AIRCRAFT ACCIDENT REPORT AND EXECUTIVE SUMMARY

			Reference:			CA18/2/3/10010	
Aircraft Registration	ZU-BJY	**Date of Accident**	2 June 2021			**Time of Accident**	1428Z
Type of Aircraft	Tecnam P92 Echo			**Type of Operation**		Training (Part 141)	
Pilot-in-command Licence Type	Commercial Pilot Licence (CPL) (Aeroplane)			**Age**	21	**Licence Valid**	Yes
Pilot-in-command Flying Experience	**Total Flying Hours**		252.2			**Hours on Type**	17.1

Last Point of Departure	Grand Central Airport (FAGC), Gauteng Province
Next Point of Intended Landing	Grand Central Airport (FAGC), Gauteng Province
Damage to Aircraft (Substantial/Destroyed)	Substantial

Location of the accident site with reference to easily defined geographical points (GPS readings if possible)

Runway 17 at Grand Central Airport at GPS co-ordinates determined to be S25°59'13" E028°8'26" at an elevation of 5289 feet

Meteorological Information	Wind direction: 205°; Wind speed 8.5kts; Temperature: 15°C; Dewpoint: 2°; QNH: 1028hPa; Visibility: CAVOK						
Number of People On-board	2+0	**Number of People Injured**	0	**Number of People Killed**	0	**Other (On Ground)**	0

Synopsis

On Wednesday afternoon, 2 June 2021, an instructor and a student pilot on-board a Tecnam P92 Echo with registration marking ZU-BJY took off from Runway 17 at Grand Central Airport (FAGC) on a circuit-and-landing training flight. After the sixth circuit and after touch down, the aircraft veered off to the left of the runway. The instructor took over control and applied right rudder, but the aircraft continued to veer off to the left. The aircraft exited the runway and came to a stop on the grass-covered surface on the left-side of Runway 17. The left landing gear was substantially damaged during landing, and both occupants on-board the aircraft were not injured.

Following the accident, it was discovered that the two main left landing gear attachment bolts had failed, likely caused by the lack of proper inspection as per the aircraft maintenance manual (AMM).

Probable Cause

During the landing roll, the aircraft veered off to the left of Runway 17 as a result of the failure of two left gear attachment bolts and nuts. The failure of the bolts and nuts was most likely caused by the lack of proper inspection as stated in the aircraft maintenance manual.

Contributory factors:

1. Lack of proper inspection when inspecting the bolts for cracks as required by the AMM.
2 Manufacturer requiring only a visual check when inspecting the attachment bolts and nuts instead of a non-destructive test (NDT).

SRP Date	12 October 2021	Publication Date	13 October 2021

INTRODUCTION

Reference Number	**:** CA18/2/3/10010
Name of Owner/Operator	**:** Appelo Aviation
Manufacturer	**:** Tecnam C, Aeronautiche SRL
Model	**:** P92 Echo
Nationality	**:** South African
Registration Mark	**:** ZU-BJY
Place	**:** Grand Central Airport
Date	**:** 2 June 2021
Time	**:** 1428Z

Purpose of the Investigation:

In terms of Regulation 12.03.1 of the Civil Aviation Regulations (CAR) 2011, this report was compiled in the interest of the promotion of aviation safety and the reduction of the risk of aviation accidents or incidents and ***not to apportion blame or liability****.*

All times given in this report are Co-ordinated Universal Time (UTC) and will be denoted by (Z). South African Standard Time is UTC plus 2 hours.

Investigation Process:

The accident was notified to the Accident and Incident Investigations Division (AIID) on 2 June 2021 at about 1530Z. The AIID appointed an investigator to conduct a desktop investigation. The AIID of the South African Civil Aviation Authority (SACAA) is leading the investigation as the Republic of South Africa is the State of Occurrence.

Notes:
1. Whenever the following words are mentioned in this report, they shall mean the following:

- *Accident — this investigated accident*
- *Aircraft — the Tecnam P92 Echo involved in this accident*
- *Investigation — the investigation into the circumstances of this accident*
- *Pilot — the pilot involved in this accident*
- *Report — this accident report*

2. Photos and figures used in this report were taken from different sources and may have been adjusted from the original for the sole purpose of improving clarity of the report. Modifications to images used in this report were limited to cropping, magnification, file compression; or enhancement of colour, brightness, contrast; or addition of text boxes, arrows or lines.

