Republic of the Philippines
DEPARTMENT OF TRANSPORTATION
CIVIL AVIATION AUTHORITY OF THE PHILIPPINES
MIA Road, Pasay City 1300

AIRCRAFT ACCIDENT INVESTIGATION AND INQUIRY BOARD

FINAL REPORT

RP-C8230
TECNAM 2010

OPERATOR: FIRST AVIATION ACADEMY, INC.

TYPE OF OPERATION: FLIGHT TRAINING

DATE OF OCCURRENCE: MAY 26, 2021

PLACE OF OCCURRENCE: BARANGAY CABA, BAUANG, SAN FERNANDO, LA UNION, PHILIPPINES

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(Tecnam 2010, RP-C8230 Final Report)

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 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.

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FINAL REPORT

TITLE: An accident involving a Tecnam 2010 type of aircraft with Registry Number RP-C8230 owned and operated by First Aviation Academy, Inc., that experienced Loss of Control In-flight (LOC-I), at Barangay Caba, Bauang, San Fernando, La Union, Philippines on May 26, 2021/1130H.

Notification of Occurrence to National Authority

The notification of accident to AAIIB-CAAP was relayed by the Operator of the aircraft to the OIC, AAIIB through to the Operation Center-CAAP at 1200H (LOCAL) on May 26, 2021.

Identification of the Investigation Authority

The Aircraft Accident Investigation and Inquiry Board (AAIIB), 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 provisions of Philippine Civil Aviation Regulation (PCAR) Part 13, an Investigator-In-Charge and Deputy Investigator-In Charge were appointed.

Authority Releasing the Report

The Final investigation report was released by Aircraft Accident Investigation and Inquiry Board (AAIIB) and published on the CAAP website on **16 March 2022.**

Synopsis:

On or about 1130H, May 26, 2021, a Tecnam 2010 type of aircraft with Registry Number RP-C8230 operated by First Aviation Academy, Inc., experienced Loss of Control In-flight (LOC-I) resulting to the fatal injury of the Student Pilot (SP) on board at Barangay Caba, Bauang, San Fernando, La Union, Philippines. The Aircraft Accident Investigation and Inquiry Board determined that the cause factor of this accident was attributed to the Pilot's failure to recognize the aircraft bank limitation while turning to the right.

LIST OF ACRONYMS AND ABBREVIATIONS

AAIIB	:	Aircraft Accident Investigation and Inquiry Board
AIP	:	Aeronautical Information Publication
AMO	:	Approved Maintenance Organization
ATOC	:	Aviation Training Organization Certificate
AOA	:	Angle of Attack
BLDG	:	Building
BRGY	:	Barangay
COA	:	Certificate of Airworthiness
COR	:	Certificate of Registration
DOA	:	Dead On Arrival
ELT	:	Emergency Locator Transmitter
FI	:	Flight Training
FSTD	:	Flight Simulation Training Device
GPS	:	Ground Position System
OFSAM	:	Office of the Flight Surgeon and Aviation Medicine
PCAR	:	Philippine Civil Aviation Regulations
PNP	:	Philippine National Police
SP	:	Student Pilot
TPQSM	:	Training, Procedures, Quality and Safety Manual
TWY	:	Taxiway
RPUI	:	Iba Community Airport
RPUG	:	Lingayen Community Airport
RPUS	:	San Fernando Community Airport
RWY	:	Runway
VFR	:	Visual Flight Rules
VMC	:	Visual Meteorological Condition

1. FACTUAL INFORMATION

Aircraft Registration No.	:	RP- C8230
Aircraft Type/Model	:	Costruzioni Aeronautiche Tecnam S.P.A., Tecnam 2010
Operator	:	First Aviation Academy, Inc.
Address of Operator	:	Bldg. 8303S Southwest Apron B, Subic Bay International Airport, SBFZ, Zambales, Philippines
Place of Occurrence	:	Barangay Caba, Bauang, San Fernando, La Union, Philippines
Date/Time of Occurrence	:	May 26, 2021 at about 1130H/0330 UTC
Type of Operation	:	Flight Training
Phase of Flight	:	Cruise
Type of Occurrence	:	Loss of Control In-flight (LOC-I)

