

AIRCRAFT ACCIDENT INVESTIGATION AND INQUIRY BOARD

FINAL REPORT

RP-C8595 TEXTRON AVIATION INC./C152

OPERATOR: PILIPINAS SPACE AND AVIATION ACADEMY INC.

TYPE OF OPERATION: FLIGHT TRAINING

DATE OF OCCURRENCE: MARCH 30, 2025

PLACE OF OCCURRENCE: BARANGAY LIBSONG EAST, LINGAYEN, PANGASINAN, PHILIPPINES

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(Textron Aviation Inc./C152, RP-C8595 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 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.



FINAL REPORT

TITLE: An accident involving a C152 type of aircraft with Registry Number RP-C8595, operated by Pilipinas Space and Aviation Academy Inc that had a deviation from intended pitch attitude event at Brgy. Libsong East, Lingayen, Pangasinan, Philippines, on March 30, 2025, at around 0801H.

Notification of Occurrence to National Authority

The accident was reported to the CAAP Operations Center, which relayed the information to the CAAP AAIIB on March 30, 2025.

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 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 (AAIIB) and published on the CAAP website on <u>4 June 2025.</u>

Synopsis:

On or about 0801H of March 30, 2025, a C152 type of aircraft with registry number RP-C8595 was involved in a fatal accident at Brgy. Libsong East, Lingayen, Pangasinan. The aircraft was operated by Pilipinas Space and Aviation Academy Inc. The flight instructor (FI) and student pilot (SP) were fatally injured and the aircraft sustained substantial damage. The SP was on pre-solo, performing series of touch and go within the traffic pattern at Lingayen Airport when the accident happened. The investigation determined that the probable cause of the accident was: the Flight Instructor's delayed intervention on the unusual attitude of the aircraft during liftoff resulting to elevator stall.

LIST OF ACRONYMS AND ABBREVIATIONS

AAIIB	:	Aircraft Accident Investigation and Inquiry Board
AMO	:	Approved Maintenance Organization
AMT	:	Aircraft Maintenance Technician
BRGY	:	Barangay
CAAP	:	Civil Aviation Authority of the Philippines
CCTV	:	Closed-Circuit Television
CoA	:	Certificate of Airworthiness
CoR	:	Certificate of Registration
CPL	:	Commercial Pilot License
ELT	:	Aircraft Maintenance Organization
FI	:	Flight Instructor
LCD	:	Licensing and Certification Department
PCAR	:	Philippine Civil Aviation Regulation
PIC	:	Pilot-In-Command
SP	:	Student Pilot
VFR	:	Visual Flight Rules



1. FACTUAL INFORMATION

Aircraft Registration No.	:	RP-C8595
Aircraft Manufacturer/Model	:	Textron Aviation/C152
Operator	:	Pilipinas Space and Aviation Academy Inc.
Address of Operator	:	Unit 1-A, ACM BLDG., No. 3 P. Mayuga St. Brgy. Tambo, Paranaque, MM
Place of Occurrence	:	Brgy. Libsong East, Lingayen, Pangasinan, Philippines
Date/Time of Occurrence	:	March 30, 2025, at about 0801H/0001 UTC
Type of Operation	:	Flight Training
Phase of Flight	:	Initial Climb
Type of Occurrence	:	Deviation from intended pitch attitude

1.1 History of the Flight

On or about 0801H of March 30, 2025, a C152 type of aircraft with registry number RP-C8595 sustained substantial damage in a fatal accident at Brgy. Libsong East, Lingayen, Pangasinan. The aircraft was operated by Pilipinas Space and Aviation Academy Inc. On board was a flight instructor (FI) and student pilot (SP). The SP was on pre-solo, performing a series of touch-and-goes within the traffic pattern at Lingayen Airport when the incident happened. Based on witness accounts and video footage of closed-circuit television (CCTV) security cameras installed within the airport, while on upwind after liftoff, the aircraft was seen initially banking to the left and nosediving towards the surface (Figure 1). Alert rescue personnel from the airport and their company arrived at the scene shortly after the accident occurred. The responding police personnel secured the accident site. The responders found the flight crew unconscious, still restrained by the seat belt. The responders attempted to revive the pilots after being retrieved from the pilot seat. They were brought to the hospital for medical attention but were declared dead on arrival by the attending doctor. The aircraft's final heading was 244 degrees and AAIIB-2025-340 Final Report RP-C8595, C152

