

CIVIL AVIATION AUTHORITY OF THE PHILIPPINES
Aircraft Accident Investigation and Inquiry Board
Aircraft Accident Report

BASIC INFORMATION

Aircraft Registration No. : RP-R3026

Aircraft Type/Model : Allied Ag Cat Productions, Inc. G-164A

Operator : Mindanao Rainbow Agricultural Development Services, Inc.

Address of Operator : Solidwood Hangar, General Aviation Area Davao International Airport, Davao City

Date/Time of Accident : February 23, 2016/0732H

Type of Operation : Crop Dusting (Aerial Application)

Phase of Operation : Climb

Type of Occurrence : Forced landing due to engine failure

Place of Accident : TADECO 1 Aerodrome Panabo City, Davao del Norte

EXECUTIVE SUMMARY

In the morning of February 23, 2016, after the maintenance personnel completed his pre-flight inspection on the Grumman Ag Cat G164A registered as RP-R3026, the Pilot taxied the aircraft to the chemical loading bay in preparation for the spraying activity of the day. The aircraft took-off at about 0600H and made seven (7) spraying sorties prior to the accident. Thereafter at 0731H an after completing its 8th load of chemicals, the pilot took-off utilizing runway 36. Upon airborne, the pilot commenced a right turn proceeding towards the spraying area. While passing 150 feet AGL, the pilot heard a loud pop sound coming from the engine followed by engine vibration and decreasing RPM. The pilot immediately dumped the chemicals and initiated a left base turn to re-land via runway 18. However, due to its unsafe altitude and decreasing airspeed, the aircraft may not able to make a safe landing so the pilot opted to force land the aircraft at the right side of RWY 18 abeam the threshold and settled approximately 32 meters from the runway shoulder heading 240 degrees and almost perpendicular to the runway.

The aircraft sustained substantial damage to the airframe, wings, engine, propeller and spray equipment. The pilot who was the sole occupant was able to escape uninjured. No post crash fire ensued after the impact. Visual meteorological conditions prevailed at the time of the accident.

PROBABLE CAUSE

The Aircraft Accident Investigation and Inquiry Board determined that the probable cause of this accident was:

- **Primary Cause Factor**

Separation of cylinder head from cylinder barrel that subsequently resulted to loss of engine power. (Material failure)

- **Contributory Factors**

Non adherence by the pilot to the General Operating Instructions (Vol 1) for R-985 engines prescribing the specific temperature limitations.

- **Underlying Cause**

The pre-flight checklist and post flight checklist do not include visual inspection on the area of the cylinder head cooling fins for exhaust emission stains and exhaust carbon deposits.

SAFETY RECOMMENDATIONS

As a result of this investigation, the Aircraft Accident Investigation and Inquiry Board made the following safety recommendations:

- CAAP-FSIS to ensure adherence by the operator to the General Operating Instructions for a R-985 engine on the specific temperature limitations to reduce if not eliminate the problems related to cylinder head separation in the future.
- CAAP-FSIS to ensure that the operator incorporates in their pre-flight checklist and post flight checklist visual inspection on the area of the cylinder head cooling fins for exhaust emission stains and exhaust carbon deposits.