1.1 History of Flight

On or about 1130H, May 26, 2021, a Tecnam 2010 type of aircraft with Registry Number RP-C8230 experienced Loss of Control In-flight (LOC-I) resulting to the fatal injury of the Student Pilot (SP) on board at Barangay Caba, Bauang, San Fernando, La Union, Philippines. The SP was on his first solo cross country navigation flight when the accident happened. The aircraft was destroyed upon impact into the water. The aircraft is being operated by First Aviation Academy, Inc. (FAA) under PCAR Part 3.

The solo cross country navigation training flight took off from Iba Community Airport (RPUI) at about 1000H with planned itineraries of San Fernando Community Airport (RPUS)- Lingayen Community Airport (RPUG) and to be terminated after the flight training operation at RPUI. Visual meteorological conditions prevailed at the time of the accident.

The aircraft was seen circling above the shoreline of Barangay Caba area, then suddenly made a dive towards the water. The SP on board was rescued by the local fishermen in the area followed by local emergency units of the Coast Guard, Philippine National Police and Army Aviation Battalion that were dispatched to help and secure the aircraft. The SP was brought to the nearest hospital for medical attention but was declared dead on arrival (DOA). The aircraft wreckage was recovered at coordinates 16.2713791 N 120.1935674 E, about thirty (30) feet deep and two hundred (200) meters away from the shoreline.

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Figure 1. RP-C8230 wreckage recovered and set at the shoreline.

1.2 Injuries to Person (s)

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

1.3 Damage to Aircraft

The aircraft was destroyed.

1.4 Personnel Information

1.4.1 Student Pilot (SP)

Gender	:	Male
Date of Birth	:	December 15, 1995
Nationality	:	Filipino
License	:	143768-SPL
Valid up to	:	October 12, 2022
Type rating	:	Single Engine Land-P2010
Medical Certificate Valid up to	:	2nd Class Assessment valid until October 12, 2020
Time on Aircraft	:	43+24 Hours as per Pilot logbook
Grand Total time	:	43+24 Hours as per Pilot logbook

1.5 Aircraft Information

The Tecnam 2010 is a four-seat, high wing, single engine light aircraft of mixed metal and carbon-fiber-reinforced polymer construction. Designed and built in Italy, it was first

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presented in public in April 2011. The aircraft with registration number RP-C8230 was manufactured in 2018.

1.5.1 Aircraft Data

Registration Mark	:	RP-C8230
Manufacturer	:	Costruzioni Aeronautiche Tecnam S.p.A.,
Country of Manufacturer	:	Italy
Type/Model	:	Tecnam/P2010
Operator	:	First Aviation Academy, Inc.
Serial No./Line No.	:	062
Date of Manufacture	:	June 13, 2018
Certificate of Airworthiness (CoA)	:	April 10, 2021(Extended Validity thru MC# 10-2020 Dtd13March2020)
Certificate of Registration (CoR)	:	July 1, 2020 (Extended Validity thru MC# 10-2020 Dtd13March2020)
Category	:	Normal
Number of Flight Crew	:	1
Number of Passenger	:	3
Airframe total time	:	263+02 Hours since last CoA

1.5.2 Engine Data

Manufacturer	:	Lycoming
Type	:	Piston
Type/Model	:	Injection/ O-360-M1A
Engine SN#	:	L-37222-51E
Engine total time	:	263+02 Hours since last CoA

1.5.3 Propeller Data

Manufacturer	:	MT-Propeller
Type	:	Constant Speed
Type/Model	:	Wood/ MT-188R-145-4G
Propeller SN#	:	19098
Date last Installed	:	June 10, 2020
Propeller total time	:	263+02 Hours since last CoA

1.6 Meteorological Information

Visual Meteorological Conditions (VMC) prevailed at the time of the occurrence.