grid coordinates of 16.038843 N; 120.248833 E, 312 meters from the edge of RWY 08 of Lingayen Airport, Lingayen, Pangasinan.



Figure 1 - RP-C8595 before the impact.



Figure 2 - RP-C8595 Final position.



1.2 Injuries to Person (s)

1.2.1 The pilots on-board the aircraft were fatally injured.	
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Injuries	Crew	Passengers	Others
Fatal	2	0	0
Serious	0	0	0
Minor	0	0	0
Total	2	0	0

1.3 Damage to Aircraft

The aircraft sustained substantial damage.

1.4 Other Damages

The water was contaminated by oil and fuel that spilled out of the accident aircraft.

1.5 Personnel Information

1.5.1 Flight Instructor (FI)

Male
June 18, 1993
Filipino
153396 CPL/ Fl, valid until May 08, 2028
Airplane: Single/ Multi Engine Land, Instrument –
CI52/1/2, BE350.
Class 1, valid until April 12, 2026
March 26, 2025
348+30 Hours
241+55 Hours

1.5.2 Student Pilot (SP)

Gender	: Male
Date of Birth	: December 18, 1999
Nationality	: Filipino
License	: 161183 SPL
Type rating	: Airplane: Single Engine Land – C152
Medical Certificate	: Class 1, valid until December 19, 2027



Date of last medical	:	February 19, 2025
Total flying time	:	16+40 Hours
Total flying time on type	:	16+40 Hours

1.6 Aircraft Information

1.6.1 Aircraft Data

Registration Mark	:	RP-C8595
Manufacturer	:	Textron Aviation Inc.
Country of Manufacturer	:	USA
Type/Model	:	C152
Operator	:	Pilipinas Space and Aviation Academy Inc
Serial No.	:	15282776
Year of Manufacture	:	1977
Certificate of Airworthiness	:	Valid until November 27, 2025
Certificate of Registration	:	Valid until December 17, 2025
Category	:	Normal
Gross Weight	:	757.50 kgs.
Number of Flight Crew	:	1
Number of Passengers	:	1
Airframe total time	:	10,193+ 01Hours since new

1.6.2 Engine Data

Manufacturer	:	Lycoming
Туре	:	Reciprocating
Model	:	O-540-AE1A5
Engine Serial No.	:	L-17538-15
Engine TBO	:	2,200 Hours
Engine TSO	:	143 +39 Hours
Engine Total Time	:	6,984 +39 Hours

1.6.3 Propeller Data

Manufacturer	:	Mc Cauley
Model	:	1A103 ITCM 6958
Serial No.	:	LB034
Time Since New	:	5,879+37 Hours
Time Since Overhaul	:	1,366+39 Hours



1.7 Meteorological Information

Visual Meteorological Conditions (VMC) prevailed at the time of the accident. The weather conditions at the time of the accident did not indicate any significant weather conditions in the area that would have contributed to the accident.

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 Communications

The aircraft was equipped with a standard radio transceiver. Communications were carried out between the pilot and other aircrafts in the area. Report from a pilot also in the traffic pattern heard the FI transmitting mayday (3x) before the accident.

