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AVIACIÓN **C**IVIL

Report IN-008/2019

Incident involving a Piper
PA-34-200T, registration EC-EPR,
at the Córdoba Airport on 12
February 2019



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Notice

This report is a technical document that reflects the point of view of the Civil Aviation Accident and Incident Investigation Commission (CIAIAC) regarding the circumstances of the accident object of the investigation, and its probable causes and consequences.

In accordance with the provisions in Article 5.4.1 of Annex 13 of the International Civil Aviation Convention; and with articles 5.5 of Regulation (UE) n° 996/2010, of the European Parliament and the Council, of 20 October 2010; Article 15 of Law 21/2003 on Air Safety and articles 1., 4. and 21.2 of Regulation 389/1998, this investigation is exclusively of a technical nature, and its objective is the prevention of future civil aviation accidents and incidents by issuing, if necessary, safety recommendations to prevent from their reoccurrence. The investigation is not pointed to establish blame or liability whatsoever, and it's not prejudging the possible decision taken by the judicial authorities. Therefore, and according to above norms and regulations, the investigation was carried out using procedures not necessarily subject to the guarantees and rights usually used for the evidences in a judicial process.

Consequently, any use of this report for purposes other than that of preventing future accidents may lead to erroneous conclusions or interpretations.

This report was originally issued in Spanish. This English translation is provided for information purposes only.

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Abbreviations

° C	Degrees centigrade
AEMET	National Weather Agency
CPL	Commercial pilot license
CRI(A)	Class rating instructor
DGAC	Civil Aviation General Directorate
DME	Distance measuring equipment
FI(A)	Flight instructor (airplane)
FIZ	Flight information zone
ft	Feet
h	Hours
HP	Horsepower
hPa	Hectopascals
IR	Instrument rating
Kg	Kilograms
Km	Kilometers
LEBA	ICAO code for the Córdoba Airport
LT	Local time
m	Meters
MEP	Multi-engine piston rating
METAR	Meteorological aerodrome report
Mhz	Megahertz
PPL	Private pilot license
SEP	Single-engine piston rating
UTC	Coordinated universal time
VFR	Visual flight rules

Synopsis

Operator:	Corflight School, SL
Aircraft:	Piper PA-34-200T, registration EC-EPR
Date and time of incident:	12 February 2019 at 11:04 LT ¹
Site of incident:	Córdoba Airport
Persons on board:	Two, uninjured
Type of flight:	General aviation – Training flight – Dual control
Flight rules:	VFR
Phase of flight:	Landing- Landing run
Date of approval:	25 september de 2019

Summary of event

On Tuesday, 12 February 2019, a PIPER PA-34-200T aircraft, registration EC-EPR, was involved in an incident while landing at the Córdoba Airport after making a local flight from and to said airport.

The student and an instructor were on a training flight that included landings and takeoffs. After making the approach to runway 03 at the Córdoba Airport, the aircraft touched down with the landing gear retracted. After landing, the aircraft skidded along the runway until it came to a stop on the runway.

The occupants were not injured and exited the aircraft under their own power. The aircraft sustained minor damage.

The investigation has concluded that the incident was caused by the improper execution of the landing procedure, which resulted in landing with the gear up.

¹ All times in this report are local unless otherwise specified. To obtain UTC on the date of the incident, subtract one hour from local time.

1. FACTUAL INFORMATION

1.1. History of the flight

On Tuesday, 12 February 2019, a PIPER PA-34-200 T aircraft took off from the Córdoba Airport to go on a training flight. On board were the instructor and a student.

The flight was intended for the student to log hours toward obtaining his multi-engine instrument flight rating.

During the training flight, the student executed a series of instrument maneuvers, such as intercepting radials, DME arcs, holding patterns, etc., in the vicinity of their airfield outside the flight information zone (FIZ).

Later, to make full use of the flight time, they did landings and takeoffs on runway 03 at the Córdoba Airport. After the first landing, while climbing, the student retracted the landing gear and verified that the three green lights, which indicated that the gear was down, were off.

They then joined the circuit with two other aircraft in sight. They flew a stabilized approach maneuver at the proper speed and throttled down to idle during the flare, at which time an alarm sounded. The crew identified it as a stall alarm, so they thought the situation was normal.

