



Republic of the Philippines
CIVIL AVIATION AUTHORITY OF THE PHILIPPINES

AIRCRAFT ACCIDENT INVESTIGATION AND INQUIRY BOARD

FINAL REPORT

RP-C1993 **TECNAM P2002-JF**

OPERATOR: WCC AVIATION COMPANY, INC.

TYPE OF OPERATION: FLIGHT TRAINING

DATE OF OCCURRENCE: DECEMBER 13, 2022

*PLACE OF OCCURRENCE: WCC BINALONAN AIRFIELD RUNWAY 17, LINMANSANGAN,
BINALONAN, PANGASINAN, PHILIPPINES*

TABLE OF CONTENTS
(Tecnam P2002-JF Final Report)

Description	Page
Title Page	-----
Table of Contents	----- i
Foreword	----- ii
Synopsis	----- iii
List of Acronyms and Abbreviations	----- iv
1 Factual Information	----- 1
1.1 History of Flight	----- 1
1.2 Injuries to Person	----- 2
1.3 Damage to Aircraft	----- 2
1.4 Other Damages	----- 3
1.5 Personnel Information	----- 3
1.5.1 Student Pilot	----- 3
1.6 Aircraft Information	----- 3
1.6.1 Aircraft Data	----- 3
1.6.2 Engine Data	----- 4
1.6.3 Propeller Data	----- 4
1.7 Meteorological Information	----- 4
1.8 Aids to Navigation	----- 4
1.9 Communications	----- 4
1.10 Aerodrome Information	----- 4
1.11 Flight Recorders	----- 5
1.12 Wreckage and Impact Information	----- 5
1.13 Medical & Pathological Information	----- 6
1.14 Fire	----- 6
1.15 Survival Aspect	----- 7
1.16 Test and Research	----- 7
1.17 Organization and Management Information	----- 7
2 Analysis	----- 7
2.1 Human Factor	----- 7
2.1.1 Personnel Training and Competence	----- 7
2.1.2 Fatigue and Health Factors	----- 10
2.2 Operations	----- 11
2.2.1 Flight Execution and Situational Awareness	----- 11
2.3 Organizational Factor	----- 11
2.3.1 Safety Culture, Management Support and Training Programs	----- 11
2.3.2 Maintenance Program	----- 12
3 Conclusions	----- 13
3.1 Findings	----- 13
3.2 Probable Cause	----- 13
3.2.1 Primary Cause Factors	----- 13
3.2.2 Contributory Cause Factors	----- 13
4 Safety Recommendations	----- 14
5 Safety Actions	----- 14
Signatories	----- 15

FOREWORD

This report was produced by the Aircraft Accident Investigation and Inquiry Board (AAIIB), Civil Aviation Authority of the Philippines, MIA Road, Pasay City, Philippines.

The report is based upon the investigation carried out by the AAIIB in accordance with Annex 13 to the Convention on International Civil Aviation, Republic Act 9497 Section 42, and Philippine Civil Aviation Regulation Part 13.

Readers are advised that the AAIIB investigates for the sole purpose of enhancing aviation safety. Consequently, AAIIB reports are confined to matters of safety significance and may be misleading if used for any other purpose. It should be noted that the information in AAIIB reports and recommendations is provided to promote aviation safety, and in no case is it intended to imply blame or liability.

Furthermore, no part of the AAIIB report or reports relating to any accident or investigation shall be admitted as evidence or used in any suit or action for damages arising out of any matter mentioned in such report or reports.



Republic of the Philippines
CIVIL AVIATION AUTHORITY OF THE PHILIPPINES

FINAL REPORT

TITLE: An incident involving a Tecnam P2022-JF type of aircraft with Registry Number RP-C1993.

Notification of Occurrence to National Authority

The incident was reported by the operator to the CAAP AAIB on December 13, 2022.

Identification of the Investigation Authority

The Aircraft Accident Investigation and Inquiry Board (AAIB), the mandated accident investigation organization within the Civil Aviation Authority of the Philippines (CAAP) as the state of Occurrence/Registry/Operator conducted the investigation.

Organization of the Investigation

In accordance with the provisions of the Philippine Civil Aviation Regulation (PCAR) Part 13, an Investigator-In-Charge was appointed.