1.10 Aerodrome Information

1.10.1 General Information

Aerodrome Name	:	Lingayen Community Airport (RPUG)
	:	Civil Aviation Authority of the Philippines
Aerodrome Operator Address		Lingayen Airport, Lingayen
		2401 Pangasinan
		Phone: (075)542-8585
Coordinator	:	160204.3028 N
Coordinates		1201448.1698 E
Operating Frequency	:	121.9Mhz
Runway	:	08/26 800 x 30 PCN 10 F/B/Y/U ASPH
ARP Elevation	:	2M
Type of Operation	:	DAY Visual Meteorological Operation Only

1.11 Flight Recorders

The aircraft was not equipped with any flight recorders, and existing Philippine Civil Aviation Regulation (PCAR) does not require it to be installed for that type of aircraft.



1.12 Wreckage and Impact Information

The aircraft wreckage was found with a final heading of 244 degrees and grid coordinates 16.038843N; 120.248833E. It was located 312 meters from the edge of RWY 08 in Lingayen Airport. Inspection of the crash site revealed the following:

- **a.** The engine and propeller were submerged in the water upon impact.
- **b.** All significant components of the aircraft were located within the main wreckage area, approximately ten (10) meters in diameter.
- **c.** The entire fuselage and wings sustained substantial damage, with the cockpit and flight controls highly fragmented. The instrument panel was destroyed, and most instruments were displaced from their panel mounts.

1.13 Medical and Pathological Information

A Certificate of Death issued by the Office of the Civil Registrar General of Lingayen, Pangasinan indicated that the cause of death of both pilots was cardiopulmonary arrest, severe traumatic brain injury and blunt fever trauma from plane crash.

1.14 Fire

No reports were received regarding any post-incident fires.

1.15 Survival Aspects

The responders found the flight crew unconscious, still restrained by the seat belt. The responders attempted to revive the pilots after being retrieved from the pilot seat. They were brought to the hospital for medical attention but were declared dead on arrival by the attending doctor.

The aircraft was equipped with an Artex emergency locator transmitter (ELT) 345, SN: 267-14064, which transmitted on fixed frequencies 121.5 MHz and 406 MHz. Upon initial examination of the wreckage at the accident site, the ELT was not damaged. (Figure 3). It was still transmitting a distress signal and was shut off by the mechanic of the responding company.



Figure 3 - RP-C8595 ELT

1.16 Search and Rescue

No search operation was deployed since the occurrence was within the vicinity of the airport. Alert rescue personnel from the airport authority and company arrived at the scene shortly after the accident occurred.

1.17 Test and Research

The aircraft engine was removed from the aircraft on March 30, 2025, and the teardown inspection was conducted the following day at an Aircraft Maintenance Organization (AMO) facility of Pilipinas Space and Aviation Academy Inc. in Lingayen, Pangasinan. The activity was supervised by a CAAP AAIIB Investigator and maintenance personnel of the operator. Upon the completion of the inspection, the AMO stated that the engine was found to have no evidence of pre-impact mechanical malfunctions or anomalies that would have affected the aircraft's normal operation. Internal examination also showed that the other components of the engine were all in good condition. In addition, the damage to the spinner indicates that it resulted from the impact while it was still in motion at the time of the accident.

1.18 Organizational and Management Information

RP-C8595 was operated by Pilipinas Space and Aviation Academy Inc. It is an authorized pilot school by the Civil Aviation Authority of the Philippines under its Aviation Training Organization Certificate No. 2019-07. Their business address is Unit A1 ACM Building No. 3 P. Mayuga Street, Barangay Tambo, Paranaque, Philippines.



It has a strong partnership with China Express Education and Technology Industry Co. Ltd. a foreign based flight training center located in Chongqing and Shanghai, China with ATOC No. 2023-05. PSAAI sends its students to China Express Education for initial type rating, re-currency training and upgrade re-currency training for Airbus A320 and Beechcraft King Air B350 type of aircrafts. The aircraft had a valid certificate of airworthiness with an expiry date on November 27, 2025.

The maintenance function of RP-C8595 was undertaken by 357 Aircraft Aviation Maintenance with a current Approved Maintenance Organization (AMO) Certificate No. 193-21 authorized to operate until October 31, 2026. It is located at 689 Castillo St. Lingayen airport, Lingayen, Pangasinan, Philippines.

