



SUBJ: POWERPLANT – Engine damage as a result of kickback

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) alerts you, owners, operators, and certificated repair facilities of airplanes equipped with **Continental Motors, Inc. (CMI) IO-520 series, TSIO-520 series, IO-550 series, TSIO-550 series, and TSIOL-550 series reciprocating engines (operating with AVGAS)** of available service instructions for identifying causes of engine kickback and recommended engine inspections following a kickback event.

At this time, the airworthiness concern is not an unsafe condition that would warrant airworthiness directive (AD) action under Title 14 of the Code of Federal Regulations (14 CFR) part 39.

Background

The FAA received reports from the field of fractured crankshaft gear retaining screws, which were determined to be related to engine kickback events.

Engine kickback can be identified by the propeller blades stopping abruptly or rotating backwards during the engine start sequence. CMI conducted extensive engine testing, which showed that **engine kickback during a failed engine start can cause high instantaneous torque loads resulting in damage to engine components including the starter, starter adapter assembly, as well as the crankshaft gear and its retaining screws.** Contributors resulting in the highest likelihood of a kickback include, but are not limited to, the installation of lower-inertia (light weight) propellers and/or a slow or sluggish starting RPM. Slow starting RPM can be caused by low battery voltage, an overheated starter, or high resistance in the starting circuit.

Recommendations

1. Following a kickback event, the FAA recommends that you inspect starter system components for damage and replace as needed. The inspection includes rotating the starter adapter to ensure smooth rotation, free from binding or “ratcheting”.
2. If discrepancies are found during the rotational check, we recommend replacing the starter adapter and crankshaft gear retaining screws.
3. We also recommend that you follow CMI Service Bulletin, SB16-6, dated October 19, 2016, when performing maintenance on these products.

For Further Information Contact

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