



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-C3515**  
**CESSNA C172S**

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***OWNER: AAG INTERNATIONAL CENTER FOR AVIATION TRAINING***

***TYPE OF OPERATION: FLIGHT TRAINING***

***DATE OF OCCURRENCE: MARCH 6, 2020***

***PLACE OF OCCURRENCE: IBA COMMUNITY AIRPORT, IBA,  
ZAMBALES, PHILIPPINES***

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(RP-C3515, Cessna 172S Final Report)

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## 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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[www.caap.gov.ph](http://www.caap.gov.ph)

## **FINAL REPORT**

**TITLE:** Incident involving a Cessna 172S type of aircraft with Registry Number RP-C3515 operated by AAGICAT that had a runway excursion incident at Iba Community Airport, Iba, Zambales, Philippines, on March 6, 2020/1500H.

### **Notification of Occurrence to National Authority**

The Notification of incident to AAIIB CAAP was relayed by the Operator of the aircraft at 1630H (LOCAL) on March 6, 2020.

### **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 was appointed.

### **Authority Releasing the Report**

The Final investigation report was released by Aircraft Accident Investigation and Inquiry Board (AAIIB) and published at the CAAP website on **13 June 2022.**

### **Synopsis:**

On March 6, 2020 at about 1155H a Cessna 172 type of aircraft with registry number RP-C3515 veered off the side of the runway while initiating 180 degrees turn for take-off at runway 32 Iba Airport, Zambales. The Flight Instructor and the Student Pilot did not sustain any injuries. The aircraft is being operated by AAG International Center for Aviation Training. Both occupants egress safely after performing engine shutdown procedure. Visual Meteorological Condition (VMC) prevailed at the time of the event. Wind was reported to be at 290 degrees at 6 knots. The probable cause of this occurrence was attributed to the failure of the student pilot to maintain directional control of the aircraft while initiating a 180 degrees right turn resulting in runway excursion.

## **LIST OF ACRONYMS AND ABBREVIATIONS**

AAIIB	:	Aircraft Accident Investigation and Inquiry Board
AANSOO	:	Aerodrome and Air Navigation Services Oversight Office
AIP	:	Airmen Information Publication
ATOC	:	Air Training Organization Certificate
CAAP	:	Civil Aviation Authority of the Philippines
FI	:	Flight Instructor
FSIS	:	Flight Safety Inspectorate Service
OFSAM	:	Office of the Flight Surgeon and Aviation Medicine
RWY	:	Runway
RPUI	:	Iba Community Airport
SP	:	Student Pilot
TGL	:	Touch and Go Landing
VFR	:	Visual Flight Rules
VMC	:	Visual Meteorological Conditions



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## 1.0 FACTUAL INFORMATION

Aircraft Registration No.	:	RP-C3515
Aircraft Type/Model	:	Textron Aviation Inc. / Cessna C172S
Operator	:	AAG International Center for Aviation Training
Address of Operator	:	1092 Jose Abad Santos Ave., Clark Freeport Zone, Pampanga 2023, Philippines
Place of Occurrence	:	Iba Community Airport, Iba, Zambales, Philippines
Date/Time of Occurrence	:	March 6, 2020 at about 1500H/0700UTC
Type of Operation	:	Flight Training
Phase of Flight	:	Taxiing
Type of Occurrence	:	Runway side excursion

### 1.1 History of Flight

On March 6, 2020 at about 1155H a Cessna 172 type of aircraft with registry number RP-C3515 veered off the side of the runway while initiating 180 degrees turn for take-off at runway 32 Iba Airport, Zambales. The Flight Instructor and the Student Pilot did not sustain any injuries. The aircraft is being operated by AAG International Center for Aviation Training.

After performing three (3) touch and go landing (TGL) maneuvers the FI and SP made a full stop at Iba Airport Ramp. They again taxi out for runway 32 departure to perform another TGL maneuver. while turning to the left prior to executing a 180 degree turn for take-off on RWY 32, the aircraft continued to roll towards the left side of the runway. The wheels departed the pavement and came to complete stop in a soft ground about 4 meters from the runway edge (main wheels) with last heading of 39 degrees. Both occupants egress safely after performing engine shutdown procedure. Visual Meteorological Condition (VMC) prevailed at the time of the event. Wind was reported to be at 290 degrees at 6 knots.



Figure 1. Approximate aircraft track

## 1.2 Injuries to Persons

<b>Injuries</b>	<b>Crew</b>	<b>Passengers</b>	<b>Others</b>	<b>TOTAL</b>
Fatal	0	0	0	<b>0</b>
Serious	0	0	0	<b>0</b>
Minor	0	0	0	<b>0</b>
None	2	0	0	<b>2</b>

## 1.3 Damage to Aircraft

The aircraft did not sustained any damage.

## 1.4 Other Damages

There were no reported other damages.