2. ANALYSIS

2.1 Human Factor

2.1.1 Personnel Training and Competence (FI/SP)

The Flight Instructor (FI) holds a valid Commercial Pilot License (CPL) and flight instructor rating issued by the Licensing and Certification Department (LCD)–Civil Aviation Authority of the Philippines (CAAP), with an appropriate rating for the type of aircraft operated at the time of the incident. Available records revealed that the FI started his initial flying training as a student pilot with type ratings on C-152 and C-172 on September 21, 2021. He was awarded the initial type rating on the C-152 as a private pilot on May 05, 2022.

On October 04, 2022, the FI had his additional type rating as a private pilot after undergoing a skill test on the C-172 type of aircraft. On May 19, 2023, the FI was issued a commercial pilot license by LCD-CAAP after undergoing a skill test on C-152 and C-172 types of aircraft, respectively. On April 01, 2024, an additional rating was issued as a flight instructor on a C-152 type of aircraft under a CAAP assigned check pilot.

Available records show the FI had flown a total of 92+00 hours in the 90 days preceding the accident, which includes 52+00 hours in simulator training for his additional rating on the King Air BE-350 type of aircraft, 26+55 hours flown on the C-152 type of aircraft in the preceding 30 days, and 13+45 hours a week before the incident. This was his first flight for the week. A review of the pilot's work schedule, flight times, flight duty times, and rest periods makes it possible to rule out fatigue as a factor in the accident. The investigation revealed that the FI was well rested before going on duty.

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The student pilot (SP), on the other hand, was issued by the LCD, CAAP, with an appropriate rating for the type of aircraft operated at the time of the incident. Available records revealed that the SP started his initial flying training as a student pilot with a type rating of C152 last March 10, 2025. It also indicated that the SP had a total of 16+40 hours flown on the C-152 before the incident happened. The occasion was also his first flight for the week.

2.2 Operations

2.2.1 Flight Training Program

The operator's report on the progress of flight training for the private pilot licensure course outlines the basic training that SP should receive during pre-solo. It also outlines the sequence of flight time allocations and the listing of the lessons to be completed. Upon reviewing the lesson guide, it became clear that the intended lesson for the accident flight was take-offs, landings, and go-arounds. The FI's task during the training flight was to supervise and evaluate the SP's performance while performing the said maneuvers. This was in preparation for the SP to be endorsed by the FI to the head of training for evaluation to be released for the first solo.

Review of the progress report for the SP's flight training also revealed that both FI and SP were performing the same maneuvers in the previous three training flights before the accident. However, it does not indicate how the SP performed during landing, touch and go, and how the SP progressed in his training flights. It also revealed, based on the flight training progress report, that the stall and stall recovery procedures are introduced after an SP has their first and re-solo flight (Figure 4). Such a training program may leave the SP without adequate reference to apply the procedure correctly, especially when activity has increased in tempo, such as during an in-flight emergency. The practice of stall recovery and the development of awareness of stalls are of primary importance in pilot training. The objectives in performing said maneuvers are to familiarize the pilot with the conditions that produce stalls, to assist in recognizing an approaching stall, and to develop the habit of taking prompt preventive or corrective action. It is recommended that SP receive flight training in stall recognition and recovery prior to being released for solo flight. During this training, the flight instructor should emphasize that the direct cause of every stall is an excessive angle of attack. The SP must recognize the flight conditions that are conducive to stalls and know how to apply the necessary corrective action. They should learn to recognize an approaching stall by sight, sound, and feel.

On the other hand, the head of training must take control of the training program. The goal is to ensure the right training program was conducted through regular monitoring and the maintenance of progress flight assessment reports for student pilots.