Authority Releasing the Report

The Final Investigation Report was released by the Aircraft Accident Investigation and Inquiry Board (AAIB) and published on the CAAP website on 24 March 2025.

Synopsis:

On or about 0818H of December 13, 2022, a Tecnam P2022-JF aircraft, registered as RP-C1993, sustained minor damage following a bounced landing on runway 17 of WCC Binalonan Airfield in Linmansangan, Binalonan, Pangasinan. The aircraft was operated by WCC Aviation Company, with its base of operations at the same airfield. On board was one (1) student pilot (SP) on her first solo flight. The pilot safely exited the aircraft without injuries. The investigation determined that the probable cause of the incident was the student pilot's inadequate handling techniques during landing, highlighting her lack of proficiency due to limited experience.

LIST OF ACRONYMS AND ABBREVIATIONS

AAIIB	:	Aircraft Accident Investigation and Inquiry Board
ATOC	:	Aviation Training Organization Certificate
CAAP	:	Civil Aviation Authority of the Philippines
CoA	:	Certificate of Airworthiness
CoR	:	Certificate of Registration
FI	:	Flight Instructor
OFSAM	:	Office of the Flight Surgeon and Aviation Medicine
SP	:	Student Pilot
SPL	:	Student Pilot License
VFR	:	Visual Flight Rules
VHF	:	Very High Frequency



1. FACTUAL INFORMATION

Aircraft Registration No. : RP-C1993

Aircraft Type/Model : Tecnam P2002-JF

Operator : WCC Aviation Company, Inc.

Address of Operator : 960 Aurora Blvd., Cubao, Quezon City, Philippines

Place of Occurrence : WCC airfield runway 17, Linmansangan, Binalonan, Pangasinan, Philippines

Date/Time of Occurrence : December 13, 2022 at about 0818H/0018 UTC

Type of Operation : Flight Training

Phase of Flight : Landing

Type of Occurrence : Nose gear collapsed

1.1 History of the Flight

On or about 0818H of December 13, 2022, a Tecnam P2002-JF type of aircraft with registry number RP-C1993 operated by WCC Aviation Company encountered a collapsed nose landing gear following a bounced landing at WCC Binalonan airfield runway 17. On board the aircraft was one (1) student pilot (SP) who was on her first solo flight.

Prior to the incident, the student pilot (SP) completed one touch-and-go and one full-stop landing with her flight instructor before being released for her first solo flight. After departing on her own, the flight proceeded uneventfully, and she completed her traffic pattern without any unusual events. On her approach for landing on runway 17, the SP reported being fully stabilized, with airspeed, altitude, power settings, and landing configuration within the required parameters. Upon touchdown, the aircraft experienced two (2) successive bounced landings before coming to a full stop. The repeated bouncing led to the collapse of the nose landing gear assembly.



1.2 Injuries to Person (s)

Injuries	Crew	Passengers	Others	TOTAL
Fatal	0	0	0	0
Serious	0	0	0	0
Minor	0	0	0	0
None	1	0	0	1

1.3 Damage to Aircraft

The aircraft sustained minor damage.

