



This investigation has been conducted in accordance with
*Annex 13 to the ICAO Convention on International Civil
Aviation, EU Regulation No 996/2010 and
The Civil Aviation (Investigation of Air Accidents and Incidents) Regulation; Legal
Notice 16 of 2013.*

Under these Regulations, the sole objective of the investigation of an accident or incident is the prevention of accidents and incidents in the future. It is not the purpose of this investigation to assign fault or blame and the reporting process should not be used to determine liability.

Small Accident/Incident Report

1. General Information.

Location: Malta International Airport	Accident Number: BAAI/SIR-001-2019
Date & Time: 15 th January 2019, approximately 1500hrs (Local)	Registration: 9H-PIC
Aircraft: Tecnam P2002JF Sierra	Aircraft Damage: Significant
Defining Event: Runway Excursion after landing.	Injuries: No injuries reported
Flight Conducted Under: VFR	Nature of Flight: Private Local Flight

2. Synopsis

The pilot landed the aircraft on Runway 05 and turned off the runway, coming to rest on the grass 12m from the left shoulder of the runway on a heading of 325° (Magnetic), approximately 700m from the runway threshold.

3. Findings

The Bureau of Air Accidents (Malta) determines the probable cause(s) of this accident to be:

Findings: Incorrect landing technique and/or application of flight controls for a cross-wind landing.

4. Factual Information:

History of the Flight

The pilot took off in the accident aircraft from Malta International Airport on Runway 05 at approximately 1500hrs on the 15th of January 2019 for a local flight. Two persons were on board, the pilot and a passenger. Prior to the take-off, the aircraft was taxied from its parked position on Apron 3 onto taxiway L for Runway 05. After take-off, the pilot conducted a right-hand circuit to the Temples Holding Area before being cleared to join final approach to land on Runway 05. On landing, the aircraft turned off the runway (exited) on a heading of about 010°, coming to rest on the grass approximately 12m from the left shoulder of the runway on a heading of 325° (Magnetic), roughly 700m from the runway threshold (Figure 1). The flight duration from take-off to landing was about 10 minutes.



The aircraft at rest following the accident.

Injuries to Persons

Crew: None

Passengers: None

Other: None

Damage to Aircraft

The following visible damage identified on the accident aircraft at the crash site:

- Collapsed nose landing gear, folded under the aircraft, turned to the left
- Engine cowling – buckled on the left-hand side, torn in front (various locations)
- Broken propeller
- Bent nose-wheel control rods

Other Damage

None

Pilot Information

Certificate: EASA PPL(A)

Age: 19

Airplane Rating(s): SEP(Land)

Seat Occupied: Left

Other Aircraft Rating(s): Nil

Restraint Used: Seat harness

Instrument Rating(s): Nil

Second Pilot Present: No

Instructor Rating(s): Nil

Toxicology Performed: No

Medical Certification: Class 2 issued by Transport Malta

Last Medical Exam: 20/04/2016

Occupational Pilot: No

Last Flight Review or Equivalent: 17/10/2018

Flight Time: 54 hours 22 minutes logged hours prior to the accident flight.

Co-Pilot Information/Trainee

Certificate: Not Applicable (NA)

Age: NA

Airplane Rating(s): NA

Seat Occupied: NA

Other Aircraft Rating(s): NA

Restraint Used: NA

Instrument Rating(s): NA

Second Pilot Present: NA

Instructor Rating(s): NA

Toxicology Performed: NA

Medical Certification: NA

Last Medical Exam: NA

Occupational Pilot: NA

Last Flight Review or Equivalent: NA

Flight Time: NA

Aircraft and Owner/Operator Information

Aircraft Make: Tecnam

Aircraft Owner: European Pilot Academy

Registration: 9H-PIC

Model/Series: P2002JF Sierra

Aircraft Category: Single engine Airplane

Year of Manufacture: 2004

Landing Gear Type: Tricycle

Seats: 2

ELT: Not installed. A portable PLB was on board.

Meteorological Information and Flight Plan

Conditions at Accident Site: Visual Meteorological Conditions

Condition of Light: Day

Lowest Cloud Condition: 2,800ft

Lowest Ceiling: NA (no overcast – few cloud)

Wind Speed/Gusts: / Turbulence Type/Severity (if applicable): 10kts

Forecast/Actual: Actual

Wind Direction: 320°

Forecast/Actual: Actual

Altimeter Setting: Temperature/Dew Point: 1016mb

Precipitation and Obscuration: Nil

Departure Point: Malta International Airport (LMML), Runway 05

Type of Flight Plan Filed: Not filed

Destination: Local Flight

Type of Clearance: VFR

Departure Time: 1500hrs (Local)

Type of Airspace: Class D

Airport Information

Airport: Malta International Airport (LMML)

Runway Surface Type: Asphalt

Airport Elevation: 297ft (Threshold Runway 05)

Runway Surface Condition: Dry

Runway Used: RWY 05

Approach: VFR

Runway Length/Width: 2376m/45m

Approach/Landing: VFR

Wreckage and Impact Information

There was no debris left on the runway or its environs. Tyre marks identified to be that of the accident aircraft were identified from the touch-down zone, to the left of the centreline, continuing to the runway shoulder marking the point of runway excursion. Fresh tracks in the grass concordant with the path taken by the accident aircraft undercarriage were recorded.