Disclaimer:

Abbreviation	Description
AIID	Accident and Incident Investigations Division
AMO	Approved Maintenance Organisation
AMSL	Above Mean Sea Level
ATF	Authority to Fly
CAR	Civil Aviation Regulations
CAVOK	Ceiling and Visibility OK
C of R	Certificate of Registration
CPL	Commercial Pilot Licence
CVR	Cockpit Voice Recorder
FDR	Flight Data Recorder
Ft	Feet
GPS	Global Positioning System
hPa	Hectopascal
IAW	In Accordance With
ICAO	International Civil Aviation Organisation
Km	Kilometre
Kt	Knot
L	Litre
M	Metre
MHz	Megahertz
NM	Nautical Mile
NDT	Non-Destructive Test
P/N	Part Number
QNH	Query Nautical Height
SACAA	South African Civil Aviation Authority
SB	Service Bulletin
UTC	Co-ordinated Universal Time
VFR	Visual Flight Rules
VMC	Visual Meteorological Conditions
Z	Zulu

1. FACTUAL INFORMATION

1.1. History of Flight

1.1.1. On Wednesday afternoon, 2 June 2021, an instructor and a student pilot on-board a Tecnam P92 Echo aircraft with registration marking ZU-BJY took off from Runway 17 at Grand Central Airport (FAGC) in Gauteng province. The intention of the flight was to conduct circuit-and-landing training. The flight was conducted under Visual Flight Rules (VFR) by day and under the provisions of Part 141 of the Civil Aviation Regulations (CAR) 2011 as amended. Clear weather conditions prevailed at the time leading to the accident.

1.1.2. The instructor stated that approximately 72 minutes into the flight and during the sixth circuit, all was well until the aircraft touched down on the runway. Thereafter, the aircraft started to veer off to the left of the runway. The instructor took over control of the aircraft from the student pilot and applied right rudder to correct it (direction of the aircraft), however, he was unsuccessful as the aircraft still veered off to the left. He then switched off the master and allowed the aircraft to exit the runway; the aircraft came to a stop on the grass-covered area on the left-side of Runway 17. The instructor enquired if the student pilot was okay before removing both their belongings and exiting the aircraft to wait for the fire and rescue services personnel who were alerted by air traffic control (ATC). As the instructor and the student pilot exited the aircraft, they noted that the aircraft was leaning towards the left and that the left main landing gear was loose with two attachment bolts missing.

1.1.3. After the accident, the fire and rescue services personnel conducted a runway inspection, however, the two missing left gear attachment bolts were not recovered.

1.1.4. The aircraft sustained damage to the left landing gear and both occupants were not injured during the accident sequence.

1.1.4 The accident occurred during daylight at FAGC at Global Positioning System (GPS) co-ordinates determined to be 25°59'13.0" South 28°08'26.0" East, at an elevation of 5289 feet (ft).

Figure 1: Accident location, left of Runway 17. (Source: Google Earth)

1.2. Injuries to Persons

Injuries	Pilot	Crew	Pass.	Total On-Board	Other
Fatal	-	-	-	-	-
Serious	-	-	-	-	-
Minor	-	-	-	-	-
None	2	0	-	2	-
Total	2	0	-	2	-

Note: Other means people on ground.

1.3. Damage to Aircraft

1.3.1 The aircraft sustained substantial damage during the accident sequence.

Figure 2: The aircraft post-accident with the damaged left gear.

1.4. Other Damage

1.4.1 None.

1.5. Personnel Information

Instructor:

Nationality	South African	Gender	Male	Age	21
Licence Number	0275006734	Licence Type	Commercial Pilot Licence (CPL)		
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	Instructor				
Medical Expiry Date	30 November 2021				
Restrictions	None				
Previous Accidents	None				

Note: Previous accidents refer to past accidents the pilot was involved in, when relevant to this accident.

Flying Experience:

Total Hours	252.2
Total Past 24 Hours	1.2
Total Past 7 Days	9.2
Total Past 90 Days	48
Total on Type Past 90 Days	17.1
Total on Type	17.1

Note: The hours depicted above were as per the instructor pilot's logbook on 2 June 2021.

1.5.1 The instructor was initially issued a Commercial Pilot Licence (CPL) on 15 October 2020 with an expiry date of 31 October 2021. The instructor was issued a Class 1 aviation medical certificate on 16 November 2020 with an expiry date of 30 November 2021.