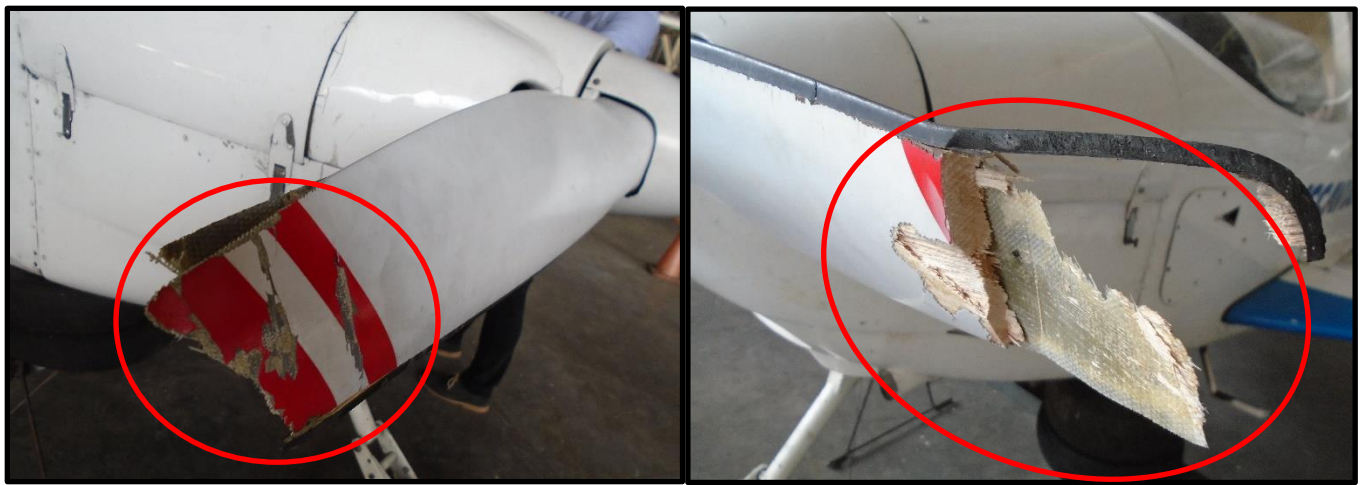


Figure 1 – Damage on the aircraft's propeller.



Figure 2 – Broken nose landing gear assembly.

1.4 Other Damages

There was no reported other damage because of this incident.

1.5 Personnel Information

1.5.1 Student Pilot

Gender	: Female
Date of Birth	: March 18, 2001
Nationality	: Filipino
License	: 152941 SPL, valid until August 07, 2023
Type rating	: Airplane: Single Engine Land – C152, P2002-JF
Medical Certificate	: Class 2, valid until March 22, 2023
Date of last medical	: March 22, 2021
Total flying time	: 18 + 50 Hours as of December 13, 2022
Total flying time on type	: 18 + 50 Hours as of December 13, 2022

1.6 Aircraft Information

The Tecnam P2002-JF is a two-seater side by side, low wing aircraft. The P2002-JF features superlative performance and flying qualities. The ease of piloting and maintenance make this aircraft an excellent solution for training in flight schools. It is also an ideal platform for surveillance and as well as for pure recreational and private use

1.6.1 Aircraft Data

Registration Mark	: RP-C1993
Manufacturer	: Costruzioni Aeronautiche Tecnam S.p.A.
Country of Manufacturer	: Italy
Type/Model	: P2002-JF
Operator	: WCC Aviation Company, Inc.
Serial No.	: 094
Year of Manufacture	: 2008
Certificate of Airworthiness	: Valid until November 22, 2023
Certificate of Registration	: Valid until January 19, 2023
Category	: Normal
Gross Weight	: 620 kgs.
Number of Flight Crew	: 1
Number of Passengers	: 1
Airframe total time	: 3,845 + 54 Hours since last C of A



1.6.2 Engine Data

Manufacturer : BRP Rotax
Type : Reciprocating
Model : 912 S2-01
Engine Serial No. : 9563802
Engine TBO : 2,000 Hours
Engine TSO : 96 + 50 Hours since last C of A
Engine Total Time : 2,096 + 50 Hours since last C of A

1.6.3 Propeller Data

Manufacturer : Hoffmann
Type : Fixed Pitch
Model : HO17GHM-A-174-177C
Propeller Serial No. : 80490
Propeller TBO : On-condition
Propeller TSO : 96 + 50 Hours since last C of A
Propeller Total Time : 2,691 + 43 Hours since last C of A

1.7 Meteorological Information

Wind Condition	Sky Condition	Visibility	Temperature	Dewpoint	QNH	Remarks
Calm	SCT 040	9999	30°C	22°C	1006hPa	NIL

1.8 Aids to Navigation

The flight was carried out under Visual Flight Rules (VFR).

1.9 Communications

The aircraft was equipped with an operational Very High Frequency (VHF) transceiver used for communicating with other pilots/traffic in the area.

1.10 Aerodrome Information

WCC Binalonan airfield is located in Brgy. Linmansangan, Binalonan, Pangasinan, Philippines. It is a privately operated airfield managed by WCC Aviation Company. Established in 2008, it serves as the primary base for WCC's flight training operations.



The airfield features an 850 meters north-south runway, accommodating general aviation and mid-sized commercial aircraft.

