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-C8846
CESSNA 152

OPERATOR: OMNI AVIATION CORPORATION

TYPE OF OPERATION: FLIGHT TRAINING

DATE OF OCCURRENCE FEBRUARY 16, 2023

PLACE OF OCCURRENCE: OMINI AERORODROME, OMNI AVIATION CORPORATION, MANUEL A. ROXAS HIGHWAY, CLARK FREEPORT, MABALACAT, PAMPANGA, PHILIPPINES

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(Textron Aviation Inc., Cessna, C-152, RP-C8846 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 Cessna 152 type of aircraft with Registry Number RP-C8846 owned and operated by OMNI Aviation Corporation that sustained damage following a bounced landing at OMNI Aerodrome, OMNI Aviation Corporation, Manuel A. Roxas Highway, Clark Freeport, Mabalacat, Pampanga, Philippines on February 16, 2023/1530H.

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 1630H (LOCAL) on February 16, 2023.

Identification of the Accident 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 on the CAAP website on **20 September 2023.**

Synopsis:

On or about 1530H, February 16, 2023, a Cessna 152 type of aircraft with Registry Number RP-C8846 operated by OMNI Aviation Corporation sustained damage following a bounced landing at Runway 02 of OMNI Aerodrome, OMNI Aviation Corporation, Manuel A. Roxas Highway, Clark Freeport, Mabalacat, Pampanga, Philippines. The Aircraft Accident Investigation and Inquiry Board determined that the cause factor of this accident was attributed to the pilot's failure to execute the Go-Around Procedures during unstable approach for landing.

LIST OF ACRONYMS AND ABBREVIATIONS

AAIIB	:	Aircraft Accident Investigation and Inquiry Board
AMO	:	Approved Maintenance Organization
CAAP	:	Civil Aviation Authority of the Philippines
VFR	:	Visual Flight Rules
SP	:	Student Pilot
ATOC	:	Aircraft Training Organization Certificate
TPM	:	Training and Procedure Manual

1. FACTUAL INFORMATION

Aircraft Registration No.	:	RP-C8846
Aircraft Type/Model	:	Cessna Aircraft Manufacturer, Cessna, C-152
Operator	:	OMNI Aviation Corporation
Address of Operator	:	Manuel A. Roxas Highway, Clark Freeport, Mabalacat, Pampanga, Philippines
Place of Occurrence	:	OMNI Aerodrome, OMNI Aviation Corporation, Manuel A. Roxas Highway, Clark Freeport, Mabalacat, Pampanga, Philippines
Date/Time of Occurrence	:	February 16, 2023 / 1539H/0730 UTC
Type of Operation	:	Flight Training
Phase of Flight	:	Landing
Type of Occurrence	:	Bounced landing

1.1 History of Flight

On or about 1530H, February 16, 2023, a Cessna 152 type of aircraft with registry number RP-C8846 sustained damage following a bounced landing at Runway 02 of OMNI Aerodrome, OMNI Aviation Corporation, Mabalacat, Pampanga, Philippines. The student pilot (SP) on board did not sustain any injuries. The aircraft is being operated by OMNI Aviation Corporation under PCAR Part 3. Visual meteorological conditions prevailed, and a VFR flight plan had been filed.

The aircraft took off at Omni Aerodrome with the SP on board for a series of solo accuracy landings within the traffic pattern. During touch-down of his eighth (8th) landing, the aircraft bounced three (3) times, and the nose landing gear collapsed. Seven (7) propeller strikes were also seen on the runway. The aircraft continued to move towards the right side of the runway for another sixty (60) feet before it came to a full stop with a heading of 62 degrees and grid coordinates of 15° 10’ 23" N; 120° 33’ 52" E.

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Figure 1: RP-C8846 on its final resting position.

1.2 Injuries to Person (s)

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

1.3 Damage to Aircraft

The aircraft sustained substantial damage.