STUDENT		PELNO	DATE AC IDENT
STEREPT.			
INCOME.		EL Y TANK OF	and a second sec
Per Per Citor		FLT TANE PR	ESENT
-		TOTAL FLICA	AT TIME
	STAGE 1: PRE-SO	LO TRAIN	ING
FLIGHT	LESSONS	GRADE	REMARKS
1	Orientation Flight		
(1+00)	 Pre-Flight Preparation 	0	
	 Pre-flight Procedures 		
	 Post-flight Procedures 		
2	Airport Familiarization		
(1+00)	 Airport Operation 	-	
	 Pattern Exercises 	(
	 Straight and Level Flight 		
	- Level Turns		
	 Climbing Turns)	
	 Descending Turns 	~	
	 Slow Flight 		
3	Take-offs and Landings		
(2+00)	 Normal Take-off and Climb 	6	
	 Crosswind Take-off and Climb 	\smile	
	 Normal Approach and Landing 	111	* MANTAIN MEAMERE
	 Crosswind Approach and Landing 	1.41	
4	Take-offs, Landings and Go-arounds	410	
(2+00)	- Forward Stip to a Landing	The	A CAN ALTOTA
	- Go-around Procedures	Let	A PAUN ALLINDIDE
	- Rejected Landing	NO	
0	Emergency Procedures	<	
(2+00)	- Emergency Approach (Simulated)		
	- Emergency Landing (amulated)	NID	
	- Systems Mailunction	NU	
6	Lannon Review and Evaluation		
(2+00)	Lesson Raview	1.0	
(a 00)	Pre-spin Evaluation	ND	
	STAGE 2. SKILL	STRAIN	NG
7	First Salo Elight	o month	
10+201	Langon Execution	NO	
8	Re-Solo Flight	tan.	
(1+30)	Lesson Review and Execution	NO	
11-301	Performance and Ground Reference	13/3	
	Maneuvers		
(2+00)	- Steep Turns		
Am Locals	- Rectangular Course	NIN	
	 Turn Around the point 	(NI)	
	S Turns	111	
10	Slow Fight and Stalls		
(2+00)	 Maneuvering During Slow Flight 	m.	
1000	 Power-off Stalls 	NIL	
	Denne de Challe		

Figure 4 - Progress report of Student Pilot on pre solo.

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2.2.2 Flight Execution

The initial investigation revealed the scheduled training for the day was a series of touch-and-goes within the traffic pattern. Based on records before the incident, the nine (9) touch and goes were uneventful; however, it was during the tenth (10th) takeoff by RP-C8595 that several witnesses noticed the aircraft pitch attitude was more than the proper lift-off attitude, and while on upwind, the aircraft made an initial bank to the left and nosedived towards the surface. The incident was also recorded from a closed-circuit television (CCTV) security camera installed within the airport.

Based on the foregoing, it seems that the aircraft experienced elevator trim stall. Apparently, while the SP was executing another touch and go during liftoff, the pitch attitude increased above the normal climbing attitude. In such a situation, a stall was imminent, and adequate forward pressure must be applied to return the aircraft to the normal climbing attitude. While maintaining the aircraft in this attitude, the trim should then be adjusted to relieve control pressures.

On the other hand, it appears that the FI's pilot monitoring and cross-checking task was degraded during the liftoff for another touch and go. The FI was supposedly to alternate his visual attention inside and outside the aircraft during liftoff. The FI should recognize when a stall is approaching and take prompt action to prevent a completely stalled condition. It is imperative that a stall does not occur while executing the touch and go. Although it was primarily the SP's task to control the aircraft and correct any flight path, it is important for the FI to closely monitor how the SP performs. The FI should call out any deviations from the standard flight path.

2.2.3 Situational Awareness and Decision Making

Although both pilots have the primary responsibility of monitoring the aircraft's performance, each pilot must understand their responsibility for monitoring and the importance of the monitoring task. During flight training, there must always be a clear understanding between the FI and SP of who has control of the aircraft. Prior to any dual training flight, a briefing should be conducted that includes the procedure for the exchange of flight controls.