## 1.5 Personnel Information

### 1.5.1 Flight Instructor (FI)

Gender	: Male
Date of Birth	: April 12, 1994
Nationality	: Filipino
License	: 011658-FI
Valid up to	: September 30, 2021
Type rating	: Single Engine, Land C172,
Medical Certificate Valid up to	: June 29, 2020
Time on Aircraft	: 307+48 Hours as per Pilot logbook
Grand Total time	: 237+48 Hours as per Pilot logbook

### 1.5.2 Student Pilot (SP)

Gender	: Male
Date of Birth	: October 29, 1998
Nationality	: Filipino
License	: 147774-SPL
Valid up to	: June 11, 2021
Type rating	: Single Engine Land-172
Medical Certificate Valid up to	: June 11, 2021
Time on Aircraft	: 19+00 Hours as per Pilot logbook
Grand Total time	: 19+00 Hours as per Pilot logbook

## 1.6 Aircraft Information

### 1.6.1 Aircraft Data

Registration Mark	: RP-C3515
Manufacturer	: Textron Aviation Inc. Cessna
Country of Manufacturer	: USA
Type/Model	: Cessna C172S
Operator	: AAG International Center for Aviation Training
Serial No.	: 172S9378
Date of Manufacture	: 2002
Certificate of Airworthiness valid up to	: May 22, 2020
Certificate of Registration valid up to	: May 9, 2020
Category	: Utility
Number of Aircrew	: 4
Total Time	: 11,2440+40 Hours



### 1.6.2 Engine Data

Manufacturer	:	Lycoming
Type	:	Piston
Type/Model	:	IO-360-L2A
Engine SN#	:	RL-24298-51E
Time Since Overhaul	:	129+05 Hours

### 1.6.3 Propeller Data

Manufacturer	:	McCauley
Type	:	Fixed Pitch
Type/Model	:	1A17DE/JHA7660
Propeller SN#	:	ANA23045
Time Since Overhaul	:	596+03 Hours

## 1.7 Meteorological Information

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

## 1.8 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.

## 1.9 Communication

The aircraft is equipped with a radio transceiver tuned at 122.90 Mhz. Communications were carried out between the pilot and other aircraft within the area.

## 1.10 Aerodrome Information

Iba Community Airport is listed as a Community Aerodrome in the Airmen Information Publication (AIP) and is under the Civil Aviation Authority of the Philippines - Aerodrome and Air Navigation Services Oversight Office (CAAP-AANSOO) approved aerodrome facility data.

### 1.10.1 General Information

Aerodrome Name	: Iba Community Airport (RPUI)
Coordinates	: N15°19'53.8213" E119°58'05.1856"
Aerodrome Operator	: Civil Aviation Authority of the Philippines Iba Airport, Iba Zambales 2201
Runway Direction	: 14 /32 (140° MAG)/(320° MAG)
Runway Length	: 900M
Runway Width	: 30M
Surface	: Concrete/Asphalt
Types of traffic permitted	: VFR
AD Operator	: Airport Operations: 2300 - 0800
Security	: 2200 - 1000
Restaurants	: At the airport and at the town proper
Transportation	: Vehicle for hire.
Medical facilities	: Within the town proper
AD category for fire fighting	: CAT III.
Rescue equipment	: Wheel Type Fire Extinguisher. SIDES DODGE VIRM 13.
Capability for removal of disabled aircraft	: Nil.
TORA 14/32	: 900M
TODA 14/32	: 980M
ASDA 14/32	: 980M
LDA 14/32	: 900M

### 1.11 Flight Recorders

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

### 1.12 Wreckage and Impact Information

The aircraft did not sustain any damage as a result of the incident

### 1.13 Medical and Pathological Information

Both FI and SP had undergone the medical and drug test after the occurrence and was found with no significant medical findings. They also had undergone the post flight accident medical examination conducted by the Office of the Flight Surgeon and Aviation Medicine (OFSAM). There was no medical impediment on both pilots that could have had a bearing on this incident.

### **1.14 Fire**

No evidence of post impact fire was noted during on-site investigation.

### **1.15 Search and Survival Aspects**

Both pilots egress safely on their own after performing engine shutdown.

### **1.16 Test and Research**

Inspection on the RH wheel brake system did not indicate any leaks that may cause the brake to fail. Additionally, brake pedal pressure test conducted disclosed normal and even brake pressure on both RH and LH pedals. Brake bleeding was also performed on RH hydraulic brake system to determine the presence of any air bubbles that may cause momentary loss of braking capability, however, it yielded negative result.



Figure 2: RH brake hydraulic bleeding

## 1.17 Organization and Management Information

AAG International Center for Aviation Training has an Air Training Organization Certificate (ATOC) with Certificate # 2006-11. It is authorized to perform flight training for private pilot, commercial pilot, flight instructor, multi-engine pilot and instrument rating. There are 14 units of Cessna C172, type of aircraft listed on the company's current operation specifications. The base operation is located at Omni Airfield, Clark International Airport, Clark field, Pampanga Philippines. The aircraft RP-C3515, is listed on the company's ATOC Operations specification.