1.4 Personnel Information

1.4.1 Student Pilot (SP)

Gender		Male
Date of Birth	:	31 July 1996
Nationality	:	Filipino
License	:	140487 SPL
Valid up to	:	02 March 2023
Type rating	:	Airplane: Single engine Land C152
Medical Certificate	:	Class II
Time on C152	:	79+ 00 Hours as per pilot logbook
Grand Total time	:	79+ 00 Hours as per pilot logbook

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1.5 Aircraft Information

1.5.1 Aircraft Data

Registration Mark	:	RP-C8846
Manufacturer	:	Cessna Aircraft Company
Country Of Manufacturer	:	United States of America
Type/Model	:	Cessna 152
Operator	:	OMNI Aviation Corporation
Serial No.	:	15284708
Date of Manufacture	:	1981
Certificate of Airworthiness Valid up to	:	12 September 2023
Certificate of Registration Valid up to	:	18 December 2023
Number of Crew	:	1
Number of Passenger Seat	:	2
Airframe Total Time	:	18,835+31 Hrs.

1.5.2 Engine Data

Manufacturer	:	Lycoming
Type	:	Piston
Model	:	0-235-L2C
Serial No.	:	L-13716-15
Time Since New	:	7,944+28 Hrs.

1.5.3 Propeller Data

Manufacturer	:	Sensenich
Type/Model	:	Fixed Pitch 2 Blade/72CKS6-0-54
Serial No.	:	K10512
Propeller last fitted	:	December 08, 2017
Time Since New	:	7,775+48

1.6 Meteorological Information

Visual Meteorological Conditions 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.

1.8 Communication

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

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1.9 Aerodrome Information

Omni Aviation Corporation Aerodrome is a small airport in Mabalacat, Pampanga, Philippines. The ICAO designator of this field is PH-0178. It is listed as private aerodrome facility under the CAAP aerodrome and air navigation facility under the Aerodrome and Air Navigation Safety Oversight Office (AANSOO).

Aerodrome Name	:	Omni Aviation Corporation Aerodrome (PH-0178)
Coordinates	:	15°10'12.42" N 120°33'46.85" E
Aerodrome Operator	:	OMNI Aviation Complex, Manuel A. Roxas Highway, Clark Special Economic Zone Field, Pampanga
Runway Direction	:	02/20
Runway Length	:	640 meters
Runway Width	:	16 meters
Runway Elevation	:	170.41 m AMSL
Surface	:	Asphalt Strength: 5,455 kg. AUW
Slope	:	0.14%
Types of traffic permitted	:	VFR
AD Operator	:	Airport Operations: 2200Z – 0800Z.
Security	:	H24
Restaurants	:	At the town proper
Transportation	:	Vehicle for hire.
Visual Ground Aids	:	Standard day markers and wind direction indicator.
Facilities	:	Hangar, flight dispatch station, radio transceiver, refueling station, first aid kit, firefighting equipment and land transportation.
Capability for removal of disabled aircraft	:	Nil
Cautions:	:	RWY 02 approach is displaced 200m from threshold to provide adequate clearance from Subic-Tarlac-Clark Expressway overpass.

1.10 Flight Recorders

The aircraft is not equipped with any flight recorders and existing CAAP regulation does not require it.

1.11 Wreckage And Impact Information

During landing, the aircraft bounced three (3) times before the nose landing gear collapsed. The runway has seven (7) visible propeller strikes as the aircraft continue to move towards the right side of the runway for another sixty (60) feet. It came to a full stop with a heading of 62 degrees and grid coordinates of 15° 10' 23" N; 120° 33' 52" E.

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Figure 2. The aircraft damage nose landing gear and bent propeller blades

1.12 Medical and Pathological Information

The SP had undergone a medical and drug test after the occurrence and was found to have no significant medical findings. He had also undergone the post-flight accident medical examination conducted by the Office of the Flight Surgeon and Aviation Medicine (OFSAM).

1.13 Fire

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

1.14 Search and Survival Aspects

The SP egress safely on his own after performing engine shutdown. No search operation was deployed since the occurrence was at the aerodrome facility.

1.15 Organization and management information

1.15.1 Operator

OMNI Aviation Corporation has an Aircraft Training Organization Certificate (ATOC) #96-09B. OMNI Aviation started operations in 1993.

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It is authorized to perform Flight and Ground Training Operations that provides Private Pilot Course, Single-Engine/Muli- Engine Land- Commercial Pilot Course, Flight Instructor Course and Instrument Rating for Airplane, Airline Transport Pilot License, and Ground Theory and Jet Orientation Training. It also has Cabin Crew Training, Airline Services Training, and Aircraft Maintenance Training. It is located at Manuel A Roxas Highway, Clark Freeport Zone, 2009 Clark, Philippines.