Based on the company's checklist on the C152/172, included was the preliminary crew briefing on the transfer of controls. However, while executing another touch and go, it appears that there was a miscommunication between the FI and SP. If the situation warrants, the FI must be vigilant to what the SP is doing and not wait too long to take over control. The FI must be prepared to respond correctly to emergency procedures. The FI has to take control of the aircraft and terminate the maneuver before it progresses to a point where the FI himself is not capable of recovering the aircraft in time. Further, as FI, being the most knowledgeable and experienced person in that aircraft, should not let the SP fly the aircraft into some corner of its performance



envelope where it is not recoverable. The FI must recognize instantly when the stall has occurred and take prompt action to prevent a prolonged stalled condition.

Meanwhile, recovery from the stall should be accomplished by immediately reducing the angle of attack through a positive release of back-elevator pressure, and in the case of a departure stall, smoothly advance the throttle to maximum allowable power. In this case, since the throttle was already at the climb power setting, the addition of power will be relatively slight. Further, the nose should be lowered as necessary to regain flying speed with the minimum loss of altitude and then raised to climb altitude. The aircraft should then be returned to the normal straight-and-level flight attitude, and when in normal level flight, the throttle should be returned to cruise power setting.

2.2.4 Pilot-In-Command/FI Duties and Responsibilities

Under the Philippine Civil Air Regulation (PCAR) Part 8, the Pilot-In-Command (PIC) was defined as "the pilot designated by the operator, or in the case of general aviation, the owner, as being in command and charged with the safe conduct of a flight." In addition, PCAR 8.5.1.1 lists the authority and responsibilities, particularly for the PIC:

- **a.** Pilot-in-Command (PIC): Each operator shall designate one pilot to act as PIC for each flight.
- **b.** The PIC shall be responsible for the operations and safety of the aircraft and for the safety of all crew members, passengers, and cargo on board when the doors are closed. The PIC shall also be responsible for the operation and safety of the aircraft from the moment the aircraft is ready to move for the purpose of taking off until the moment it finally comes to rest at the end of the flight and the engine(s) used as primary propulsion units are shut down.
- **c.** The PIC of an aircraft shall have final authority as to the operation of the aircraft while he or she is in command.
- **d.** The PIC of an aircraft shall, whether manipulating the controls or not, be responsible for the operation of the aircraft in accordance with the rules of the air, except that the PIC may depart from these rules in emergency circumstances that render such departure absolutely necessary in the interests of safety.
- **e.** In an emergency during flight, the PIC shall ensure that all persons on board are instructed in such emergency action as may be appropriate to the circumstances.

Based on the foregoing, the regulation clearly defines the responsibility of the PIC/FI when it comes to the safety of the flight. Regardless of the situation, it is the detection, interpretation, and response that influenced the potential effect on safety. During the preflight briefing, to assure transparency and a common understanding, the FI should brief the SP on the planned procedures and anticipate the flight sequence's threats and countermeasures. The identified anticipated threats must be pointed out by the FI to the SP if the latter failed to identify them. It is also important to tell the SP what countermeasures would mitigate the threats and ensure that these are completed within the time available. The FI must understand that threats and errors are part of flight training operations that should be managed throughout the phases of flight. Ample time must be spent on safety criteria for each maneuver being performed. Since the SP may lack the manipulative and cognitive skills needed to meet the specified flight tolerances or procedures, the FI must foresee these impending threats in advance. If these factors had been considered prior to the touch-and-go lesson and appropriate risk assessments had been made, this accident might have been prevented.

The objective of error management is the timely detection and prompt, appropriate response in flight operations for the error to become operationally inconsequential. When the FI was unable to respond appropriately to the developing situation, it was a mismanaged error that resulted in the aircraft not being recovered to prevent the imminent stall.

