Republic of the Philippines
CIVIL AVIATION AUTHORITY OF THE PHILIPPINES

AIRCRAFT ACCIDENT INVESTIGATION AND INQUIRY BOARD

FINAL REPORT

RP-R3298
S2R-T34

OPERATOR: AIRTRAC AGRICULTURAL CORPORATION

TYPE OF OPERATION: AGRICULTURAL SPRAYING

DATE OF OCCURRENCE: FEBRUARY 2, 2024

PLACE OF OCCURRENCE: OSMEÑA AERODROME, BARANGAYP OSMEÑA, COMPOSTELA VALLEY, DAVAO DE ORO, PHILIPPINES

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(RP-R3298, S2R-T34 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 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: Accident involving an Ayres S2RT-T34 agricultural aircraft with Registry Number RP-R3298 operated by Airtrac Agricultural Corporation sustained substantial damage following a runway excursion at Osmena Aerodrome, Barangay Osmeña, Compostela Valley, Davao de Oro on February 2, 2024 at about 1710H.

Notification of Occurrence to National Authority

The Notification of accident to AAIIB CAAP was relayed by the Operator of the aircraft at 1730H (LOCAL) on February 2, 2024.

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 31 March 2025.

Synopsis:

On February 2, 2024 at about 1710H, an Ayres S2RT-T34 agricultural aircraft with Registry Number RP-R3298 operated by Airtrac Agricultural Corporation was in training in accordance with company's training manual before the pilot could be released for aerial spraying operations. Unfortunately, it made a runway excursion at Osmena Aerodrome, Barangay Osmeña, Compostela Valley, Davao de Oro. The lone pilot on board did not sustain any injury, however, the aircraft sustained substantial damage. A Visual Meteorological Condition (VMC) prevailed at the time of the accident. The cause of the occurrence was attributed to failure of the pilot to maintain directional control of the aircraft during landing roll.

LIST OF ACRONYMS AND ABBREVIATIONS

AAC	:	Agricultural Aircraft Certificate
AAIIB	:	Aircraft Accident Investigation and Inquiry Board
CAAP	:	Civil Aviation Authority of the Philippines
CAVU	:	Ceiling and visibility unlimited
CPL	:	Commercial Pilot License
EQC	:	Equipment Qualification Course
FI	:	Flight Instructor
VFR	:	Visual Flight Rules
VHR	:	Very High Frequency
VMC	:	Visual Meteorological Condition

1. FACTUAL INFORMATION

Aircraft Registration No.	:	RP-R3298
Aircraft Type/Model	:	Thrush Aircraft Inc./S2R-T34
Operator	:	Airtrac Agricultural Corporation
Address of Operator	:	AJMR Port, Km 20, Tibunco, Davao CITY
Place of Occurrence	:	Osmeña Aerodrome, Barangay Osmeña, Compostela Valley, Davao de Oro, Philippines
Date/Time of Occurrence	:	February 02, 2024/1710H
Type of Operation	:	Agricultural Spraying
Phase of Flight	:	Landing
Type of Occurrence	:	Runway side excursion

1.1 History of Flight

On February 2, 2024, at about 1710H, an Ayres S2RT-T34 agricultural aircraft with registration no. RP-R3298 sustained substantial damage following a runway excursion at Osmeña Aerodrome, Barangay Osmeña, Compostela Valley, Davao de Oro. The aircraft was operated by Airtrac Agricultural Corporation, holder of the Agricultural Aircraft Certificate (AAC), authorized to perform aerial agricultural operations. The pilot, who was the sole occupant, sustained no injury. Visual meteorological conditions (VMC) prevailed at the time of the accident. The pilot was in training in accordance with the company's training manual before he could be released for aerial spraying operations. After a series of touch-and-go (6 times), the pilot was released for solo flight by his flight instructor. The flight was uneventful from take-off to landing. The aircraft touched down at marker number 2; however, during the landing roll, when thrust reversers were applied, the aircraft started to veer to the right. Accordingly, the pilot trainee applied the necessary corrections to bring the aircraft to the runway center.

Subsequently, the aircraft made a sharp turn to the left, exited the runway, and rested on the canal between markers 6 and 7. The aircraft came to a halt with a last heading of 89 degrees and coordinates of 7 34.433N, 126 05.684E. All three propeller blades were

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bent, while the main landing gears and portions of both wings incurred substantial damage due to ground impact.