## 2.0 ANALYSIS

On March 6, 2020, about 1155H local time, a Cessna, C-172S type of aircraft with Registry Number RP-3515, was taxiing for another departure after a stop and go landing at Iba Community Airport, Iba Zambales on board was a Flight Instructor (FI) and Student Pilot (SP). With the SP in the controls, while turning to the left prior to executing a 180 degree turn for take-off on RWY 32, the aircraft continued to roll towards the left side of the runway. The SP applied the brakes to stop the aircraft but it continued to move towards the left side of the runway. The FI took over the controls however the aircraft continued to roll towards the left side of the runway. The wheels departed the pavement and came to complete stop in a soft ground about 4 meters from the runway edge (main wheels) with last heading of 39 degrees (Figure 2).



Figure 3: Aircraft's final resting position

Inspection on the RH wheel brake system did not indicate any leaks that may cause the brake to fail. Additionally, brake pedal pressure test conducted disclosed normal and even brake pressure on both RH and LH pedals. Brake bleeding was also performed on RH hydraulic brake system to determine the presence of any air bubbles that may cause momentary loss of braking capability, however, it yielded negative result.

According to the witnesses, they observe that the aircraft was on high-speed taxi when it entered the active runway and continue until it started to perform 180 degrees turn. The FI and SP also confirmed that they were fast or above the usual taxi speed at that time. Tire marks from RH and LH main wheels were also observed from the runway just before it departed the pavement. It Appears that the SP applied brakes however, the aircraft continue to roll towards the soft ground. It also indicates that the brakes were functioning at the time of the occurrence (Figure 3).



Figure 4. RH & LH Main wheels tire marks

Review of AICAT's Training Manual dated March 2019 Chapter 8 "Flight maneuvers" Section 6.1.12 Taxi Procedure revealed that there are no specific procedures to carry out the 180 degrees turn including control of taxi speed. Although poor control of taxi speed is mentioned in the common errors, the mitigating action is not specified in the instructor's note. AICAT should Establish appropriate SOP and operational guidelines to manage and execute appropriate aircraft speed while taxiing. Further, review of safety protocols on aircraft ground operation and Crew Resource Management reminder is necessary during every safety meeting.

FIs are the aviation safety frontliners. Safety, one of the most fundamental considerations in aviation training, is paramount. Comprehensive regulations promote safety by eliminating or mitigating conditions that can cause death, injury, or damage, but even the strictest compliance with regulations may not guarantee safety. Rules and regulations are designed to address known or suspected conditions detrimental to safety, but there is always a chance that some new combination of circumstances not contemplated by the regulations will arise. It is important for



FI's to be proactive to ensure the safety of flight training activities. In this case, the FI lost situational awareness and failed to caution the SP to slow down while on high-speed taxi before initiating the 180 degrees turn. Both the FI and SP should maintain situational awareness by assessing the aircraft's energy state and anticipated the flight path while taxiing.

### **3.0 CONCLUSION**

#### **3.1 Findings**

- a. The aircraft has current Certificate of Registration valid until May 9, 2020.
- b. The aircraft has current Certificate of Airworthiness valid until May 22, 2020.
- c. Both the FI and SO possess valid and current Licenses and Medical Certificates.
- d. The aircraft technical logbook recorded no significant discrepancy.
- e. The aircraft has accumulated a total of time 11,245 hours.
- f. The engine time since new (TSO) is 130 hours.
- g. The propeller time since overhaul (TSO) 597 hours.
- h. The aircraft has just completed its phase 3 inspection and released back to service on March 4, 2020.

#### **3.2 Probable Cause**

##### **3.2.1 Primary Cause**

Failure of the Student Pilot to maintain directional control of the aircraft while initiating a 180 degrees right turn resulting in runway excursion.

##### **3.2.2 Contributory Cause**

- a. Failure of the FI to caution the SP to slow down the aircraft while on high-speed taxi before initiating the turn.
- b. Lack of situation awareness on the part of the FI and SP.

### **4.0 SAFETY RECOMMENDATIONS**

As a result of the safety investigation conducted by the Aircraft Accident Investigation and Inquiry Board, the following safety recommendations are being proposed:

#### **4.1 CAAP- FSIS to ensure that the Operator**

- a. Establish appropriate operational guidelines on taxiing and runway 180-degree turn maneuver.
- b. Establish procedure to maintain/enhance situational awareness when conducting taxi operations.
- c. Conduct standardization and evaluation check to both FI and SP.

## 5.0 SAFETY ACTIONS

Following the occurrence, AICAT initiated the following safety corrective actions:

- a. Issued an operational guideline on taxiing and runway 180-degree turn through Flight Crew Notice FCN 2020-02 dated March 30, 2020.
- b. Issued an operational guideline to maintain/enhance situational awareness when conducting taxi operations through Flight Crew Notice FCN 2020-01 dated March 30, 2020.
- c. Conducted standardization and evaluation check to both FI and SP on June 24, 2020.

**The safety deficiencies presented in this report have been fully addressed and no further safety actions are recommended.**

-END-