2.2.5 Engine Teardown and Inspection

On March 30, 2025, the engine of RP-C8595 was removed from the crash site and brought to the operator's hangar for a teardown inspection the following day. The inspection focused on dismantling the engine. The accessories were initially removed to inspect the engine. The magneto was removed still intact, but the flange was broken. The oil filter was also broken after removing the accessories. Both the carburetor and fuel bowl were impact damaged. The cylinders were removed still intact in the connecting rod. All the cylinder heads, cylinder barrels, and cooling fins showed no signs of cracks except for the piston in cylinder no. 4 that was damaged due to sudden stoppage impact. The crankcase was split in half after all bolts on the crankcase were removed. The crankcase has no visible cracks. All bearings were inspected, and no abnormalities were found. The crankshaft flange was bent due to impact. The connecting rods, camshaft, and tappet are all intact. The spark plugs were checked and were found to be working properly, except for the spark plug on cylinder no. 1 that was broken due to impact. Spark checks on both magnetos were also conducted and were found to be working properly.

As an observation based on the evidence found during the teardown inspection, the inspection did not reveal mechanical malfunctions or anomalies that would have affected the aircraft's normal operation. Internal examination also indicated that the other components of the engine were all in excellent condition. In addition, the

damage to the spinner indicates that it resulted from the impact while it was still in motion at the time of the accident (Figures 5-21).



Figure 5 - RP-C8595 engine before the teardown inspection.



Figure 6 - RP-C8595 spinner with impact damage.

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Figure 7 - RP-C8595 Cylinder no. 1



Figure 8 - RP-C8595 Cylinder no. 1 intake and exhaust port.



Figure 9 - RP-C8595 Cylinder no. 2



Figure 10. RP-C8595 Cylinder no. 2 intake and exhaust port.



Figure 11 - RP-C8595 Cylinder no. 3



Figure 12 - RP-C8595 Cylinder no. 3 intake and exhaust port.



Figure 13 - RP-C8595 Cylinder no. 4



Figure 14 - RP-C8595 Cylinder no. 4 intake and exhaust port.



Figure 15 - RP-C8595 Engine Crankshaft



Figure 16 - RP-C8595 Engine Camshaft.





Figure 17 - RP-C8595 Gearbox.



Figure 18 - RP-C8595 Right lobe of the crankcase.



Figure 19 - RP-C8595 Left lobe of the crankcase.



Figure 20 - RP-C8595 Magneto check.



Figure 21 - RP-C8595 engine after the teardown inspection.

2.3 Organization Factor

2.3.1 Safety Culture and Management Support

Interviews and interactions with the personnel gave the assigned investigator the impression of a safety-minded group. It was noticeably seen that each member embodied a sense of awareness through the way they performed their individual functions and how responsible they were for their actions. This sense of awareness and responsibility is a reflection of the unit's organizational structure, where each personnel's task and responsibility are clearly defined.

This commitment to safety and responsibility was further corroborated during the review of the unit's documentation. Records revealed that issues found on the aircraft were properly reported, with corresponding actions promptly taken by the responsible personnel. Additionally, interviews highlighted strong management support, as the unit was consistently provided with the necessary resources to meet its requirements.

Furthermore, there were no signs of any operational pressure within the unit, as their operations focused solely on the company's needs. These characteristics created a relaxed working atmosphere, which was reflected in the positive mood of each staff member. This positive environment fostered collaboration and camaraderie among them, ultimately translating into excellent work output.

2.3.2 Maintenance Program

As for the maintenance personnel that assisted in the inspection of the aircraft before its flight, records revealed that they held valid CAAP-issued AMT licenses with ratings on airframe and powerplant. Records also indicated that they had relevant maintenance training specific to the aircraft involved.

It was found during the interview with the maintenance personnel that their workload has been relatively light, as they primarily cater only to the needs of their company's operations. Their tasks are generally limited to supporting flights or conducting major repairs on the aircraft. Over the past few months, there have been no major repairs, which indicated a manageable workload for the maintenance team.