1.11 Flight Recorders

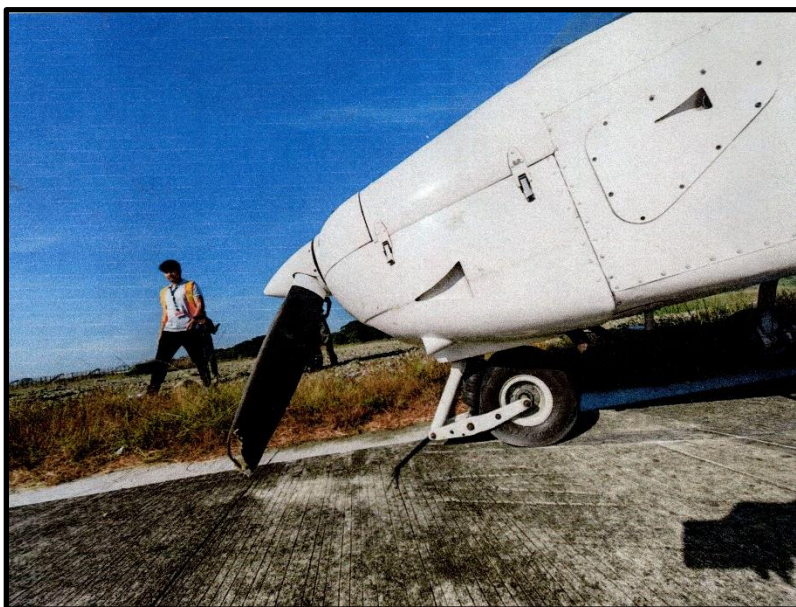
The aircraft was not equipped with any flight recorders and existing Philippine Civil Aviation Regulation does not require such for that type of aircraft.

1.12 Wreckage and Impact Information

Upon touchdown, the aircraft experienced two (2) successive bounced landings before coming to a full stop. The aircraft came to rest at the right-hand side of runway 17 at coordinates 16° 03' 17" N, 120° 34' 54" E, and approximately located 177 meters from its touched-down point. The aircraft incurred a broken nose landing gear assembly and damaged propeller tips and bolt.



Figure 3 – The aircraft at its final stopping point.



Figures 4 and 5 – The aircraft with its collapsed nose landing gear.

1.13 Medical and Pathological Information

The student pilot underwent medical check-ups and mandatory drug and alcohol testing at the local clinic. The results were later endorsed to CAAP OFSAM for the required post-incident medical examination. The pilot was eventually issued a medical clearance by the mentioned CAAP office.

1.14 Fire

No reports were received regarding any post-incident fires.

1.15 Survival Aspects

The incident was survivable, as the aircraft's fuselage remained intact, and the student pilot was secured by her seat harness. Additionally, since the incident occurred on the runway, WCC personnel were able to immediately assist the pilot, who exited the aircraft unharmed.

1.16 Test and Research

No further inspection or testing was conducted on the aircraft after the incident, as the student pilot reported no issues with the aircraft's performance, and a review of its maintenance records revealed no discrepancies.

1.17 Organizational and Management Information

WCC Aviation Company, Inc. was founded in 2005 with the vision of being a complete and exceptional aviation school and at the same time a community of aviation professionals. It has a CAAP Aviation Training Organization Certificate (ATOC) to offer pilot courses, and Diploma in Aircraft Maintenance Technology (AMT) program. The aviation school also expanded their offerings to BS Aviation, BS Aeronautical Engineering, BS Tourism and Senior High School ABM and STEM track focusing on the aviation industry.

2. ANALYSIS

2.1 Human Factor

2.1.1 Personnel Training and Competence

The student pilot holds a valid Student Pilot License (SPL) issued by CAAP, with an appropriate rating for the aircraft type operated at the time of the incident.

At the time of the incident, the involved student pilot had accumulated a total of 18+50 hours of flight time, all recorded on the Tecnam P2002-JF type of aircraft.

Based on records and interviews, she began her simulator (SIM) training in August 2022 and started her actual flight lessons in October 2022, all of which took place at WCC Aviation Company, Inc. as part of her Commercial Flying course.



