

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

BASIC INFORMATION

Aircraft Registration No. : RP-C824

Aircraft Type/Model : Beechcraft BE-65-80QA (Queen Air)

Owner/Operator : Fidel J. Hembrador

Place of Accident : Lower Taiwan St., Bgry. Don Bosco, Parañaque City, Philippines,

Date/Time of Accident : December 10, 2011 at 1415H (0615 UTC)

Type of Operation : General Aviation

Phase of Operation : Take off

Type of Accident : Uncontrolled Flight into Terrain (UFIT) after take off

EXECUTIVE SUMMARY

On December 10, 2011, BE-65-80QA (Queen Air) with Registry RP-C824 took off from RWY 13, Manila Domestic Airport on/or about 0610 UTC (1410H) southbound for San Jose, Mindoro. There were three (3) persons on board, the PIC and two (2) other persons; one was seated at the right-hand cockpit seat and the other one at the passenger seat. After airborne, the ATC gave instructions to the pilot to turn right and report five (5) miles out. After performing the right turn, the pilot requested for a re-land which was duly acknowledged but the ATC with instructions to cross behind traffic on short final Rwy 06 (a perpendicular international runway) and to confirm if experiencing difficulty. However, there was no more response from the pilot. From a level flight southward at about 200 feet AGL, three (3) loud sputtering/burst sounds coming from the aircraft were heard (by people on the ground) then the aircraft was observed making a left turn that progressed into a steep bank and roll-over on a dive. After about one complete roll on a dive the aircraft hit ground at point of impact (Coordinates 14.48848 N 121.025811 E), a confined area beside a creek surrounded by shanties where several people were in a huddle. Upon impact, the aircraft exploded and fire immediately spread to surrounding shanties and a nearby elementary school building. The aircraft was almost burned into ashes and several shanties were severely burned by post-crash fire. A total of thirteen (13) persons were fatality injured composed of: the 3 aircraft occupants who died due to non survivable impact and charred by post-crash fire, and ten (10) other persons on the ground, all residents at vicinity of impact point, incurred non-fatal injuries and were rushed to a nearby hospital for medical treatment. About 20 houses near the impact point were

completely burnt and the adjacent Elementary School building was severely affected by fire.

PROBABLE CAUSE

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

- **Immediate Cause**

- (1) Pilot's Lack of event proficiency in emergency procedures for one (1) engine in-operative condition after-off. Pilot Error (Human Factor)**

While a one engine in-operative condition during take-off after V1 is a survivable emergency event during training, the pilot failed to effectively maintain aircraft control the aircraft due to inadequate event proficiency.

- **Contributing Cause**

- (1) Left engine failure during take-off after v1. (Material Factor)**

The left engine failed due to oil starvation as indicated by the severely burnt item 7 crankshaft assembly and frozen connecting rods 5 & 6. This triggered the series of events that led to the failure of the pilot to manage a supposedly survivable emergency event.

- **Underlying Causes**

- (1) Inadequate Pilot Training for Emergency Procedure. Human Factor**

Emergency event such as this (one engine inoperative event – twin engine aircraft) was not actually or properly performed (discussed only) in actual training flights/check-ride and neither provided with corresponding psycho-motor training on a simulator. Hence, pilot's motor skill/judgment recall was not effective (not free-flowing) during actual emergency event.

- (2) Inadequate engine overhaul capability of AMO. Human Factor**

There was no document to prove that engine parts scheduled to be overhauled aboard were complied with or included in the overhaul activity. The presence unauthorized welding spot in the left-hand engine per teardown inspection report manifested sub-standard overhaul activity.

- (3) Inadequate regulatory oversight (airworthiness inspection) on the overhaul activity of the AMO (on engine overhaul). Human Factor**

The airworthiness inspection on this major maintenance activity (engine overhaul) failed to ensure integrity and quality of replacement parts and work done (presence of welding spots).

(4)Unnecessary Deviation by ATC from the AIP provision on Runway 13 Standard VFR Departure Southbound.

The initiative of the AY+TC for an early right turn southbound after airborne was not in accord with the standard departure in the AIP which provides the safest corridor for take-off and the ample time to stabilize aircraft parameters in case of a one engine inoperative emergency event for a successful re-land or controlled emergency landing.

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 check pilots for multi-engine aircraft strictly implement all events in the pilot proficiency flight check test report form including emergency events on one engine inoperative in flight either in actual flight or in simulator during the check-ride for initial rating, additional rating and renewal of license.
- CAAP-FSIS shall ensure that Airworthiness safety inspections on all major maintenance activities of all AMO certificate holders are subjected to strict review system for zero defect target.
- CAAP-FSIS shall conduct one-time inspection on AMO of ATI Inc. to reaffirm compliance to maintenance standards especially on succeeding major component repair activities such as aircraft rehabilitation work and overhaul of aircraft engines and propellers.
- CAAP-FSIS shall ensure that every registered privately owned aircraft engaged in General Aviation shall establish maintenance support agreement with an AMOC holder to ensure a clear responsibility and adequate standard for different levels of maintenance requirement.
- CAAP-ATS shall ensure that the standard procedures in the AIP including Manila Domestic Airport Runway 13 Standard VFR departure procedure southbound are strictly implemented unless there are valid supervening safety circumstances.
- CAAP-FSIS shall ensure that the requirement for aircraft insurance (although non-causal) under PCAR Part 8 shall be well-defined by policy for the specific period of coverage (annually including the coverage for aircraft occupants and third party liabilities).