Student Pilot:

Nationality	South African	Gender	Male	Age	18
Licence Number	0275501492	Licence Type	Student Pilot Licence (SPL)		
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	None				
Medical Expiry Date	31 October 2024				
Restrictions	None				
Previous Accidents	None				

Note: Previous accidents refer to past accidents the pilot was involved in, when relevant to this accident.

Flying Experience:

Total Hours	17.6
Total Past 24 Hours	0
Total Past 7 Days	0
Total Past 90 Days	16.7
Total on Type Past 90 Days	14.2
Total on Type	14.2

Note: The hours depicted above were as per the student pilot's logbook on 2 June 2021, including the accident flight.

1.5.2 The student pilot was initially issued a Student Pilot Licence on 7 August 2020 with an expiry date of 31 August 2021. The student pilot was issued a Class 2 aviation medical certificate on 8 October 2019 with an expiry date of 31 October 2024.

1.6. Aircraft Information

1.6.1 The accident aircraft is a Tecnam P92 Echo, manufactured in Australia in 2019 by Tecnam C Aeronautiche SRL. The aircraft is fitted with a single 912 UL2 Bombadier engine and a two-blade GT propeller. It has a strut-braced high-wing, an enclosed cabin with two seats in side-by-side configuration accessed by doors, fixed tricycle landing gear.
(Source: https://www.tecnam.com/aircraft/p92-echo-mkii/)

Airframe:

Manufacturer/Model	Tecnam P92 Echo	
Serial Number	248	
Year of Manufacture	2019	
Date of Manufacture	20 November 2019	
Total Airframe Hours (At Time of Accident)	1940.9	
Last Annual Inspection (Date & Hours)	12 February 2021	1888.1
Hours Since Last Annual Inspection	52.8	
ATF (Issue Date)	9 February 2016	
ATF Expiry Date	28 February 2022	
C of R (Issue Date) (Present Owner)	10 October 2020	
Type of Fuel Used in the Aircraft	Avgas100LL	
Operating Categories	Training (Part 141)	
Previous Accidents	None	

Note: Previous accidents refer to past accidents the aircraft was involved in, when relevant to this accident.

1.6.2 It was recorded in the Technical Logbook (TL) that on 12 February 2021, an annual inspection was carried out on this aircraft at 1888.1 airframe hours. According to the aircraft maintenance manual, the undercarriage bolts are to be inspected and tightened during this inspection. The next inspection was due in the next 50 hours of flight time. The aircraft had accumulated 52.8 airframe hours in operation since the last annual inspection.

1.6.3 The aircraft was issued a Certificate of Release to Service on 12 February 2021 with an expiry date of 11 February 2022 or at 1988.1 airframe hours, whichever occurs first.

Engine:

Manufacturer/Model	Bombadier Rotax 912 UL2
Serial Number	6777947
Part Number	3437
Hours Since New	921
Hours Since Overhaul	TBO not Reached

Propeller:

Manufacturer/Model	GT Propeller
Serial Number	1926
Part Number	14273
Hours Since New	620
Hours Since Overhaul	TBO not reached

1.6.4 According to the operator, on 29 May 2021 the aircraft was refuelled with 28 litres of AVGAS 100LL, which brought total fuel on-board to 70 litres. This aircraft has a fuel capacity of 90 litres. Fuel that remained inside the tank after the accident flight was 50 litres.

1.6.5 On 7 August 2007, the manufacturer issued a mandatory Service Bulletin (SB) number P92/001 P2004/001. The SB required that *at the next service interval or within the next 10 hours of flying, a light sport aircraft (LSA) mechanic, aircraft national pilot (ANP) mechanic, Federal Aviation Administration (FAA) repair station, or an authorised factory representative must inspect the landing attachment bolts. The visual inspection must include:*

- *Attachment bolts (inspect condition and torque value - torque 24.6 Nm - 217Lb in)*
- *Aluminium alloy clamp inspection for deformation or cracks.*

1.6.6. According to the aircraft logbook, the SB was incorporated on 29 April 2014. The aircraft had been flown a total of 126 hours since the incorporation of the mandatory SB. According to the airframe logbook, the bolts were inspected at every 50-hour inspection since the incorporation of the mandatory SB.