1.7 Aids to Navigation

The flight was carried out under Visual Flight Rules (VFR). Using VFR, the pilot must be able to operate the aircraft with visual references to the ground and visually avoiding obstructions and other aircraft.

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1.8 Communications

The aircraft is equipped with a standard radio transceiver, communications were carried out between the pilot, air traffic controller at RPUS and other traffic within the area.

1.9 Aerodrome Information (Nearest Aerodrome)

San Fernando Community Airport (RPUS) is located at Canaoay, San Fernando City, La Union 2500 Philippines and is listed as Community Aerodrome Facility under the Air Traffic Management Service Aerodrome Information Publication (AIP).

1.9.1 General Information

Aerodrome Name	:	San Fernando Community Airport (RPUS)
Coordinates	:	163540.2182N 1201811.2422E
Aerodrome Operator	:	Poro Point Management Corporation, Poro Point Freeport Zone
Runway Direction	:	01 /19 (007º 02' MAG)/(187º 02' MAG)
Runway Length	:	212 meters
Runway Width	:	45 meters
Runway Elevation	:	4.659M (15.285FT)
Surface	:	PCN 46 R/A/W/T CONC
Apron	:	Surface: CONC. Strength: PCN 49 R/B/W/T
Types of traffic permitted	:	VFR
AD Operator	:	Airport Operations: 0000 - 0800. Rescue and firefighting service: 2200 - 0800.
Security	:	H24
Restaurants	:	At the town proper
Transportation	:	Vehicle for hire.
Visual Ground Aids	:	Standard day markers and wind direction indicator.
Facilities	:	Clinic, rescue and firefighting equipment, radio transceivers and land transportation.
AD category for fire fighting	:	CAT IV
Rescue equipment	:	Two (2) fire trucks. Ziegler V8 fire truck with water capacity of 9 000 liters and foam capacity of 900 liters. SIDES VMA 28 fire truck with water capacity of 2,500 liters and foam capacity of 300 liters.
Capability for removal of disabled aircraft	:	Nil.
Runway (RWY) and Taxiway (TWY) markings and light (LGT)	:	RWY designation markings, threshold markings, RWY centerline markings, Touchdown zone markings, RWY side stripes, Aiming points, Distance-to-go, Yellow lines to taxiway. TWY: TWY centerline markings.
Aerodrome Obstacles	:	01/19 APCH zone: Trees, antenna, and high tension wire

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1.10 Flight Recorders

The aircraft is not equipped with any flight recorders and existing Philippine Civil Aviation Regulation does not require it.

1.11 Wreckage and Impact Information

The aircraft came in contact with water on a nose down position, inflicting critical structural damage at coordinates 16.2713791N 120.1935674E. The aircraft settled below thirty (30) feet deep of water and about two hundred (200) meters away from the shoreline with most of its parts are within the impact area. The aircraft was torn into pieces as shown in (figure 2). The engine was still connected to the firewall as shown in (figure 3) and the propeller was delivering power upon impact (figure 4).

Figure 2: The aircraft with most of its parts retrieved along the impact area.

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Figure 3: RP-C8230 impact damage on its engine and propeller.

Figure 4: Propeller was broken towards the fuselage.

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1.12 Medical and Pathological Information

The Student Pilot possess a valid medical certificate issued by the Office of the Flight Surgeon and Aero Medical (OFSAM) CAAP.

The autopsy examination conducted on May 29, 2021 by the Philippine National Police (PNP) Forensic Laboratory at Camp Olivas, San Fernando, Pampanga. The cause of death was blunt traumatic injuries to the head, right extremities and left lower extremity secondary to the plane crash.

1.13 Fire

There was no reported post-crash fire during on-site investigation.

1.14 Search and Survival Aspects

Since the crash site was located near a populated area, local emergency responders were able to reach the crash site immediately. AAIIB investigator observed that the emergency locator transmitter (ELT) was emitting a tone and a flashing green light during the site investigation (figure 5). The accident was not survivable.

Figure 5: The aircraft ELT.