Expecting the wheels to touch down on the runway, they realized that the airplane was sinking more than normal, until the engines stopped after the propellers made contact with the asphalt.

After skidding some 200 m on the runway, the aircraft came to a stop on the left side of the runway.

The occupants were uninjured and exited the aircraft under their own power. The aircraft sustained minor damage.

1.2. Injuries to persons

Injuries	Crew	Passengers	Total in the aircraft	Others
Fatal				
Serious				
Minor				
None	2		2	
TOTAL	2		2	

1.3. Damage to aircraft

The aircraft sustained localized damage to the propeller and underside of the fuselage.

1.4. Other damage

Not applicable.

1.5. Personnel information

1.5.1. Information on the crew of the aircraft

The instructor, a 29-year-old Spanish national, had a commercial pilot license (CPL(A)) issued by Spain's National Aviation Safety Agency with multi-engine piston (MEP), instrument flight (IR), class instructor (CRI(A)) and flight instructor (FI(A)) ratings that were valid until 31 December 2019. He also had a class-1 medical certificate that was valid until 4 May 2019.

He had a total of 870:00 flight hours, of which 75 had been on the type.

The student pilot, a 32-year-old Spanish national, had a private pilot license (PPL(A)) issued by the National Aviation Safety Agency with a single-engine piston (SEP) rating that was valid until 30 April 2019. He also had a class-1 medical certificate that was valid until 29 October 2019.

He had a total of 170:00 flight hours, of which 12:45 had been on the type.

1.6. Aircraft information

1.6.1. General information

The Piper PA-34-200T is a retractable gear aircraft with a maximum takeoff weight of 2073 kg. It is outfitted with two Teledyne Continental TSIO-360-E, 200-HP engines.

The incident aircraft had serial number 34-7870191. It was manufactured in 1978 and registered on 20 December 2016.

It had a certificate of airworthiness that was issued on 10 February 2005 by the Civil Aviation General Directorate (DGAC), and a first extension of the airworthiness review certificate – valid until 6 November 2018 – that was valid until 6 November 2019 and issued by TRABAJOS AÉREOS ESPEJO as an authorized continuing airworthiness management organization (ES.MG.057).

The aircraft had an insurance policy that was valid until 13 May 2019. The last maintenance task performed had been on 16 January 2019, with 6851:32 flight hours

on the aircraft and 3914:50 and 5427:10 on the two engines. It was a scheduled 30-day inspection that includes tasks involving checks of the propeller air pressure, a battery inspection, condition and charge of the portable fire extinguisher, etc.

At the time of the incident, the aircraft had 6870:47 hours.

1.7. Meteorological information

According to information provided by Spain's National Weather Agency (AEMET), and as reflected in the METARs issued for the Córdoba Airport, the skies over the incident area were clear, the wind was calm and there were no significant weather phenomena. The temperature was 11° C and the atmospheric pressure was 1030 hPa.

The 10:00 and 10:30 METARs for the Córdoba Airport were as follows:

METAR LEBA 121000Z 10007KT CAVOK 11/05 Q1030=

METAR LEBA 121030Z 10006KT 060V160 CAVOK 12/05 Q1030=

1.8. Aids to navigation

Not applicable.

1.9. Communications

The aircraft was in radio contact with the Córdoba tower on 118.3 MHz.

1.10. Aerodrome information

The Córdoba Airport is a public airport in AENA's network that is located 6 km southwest of the city of Córdoba, at an elevation of 307 ft. It has one asphalt runway open to civil traffic in a 03/21 orientation. Runway 03 is 2076 m long and 45 m wide, and runway 21 is 2241 m long and 45 m wide.

1.11. Flight recorders

Not applicable

1.12. Wreckage and impact information

The aircraft landed on runway 03 at the Córdoba Airport with its landing gear fully retracted.

The aircraft touched down on the runway centerline some 600 m away from the threshold. After this point, it skidded about 200 m, leaving contact marks on the asphalt,

made by the underside of the fuselage, as well as impact marks left by the tips of the propeller blades.