1.7. Meteorological Information

1.7.1 The information provided on the table below was obtained from the FAGC ATC report for 2 June 2021 at 1428Z:

Wind Direction	205°	Wind Speed	8.5kts	Visibility	CAVOK
Temperature	15°C	Cloud Cover	Sky clear	Cloud Base	N/A
Dew Point	2°C	QNH	1021		

1.8. Aids to Navigation

1.8.1 The aircraft was equipped with standard navigational equipment as approved by the Regulator (SACAA) for the aircraft type. There were no records indicating that the navigation system was unserviceable prior to the accident flight.

1.9. Communication

1.9.1 The aircraft was equipped with standard communication equipment as approved by the Regulator for the aircraft type. There were no records indicating that the communication system was unserviceable prior to the accident flight.

1.10. Aerodrome Information

1.10.1 The accident took place during circuit-and-landing training on Runway 17 at FAGC, which is a manned aerodrome.

Aerodrome Location	Republic of South Africa – Grand Central Airport
Aerodrome Status	Licensed
Aerodrome Coordinates	GPS 25°59'13.0" S 28°08'26.0" E
Aerodrome Elevation	5289 ft.
Runway Designations	35/17
Runway Dimensions	1828m x 23m
Runway Used	Runway 17
Runway Surface	Asphalt
Approach Facilities	None

1.11. Flight Recorders

1.11.1. The aircraft was not fitted with a cockpit voice recorder (CVR) or a flight data recorder (FDR), and neither was required by regulation to be fitted to this type of aircraft.

1.12 Wreckage and Impact Information

1.12.1 During landing on Runway 17, the left main landing gear attachment bolts failed. This resulted in the aircraft veering uncontrollably to the left-side of Runway 17. The right main landing gear had all three bolts intact, while the left main landing gear had only one bolt intact; two left gear attachment bolts and nuts were missing. When the student pilot and the instructor disembarked the aircraft, they noted that the aircraft was leaning to the left-side.

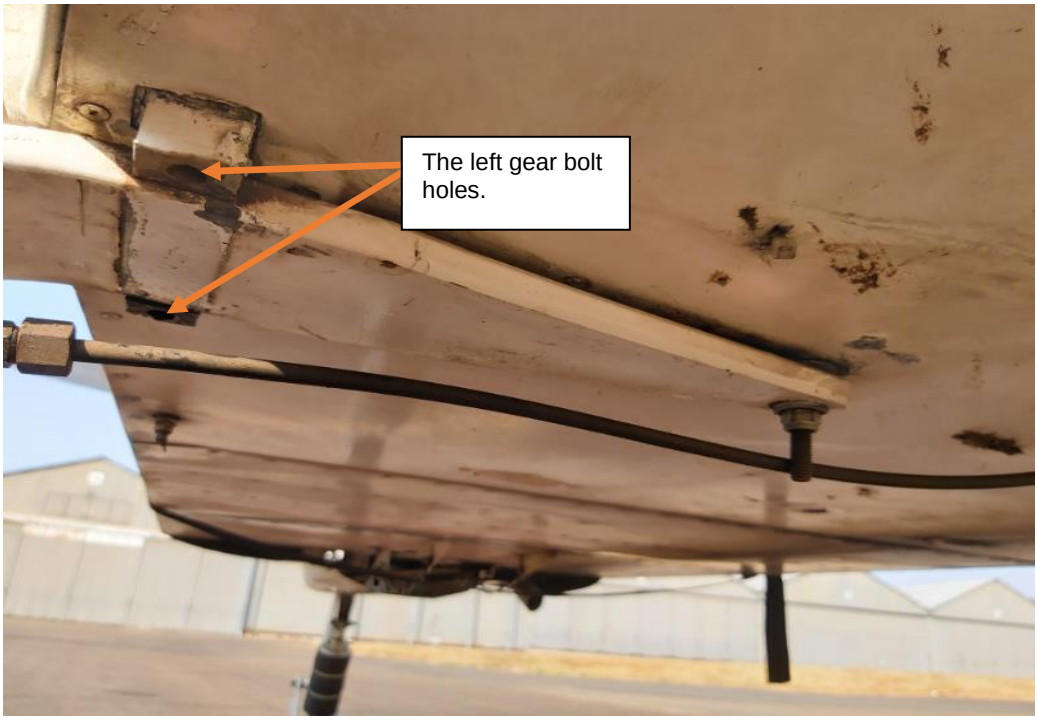

Figure 4: The left landing gear attachment area.