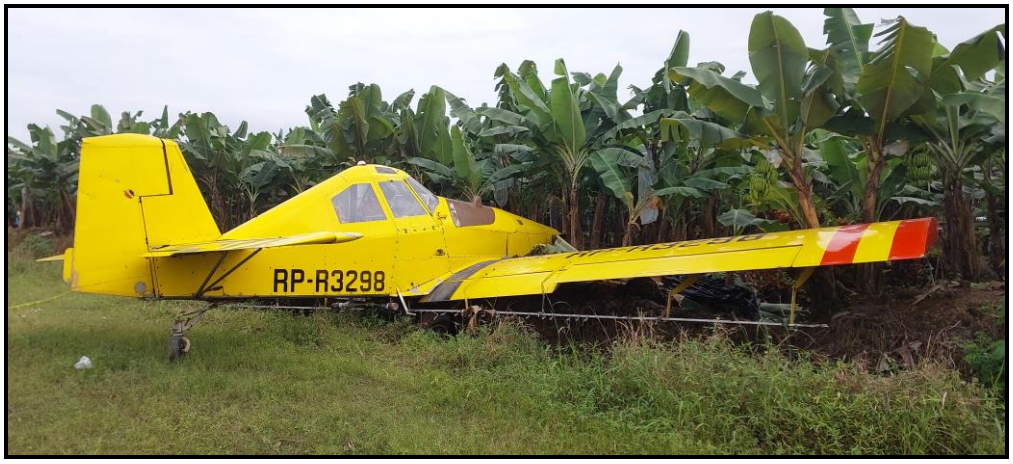

Figure 1. RP-R3298 final resting place at Osmeña Aerodrome

1.2 Injuries to Person (s)

Injuries	Crew	Passengers	Others	TOTAL
Missing/Fatal	0	0	0	0
Serious	0	0	0	0
Minor	0	0	0	0
None	0	0	0	0

1.3 Damage to Aircraft

The aircraft sustained substantial damage to its structure, engine propeller and airframe

1. Propeller deformed beyond repair-Replaced
2. Engine internals suspected damaged due to engine shaft seized-overhaul
3. Right/Left landing gear deformed beyond repair-replaced

1.4 Other Damages

About twenty (20) banana plants and several banana fruits were damaged as a result of the accident.

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1.5 Personnel Information

1.5.1 Pilot

Gender	:	Male
Date of Birth	:	14 September 1978
Nationality	:	Philippines
Marital Status	:	Married
License	:	115038-Commercial Pilot License (CPL)
Expiration Date	:	06 July 2028
Medical certificate	:	Valid until April 2024
Date of last medical	:	22 October 2023
Total Time	:	616+01 hours as of February 2, 2024
On type (S2R-T34)	:	29+00 hours as of February 2, 2024

1.6 Aircraft Information

The Thrush aircraft , is an American agricultural aircraft produced by Ayres Corporation and more recently by Thrush Aircraft. Typical of agricultural aircraft, it is a single-seat monoplane of conventional taildragger configuration and turboprop-powered. The aircraft with registration number RP-R2398 was manufactured in 1988.

1.6.1 Aircraft Data

Registration Mark	:	RP-R3298
Manufacturer	:	Thrush Aircraft, Inc.
Type/Model	:	S2R-T34
Serial Number.	:	T34-103DC
Date of Manufactured	:	1988
Aircraft Total Time	:	3320+00 hours as of February 2, 2024
Certificate of Airworthiness valid up to	:	October 15, 2024
Certificate of Registration valid up to	:	August 23, 2026
Gross Weight		3,272.73 Kgs

1.6.2 Engine Data

The PT6A-34AG is a turboprop aircraft engine produced by Pratt & Whitney Canada. It is a two-shaft engine with a multi-stage compressor driven by a single-stage compressor turbine and an independent shaft coupling the power turbine to the propeller through an epicyclic concentric reduction gearbox. The turbo-prop engine is rated at 750 shaft horsepower used by agricultural businesses.

