



Federal Aviation Administration

Memorandum

Date: 10/15/2015
To: NTSB Investigator Todd Fox
From: Inspector Patrick D. Lusch, GL-23 – EMI - FSDO
Subject: Inspector Statement, Accident CEN 15LA421

Accident Summary:

Approximately 45 minutes into his third flight of the day, the pilot reported smelling a strange odor. He looked at his engine instruments and noticed zero oil pressure and zero oil temperature indications. The PIC realized he could not make any airport in the area and elected to shut down his engine. The PIC set up to land on a dirt road, but at the last minute noticed vehicular traffic in the area. He turned left into a plowed field. The aircraft touched down hard, flipped over and came to rest inverted. There were minor injuries to the two occupants.

Inspector Statement:

Upon initial examination, the aircraft was observed to be in the inverted position as found in the field. The bottom and sides of the fuselage were completely covered in oil, appearing to indicate the aircraft experienced a rapid and complete loss of oil quantity.

The engine cowlings (both upper and lower) were removed by the inspectors in order to perform an inspection of the engine to locate the probable cause of the oil loss. The oil filter was observed to be dangling from its safety wire and no longer threaded into the engine oil filter adaptor. A round oil filter adaptor plate was found laying in the cowling. There was no other obvious outward signs of engine damage or any other indication that the oil leak had occurred from any other location.

Using Textron Lycoming Special Service Publication SSP-885-1, Figure 4 and 5, as a guide to examine the oil filter installation and the engine mounted oil filter adapter assembly. The original canister type oil filter assembly was replaced with a spin-on oil filter, but not in accordance with the instructions of the publication. It was determined the LW-13904 converter kit was not properly installed and the incorrect oil filter was installed (part no 48110).

The engine mounted LW-15047 adapter has heli-coil threads which the converter kit stud is supposed to screw into. These threads were found damaged and pulling out of the adapter. The missing converter stud which would hold an additional adapter plate and gasket was not installed

per the figure. The oil filter used, which contains a stud is not long enough to hold the assembly by more than a few threads. The correct oil filter (Part No 48103) would screw onto the converter stud and hold the adapter plate in place had it been installed. The incorrect installation, showing signs of possible cross-threading, resulted in pulling the threads out of the adapter, and over time, resulted in the separation of the oil filter.

A review of the engine logbook revealed the improper oil filter installation was first noted in September 2004, but may go as far back as the last engine overhaul in 1997. The pilot stated that he performed the oil changes since he purchased the aircraft in 2011, and continued to use the same part number filter that was on the engine at the time of purchase .

The pilot did state that since the last oil change preceding the accident, there was a minor oil leak. This leak was remedied by the pilot by replacing the adaptor plate gasket.