Interviews with personnel revealed that aircraft maintenance schedules for RP-C8595 were consistently followed in accordance with regulatory and manufacturer requirements. An evaluation of the aircraft flight and maintenance logbook also showed that noted defects were addressed promptly and appropriately. Interviews confirmed that issues were effectively communicated between maintenance personnel and pilots.

The latest discrepancy of RP-C8595 that is reflected in the maintenance logbook on March 02, 2025, was an excessive right-hand magneto drop at 1700 rpm. It was replaced by a new right-hand magneto left-hand harness and corrected after an engine run-up was performed. Prior to the incident, a review of the maintenance records of RP-C8595 also revealed that the aircraft had recently undergone the 50-hour inspection on March 23, 2025, in accordance with the C152 series maintenance manual no. D2 064-1-13. It was then determined to be in an airworthy condition for return to service after being inspected in accordance with the 50-hour inspection.

3. CONCLUSIONS

3.1 Findings

- **3.1.1** The involved pilots are holders of valid pilot licenses and medical certificates issued by the CAAP.
- **3.1.2** The FI was rated to perform his functions for that specific type of aircraft.

3.1.3 The aircraft has valid Certificates of Airworthiness and Registration. AAIIB-2025-340 Final Report RP-C8595, C152

- **3.1.4** The aircraft was released for flight without any recorded maintenance issues.
- **3.1.5** The scheduled training for the day was series touch and go within the traffic pattern.
- **3.1.6** During teardown inspection, the cylinder heads, cylinder barrels, and cooling fins showed no signs of cracks.
- **3.1.7** The teardown inspection of the engine revealed no evidence of pre-impact mechanical malfunctions or anomalies that would have affected the aircraft normal operation.
- **3.1.8** Internal examination also showed that the other components of the engine were all in good condition.
- **3.1.9** The damage to the spinner indicated that it resulted from the impact while it was still in motion at the time of the accident.
- **3.1.10** The latest discrepancy of RP-C8595 that reflects in the maintenance logbook was excessive right-hand magneto drop in 1700 rpm.
- **3.1.11** It was replaced by a new right-hand magneto left hand harness and corrected after an engine run up was performed.
- **3.1.12** The aircraft had recently undergone the 50 hours inspection last March 23, 2025, in accordance with C152 series maintenance manual no. D2 064-1-13.

3.2 Probable Cause

3.2.1 Primary Cause Factors

a. The Flight Instructor's delayed intervention on the unusual attitude of the aircraft during liftoff resulting to elevator stall.

3.2.2 Contributory Cause Factor

- **a.** The Flight Instructor's pilot monitoring and cross-checking duties were degraded during liftoff for another touch-and-go
- **b.** The Flight Instructor's reduced situational awareness of potential operational threats during the touch-and-go maneuver.

4. SAFETY RECOMMENDATIONS

- 4.1 Along with the completion of the safety investigation, the Aircraft Accident Investigation and Inquiry Board recommends the following safety actions to the Civil Aviation Authority of the Philippines – Flight Standards Inspectorate Service (CAAP-FSIS):
 - **4.1.1** To ensure that **Pilipinas Space and Aviation Academy Inc.** enhances its safety and instructional standards, the following improvements are recommended:
 - **a.** Improve pilot training programs with a stronger focus on situational awareness and threat and error management (TEM).
 - **b.** Reinforce the quality and structure of pre-flight and post-flight briefings conducted by Flight Instructors for Student Pilots.
 - **c.** Require that all Student Pilots receive comprehensive training in stall recognition and recovery prior to being released for solo flight.
 - **d.** Develop and implement policies, procedures, and best practices that enhance flight monitoring by both Flight Instructors and Student Pilots.
 - **e.** Establish clear procedures and shared understanding for the transfer of aircraft control between pilots to ensure coordinated and safe handling during dual instruction.
 - **f.** The organization's policies and guidelines shall be fully documented and regularly updated in the relevant operational manuals.

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