1.15 Test and Research

An engine teardown was conducted on May 28, 2021 and it was performed by the Operator's AMO and witnessed by AAIIB investigators. The engine teardown inspection was conducted to determine any engine malfunction that might cause the accident. The aircraft propeller was also inspected at the maintenance facility to verify its integrity and consider the functionality.

1.16 Organizational and Management Information

1.16.1 Operator

First Aviation Academy, Inc. (FAA) has an Aircraft Training Organization Certificate (ATOC) #2019-02 valid until August 8, 2020 (Extended Validity thru MC# 10-2020 Dtd13March2020) authorized to perform Flight and Ground training operations that provides private pilot course, Single-Engine land, commercial pilot course, Multi-Engine

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land flight instructor course land, Flight Instructor Course land and Instrument Rating for airplane, Airline Transport Pilot License Ground Theory and Jet Orientation Training. The Organization is also equipped with Redbird MCX, Redbird TD2 G-1000 Simulator Trainer. First Aviation Academy, Inc. flight operations is located at Building 8303, Southwest Apron B, Argonaut Highway, Subic Bay International Airport, Subic Bay Freeport Zone, Philippines. The aircraft RP-C8230, is listed on their ATOC operations specification.

1.16.2 Maintenance

The maintenance function of RP-C8230 is being undertaken by Aviation Hub Asia, Inc. an Approved Maintenance Organization (AMO) with a current Certificate number 151-16 with facility located at Building 33K Philexcel Business Park, Clark Freeport, Clark Field, Angeles, Pampanga, Philippines.

2.0 ANALYSIS

2.1 General

The flight instructor (FI) was properly certificated and qualified under PCAR and Operator procedures to release the student pilot (SP) for solo navigation flight training. The SP has no evidence of any pre-existing medical or physical conditions that might have adversely affected his performance during the flight. Examination of the wreckage and the aircraft's technical records did not reveal any mechanical problems that were likely to have played a role in the occurrence, either before or at the time of the accident. The damage to the aircraft indicated that the engine was running and the propeller blades were being driven by the engine at the time of impact. Monitoring of RP-C8230 was carried out through a mobile phone application Flight Radar 24. It was downloaded by the Operator to simulate the flight pattern on the day of the occurrence (figure 6). A simulation of the flight was conducted to demonstrate the event and help review the occurrence.

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Note: Not to Scale

Figure 6: The depicted flight path on Flight Radar 24 Application.

2.2 Private Pilot Navigation Training Requirement

As part of the requirement in applying for a Private Pilot License (A), the SP had undergone the required ground training on the following topics on Navigation such as: Practical aspects of air navigation and dead-reckoning techniques; Use of aeronautical charts. For Operational procedures: the use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations; Appropriate precautionary and emergency procedures, including action to be taken to avoid hazardous weather, wake turbulence and the operating hazards. The SP further had experienced the use of Flight Simulation Training Device (FSTD) on the particular type of license being sought. Said training is in consonance with the requirements stipulated in Philippine Civil Air Regulation (PCAR) Part 2.

On the Flight Training requirement, it was stipulated that the applicant for a PPL(A) shall receive and log not less than 20 hours of dual instruction from an authorized instructor. These 20 hours may include five (5) hours completed in a flight simulator or flight procedures trainer. The 20 hours of dual instruction shall include at least five (5) hours of solo cross-country flight time with at least one cross-country flight totaling not less than 270 km (150 NM) in the course of which full-stop landings at two different aerodromes shall be made. The SP had an initial two (2) flight training on navigation flight before a flight check on navigation was conducted by the School Head of Training.

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He was then recommended to be released for first solo navigation flight after passing the flight check.

2.3 Navigation Flight Training

During the review of the school training manual, part of the objective in the navigation flight training is the use of navigation charts on pre-flight and in-flight planning. The SP must be capable of getting their bearings and knowing their position at all times using navigation chart through pilotage and dead reckoning. In the course of the investigation, it revealed that the SP was also taught how to use the onboard Ground Position System (GPS) and may use the GPS as a complementary training aid. But in this case, the school does not allow the use of a GPS as the primary tool for achieving the objectives of the navigation flight and for the purposes of training under conditions consistent with flight test requirements.