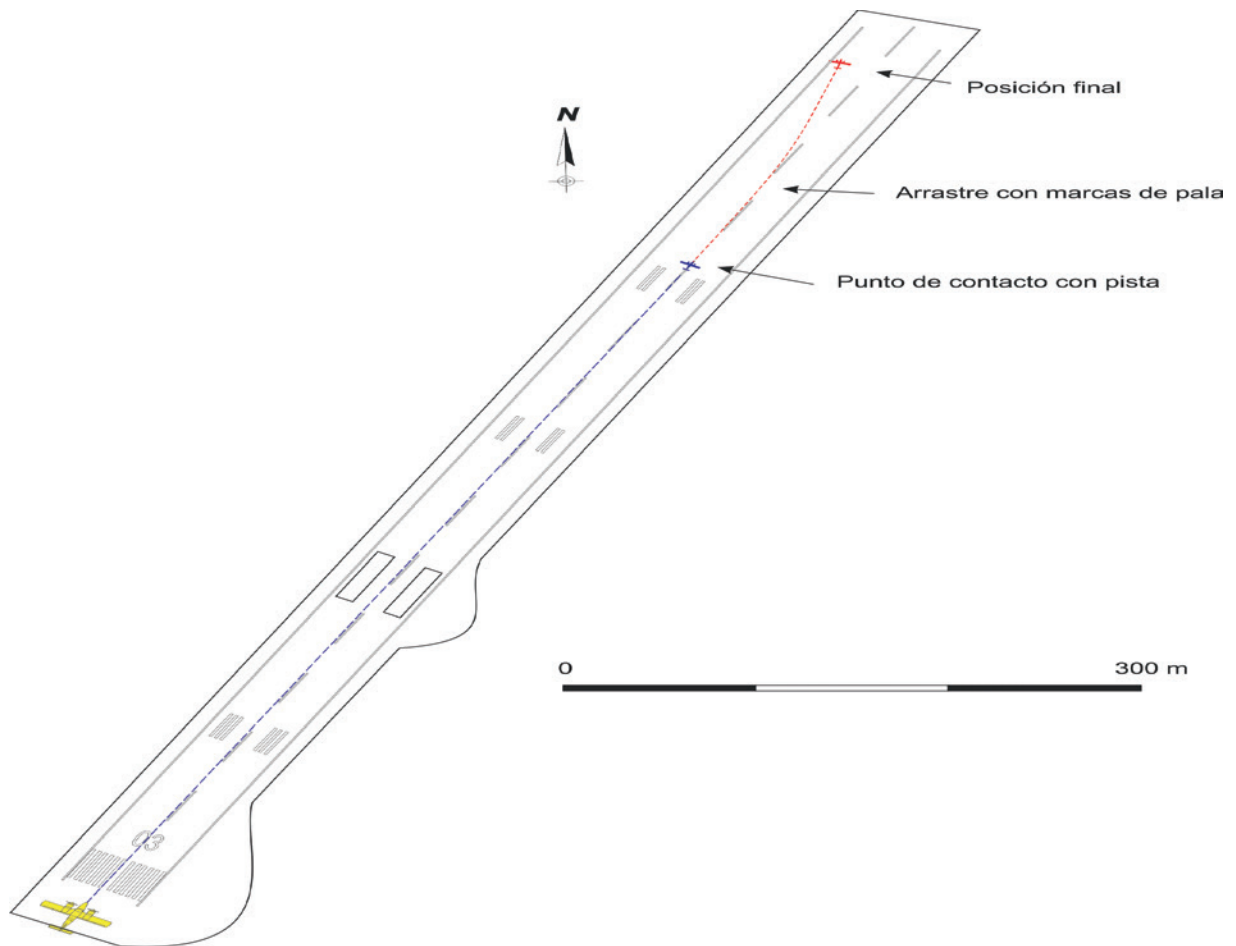


Fig. 1 – Diagram of path taken by aircraft

As it skidded, the aircraft deviated slightly to the left before coming to a stop inside the runway limits.



Fig. 2 – Condition of the aircraft

The aircraft sustained damage to its propeller and the underside of its fuselage.

1.13. Medical and pathological information

Not applicable.

1.14. Fire

There was no fire.

1.15. Survival aspects

Personnel from the airport's various emergency services reported to the incident site immediately.

1.16. Tests and research

1.16.1. Interviews and reports

The crewmembers of the aircraft provided statements to investigators.

Statement from the student pilot

"On 12 February, we carried out a training flight that was necessary to complete the flight hours for the ME/IR course I am currently taking at the Corflight School in Córdoba.

