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-C3521
CESSNA 172S

OWNER: AAG INTERNATIONAL CENTER FOR AVIATION TRAINING

TYPE OF OPERATION: FLIGHT TRAINING

DATE OF OCCURRENCE: AUGUST 14, 2020

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

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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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FINAL REPORT

TITLE: Incident involving a Textron Aviation Inc., Cessna, C-172S type of aircraft with Registry Number RP-C3521 owned and operated by AAG International Center for Aviation Training, that veered off the side of the runway at Iba Community Airport, Iba, Zambales, Philippines, on August 14, 2020/1500H.

Notification of Occurrence to National Authority

The notification of incident to AAIIB CAAP was relayed by the Operator of the aircraft at 1600H (LOCAL) on August 14, 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 **4 October 2021.**

Synopsis:

On August 14, 2020, at about 1500H local time, a Textron Aviation Inc., Cessna, C-172S type of aircraft with Registry Number RP-C3521 operated by AAG International Center for Aviation Training that veered off the side of the runway at Iba Community Airport, Iba, Zambales, Philippines Both Flight Instructor (FI) and Student Pilot (SP) on board did not sustain any injury. The aircraft did not also sustain any damage as a result of the incident. The cause of the occurrence was attributed to the failure of the student pilot to control the aircraft while initiating a 180 degrees right turn resulting to taxi 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
AMO	:	Approved Maintenance Organization
ATOC	:	Air Training Organization Certificate
CAAP	:	Civil Aviation Authority of the Philippines
FI	:	Flight Instructor
MLG	:	Main Landing Gear
OFSAM	:	Office of the Flight Surgeon and Aviation Medicine
RWY	:	Runway
SP	:	Student Pilot
VMC	:	Visual Meteorological Conditions

1.0 FACTUAL INFORMATION

1.1 Basic Information

Aircraft Registration No.	:	RP- C3521
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	:	August 14, 2020 at about 1500H/0700UTC
Type of Operation	:	Flight Training
Phase of Flight	:	Taxiing
Type of Occurrence	:	Runway side excursion

1.2 History of Flight

On August 14, 2020, about 1500H local time, a Textron Aviation Inc., Cessna, C-172S type of aircraft with Registry Number RP-C3521 veered off the side of the runway while initiating 180 degrees turn for take-off at runway 32 at Iba Community Airport, Iba, Zambales, Philippines. It was being operated by AAG International Center for Aviation Training under PCAR Part 3. Both Flight Instructor (FI) and Student Pilot (SP) on board did not sustain any injury. The aircraft did not sustain any damage as a result of the incident. Visual meteorological conditions (VMC) prevailed on the time of occurrence, and a local flight plan had been filed.

The aircraft while turning to the left prior executing a 180 degree turn for take-off on RWY 32, continued to roll towards the left side of the runway. The wheels departed the pavement and continued to roll for another 36 meters before it came to a full stop in a soft ground about 10 meters from the runway edge (main wheels) with last heading of 040 degrees and coordinates of 15 32.14 N, 119 97.11E. Review of the documents shows that the aircraft and pilot's documentation are in proper order. There were no significant remarks listed on the aircraft logbook before the incident.

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Figure 1. Aircraft's final resting point

1.3 Injuries to Persons

Injuries	Crew	Passengers	Others
Fatal	0	0	0
Serious	0	0	0
Minor	0	0	0
TOTAL	**0**	**0**	**0**

1.4 Damage to Aircraft

The aircraft did not sustained any damage.

1.5 Other Damages

There were no reported damages.

1.6 Personnel Information

1.6.1 Flight Instructor (FI)

Gender : Male
Date of Birth : December 22, 1994

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Nationality	:	Filipino
License	:	130977 CPL
Valid up to	:	September 30, 2021
Type rating	:	Single and Multi-Engine, Land-Instrument C172, SIC-A320
Medical Certificate Valid up to	:	September 30, 2021
Time on Aircraft	:	1,041+00 Hours as per Pilot logbook
Grand Total time	:	1,295+00 Hours as per Pilot logbook

1.6.2 Student Pilot (SP)

Gender	:	Male
Date of Birth	:	June 13, 1993
Nationality	:	Filipino
License	:	132052 SPL
Valid up to	:	November 17, 2021
Type rating	:	Single Engine Land-172
Medical Certificate Valid up to	:	November 17, 2021
Time on Aircraft	:	11+00 Hours as per Pilot logbook
Grand Total time	:	11+00 Hours as per Pilot logbook

1.7 Aircraft Information

1.7.1 Aircraft Data

Registration Mark	:	RP-C3521
Manufacturer	:	Textron Aviation Inc. Cessna
Country of Manufacturer	:	USA
Type/Model	:	Cessna C172S
Operator	:	AAG International Center for Aviation Training
Serial No.	:	172S9293
Date of Manufacture	:	2002
Certificate of Airworthiness valid up to	:	November 28, 2020
Certificate of Registration valid up to	:	August 06, 2023
Category	:	Utility
Number of Aircrew	:	4

1.7.2 Engine Data

Manufacturer	:	Lycoming
Type	:	Piston
Type/Model	:	IO-360-L2A
Engine SN#	:	L31949-51A

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Engine total time	:	6,135.3+06 Hours as of last C of A

1.7.3 Propeller Data

Manufacturer	:	McCauley
Type	:	Fixed Pitch
Type/Model	:	1A17DE/JHA7660
Propeller SN#	:	WF23019
Date last Installed	:	May 17, 2019
Propeller total time	:	10282.4+08 Hours as of last September 2019

1.8 Meteorological Information

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

1.9 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.