1.15.2 Maintenance

The maintenance function of RP-C8846 is being undertaken by OMNI Aviation Corporation Repair Station with a current Approved Maintenance Organization (AMO) Certificate number 96-10 located at Manuel A Roxas Highway, Clark Freeport Zone, 2009 Clark, Philippines.

2.0 ANALYSIS

2.1 General

The SP was on his eighth (8th) solo accuracy landing within the traffic pattern when the event happened. The SP was fast on his approach for landing, and the aircraft was still high as it approached the intended landing point on the runway. The SP reduced the power to idle, causing the aircraft to land hard on its main landing gear. As the aircraft contacts the ground, it bounces back into the air. With the aircraft bouncing back into the air, the SP pushed the elevator control forward, resulting in a nose-low contact with the runway and a porpoise. It was after the third bounce that the nose landing gear collapsed, causing the propeller to strike the ground. A total of seven (7) propeller strikes were noted from the runway.

There are two primary causes of bounced landings: landing hard, and landing too fast. If the aircraft have a high sink rate during landing, the tendency of the pilot is to pull back on the elevator control as the aircraft quickly approach the ground. This resulted for a high angle-of-attack that creates enough lift to propel the aircraft back into the air. If the aircraft touch down hard on the runway with its main gear, it rebounds back into the air. The harder the landing, the higher the aircraft bounce.

Airspeed is another cause of bounced landings. If an aircraft land with too much airspeed, and as the aircraft touch down, it will skip off the runway like a rock on water, and bounces back into the air. Whether the bounce from a hard landing, or because the aircraft landed too fast, the pilot next step is to recover the bounce.

Many bounced landings can still end with a smooth touchdown. If the aircraft bounce, the first thing the pilot should do is hold back pressure to keep the aircraft in a nose-high landing attitude. If the pilot force the nose down, the aircraft could land even harder than the first time,

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or worse, land on the nose gear. As the aircraft start descending back to the runway, the pilot might also need to add some power to reduce the descent rate. Adding small amounts of power is all it takes to safely reduce the descent rate for a soft touchdown.

Small to moderate bounces will often leave the aircraft just a few feet above the runway, just like if the pilot was initiating the final touchdown flare. If the aircraft bounced well above the runway, go around. As the aircraft get higher, ground effect diminishes, and the pilot could find on getting very close to stall speed. It can be tough to judge exactly how high is "too high," and it depends a lot on the type of aircraft the pilot is flying. The safest option is, to go around.

When the aircraft bounce, the pilot also needs to pay close attention to how far the aircraft floated down the runway. If the aircraft bounced due to excess airspeed, there's a good chance the aircraft floated well beyond the intended touchdown spot. If the aircraft is well beyond the intended landing spot, go-around and try again.

Review of the School Training and Procedure Manual (TPM), reveals that it does not include the bounce recovery and rejected landing procedures. The absence of such recovery procedures on their training manual resulted for the failure of the student pilot to apply the necessary correction during bounce landing. Inclusion of such procedures in the manual is essential to mitigate error of pilots during landing.

3.0 CONLUSION

3.1 Findings

a. The SP has valid license and medical certificate issued by the CAAP.

b. The SP was on his eight (8th) solo accuracy landing within the traffic pattern when the bounced landing happened.

c. The SP was fast on his approach for landing.

d. The SP egress safely from the aircraft.

e. The current School Training and Procedure Manual does not include the bounce recovery and rejected landing procedures.

f. Visual meteorological condition prevailed at the time of the accident.

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

h. The aircraft has current Certificates of Airworthiness and Registration.

i. The aircraft sustained damage as a result of propeller strike and collapsed nose landing gear assembly.

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3.2 Probable Cause

3.2.1 Primary Cause Factor

a. Failure to execute the Go-Around Procedures during unstable approach for landing

3.2.2 Contributory Cause Factors:

a. Fast approach during landing

b. Lack of situation awareness

4.0 SAFETY RECOMMENDATIONS

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

5.0 SAFETY ACTION

As a result of the accident, the Operator initiated the following safety corrective actions.

1. A safety meeting was conducted to all FI and SP to mitigate the probability of the same incident from happening again. The meeting covered the following subject matter/topic:

    a. Bounced and Balloon Landing recovery procedures
    b. Rejected Landing.

2. Reinforced and included as part of the Training and Procedure Manual the following:

    a. Recovery procedures on bounced and balloon landing.
    b. Factors that contribute to landing conditions requiring a go-around.

-END-

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