-blade composite, constant-speed, clockwise rotating
Propeller manufacturer and model	MT-Propeller MTV-12-B/183-59B

## Meteorological information

METAR at Antwerp Airport available to flight crew:

11:50: EBAW 081150Z 20013KT 9999 FEW021 09/04 Q1000 NOSIG=

12:20: EBAW 081220Z 19013KT 160V220 9999 FEW023 09/04 Q0999 NOSIG=

12:50: EBAW 081250Z 19015KT 9999 SCT025 10/04 Q0999 NOSIG=

ATIS (Automatic Terminal Information Service):

Information Oscar issued on 12:20:

*RWY 29 for arrivals and departures*

*Runway surface condition dry*

*Wind 190°/15 kt variable between 160°/220°*

Information Papa issued on 12:50:

*RWY 29 for arrivals and departures*

*Runway surface condition dry*

*Wind 180°/15 kt minimum 7 kt/ maximum 22 kt*

Forecast at Antwerp Airport, available to flight crew:

TAF EBAW 081120Z 0812/0821 20012KT 9999 SCT020

PROB30 TEMPO 0814/0819 20015G25KT

TEMPO 0819/0821 23017G28KT 4500 SHRA BKN014CB=

**Table 4 : Measured wind at EBAW (not available to flight crew)**

Date	Time UTC	10 Min Average Wind Dir (°)	10 Min Wind Speed (kt)	Max Gust over 10 Min
08/01/2023	12:40:00	186	15.2	23.3
08/01/2023	12:41:00	187	14.9	22.8
08/01/2023	12:42:00	189	14.4	22.8
08/01/2023	12:43:00	189	14.0	22.8
08/01/2023	12:44:00	191	14.0	22.8
08/01/2023	12:45:00	192	14.2	21.5
08/01/2023	12:46:00	191	14.6	21.8
08/01/2023	12:47:00	192	14.6	21.8
08/01/2023	12:48:00	192	14.7	21.8
08/01/2023	12:49:00	193	14.6	21.8
08/01/2023	12:50:00	192	14.5	22.5
08/01/2023	12:51:00	191	14.7	22.5
08/01/2023	12:52:00	191	14.8	22.5

08/01/2023	12:53:00	189	14.9	22.5
08/01/2023	12:54:00	188	14.8	22.5
08/01/2023	12:55:00	189	14.6	22.5
08/01/2023	12:56:00	190	14.6	25.5
08/01/2023	12:57:00	189	14.9	25.5
08/01/2023	12:58:00	189	15.1	25.5
08/01/2023	12:59:00	188	15.2	25.5

### **Aerodrome information**

ICAO Code: EBAW  
Controlled aerodrome, airspace class D

Bidirectional runway 11- 29  
Dimensions: 1502 m x 45 m  
Surface: asphalt

### **Survival aspects**

The pilot and the 3 pax wore a 4-point upper torso restraint

## ABOUT THIS REPORT

General	
<b>What?</b>	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.
<b>Objective</b>	<b>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.</b> 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.
<b>Investigation authority</b>	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 26 December 2022. 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	
<b>Investigation initiation</b>	AAIU(Be) was notified of the incident by e-mail by Antwerp Airport at 21:36. Considering the nature and limited damage it was decided to not travel to the scene of this incident.
<b>Scope</b>	<p><b>Data collection only</b></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 deeper 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>
<b>Other parties involved</b>	None
	AAIU(Be) would like to all entities and individuals that have contributed to this safety investigation.