On December 2, 2022, she underwent her pre-solo panel interview, which she passed, followed by a cross-check flight with another instructor on December 8. Additional flight lessons were conducted on December 9 and 12 to further refine her skills. Before her first solo flight on December 13, she successfully performed one touch-and-go and one full-stop landing under the supervision of her instructor.

On the review of WCC's Training Manual, students must have at least 15 hours of flight time before being considered for their solo flight. Additionally, a recommendation from their assigned Flight Instructor (FI) is required.

Furthermore, the following requirements are also established before the student's actual solo flight:

- Passed the pre-solo exam
- Passed the pre-solo panel interview
- Able to perform required maneuvers and emergency procedures within limits during a cross-check with the Chief Flight Instructor or a Senior FI (Note: A senior FI is any instructor with a minimum of 1,000+00 total flight time)

Moreover, a duly accomplished Clearance for Solo form, signed and approved by the Head of Training, serves as the official recommendation for the solo flight.

In this case, it is noted that the student pilot met the above-mentioned requirements, however, inconsistencies have been observed in the student's training records:

- The pre-solo panel records (see Figure 6) show that the student successfully passed the panel and was recommended for release for the first solo flight. However, notes in the records indicate that the student was unable to thoroughly explain some items and needed further review of engine specifications;
- On her subsequent flights following her cross-check flight, remarks on the student's grading sheet (see Figure 7) continued to highlight areas for improvement, including level-off reminders, flare technique, power adjustments, and speed control. These deficiencies had also been noted during her cross-check flight and in previous flights. Despite these recurring remarks, she was still released for her first solo flight.
- After the student's cross-check flight, the same Flight Instructor (FI) who conducted the check also handled her additional training flights and ultimately released her for her first solo flight. This is not in line with the standard procedure, where a different FI is typically assigned for the cross-check to ensure check and balance in the evaluation process. According to their explanation, this occurred because the student's originally assigned FI was on leave at the time. The lack of an alternate FI and the continued involvement of



the cross-check FI in the student's training undermined the purpose of the cross-checking process, which is intended to provide an independent assessment of the student's readiness.

As for the FI who conducted the cross-check and released the involved student for her first solo flight, records, and interviews revealed that he completed his flight training in 2017 and was hired as an FI in 2019. At the time of the incident, he had accumulated approximately 2,500+00 total flight hours, with around 2,300+00 hours as an FI. He had also successfully released around 30 student pilots for their first solo flights. Based on this information, it can be said that the subject FI has the qualifications and experience to meet the training organization's standards for performing his duties.

WCC Pilot Academy
 Linmansangan, Binalonan, Pangasinan 2436
 Pre-Solo Panel Interview
 Question Pool

PRE – SOLO PANEL

Date: 10/2/2022

Pre-Solo Student: _____

Flight Instructor: _____

Panelists:

1. _____
2. _____
3. _____

Observer: _____

Remarks:

☒ Student has successfully passed the panel and is recommended for release for First Solo Flight

☐ Student has failed the panel and will be due for release upon completion of a re-evaluation

Notes:

Theory - Good, but can't explain thoroughly

Specs - Good but needs to review more on engine

Situation - Good

Figure 6 – The student pilot's Pre-Solo Panel file.

Private Pilot License Course
Flight Operations Department

WCC
PILOT ACADEMY

PPL GRADING SHEET

Student Pilot: _____ Date: 10/10/22
Flight Instructor: _____ SP: C
Lesson No: PPL Duration: 2100

GRADING LEGEND: S+ (Very Satisfactory), S (Satisfactory), S- (Slightly Satisfactory)

