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

BASIC INFORMATION

Aircraft Registration	:	RP-C8832
Aircraft Type/Model	:	Cessna 152 II
Owner/Operator	:	Omni Aviation Corporation
Address of Owner	:	Omni Aviation Complex, Angeles City, Pampanga
Date/Time of Incident	:	October 30, 2013 / 0020Z/0820H
Type of Operation	:	Flight Training
Type of Occurrence	:	Forced landing from cruise
Place of Incident	:	Riverbed, Brgy Sta. Fe, San Marcelino, Zambales

EXECUTIVE SUMMARY

On 30 October 2013 at around 07:50am, a Cessna 152 with Registry No. RP-C8832 with the Flight Instructor at right seat and Student Pilot at left seat departed Subic Bay International Airport for a cross-country high altitude training flight to Baguio Airport and Clark Omni Airport respectively. With full fuel on board, the aircraft was cleared for take-off at runway 07 on a downwind departure and to report 5NM outbound of the station proceeding Castillejos at 2500 feet bound for Baguio. At around 08:07am while over San Felipe Zambales and scanning the engine parameters and flight instruments, the flight instructor noticed that the aircraft had a poor climbing performance at 4500 feet and the oil pressure was dropping below the normal range. The pilot decided not to continue the flight to Baguio and immediately return to Subic. While en-route, at 3000 feet, and near San Marcelino, the oil pressure indicated 25PSI below the normal range. Further, a minimal engine vibration was noted. Hence the pilot immediately declared an emergency to force land the aircraft due to low oil pressure and contacted the Subic Control Tower. The pilot tried to apply additional power to improve the situation but to no avail. The aircraft was continuously losing altitude and the pilot decided to force land the aircraft on the lahar trail (riverbed) west of Bagang Mountain at Brgy Sta. Fe, San Marcelino, Zambales about 25nm NNW of Subic Airport. The landing was safely performed with no observable damage to the aircraft and no injury to the aircraft occupants.

PROBABLE CAUSE

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

- The aircraft has a valid registration and airworthiness certificate.

- A teardown inspection was conducted by Vev Air Cargo Services and found that the Engine trouble started by the damage on Piston no.2, and such damage freezes the piston rings thus scratching and creating metal nicks on the cylinder walls of the cylinder.

- Scratches and nicks created metal filings/chips that spread on the other parts of the engine which also caused the excessive temperature indication of CHT.

- Oil was thrown out of the breather and the starvation of oil created the damage on the bearings.

- As per Maintenance Records (Aircraft logbook and Engine Logbook), the engine did not indicate any signs or symptoms for corrective action and tests were performed on a regular basis to the aircraft.

Primary Cause factor

- Engine Failure (Material Factor) - Oil starvation, comparing the damages on the four cylinders, only cylinder nos.2 had piston damage due to oil starvation. Careful examination of the damage shows that it was not caused by melting of the piston ring but due to overheating by excessive friction. Such damage was not formed on one flight only. Metal fatigue is considered as the factor in piston damage.

SAFETY RECOMMENDATIONS

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

- CAAP-FSIS shall ensure that inspection on ATO evaluated standards for maintenance of aircrafts are maintained.

- CAAP-FSIS shall require ATOs to include in their In-house Standardization program for Flight Instructors, the continuous monitoring of aircraft instruments particularly engine instruments during flight for timely conduct of precautionary and emergency procedures.

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