We started the engine at 08:40 UTC and we conducted a series of instrument maneuvers (intercepting radials, DME arcs, holds, etc.) in the vicinity of the airfield, outside the FIZ.

In the last part of the session, since there was still some time left over, the instructor decided to do landings and takeoffs at the field. We joined on long final for runway 03 at LEBA and proceeded to do a touch and go. Once in the air, I raised the landing gear, saying out loud "gear up", actuating the gear retraction lever and verifying that the green lights were off.

We flew the visual circuit and joined the crosswind leg. We heard communications from an ultralight reporting it was on final for runway 03, and from another light aircraft joining in the final third of the left downwind leg on the same runway.

We then joined the left downwind leg. We visually identified the two aircraft and adjusted our speed to be number 3 in the circuit. We continued in the circuit, reading the BEFORE LANDING checklist, and when we were in the final third of the downwind leg, we saw that the ultralight was still taxiing on runway 03 to vacate via taxiway B, and that the other traffic was on short final, so it decided to abort the landing and rejoin the traffic pattern.

As for us, we joined on final, keeping the traffic that had just gone around in sight at all times, and we adjusted the power and speed as usual to stay on the glide slope. Although the final checklist was ready on the holder on the flight controls, with the traffic situation and the approach, we forgot to read it. The instructor also did not lower the gear nor order me to do so.

We continued the approach, which was perfectly stabilized and at the right speed, with some throttle applied, as is normal in this aircraft type. During the flare, we reduced the throttle gradually to idle, at which time an alarm sounded that we thought was the stall warning. This seemed normal to us since it is not unusual for there to be practically no lift before touching down and for the stall warning to sound.

Just as we were expecting the wheels to touch the runway, the airplane sank more than normal, and we quickly noticed that the gear was not down. It was then that we correctly surmised the reason for the alarm that we had mistakenly associated with a stall. Although it was too late to react, since the engines had stopped due to impacting the runway, we tried to bring the airplane down on the runway as smoothly as possible.

After skidding on the surface for a few seconds, the airplane stopped. We secured the airplane and evacuated it at 10:00 UTC".

Statement from the instructor

“Upon completing a training flight as part of a MULTI + IR(A) course, in the final part of the approach and very close to landing on runway 03 at LEBA, the gear up warning began to sound as we initiated the flare close to the ground. Both the student and I thought it was the stall warning, since in this airplane the flare is done close to the ground and it is normal to land sometimes at a speed close to the stall speed, or for the stall warning to sound.

It was an oversight, and both the student and I realized that the gear was not down and locked until we touched the ground and we saw the propeller blades impact the ground and bend after coming into contact with the asphalt.

As soon as we landed, and after verifying that we were alright, we secured the aircraft by turning off all the equipment except the radio so that we could inform airport operations that the runway was blocked and we were initiating the evacuation procedure.

There were no personal injuries of any kind. The landing was very smooth and both myself and my student exited the aircraft, after securing it, under our own power, in compliance with the applicable procedure at all times.

With the exception of the propellers, the aircraft’s structure and surfaces are barely damaged”.

1.17. Organizational and management information

Not applicable.

1.18. Additional information

Not applicable.

1.19. Useful or effective investigation techniques

Not applicable.

2. ANALYSIS

2.1. General

According to the information consulted, the crewmembers had the licenses and medical certificates required for the flight. The aircraft also had the documentation needed for the flight.

2.2. Of the weather conditions

According to the weather information available, the conditions were not limiting for the flight.

2.3. Of the operation

According to their own accounts, the crewmembers did not lower the landing gear prior to touching down. They were unaware of this condition until they contacted the ground and saw the propeller blades bend.

They also confused the "gear not down" aural warning with the "stall" warning, since because the flare is normally executed close to the ground, it is normal to land sometimes at a speed close to the stall speed and to receive the stall warning.

3. CONCLUSIONS

3.1. Findings

The crew members had the licenses and medical certificates needed for the flight.

The aircraft had the documentation needed for the flight.

Weather conditions were not limiting for the flight.

3.2. Causes/Contributing factors

The incident was caused by the improper execution of the landing procedure, which resulted in landing with the gear up.

Misinterpreting the “gear not down” warning as the “stall” warning contributed to the crew’s failure to realize that the landing gear was retracted.

4. SAFETY RECOMMENDATIONS

None.

5. APPENDICES