2.4 Cross-Country Flight from Iba Airport to San Fernando Airport

The solo cross country navigation flight of the SP from RPUI to RPUS was scheduled as second (2nd) flight of the day. Review of the copy of the VFR navigation log reveals that the itineraries going to RPUS have the same check points with the last previous three (3) navigation dual training flights of the SP. Moreover, it was noticed during the investigation that the navigation chart being used during the flight for navigation was 1:1,000,000 scale is being used for high altitude navigation. Instead, a 1:250,000 scale map must be used for low altitude to easily recognize the detailed elements on the chart, for pilotage and dead reckoning.

After departing from RPUI, the SP was initially monitored by the FI through the school base radio and by Flight Radar 24 after the aircraft was out of the radio frequency range. Review of the school training manual reveals that there is no established procedure for the school to know in-case of any diversion or emergency that a SP might encounter during his solo cross-country flight.

The flight going to RPUI was uneventful following the plotted check points in the navigation log until the SP initially reported to the San Fernando duty controller that RP-C8230 was orbiting over Aringay, La Union 10 NM from RPUS. However, another flight training aircraft who also reported over Aringay, on his way for landing at RPUS, saw RP-C8230 orbiting over Barangay Caba, Bauang, La Union, 5NM away from RPUS (figure 7). The two aircrafts being in close proximity pass by each other, going north is the traffic on the right (land side) and the accident aircraft on the left (shoreline).

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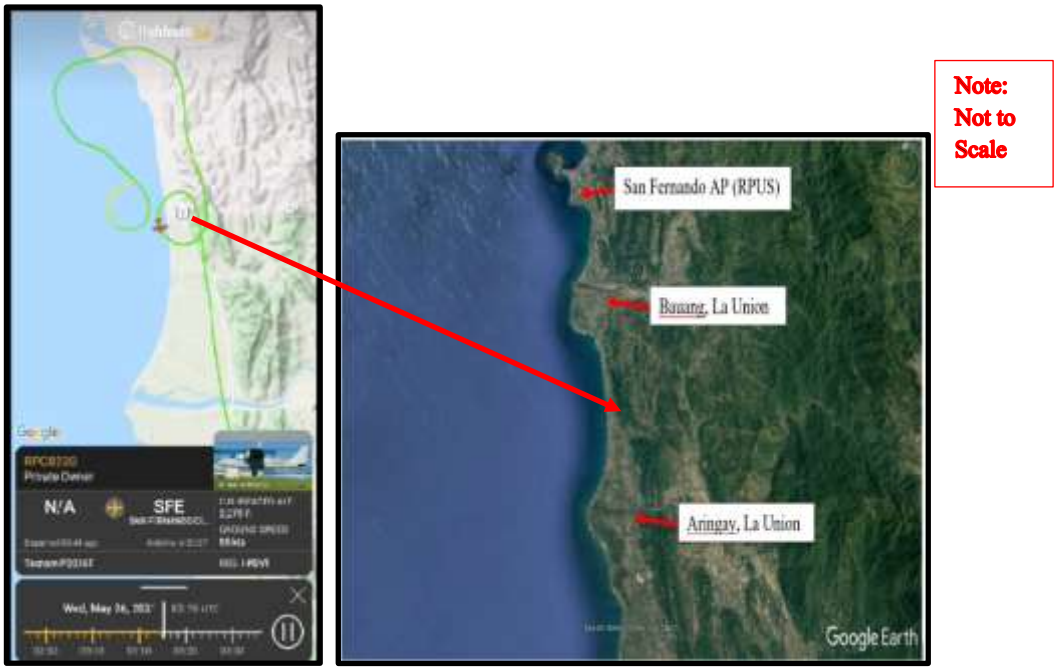

Figure 7: The aircraft reporting point enroute to RPUS.

