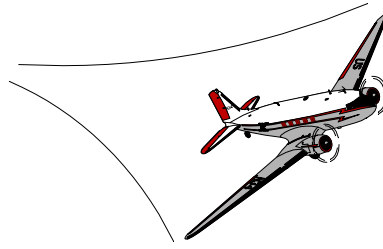


SPECIAL AIRWORTHINESS INFORMATION BULLETIN



U.S. Department
of Transportation

**Federal Aviation
Administration**

No. CE-03-38
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Aircraft Certification Service
Washington, DC

We post SAIBs on the internet at www.airweb.faa.gov

This is information only. Recommendations are not mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) informs all registered owners and operators of **Cessna Model 414 airplanes** modified by Supplemental Type Certificate (STC) SA2680SW that the engine turbocharger overboost safety protection system may be improperly installed.

Background

The modification approved in STC SA2680SW allows replacing the factory installed 310 horsepower TCM TSIO 520-() engines and 3-bladed propellers with turbo-normalized 400 horsepower Textron-Lycoming IO 720-() engines and 4-bladed Hartzell propellers on Cessna Model 414 airplanes.

The larger turbo-normalized engines include an overboost safety protection system. The overboost safety protection system is designed to limit manifold pressure of the turbo-normalized system to that of sea level, at all altitudes up to the system critical altitude.

If the overboost safety protection system is not properly installed and functioning, a manifold overboost condition could occur, which could result in excessive manifold pressures. Excessive manifold pressures beyond the design specifications could lead to failure of the engine cylinder assemblies, the crankshaft, or the engine crankcase.

System components include:

Turbocharger	Garrett Model TE0659 Garrett P/N 406610-27
Pressure Relief Valve (31 in. Hg)	Garrett P/N 470944-16 (old p/n) Garrett P/N 470944-25 (new p/n)
Variable Absolute Pressure Controller	Garrett P/N 470836-1
Wastegate Valve	Garrett P/N 481036-1

Note: *Garrett-Airesearch Aerospace is now Kelly Aerospace, Montgomery, Alabama. For technical information, contact Randy Knuteson, Customer Service, (800) 334-6359.*

Recommendation

The FAA strongly recommends that operators have an FAA certified mechanic inspect any Cessna Model 414 airplanes modified by STC SA2680SW for proper installation of the engine overboost safety protection system. The airplane may be returned to service after the engine is inspected and the engine overboost safety protection system has been determined to be operating properly. Technical information concerning the installation of this STC may be obtained from:

Douglas Marwill P.E.
14004 Mint Trail
San Antonio, TX 78232
(210) 496-6409
E-mail: dmarwill@texas.net

This SAIB also advises flight crews that careful operation of the throttles could prevent an overboost condition from occurring on airplanes that have an improperly installed engine turbocharge overboost safety protection system.

Monitoring the manifold pressure indicators during throttle advances will provide an indication that the overboost safety protection system is not operating in accordance with the design specifications (reference STC SA2680SW Aircraft Flight Manual supplement for manifold pressure limits). Controlling the manifold pressure by manually limiting the throttle position can prevent an overboost condition from occurring.

Flight crews should report any overboost condition immediately and have a FAA certified mechanic resolve all defective conditions before further flight.

For Further Information Contact

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