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-R4861
AGCAT G-164B

OPERATOR: AIRTRAC AGRICULTURAL CORPORATION

TYPE OF OPERATION: AGRILCUTURAL SPRAYING

DATE OF OCCURRENCE FEBRUARY 10, 2020

PLACE OF OCCURRENCE: DACUDAO AERODROME, CALINAN, DAVAO CITY, PHILIPPINES

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(AGCAT G-164B RP-R4861 Accident 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: Incident involving an Allied AGCAT G-164B Turbo type of aircraft with registry number RP-R4861 owned and operated by Airtrac Agricultural Corporation experienced propeller ground strike after landing at Dacudao Aerodrome, Calinan, Davao City, Philippines, on February 10, 2020/0820H.

Notification of Occurrence to National Authority

The Notification of incident to AAIIB CAAP was relayed by the Operator of the aircraft at 1000H (LOCAL) on February 10, 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 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 at the CAAP website on **07 January 2021.**

Synopsis:

On February 10, 2020 at about 0820H an Allied AGCAT G-164B Turbo type of aircraft with registry number RP-R4861 operated by Airtrac Agricultural Corporation experienced propeller ground strike after landing at Dacudao Aerodrome, Calinan, Davao City. The Pilot who was the sole occupant did not sustain any injury. The cause of the occurrence was attributed to the lack of situation awareness to recognize a condition that warrants a go-around.

LIST OF ACRONYMS AND ABBREVIATIONS

AAIIB	:	Aircraft Accident Investigation and Inquiry Board
AAOC	:	Airtrac Agricultural Operator Certificate
AMO	:	Approved Maintenance Organization
CAAP	:	Civil Aviation Authority of the Philippines
CoA	:	Certificate of Airworthiness
CPL	:	Commercial Pilot License
OFSAM	:	Office of the Flight Surgeon and Aviation Medicine
PIC	:	Pilot-In-Command
VFR	:	Visual Flight Rules
VMC	:	Visual Meteorological Condition

1.0 FACTUAL INFORMATION

1.1 Basic Information

Aircraft Registration No.	:	RP-R4861
Aircraft Type/Model	:	Allied AG CAT Production Inc./ AGCAT G-164B
Operator	:	Airtrac Agricultural Corporation
Address of Operator	:	AJMR Port KM.20, Buhisan, Tibungco, Davao City Philippines
Place of Occurrence	:	Dacudao Aerodrome, Calinan, Davao City, Philippines
Date/Time of Occurrence	:	February 10, 2020/ 0820H/0020 UTC
Type of Operation	:	Agricultural Spraying
Phase of Flight	:	Landing
Type of Occurrence	:	Aircraft nosed down

1.2 History of Flight

On February 10, 2020 at about 0820H an Allied AGCAT G-164B Turbo type of aircraft with registry number RP-R4861 experienced propeller ground strike following a nose over after landing at Dacudao Aerodrome, Calinan, Davao City. The Pilot who was the sole occupant did not sustain any injury. The aircraft is being operated by Airtrac Agricultural Corporation.

The Pilot was on a full stop landing after performing three (3) sorties of aerial chemical spray in the area. The aircraft landed almost 170 meters of the remaining runway. The pilot engaged the thrust reverse upon touchdown but as he applied full wheel brakes, the aircraft tilted forward resulting to propeller ground strike. The aircraft came to a complete stop with a heading of 180 degrees and coordinates of 07’13.49” N, 125’27.43” E. The pilot egress safely after performing engine shutdown. All of the three (3) propeller blades were bent at midspan. Visual Meteorological Condition (VMC) prevailed at the time of the event. Wind was reported to be at 360 degrees at 15 knots.

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Figure 1. Aircraft's final resting point

1.3 Injuries to Person (s)

Injuries	Crew	Passengers	Others	TOTALS
Fatal	0	0	0	**0**
Serious	0	0	0	**0**
Minor	0	0	0	**0**
None	**0**	0	0	**0**
TOTAL	**0**	**0**	**0**	**0**

1.4 Damage to Aircraft

The aircraft sustained minor damage.

1.5 Other Damages

None

1.6 Personnel Information

1.6.1 Pilot-in-Command (PIC)

Gender	:	Male
Date of Birth	:	November 08, 1992
Nationality	:	Philippines

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Civil Status	:	Single
License Type	:	103739 -CPL
Validity of License	:	January 30, 2024
Type Rating	:	Airplane: Single Engine Land- Agcat G-164A, S2RT-T34, Agcat G-164B
Medical Certificate Validity	:	Class 1 valid up to April 18, 2020
Total Flying Time (G-164B)	:	1,306+00 Hours (As per current logbook)
Total Flying Time	:	2,244+00 Hours (As per current logbook)