The duty controller stated that he communicated with RP-C8230 to confirm his position and the SP then corrected and confirmed his location. Information gathered from the duty controller suggest that the SP has an incorrect position report. Moreover, the SP missed visible landmarks and confirming it with the navigational chart to determine his location. The duty controller also stated that RPUS has the capability of a flight advisory service station facility wherein a pilot may obtain weather information, runway conditions and traffic information. Moreover, he said that RPUS has slot time for aircraft departing and arriving in their station to prevent traffic congestion. Since RPUS was encountering a high volume of traffic flow during the initial report of RP-C8230, the duty controller advised RP-C8230 to proceed to his next destination after the SP confirmed his exact position.

2.5 Angle of Attack

Based on the data from Flight Radar 24, it appears that the aircraft was turning to the right and subsequently entered into an unusual attitude. This aerodynamic condition is considered a skid-stall. Skid-stall accidents do not happen during an intentional stall, they usually happen unintentionally.

Skid by definition is an aerodynamic condition, during a turn, where the tail of an aircraft moves away from the center of the turn or tends to follow a path which is outside that followed by the nose. Too much rudder input will result in the tail of the aircraft being forced outside of the arc followed by the nose. During a skid, the aircraft is turning too fast for the bank angle, and yaws into the turn it is the inside wing drops first in a skidding turn (Figure 8). It is most likely, that the SP is applying too much rudder and causing the skid.

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This causes the outside wing to move faster, increasing its lift, and the aircraft rolled further to the right.

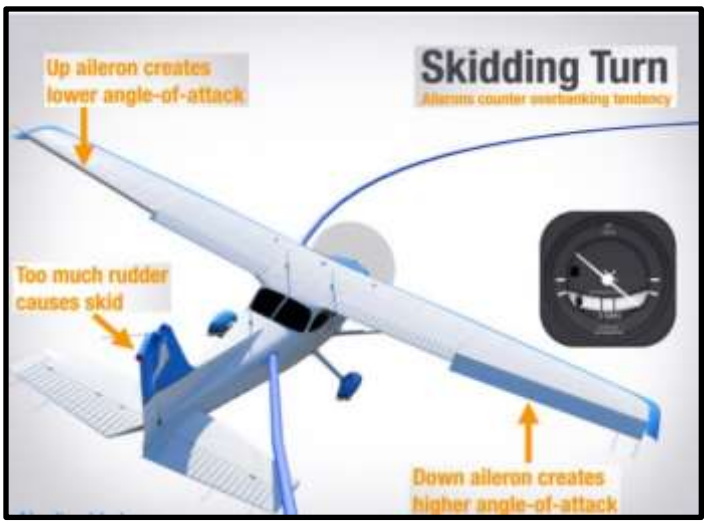

Figure 8: The Skidding Turn.

To compensate the skid the SP must apply opposite aileron increasing the angle of attack on the inside low wing. The angle-of-attack (AOA) is the angle at which the chord of the wing meets the relative wind. As the inside wing exceeds the critical angle of attack, it stalls and drops. The downward deflected aileron on the low wing generated drag, which pulls the aircraft's nose further into the turn. As the aircraft was yawing into the turn from the rudder it accelerates the roll. The result was a quick roll into the turn and lead to loss of control when the AOA is not reduced.

2.6 Aircraft Speed limitation

The aircraft has a speed operating limitation (figure 9). During aircraft turn ground speed reached 121 knots (kts) as per Flight Radar 24 which is higher that the design maneuvering speed (figure 10). As the aircraft was reaching about 180 degrees of its turn, it suddenly speeds up to 135 kts which is the maximum cruising speed (figure 11). Flight RADAR 24 does not display an exact air speed indication rather it is considered an estimated value from satellite triangulation; the actual air speed of the object being tracked is much faster than what is displayed in the application.