1.10 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.

1.11 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.

1.11.1 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 (140º MAG)/(320º MAG)
Runway Length	:	900M
Runway Width	:	30M
Surface	:	Concrete/Asphalt

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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

1.12 Flight Recorders

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

1.13 Wreckage and Impact Information

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

1.14 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.

1.15 Fire

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

1.16 Search and Survival Aspects

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

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1.17 Test and Research

On August 15, 2020, Main Landing Gear teardown and assessment were conducted on RP-C3521, it was performed by the Operator's AMO and witnessed by AAIIB investigator. The MLG inspection was conducted to determine any MLG malfunction or failure that might cause the incident.

1.18 Organization and Management Information

1.18.1 Operator

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-C3521, is listed on the company's ATOC Operations specification.

1.18.2 Maintenance

The maintenance function of RP-C3521 is being undertaken by Aviation Hub Asia, with an Approved Maintenance Organization (AMO) Certificate #151-16 and facility located at Omni Aviation Complex, M.A. Roxas Hi-way, CFZ, Clark field, Pampanga, Philippines.

2.0 ANALYSIS

2.1 Operations

On August 14, 2020, about 1500H local time, a Cessna, C-172S type of aircraft with Registry Number RP-3521, was taxiing towards the active runway 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 executing a 180 degree turn for take-off on RWY 32, the aircraft continued to roll towards the left side of the runway. The investigation revealed that the SP applied brakes to stop the aircraft but it continues to moved and departed the pavement of the runway. The FI also alleged that sensing there was a brake malfunction, immediately cut-of the fuel mixture while the SP was activating the hand brake. The aircraft however continued to roll for another 36 meters before it came to a full stop in a soft ground about 10 meters from the runway edge (main wheels) with last heading of 040 degrees and coordinates of 15 32.14 N, 119 97.11E.

A Main Landing Gear (MLG) teardown and assessment were conducted on RP-C3521, it was performed by the Operator's AMO and witnessed by AAIIB investigator. The MLG inspection conducted also revealed that there was no MLG malfunction or failure that caused the incident.

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Witnesses after interview stated that the aircraft was on a high-speed taxi while entering the active runway from the taxiway.

Taxiing is the controlled movement of the aircraft under its own power while on the ground. Since an aircraft is moved under its own power, pilots must thoroughly understand and be proficient in taxi procedures. It is difficult to set any rule for a single, safe taxiing speed. What is reasonable and prudent under some conditions may be imprudent or hazardous under others. The primary requirements for safe taxiing are positive control, the ability to recognize potential hazards in time to avoid them, and the ability to stop or turn where and when desired, without undue reliance on the brakes. Normally, the speed should be at the rate where movement of the aircraft is dependent on the throttle. That is, slow enough so when the throttle is closed, the airplane can be stopped promptly. When taxiing, it is best to slow down before attempting a turn. Sharp, high-speed turns place undesirable side loads on the landing gear and may result in an uncontrollable swerve. More engine power may be required to start the airplane moving forward, or to start a turn, than is required to keep it moving in any given direction. When using additional power, the throttle should immediately be retarded once the aircraft begins moving, to prevent excessive acceleration.

FI's on the other hand 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.

3.0 CONCLUSION

3.1 Findings

a. Both pilots have valid licenses and medical certificates issued by the CAAP.
b. Both pilots safely evacuated the aircraft.
c. Visual meteorological condition prevailed at the time of the incident.
d. The aircraft was properly released for flight without any discrepancies noted on its logbook.
e. The aircraft has current Certificates of Airworthiness and Registration.
f. There was no MLG malfunction or failure that caused the incident

3.2 Probable Cause

3.2.1 Primary Cause Factor

Failure of the SP to control the aircraft while initiating a 180 degrees right turn resulting to taxi excursion. (Human Factor)

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3.2.2 Contributory Cause Factor.

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

4.0 SAFETY RECOMMENDATIONS

4.1 CAAP- FSIS to ensure that the Operator

a. Establish appropriate SOP and operational guidelines to manage and execute appropriate aircraft speed while taxiing.

b. Conducts safety meeting which covers the following:

1. Review of safety protocols on aircraft ground operation.
2. Review of Crew Resource Management.
3. Safety briefing reminder.

-END-

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