1.7 Aircraft Information

1.7.1. Aircraft Data

Registration Mark	:	RP-R4861
Manufacturer	:	Allied Agcat Productions, Inc.
Country of Manufacturer	:	USA
Type/Model	:	G-164B-34T
Operator	:	Airtrac Agricultural Corporation
Serial No.	:	822B
Date of Manufactured	:	1990
Gross Weight	:	2,045.45 Kgs
Certificate of Airworthiness Valid up to	:	February 07, 2021
Certificate of Registration Valid up to	:	January 17, 2021
Aircraft Total Time:	:	9,440+00 Hours as of last C of A
Category	:	Restricted
Number of Crew	:	1
Passenger Seats	:	1

1.7.2 Engine Data

Manufacturer	:	Pratt & Whitney
Type	:	Turbine
Type/Model	:	PT6A-34 AG
Engine Serial No.	:	PCE-PH0037
Engine Time Since New	:	7566+00 Hours as of last C of A

1.7.3 Propeller Data

Manufacturer		Mc Cauley
Type/Model	:	Fixed Pitch/ 1A103/TCM6958
Propeller Serial No.	:	R776149
Propeller Time Since New	:	6+37 hours (as of 11-6-2017)

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1.8 Meteorological Information

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

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

Normal communications were carried out between the pilots and other aircrafts operating in the area.

1.11 Aerodrome Information (AIP as of 30 April 2015)

Aerodrome Name	:	Dacudao Aerodrome
Aerodrome Operator Address	:	Dacudao, Calinan, Davao City
Coordinates	:	07º 13' 31.10 N ; 127º 27' 27.14 E
Runway Magnitude Bearing	:	N70 25ºW
Azimuth	:	RWY 18/36
Runway Length	:	800 meters
Runway Width	:	15 meters
Runway Surface	:	Macadam (Graded)
Wind cone	:	Operational
CAAP Permit to Operate	:	AGA-P-006A-2012

Other information

a. Group of trees near RWY 36 marked as obstacles.
b. Wind limitation consideration when taking off from the airstrip using RWY 18:
    1. Headwind- no limit
    2. Tail wind - 5.21 Knots
    3. Cross wind- 13 Knots

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1.12 Wreckage and Impact Information

The aircraft came to a complete stop with a heading of 180 degrees and coordinates of 07’13.49” N, 125’27.43” E. All of the three (3) propeller blades were bent at midspan.

Figure 2: Propeller blades bent at mid span

1.13 Fire

There were no traces of fire after the event.

1.14 Search and Survival Aspects

The pilot egress safely on his own after performing engine shutdown

1.15 Flight Recorders

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

1.16 Medical and Pathological Information

The pilot was subjected to medical and drug test after the incident with no significant findings. He also had undergone the post flight accident medical examination conducted by the Office of the Flight Surgeon and Aviation Medicine (OFSAM).

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1.17 Organization and Management Information

1.17.1 Operator

The aircraft, RP-R4861 is operated by Airtrac Agricultural Corporation with an address of AJMR Port KM.20, Buhisan, Tibungco, Davao City.

Airtrac Agricultural Corporation is a holder of Agricultural Aircraft Operator Certificate (AAOC) number 11-2010001 valid to operate up to June 01 2020. It is authorized to perform Aerial Works (Agricultural Spraying) Operations in accordance with the Operations Manual and Part 11 of the Philippine Civil Aviation Regulations, series of 2008. As part of the Approved Operation Specification, the pilot and RP-R 4891 is included on the list of authorized pilots and aircraft for Aerial Work Operation respectively.

1.18 Maintenance

The maintenance functions of RP-R4861 are undertaken by Airtrac Agricultural Corporation with official address at AJMR Port KM.20, Buhisan, Tibungco, Davao City with a current Approved Maintenance Organization (AMO) Certificate number 105-11.

2.0 ANALYSIS

2.1 General

The Pilot has logged a total flying time of 2,244+00 Hours (17) hours and 1,306+00 Hours for the specific type of aircraft. The pilot and aircraft were based at New Corella, Davao Del Norte. The day before the accident, the pilot was instructed by the Company to preposition the aircraft to Dacudao Aerodrome, Calinan, Davao City for spraying activity. The pilot revealed that it was his first time to land at Dacudao Aerodrome. He was then advised by the ground crew upon arrival of the prevailing wind condition and the one way take -off and landing procedures in the aerodrome.

On the day of the accident after the third load of aerial spray, the pilot extended his final approach before landing using RWY 18 because of the prevailing strong wind condition at the aerodrome. The aircraft initially landed on its three wheels, 645 meters away from the threshold of RWY 18. Upon touchdown, the pilot applied heavy brakes and reverse thrust to stop the aircraft. It continued to roll for another 155 meters, however the propeller blades struck the ground following a nose over almost at the edge of the runway. Witnesses on the ground saw the aircraft was fast on its approach, bounced twice and floated before it made a full stop. They added that the prevailing wind condition in the aerodrome was approximately 12 to 15 knots at the time of the incident. It was also noted that only one (1) wind cone was installed near the threshold of runway 36. The proximity of the installed wind cone from the approach of RWY 18 is far enough to provide accurate wind information to the pilot. Another wind cone should be installed abeam the threshold of RWY 18 for reliable wind information.