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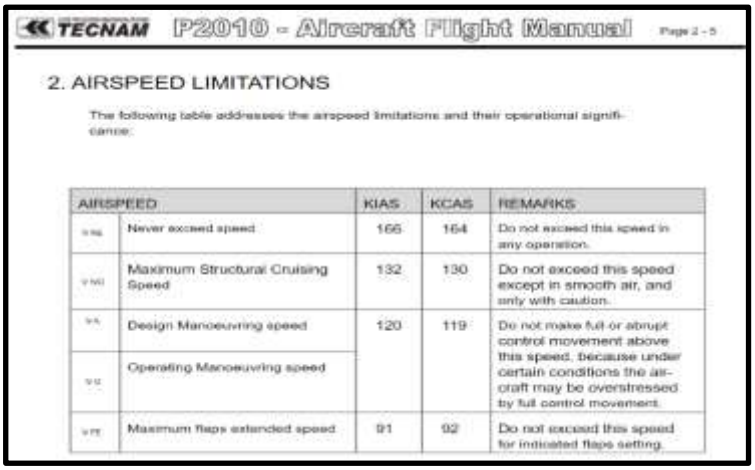

TECNAM P2010 – Aircraft Flight Manual

2. AIRSPEED LIMITATIONS

The following table addresses the airspeed limitations and their operational significance:

AIRSPEED		KIAS	KCAS	REMARKS
V_{NE}	Never exceed speed	166	164	Do not exceed this speed in any operation.
V_{NO}	Maximum Structural Cruising Speed	132	130	Do not exceed this speed except in smooth air, and only with caution.
V_A	Design Manoeuvring speed	120	119	Do not make full or abrupt control movement above this speed, because under certain conditions the aircraft may be overstressed by full control movement.
V_O	Operating Manoeuvring speed			
V_{FE}	Maximum flaps extended speed	91	92	Do not exceed this speed for indicated flaps setting.

Figure 9. The aircrafts airspeed limitations as per AFM.

Note:
Not to Scale

Figure 10: The aircrafts at 2,575ft @ 121kts.

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Note: Not to Scale

Figure 11: The aircrafts at 2,225ft @ 135kts.

2.7 Flight Simulation Depiction

On June 7, 2021, a flight simulator depicting the same type of aircraft was used to simulate the accident flight based from the data gathered from the Flight Radar 24 application and the data gathered during the course of the investigation. It was conducted by FAA personnel and witnessed by CAAP-AAIIB investigators. The possible scenario represented the last few minutes before the accident happened. The aircraft relative air speed, turn, altitude and the bank angle were considered in the simulation.

The following scenario was used to simulate in the fixed based Flight Simulation Training Device (FSTD) (Figure 12). The SP on his way to the next reporting point was possibly trying to determine his location using the navigation map and outside visual marker references. He banked the aircraft to the right to get near the shoreline and have a better identification of landmarks in the area. While banking during the turn, possibly the bank was exceeded by adding more right rudder input and the aircraft started to descend. Having this scenario, to maintain ample altitude, the SP probably applied back pressure on the elevator. As back pressure was applied, the wings was starting to approach the critical Angle-of-Attack (AOA) and entered in a stall. The SP then tried to recover from the stall by applying more back pressure. He should just apply left rudder input and aileron to the left which then changes the AOA of each wing then adjust power setting as necessary to

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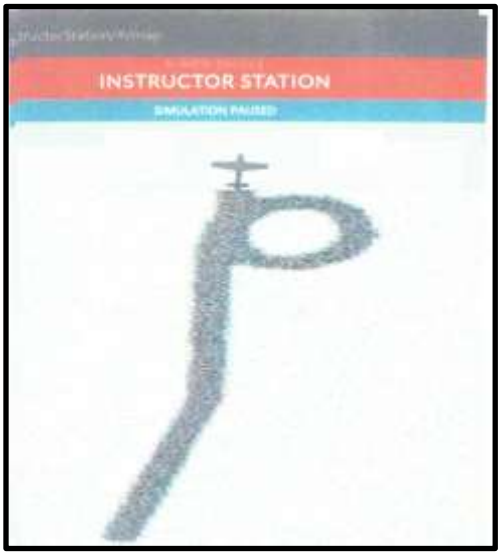
maintain safe attitude and avoid a stall. Moreover, a stall is the result of exceeding the critical AOA on the wing not of insufficient airspeed. It is possible to stall the wing at any airspeed, at any flight attitude, and at any power setting. The SP must understand the underlying factors that affect the flight characteristics in order to maintain aircraft control in all circumstances.