GRADE	ITEMS	REMARKS
	PREFLIGHT ITEMS	
S	Pre-flight Inspection	
S	Engine Starting	
S	Taxing	STANDARD
S	Before Takeoff Check	
	TRAFFIC PATTERN	
S	Normal Takeoff & Climb	CORRECT & SMOOTH
S	Normal Approach & Landing	APPROACH & LAND
	Power-Off Landings (90°/180°/360°)	GOOD & CLEAN
	Landings with Flap Settings (0°/10°/20°/30°)	WIND-UP THE FLAP-OUT
	Go-Around/Mixed Approach Procedure	
	AERIAL MANEUVERS	
M	Straight & Level	FLARE & HOLD
	Climbs & Descents	CLEAN
	Turns	
	Climbing & Descending Turns	WIND-UP THE FLAP-OUT
	Slow Flight (Clean & Dirty)	
	Power-On Stalls	
	Power-Off Stalls	
	Spin Awareness (Discussion)	
	Aerodrome Entry & Exit Procedures	
	GROUND REFERENCE MANEUVERS	
	Turns Around a Point	
	S-Turns	
	NAVIGATION	
	Flight Planning	
	Pilotage & Dead Reckoning	
	Lost Com. Procedures	
	Lost Procedures	
	EMERGENCY PROCEDURES	
	Engine Failure (during TO Roll, TO, Upwind)	
	Engine Failure During Flight	
	Emergency Approach & Landing	
	Electrical Fire	
	Engine Fire	
	POSTFLIGHT PROCEDURES	
	After Landing, Parking, & Securing	
	GENERAL ITEMS	
	Checklist Usage	FINAL REPORT
	Radio Communication	
	Cockpit Management	
	Airport Runway, Taxiway, Markings	

Student Pilot Signature: _____ Flight Instructor Signature: _____

Figure 7 – The student pilot’s grading sheet after her cross-check flight.

2.1.2 Fatigue and Health Factors

A review of the student pilot’s schedule for the past two (2) months revealed that she had flown thirteen (13) times from October 2022 to the day of the incident. Her schedule shows no pattern that would suggest excessive workload or fatigue

Based on the above information, including the records and results of the medical tests conducted on the pilot by a local clinic in Pangasinan, as well as the evaluation by the CAAP OFSAM, it can be concluded that fatigue or the pilot’s physical condition, in general, is not a factor in this incident.

2.2 Operations

2.2.1 Flight Execution and Situational Awareness

The flight on December 13, 2022, was scheduled to be the student pilot's first solo flight. According to her FI, the plan was for them to first conduct a flight together, during which the FI would assess her performance. If the student demonstrated proficiency and met the necessary standards during the flight, she would then be released to fly solo.

During her solo flight, the student pilot mentioned in her interview that, during the approach for landing, she was confident that all her parameters, including altitude and speed, were within the required standards. Despite her preparations, she was caught by surprise when the aircraft bounced upon touchdown. This unexpected outcome suggests that, while she believed her flight was within the limits, she may not have fully anticipated or recognized the factors that contributed to the bounce, such as an improper flare, misjudgment of landing timing, or slight mismanagement of power. Her reaction indicates a gap in her situational awareness and the ability to manage unexpected events during landing, highlighting areas where further refinement is needed in her landing techniques and decision-making.

As for the statement of his FI who monitored her flight, he observed that after the student initiated the flare, he noticed that the nose landing gear was slowly dropping, which likely caused a three-point landing. This landing attitude increased the likelihood of the aircraft bouncing upon touchdown. Additionally, the flare appeared to be too shallow, which may have further contributed to the rough landing. As the aircraft bounced, the student was unable to recover in time, resulting in multiple bounces that ultimately led to the collapse of the nose landing gear.

Based on the information above, it suggests that the student lacked sufficient situational awareness during the landing phase, particularly in flare execution and bounce recovery. The student's inability to anticipate or correct the aircraft's behavior before and after touchdown indicates a need for further training in landing techniques, specifically in proper flare execution and bounce management, to ensure better aircraft control during landing.

2.3 Organizational Factor

2.3.1 Safety Culture, Management Support and Training Programs

WCC Aviation Company, Inc. holds a valid ATO Certificate No. 2008-05, issued by CAAP, and is authorized to operate as an approved pilot school.

In addition to meeting regulatory requirements, a visit to the WCC Aviation Company, Inc. facilities will give the impression of an organization that truly invests in its infrastructure, equipment, and resources to create a well-equipped training environment for aviation students. The availability of proper facilities and training equipment reflects the company's commitment to providing future aviators with a comprehensive learning experience, ultimately ensuring the development of skilled and competent aviation professionals.

The organization is also manned by trained and experienced personnel, with clearly defined responsibilities and functions. Everyone carries out their tasks in accordance with company standards and regulatory requirements, working collaboratively with different sections within the WCC organization.