1.12.2 The airframe, engine and propeller indicated that there were no pre-impact failures of these systems, and all damage was attributed to landing.

1.12.3 The instructor reported that there was ample fuel (approximately 50 litres) remaining inside the tanks at the time of landing.

1.12.4 Further investigation of the failed undercarriage at the maintenance facility revealed that whilst the spring appeared undamaged, the bolts and nuts failed (the structure is shown in Figure 4). The undercarriage leaf spring is attached to the airframe by three bolts and nuts, with the outer two holding the clamp; together with the inner bolt and nut they secure the spring in place against the airframe structural beam. The left gear inner bolt and nut were the only one remaining following the failure of the outer left gear attachment bolts and nuts. This resulted in the left gear rolling backwards during the landing roll. The Approved Person (AP) and aerodrome fire and rescue services personnel reported that they could not locate the two failed bolts and nuts following the runway inspection.

1.13 Medical and Pathological Information

1.13.1 Not applicable.

1.14 Fire

1.14.1 There was no evidence of a pre- or post-impact fire.

1.15 Survival Aspects

1.15.1 This accident was considered survivable as there was no damage to the cabin area. The aircraft was equipped with a three-point harness, which the instructor and the student pilot made use of.

1.16 Tests and Research

1.16.1 After the aircraft was recovered to a hangar at FAGC, the aircraft maintenance organisation (AMO) reported that they inspected the aircraft and found that the gear had collapsed due to shear force, shearing off the two attachment bolts that held the gear in position (part number [P/N] MS20005-24 internal wrenching bolt 5/16-24). Therefore, they had to replace the bottom skin, all left-side gear attachment hardware and landing gear bracket. Moreover, a 4130 brace .250 had to be replaced on the welded airframe structure.

1.16.2 Landing gear and inspections (Source: P92 Eaglet Line Maintenance Manual):

The main landing gear consists of two special steel spring-leaf strut positioned crossways to the fuselage for elastic cushioning of landing loads. The two steel spring-leaf struts are attached to the fuselage underside via the main girder. Two rawhide liners are inserted between each spring-leaf and the girder. Two nuts secure the individual spring-leaf to the edge of the girder via a light alloy clamp while a single bolt and nut secures the inboard end of the leaf-spring to the girder. On ZU-BJY aircraft, the bolts and nuts illustrated by number 5 in (Diagram 1) below were missing.

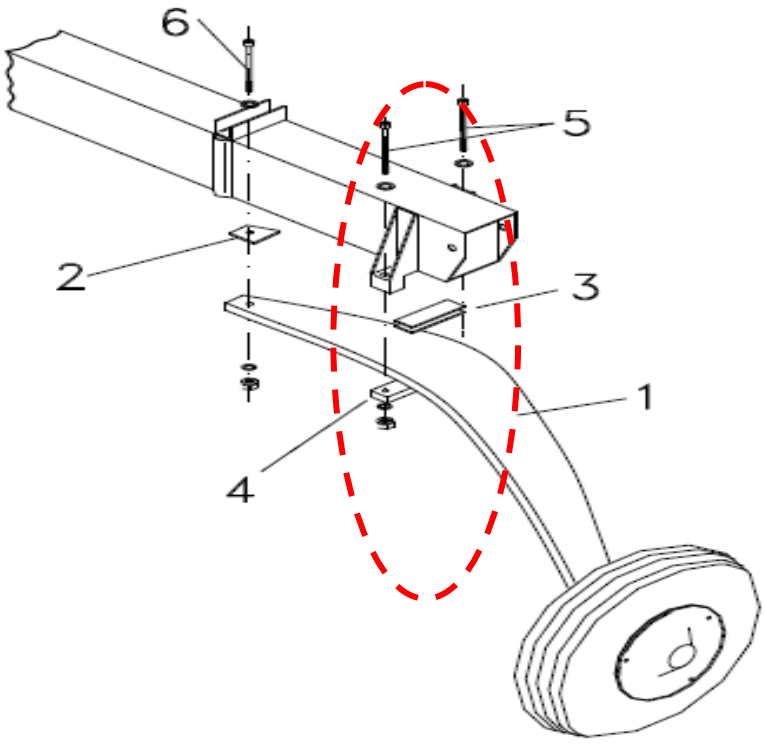

Diagram 1: Main landing gear showing attachment bolts and nuts. (Source: AMM)