Figure 12: The flight simulation depicting the stall in-flight.

To maintain aircraft control when faced with these factors, the SP must be aware of situations where a loss of control in-flight (LOC-I) can occur. The simulation illustrated the steep right turn of the aircraft leading loss of control in-flight. The SP was not able to recognize when an aircraft is approaching a stall, or has stalled, or is in an upset condition, and to understand and execute the correct procedures to recover the aircraft. A simulation track print out was created after performing the turn and utilizing the condition in which it was proved to be catastrophic (figure 13).



Note:
Not to Scale

Figure 13: The output track of the flight simulation.

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2.8 Additional Information

When the aircraft has its routine inspection at Iba airport on the first flight of the day, As per FI, the SP also did the routine 360 inspection as well. On May 28-29, 2021, an engine teardown and assessment on RP-C8320 was conducted, it was performed by the Operator's AMO and witnessed by AAIIB investigators. FAA AMO mechanics found no evidence of pre-impact mechanical malfunctions or anomalies that would have hindered the engine's normal operation. The engine was delivering power to the propeller until upon contact with water (figure 14).

Figure 14: Propeller impact damage upon contact with water.

In this case, based on the possible scenario portrayed from the flight simulator suggest that the SP was distracted while determining his reference location during the flight. The SP did not declare either an emergency or priority to the ATC as he proceeded to his next station. The SP turned the aircraft to the right about 0320UTC and possibly exceeded the permitted bank angle and entered into an upset condition. The SP was not able to recover from the upset condition and made contact with water at about 0321UTC. A simulated skid-stall is by no means an easy exercise on a simulator. Enough time should be devoted to perform all actions correctly focusing on the aircrafts attitude recovery. This also include consulting the official checklist after gaining full control of the aircraft and when time permits. These controls may be subject to interference. Hazardous attitudes contribute to poor pilot judgment but can be effectively counteracted by redirecting the hazards. Recognition of hazardous thoughts is the first step toward neutralizing them.

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3.0 CONCLUSIONS

3.1 Findings

a. The aircraft has valid Certificates of Airworthiness and Registration.

b. The aircraft was properly released for flight without any discrepancies noted on its logbook.

c. The student pilot was qualified to operate the Tecnam 2010 type of aircraft.

d. The student pilot has a valid permit and medical certificate issued by the CAAP.

e. The SP was fatally injured.

f. Examination of the engine did not reveal any mechanical problems.

g. The navigation chart being used during the flight for navigation was 1:1,000,000 scale.

h. The SP was not on the initial reporting point prior to landing sequence.

3.2 Probable Cause

3.2.1 Primary Cause Factor

a. Pilot's failure to recognize the aircraft bank limitation while turning to the right.

3.2.2 Contributory Cause Factor

a. Inappropriate navigation chart being used for navigation training flight.

4.0 SAFETY RECOMMENDATIONS

4.1 For **CAAP-FSIS** to ensure that the operator utilizes appropriate navigation chart for navigation training flight for proper identification of visual marker and determining the position.

5.0 SAFETY ACTIONS

5.1 Following the occurrence, First Aviation Academy, Inc. initiated the following safety corrective actions (Appendix A):

a. Implemented measures and amended FAAI Training, Procedures, Quality and Safety Manual (TPQSM) to include the following procedures:

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b. Supervision of solo flights through constant monitoring and radio communication while on flight to ensure that the flight is in accordance with the plan and any changes and/or deviation shall be in consultation with the supervising instructor.

c. Detailed procedures in assessing and releasing students for solo flight.

d. Training bulletin regarding relay aircraft that is scheduled for cross-country flight whether dual, solo or utility.

e. Training bulletin regarding policy on aircraft non-exposure in assessing pilot trainees or instructors which did not fly for about ten days.

f. Training bulletin regarding additional safety measures on conducting solo flight.

-End-

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