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2.2 Operations

A pilot landing in a tailwheel aircraft is challenging in any wind condition. When there is a tailwind, landing safely is even more difficult. In this event, RP-R 4861 was making a landing with approximately 12 to 15 knots tailwind. It touched down hard almost at 1/4th of the remaining runway. It bounced twice, followed by the propeller ground strike after a nose over due to hard braking. As with any landing, maintaining aircraft control is the first priority, but in this case, the tailwind increases the aircraft's ground speed, and there is the problem of stopping the aircraft safely. A go-around should have been initiated during un-stabilized approach.

Figure 3: Approximate aircraft track

It was noted during the investigation that the Pilot only knew his new assigned area one (1) day prior to the start of initial spraying operation and he did not review the Aerodrome manual to know the procedures and limitations while operating in the Aerodrome. The pilot having been new to the area, should have considered consulting the aerodrome information and conditions which would provide approach and landing procedures prior prepositioning the aircraft. Part of his pre-flight procedures before the aerial spraying activities, is to calculate the required runway length for take-off and landing. The aerodrome being a one way in and out, in order to mitigate runway excursion during tailwind landing, the pilot should compute the landing distance using the aircraft to be used and actual runway data to analyze how much runway is required relative to runway available. Moreover, calculating a go-around point on the runway by which the pilot can use as a reference point in case of un-stabilized approach during tailwind landing.

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2.3 Action taken by the Operator after the event

Following the occurrence, Airtrac Agricultural Corporation initiated the following safety corrective actions:

a. Installation of new wind cone abeam the threshold of RWY 18 (App A).

b. Issued memorandum to all their Pilots to remind them to iniate a mandatory go-around during un-stabilized approach (App B).

3.0 CONCLUSIONS

3.1 Findings

3.1.1 Has a valid license and medical certificate issued by Office of Flight Surgeon and Aviation Medicine (OFSAM), CAAP.

3.1.2 The Operator was carrying out operation under Aerial Works (Agricultural Spraying) Operations Part 11 of the Philippine Civil Aviation Regulations, series of 2008.

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

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

3.1.5 The aircraft has a current aircraft registration and certificates of airworthiness

3.2 Probable Cause

3.2.1 Primary Cause Factor

a. The lack of situation awareness to recognize a condition that warrants a go-around.

3.2.2 Contributory Cause Factors:

a. Unfamiliar with the landing environment and the potential risks existing that day.
b. Inadequate flight planning.

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4.0 SAFETY RECOMMENDATIONS

4.1 CAAP-FSIS to ensure that:

4.1.1 The Operator include in their operations manual the following requirements for Pilots that are new in an uncontrolled Aerodrome prior to initial aerial spraying operation:

a. Review the aerodrome manual to be familiar with the limitations of the aerodrome.
b. Conduct series of touch and go to familiarize on the take-off and landing procedures in an uncontrolled aerodrome.
c. The reassignment to other aerial spraying areas of operation must be done few days prior for the pilots to have enough time to review the aerodrome and conduct series of touch and go.

--END--

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Airtrac Agricultural Corporation
ain Office: AJMR Port, Km. 20, Tibungco, Davao City.
Tel. No. (082) 287-7882

MEMORANDUM

TO : **ALL AIRTRAC PILOTS**

FROM : **CAPT. SANDY HABANA**
General Manager

SUBJECT : Recommended Action by CAAP AIIB to ensure safety

DATE : August 01, 2020

This is in reference to the incident involving the Allied Ag-Cat –G164-34 type of aircraft with registration number RP-R 4861 piloted by Capt. Brian Joshua Ceniza that experienced propeller ground strike during landing at Dacudao Aerodrome , Calinan, Davao City on February 10, 2020.

During the investigation by CAAP (AAIB) Accident Investigation and Accident Board there were certain issues and concerns identified by the investigator to be acted upon promptly to ensure our safety. The AAIB recommended a safety action to avoid recurrence and to remind all pilots in aerial spray operation to conduct mandatory go-around procedures in case of unstable approach during landing. It was also recommended to conduct a series of touch and go to be familiar with the take-off and landing procedure of the aerodrome.

In view of this CAAP recommendation, all Airtrac pilots are mandatorily instructed by the company to comply with the above-mentioned course of action.

For your guidance and strict compliance.

Airtrac Agricultural Corporation
Main Office: AJMR Port, Km. 20, Tibungco, Davao City
Tel. No. (082) 287-7862

Aug 28, 2020

Mr. Reineer Y. Baculinao
Officer-in-Charge
Aircraft Accident Investigation and Inquiry Board
Civil Aviation Authority of the Philippines

Dear Sir:

Greetings

In compliance with your recommendation to install a wind cone in Dacudao Aerodrome afterthe incident of RP-R 4861 on February 10, 2020. Airtrac constructed a Wind Directional Indicator (Wind Cone) at runway 18 which abeam in the threshold of the runway 18 in order to monitor the wind condition in short finals and it was done on Aug 24, 2020.
Attach is a 3 picture of the runway and the wind cone.

For your guidance and information, Thank you