Fire

There was no pre- or post-crash fire.

5. Analysis

The pilot reported that the flight was normal and that no anomalies in ground handling were experienced prior to the accident. The touch-down was normal but soon after touch-down the aircraft started turning to the left and until the aircraft exited the runway. The pilot reported that he applied brakes during the roll-out. He also reported that the nose landing gear collapsed as the aircraft came to a stop on the grass.

All damage sustained by the aircraft is consistent with it occurring as a consequence of the incident following runway excursion. There was no evidence of any failure or relevant damage being present prior to the incident or developing during the landing (touch down and roll-out) prior to the runway excursion.

The damage sustained by the propeller is consistent with the engine running at idle trust at the time of the runway excursion (Figure 2).



The damage sustained by the propeller, pictured at the accident site.

The left control rod connecting the nose-wheel to the rudder pedals was bent. This damage is consistent with it developing as a consequence of the nose landing gear collapse following runway excursion (Figure 3).



The nose-wheel control rods, showing the bent left control rod, pictured at the accident site.

The nose landing gear collapse is consistent with it failing following runway excursion and the nose-wheel digging into the soil. The folding of the gear backwards with the wheel turned to the left indicates a forward motion of the aircraft (no significant side slip or skid) with the nose-wheel turned to the left at the time of failure (Figure 4).



The collapsed nose gear with the nose-wheel turned to the left, pictured at the accident site.

Inspection of the tyre-marks on the runway and its shoulder in the vicinity of where the aircraft came to rest indicates that touch-down occurred near the aiming point markings of Runway 05, slightly to the left (upwind) of the centreline (Figure 5). Only one tyre mark, that corresponding to the right main landing gear tyre, was observed for the first part of the landing run (Figures 5 & 6). The measured distance of the right main landing gear tyre mark from the centreline at the point shown in Figure 5 (just after the end of the aiming point markings) was 12 feet (3.7m). At this point, the tyre mark was nearly parallel to the centre-line. The tyre mark diverged from the centreline towards the point where the second (left main landing gear) tyre mark was observed and then on to where the aircraft exited the runway, indicating an exit angle of approximately 40° from runway heading (Figure 7).

The presence of only the right main landing gear tyre mark in the first part of the landing run is consistent with the aircraft landing right wing down and continuing so for a significant distance whilst turning left into the wind before the aircraft settling wings level on the runway.



Tyre mark of the right main landing gear tyre of the accident aircraft

Runway 05 at the accident site, showing the tyre mark of the right main landing gear tyre of the accident aircraft (arrowed).



Start of the tyre mark of the left main landing gear tyre of the accident aircraft

Figure 1. Runway 05 at the accident site, showing the start of tyre mark of the left main landing gear tyre of the accident aircraft (arrowed).



Figure 2. The three tyre marks at the runway shoulder at the accident site.

Analysis of surveillance video capturing the latter part of the landing roll-out indicates that the aircraft exited the runway at a speed of about 20 kts at a normal attitude and on all three undercarriage legs. The aircraft proceeded on the grass and came to an abrupt stop when the nose wheel dug into the grass and collapsed, tilting the aircraft forward.

6. Conclusion

Following a normal approach, the pilot landed the aircraft right wing down in a cross-wind from the left. During the landing run, the aircraft turned left into the wind and exited the runway due to incorrect pilot inputs on the controls for a cross-wind landing.

The low number of flying hours and, as a consequence, the limited experience of the pilot with respect to landing in cross-winds that are strong for, but well within the performance limitations of, the relevant aircraft category, were contributing factors. Runway 32 was available at the time but the pilot did not request to use that runway.

7. Recommendations

To pilots with low flying hours or limited experience:

To carefully consider, during pre-flight planning and during flight, the risks of operating in the prevailing weather conditions in the context of their experience and skills.

ABBREVIATIONS

EASA	-	European Union Aviation Safety Agency
ICAO	-	International Civil Aviation Organization
LMML	-	Malta International Airport ICAO Code
PLB	-	Personal Locator Beacon
PPL(A)	-	Private Pilot Licence (Airplane)
SEP(Land)	-	Single Engine Piston (Land)
VFR	-	Visual Flight Rules