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Manufacturer	:	Pratt & Whitney
Type/Model	:	PT6A-34AG
Serial Number engine	:	PCE-PH0627
• Time Between Overhaul	:	4,000 hours
• Time Since Overhaul	:	3,079+00 hours
• Time Since New	:	7,079+00 hours

1.6.3 Propeller Data

The aircraft is equipped with a three-bladed Hartzell propellers. These type of propellers are installed on Pratt & Whitney engines. During the damage assessment conducted by the Company, all three(3) propellers was bent due to the aircraft impact during landing.

Manufacturer	:	Hartzell
Type/Model	:	HC-B3TN-3D
Propeller serial number	:	BUA31759
• Time Between Overhaul	:	3,000 hours
• Time Since Overhaul	:	1,256+00 hours
• Time Since New	:	8,396+00 hours

1.7 Meteorological Information

Ceiling and visibility unlimited (CAVU). CAVU is a Cloudless (or scattered cloud) conditions with visibility in excess of ten kilometers.

1.8 Aids to Navigation

Aerial spraying operations were conducted through Visual Flight Rules (VFR). VFR are set of regulations under which a pilot operates an aircraft in weather conditions generally clear enough to allow the pilot to see where the aircraft is going.

1.9 Communications

Aircraft was equipped with operational Very High Frequency (VHF) transceiver used for communicating with aerodrome personnel and pilots in the area.

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1.10 Aerodrome Information

1.10.1 General

Aerodrome Name	:	Osmeña Aerodrome
Coordinates	:	Lat: 07 31.4365N
	:	Lon: 128 53. 3856 E
Elevation	:	152.19 meters AMSL
Airport Operator	:	Airtrac Agricultural Corporation/SUMIFRU
Runway Direction	:	18/36
Runway Length	:	860 meters
Runway Width	:	15 meters
Surface	:	Macadam, Graded
Slope	:	Less than 1% downhill on RWY 36
Runway strip width	:	30 meters total graded
	:	Aerodrome usage is limited to aircraft with maximum take-off weight of 2,000kg and below only
Mark Obstacle	:	Tall trees near threshold of RWY 36, 15 meters width runway and 30 meters runway strip are acceptable by the Thrush manufacturer

1.11 Flight Recorder

The aircraft was not equipped with flight recorders and neither relevant regulation requires it.

1.12 Wreckage and Impact Information

The aircraft came to a halt and rested on the canal between runway markers 6 & 7 with a last heading of 89 degrees and coordinates of 7 34.433N, 126 05.684E. All three propeller blades were bent, while the main landing gears and portions of both wings incurred damages due to ground impact.

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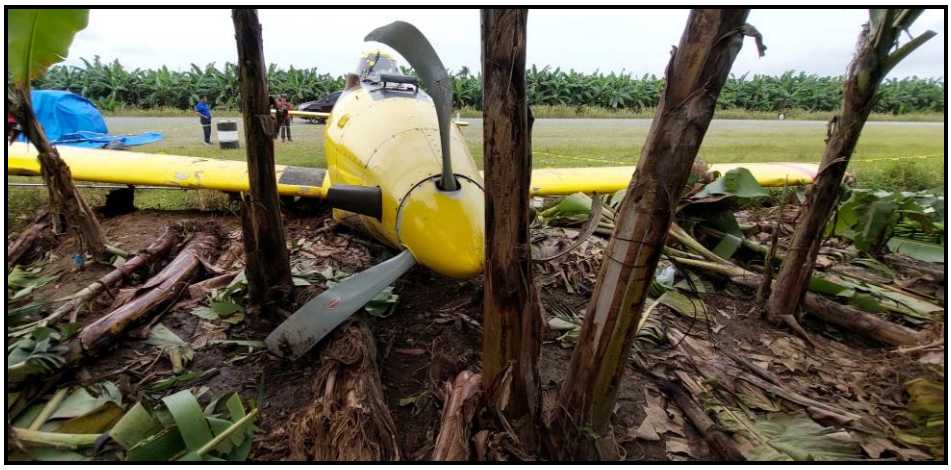

Figure 2: All propeller blades were bent.