A strong safety culture is further evident in the organization's documentation process. All procedures are well-documented within company manuals and readily accessible to all personnel. A reporting culture is also observed through the implementation of a standard safety reporting system within its operations. Additionally, interviews revealed strong management support for the organization's safety and quality objectives and requirements.

Additionally, interviews and review of personnel records indicate that training opportunities are made available to all concerned personnel.

2.3.2 Maintenance Program

Currently, WCC has a CAAP-approved repair station responsible for managing the organization's maintenance requirements. To verify the effectiveness of their maintenance operations, an evaluation of the company's maintenance documents was conducted to assess their availability and compliance with regulatory requirements.

In the review of the aircraft's flight and maintenance logbooks, as well as its pre-flight inspection checklist, it showed no recorded defects on the aircraft on the day of the incident. Additionally, records show that any logged discrepancies in the logbook were found to have been promptly and appropriately addressed, ensuring that no outstanding maintenance issues remained unresolved. Further examination of the aircraft's documentation indicated that required periodic inspections were consistently performed as scheduled, in full compliance with regulatory requirements.

Furthermore, interviews with the student pilot and FI indicated that the aircraft operated normally throughout their flight and did not exhibit any operational issues.

3. CONCLUSIONS

3.1 Findings

- 3.1.1 The student pilot and Flight Instructor hold valid pilot licenses and medical certificates issued by the CAAP.
- 3.1.2 The student pilot and Flight Instructor hold appropriate ratings to perform their functions for that specific type of aircraft.
- 3.1.3 The aircraft has valid Certificates of Airworthiness and Registration.
- 3.1.4 The operator is a holder of a valid CAAP issued ATO Certificate and the aircraft involved is part of its approved Training Specifications.
- 3.1.5 The aircraft was released for flight without any recorded maintenance issues. Likewise, documentation of the aircraft maintenance is available and in proper order.
- 3.1.6 The student pilot met the qualifications for solo flight, however, she was released despite training record inconsistencies that highlighted the need for improvement in her aircraft handling during landing.
- 3.1.7 The lack of an alternate FI and the continued involvement of the cross-check FI in the student's training compromised the objectivity of the cross-checking process, which is intended to ensure an independent assessment of the student's readiness for solo flight.

3.2 Probable Cause

3.2.1 Primary Cause Factors

- a. The student pilot's inadequate aircraft handling skills during landing, particularly in flare execution and bounce recovery, as indicated by recurring deficiencies in her training records.

3.2.2 Contributory Cause Factor

- a. Inconsistencies in the flying school's evaluation and instructor assignment process.

4. SAFETY RECOMMENDATIONS

- 4.1 In light of the internal actions already taken by the involved operator, based on the safety actions outlined below, no further recommendations will be issued as a result of this investigation.

5. SAFETY ACTION

- 5.1 As a result of this incident, WCC Aviation Company, Inc. initiated the following safety corrective actions to reduce the likelihood of a similar occurrence:
- 5.1.1 A management review meeting, along with remedial training on Tecnam P2002-JF procedures, was conducted on December 21, 2022;
 - 5.1.2 A revision of WCC's Training Procedure Manual was made particularly on the following items:
 - a. Implementation of guidelines for pre-solo panel interview.
 - b. Implementation of criteria and grading matrix during pre-solo panel interview.
 - 5.1.3 An internal quality audit was conducted on December 27-28, 2022, to validate WCC's Flight Operations' compliance with the company's published standards;
 - 5.1.4 An internal memorandum was issued by WCC's Quality Manager on January 09, 2023, reiterating compliance on the proper accomplishment of student pilot's grading sheet;
 - 5.1.5 A meeting was conducted on January 12, 2023, regarding compliance of all concerned on the actions taken on RP-C1993 incident particularly on the following items:
 - a. Implementation of pre-solo guidelines.
 - b. Discussion on single pilot human factor performance and threat and error management.
 - c. Compliance on student pilot's grading sheet.
 - d. Update on the implementation of FI turnover of students to other instructor's forms.

(Note: The safety actions were based on WCC Aviation Company, Inc.'s letter to CAAP DDGO dated January 6, 2023, and on the review of the attached supporting documents.)

-----End-----