1.16.3 Inspections (Source: AMM): Airframe and systems inspections schedule is as follows:

- *Inspections for airworthiness before first flight of the day as specified in the Flight Manual*
- *Periodic inspections at 100 hours*
- *Special inspections added to normal periodic inspections*
- *Singular inspection, when aircraft has been exposed to conditions that may have damaged one or more of its components*
- *If the aircraft is rarely used, a 100-hour inspection must be performed yearly*
- *Replacement of parts subject to usage limitations specified in paragraph Inspections and checks, unless specifically indicated, apply to the following:*
  - ***Bolts and attachments:*** *Proper tightening and safe tying, absence of cracks or nicks, absence of corrosion and punctiform corrosion, damage to thread, wear and excessive play*

1.17 Organisational and Management Information

1.17.1 The flight was conducted in accordance with the provisions of Part 141 of the CAR 2011 as amended.

1.17.2 The operator was issued an Aviation Training Organisation (ATO) certificate on 18 April 2018 with an expiry date of 20 September 2023.

1.17.3 The aircraft was maintained by an Approved Person (AP) who was issued a certificate on 15 March 2021 with an expiry date of 31 January 2023, and with light aircraft endorsed on his licence.

1.18 Additional Information

1.18.1 None.

1.19 Useful or Effective Investigation Techniques

1.19.1 None.

2. ANALYSIS

2.1. General

From the available evidence, the following analysis was made with respect to this accident. This shall not be read as apportioning blame or liability to any particular organisation or individual.

2.2. Analysis

2.2.1 The instructor was initially issued a Commercial Pilot Licence (CPL) on 15 October 2020 with an expiry date of 31 October 2021. The instructor had a total of 252.2 hours of which 17.1 were on the aircraft type. The instructor was issued a Class 1 aviation medical certificate on 16 November 2020 with an expiry date of 30 November 2021. Records indicated that the pilot was licensed and qualified to undertake the flight.

2.2.2 The student pilot was initially issued a Student Pilot Licence (SPL) on 7 August 2020 with an expiry date of 31 August 2021. The student pilot had a total of 17.6 hours of which 14.2 were on the aircraft type. The student pilot was issued a Class 2 aviation medical certificate on 8 October 2019 with an expiry date of 31 October 2024. The student pilot was approved for the training that was carried out.

2.2.3 During the sixth circuit-and-landing training exercise and after touch down, the aircraft veered off to the left of the runway. The instructor took over control of the aircraft and applied right rudder, but the aircraft kept veering off to the left due to failure of the two left landing gear attachment bolts. The two attachment bolts were not recovered; however, the right-side gear was still secured with all three bolts and nuts. The two failed left gear attachment bolts were not recovered. There was no metallurgical analysis carried out post-accident.

2.2.4 Fine weather conditions prevailed at the time of the accident. Weather had no bearing on this accident.

2.2.5 The manufacturer had issued a mandatory Service Bulletin (SB) number P92/001 P2004/001 On 7 August 2007. The SB required *visual inspection of the landing gears which included the inspection of the attachment bolts for condition and torque values and the inspection of the aluminium alloy clamp for deformation or cracks.* The requirement of the SB was incorporated in 2014. According to the airframe logbook, the bolts have been inspected at every 50-hour inspection since the incorporation of the mandatory SB. However, the inspection of the attachment bolts and torque values was due as the aircraft had flown 52.82 hours since the previous inspection, which did not reflect in the airframe logbook.

2.2.6 The AMM requires the following amongst others: "***Bolts and attachments:*** *Proper tightening and safe tying,* ***absence of cracks or nicks****, absence of corrosion and punctiform corrosion, damage to thread, wear and excessive play".* It is not clear how the AP and owner had passed the aircraft for "absence of cracks" without an NDT or dye penetrant inspection. Also, the last inspection conducted on the attachment bolts and nuts

was carried out on 21 February 2021. It is, thus, probable that the failure of the two attachment bolts was a result of a fatigue crack which propagated over time until the accident date during landing at FAGC. The failure of the two outer bolts and nuts resulted in the left gear swinging backwards during the landing roll; the pilot was unable to control the aircraft and, subsequently, the aircraft veered off to the left-side of the runway.

2.2.7 During landing, the aircraft veered off to the left-side of Runway 17 because of the failure of the two left gear attachment bolts and nuts. The failure of the bolts and nuts was most likely due to lack of proper inspection as stated in the aircraft maintenance manual (AMM).