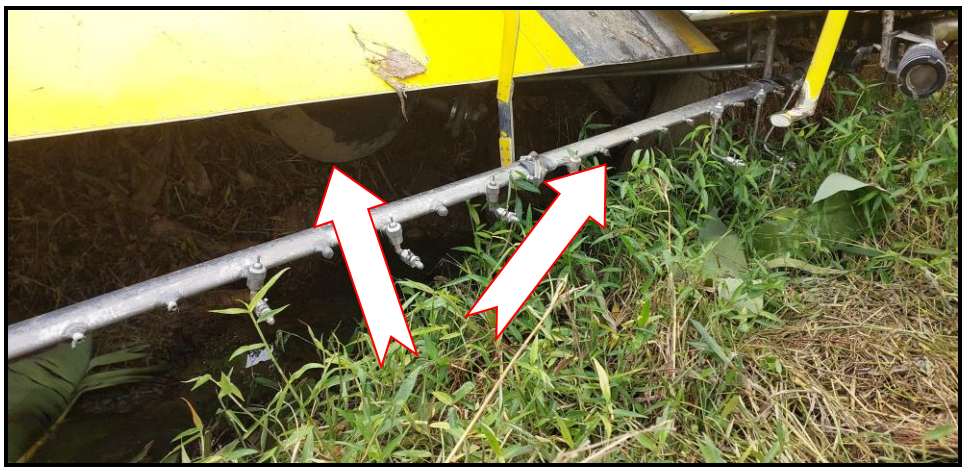

Figure 3: Both main landing gears were damaged

1.13 Medical and Pathological Information

The Pilot did not sustain any injury related to the accident. Post accident medical examination was conducted at Ricardo Limso Medical Center on February 7, 2024 and revealed no significant findings.

1.14 Fire

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

1.15 Survival Aspects

The accident was survivable because the integrity of the cockpit was not impaired. The seat and restraint remained intact after the accident.

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2. ANALYSIS

2.1 General

On February 2, 2024, at about 1710H, an Ayres S2RT-T34 agricultural aircraft with Registration No. RP-R3298 sustained substantial damage following a runway excursion at Osmeña Aerodrome, Barangay Osmeña, Compostela Valley, Davao de Oro. The company's training manual required the pilot to undergo training before releasing him for aerial spraying operations. After a series of six touch-and-go flights, his flight instructor released the pilot trainee for a solo flight. The flight was uneventful from take-off to landing. The aircraft touched down at marker number 2. However, during the landing roll, when thrust reversers were applied, the aircraft started to veer to the right. Accordingly, the pilot trainee applied the necessary corrections to bring the aircraft to the runway center. Subsequently, the aircraft made a sharp turn to the left, exited the runway, and rested on the canal between markers 6 and 7. The aircraft came to a halt with a last heading of 89 degrees and coordinates of 7 34.433N, 126 05.684E.

2.2 Pilot Trainings and Qualification

The pilot possesses a Commercial Pilot License (CPL) with ratings on the Ag-cat G164A and S2RT-T34 aircraft (PEL No. 115038-CPL). He completed and passed the equipment qualification course (EQC) on the Thrush S2R type of aircraft on August 23, 2023. Subsequently, on September 22, 2023, he was issued a certificate that he had logged a total of 15 hours on a Thrush S2R-T34 type of aircraft from August 20, 2023 up to September 14, 2023. His proficiency check ride for additional rating was conducted on October 25, 2023 on Thrush S2R-T34 aircraft. After the occurrence, the pilot trainee resigned from his position as pilot and was no longer connected with the company.

2.3 Maintenance Records

The aircraft maintenance record was reviewed to track the history and status of an aircraft's maintenance, repairs, and inspections. These records are essential for ensuring the safety, airworthiness, and regulatory compliance of the aircraft. The aircraft documents showed no recorded discrepancies or pending maintenance actions related to the incident on February 2, 2024. Likewise, all required maintenance documentation for the aircraft is available during the investigation.

2.4 Pre-flight Inspection

The pilot and maintenance personnel assigned to RP-R3298 on February 2, 2024, stated that they conducted the required pre-flight inspection on the aircraft before its first sortie that morning. There was nothing unusual found on the aircraft. An accomplished pre-flight checklist signed by the assigned maintenance personnel was available during the investigation. A pre-flight inspection is being done to ensure the safety, airworthiness, and proper operation of an aircraft before takeoff.

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2.5 Training Records

In the Operations Manual-D (Revision 0, Issue 1), Chapter 1, Section 1.9 Record keeping, outlines the requirements of keeping training records. The records include ground, flying and simulated trainings including progress reports. However, during review of the training records of the involved pilot, there were no documents available on the trainings that were conducted including the progress of training.

Additionally, the Operations Manual-D (Revision 0, Issue 1), Chapter 3, Section 3.12, pages 34–35, outlines the Turbo Thrush minimum flight time requirements for dual instructions and solo flying for initial flight training (Appendix A). The syllabus specifically outlines the sequences of flight time allocations from pre-operational planning up to application technique (spraying). However, in the course of the investigation, there were no documents that establishes that the syllabus was properly followed. The only records of the flight training that were available were through the aircraft log book and the pilot's logbook.

Interview with the Acting Accountable Manager stated that the company did not receive any reports from the flight instructor, including assessments and regular training progress. During the investigation, the flight instructor was unable to provide any records of the lessons completed by the pilot trainee. There were no records to show the training's progress and the time allocated in the time for each training syllabus.

Training documentation is necessary to ensure that all necessary skills and competencies are covered. Without these records, it is difficult to verify that pilots have received adequate training, which can compromise safety. Additionally, without proper training records, it is challenging to track the progress of trainees, identify skill gaps, or plan future training sessions. This can lead to inefficiencies and delays in the training program. To mitigate these risks, it is crucial to implement robust documentation practices for all training activities.

2.6 Flight Instructor Specific Duties

Flight Instructors play a crucial role in shaping competent, safe, and knowledgeable pilots. One of the responsibilities involves adhering to a structured syllabus specific to the aircraft type during training sessions. This includes maintaining accurate training records, such as progress reports and training plans. It also ensures that all training activities comply with the company's operations manual and relevant aviation regulations. A review of the Operations Manual revealed that the specific duties of a flight instructor were not clearly defined. They should ensure the safety, competency, and proficiency of student pilots. These duties encompass both ground instruction and flight training.

During the interview with the flight instructor, he claimed that after six (6) touch-and-go sessions, he released the trainee pilot for solo. He further stated that, based on his

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assessment, the trainee pilot was already capable of solo flight. However, there are no documents available that show the parameters in his assessment that warrant the release of the pilot trainee. To ensure safety and readiness, the instructor must ensure that the student has met several key parameters and requirements. On the other hand, the FI's duties and responsibilities should be clearly defined in the Operations Manual to determine the scope of responsibility and include its limitations.

3.0 CONCLUSIONS

3.1 Findings

3.1.1 The trainee pilot possesses a valid and current Commercial Pilot License and Medical Certificate.

3.1.2 The trainee pilot has accumulated a total flying time of 616+01 hours and 29+00 hours of which is from Turbo Thrush aircraft.

3.1.3 The Aircraft Certificate of Registration and Certificate of Airworthiness is valid up to October 23, 2026 and October 15, 2024 respectively.

3.1.4 The pilot was released for solo flight after completing 6 (six) touch and go lessons.

3.1.5 There was no FI duties and responsibilities stipulated in the Operations Manual.

3.1.6 No records of adherence to turbo thrush company's initial flight training syllabus.

3.1.7 No establishment system of maintaining personnel training records.

3.2 Probable Cause

3.2.1 Primary Cause Factor

3.2.1.1 Failure of the pilot to maintain directional control of the aircraft during landing roll.

4.0 SAFETY RECOMMENDATIONS

The safety deficiencies detailed in this report have been fully addressed as a result of the safety measures implemented by Airtrac Agricultural Corporation. Consequently, no further safety recommendations are being proposed.

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5.0 SAFETY ACTIONS

5.1 As a result of the occurrence, Airtrac Agricultural Corporation initiated the following safety corrective actions to mitigate the possibility of the same event recurring in the future.

a. Issued a Memorandum to the Flight Crew and Operations Personnel reiterating compliance to the company manual.
(Reference: Memorandum dated May 30, 2024 signed by the Operations Manager).

b. Incorporated in their Operations Manual the establishment of a system to maintain personnel training records.
(Reference: Operations Manual-D – Training Policies and Procedures, Page 1, dated May 30, 2024.)

c. Incorporated in their Operations Manual the duties and responsibilities of the Flight Instructor in the conduct of the training.
(Reference: Operations Manual-D – Flight Instructor, Page 1, dated May 30, 2024.)

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