3. CONCLUSION

3.1. General

From the available evidence, the following findings, causes and contributing factors were made with respect to this accident. These shall not be read as apportioning blame or liability to any particular organisation or individual.

To serve the objective of this investigation, the following sections are included in the conclusion heading:

- **Findings —** are statements of all significant conditions, events or circumstances in this accident. The findings are significant steps in this accident sequence, but they are not always causal or indicate deficiencies.
- **Causes —** are actions, omissions, events, conditions or a combination thereof, which led to this accident.
- **Contributing factors —** are actions, omissions, events, conditions or a combination thereof, which, if eliminated, avoided or absent, would have reduced the probability of the accident occurring, or would have mitigated the severity of the consequences of the accident. The identification of contributing factors does not imply the assignment of fault or the determination of administrative, civil or criminal liability.

3.2. Findings

3.2.1 The instructor was initially issued a Commercial Pilot Licence (CPL) on 15 October 2020 with an expiry date of 31 October 2021. The pilot had a total of 252.2 hours of which 17.1 were on the aircraft type. The instructor was issued a Class 1 aviation medical certificate on 16 November 2020 with an expiry date of 30 November 2021.

3.2.2 The student pilot was initially issued a Student Pilot Licence on 7 August 2020 with an expiry date of 31 August 2021. The student pilot had a total of 17.6 hours of which 14.2 were on the aircraft type. The student pilot was issued a Class 2 aviation medical certificate on 8 October 2019 with an expiry date of 31 October 2024.

3.2.3 The aircraft had enough fuel for the planned flight.

3.2.4 The aircraft had a Certificate of Registration (C of R) issued on 10 October 2020.

3.2.5 The aircraft had an Authority to Fly (ATF) issued on 9 February 2016 with an expiry date of 28 February 2022.

3.2.6 The last annual inspection (50-hour) was carried out on 12 February 2021 at 1888.1 airframe hours. The aircraft had accumulated an additional 52.8 airframe hours in operation since the last inspection, thus exceeding the 50-hour requirement with no evidence that the 50-hour inspection was carried out. The aircraft was issued a Certificate of Release to Service on 12 February 2021 with an expiry date of 11 February 2022 or at 1988.1 airframe hours, whichever occurs first.

3.2.7 The AP who performed the inspection was licensed by the Regulator. The AP certificate was issued on 15 March 2021 with an expiry date of 31 January 2023.

3.2.8 During landing, the aircraft veered off to the left-side of Runway 17 because of the failure of the two left gear attachment bolts and nuts. The failure of the bolts and nuts was most likely due to lack of proper inspection as stated in the aircraft maintenance manual (AMM).

3.3. Probable Cause/s

3.3.1 During the landing roll, the aircraft veered off to the left-side of Runway 17 because of the failure of the two left gear attachment bolts and nuts. The failure of the bolts and nuts was most likely caused by lack of proper inspection as stated in the aircraft maintenance manual (AMM).

3.3.2 Contributory Factors:

3.3.2.1 Lack of proper inspection when inspecting the bolts for cracks as required by the AMM.

3.3.2.2 Manufacturer requiring only a visual check when inspecting the attachment bolts and nuts instead of a NDT.

4. SAFETY RECOMMENDATIONS

4.1. General

The safety recommendations listed in this report are proposed according to paragraph 6.8 of Annex 13 to the Convention on International Civil Aviation and are based on the conclusions listed in heading 3 of this report. The AIID expects that all safety issues identified by the investigation are addressed by the receiving States and organisations.

4.2. Safety Recommendation/s

4.2.1 (1) It is recommended that the manufacturer considers the inclusion of the NDT inspection on the landing gear attachment bolts and nuts; as well as determine the timeframes on which these inspections should be carried out.

(2) It is recommended that the Director of Civil Aviation (DCA) issues a mandatory Airworthiness Directive (AD) which will mandate the inspection of landing gear attachment bolts and nuts for cracks using a NDT on all aircraft type similar to the accident aircraft prior to their next flight.

4.2.2 Safety message: All owners/operators of the aircraft type similar to the accident aircraft are to inspect the landing gear attachment bolts and nuts for cracks using the NDT prior to their next flight.

5. APPENDICES

5.1 None.

This report is issued by:

Accident and Incident Investigations Division
South African Civil Aviation Authority
Republic of South Africa