



**SUBJ:** Powerplant - Prohibited use of sealant.

*This is information only. Recommendations aren't mandatory.*

## **Introduction**

This Special Airworthiness Information Bulletin (SAIB) alerts registered owners, operators, [maintenance personnel](#), and certificated repair facilities of all airplanes equipped with **Continental Motors, Inc. (CMI) engines (some models operating with AVGAS)** of the available service instructions for proper installation procedures and approved materials for joining engine case halves and installing cylinders. Note: Continental Titan brand engines or Continental (Jet –A) Diesel engines may have different requirements for sealants.

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

## **Background**

This SAIB is prompted by multiple reports of engine failure related to the improper and unauthorized use of certain sealants during engine case half assembly and/or cylinder installation. These sealants may be commonly referred to as room-temperature vulcanizing (RTV), RTV sealant, RTV adhesive, or gasket maker. These sealants are not approved for installations on CMI engines listed in the service documents referenced below. It is vital that you refer to the **manufacturer and model-specific** maintenance and overhaul manuals and service instructions for approved materials and procedures.

Proper cylinder deck stud and through-bolt pre-load is critical during the assembly of an engine. Direct measurement of bolt pre-load is not possible during installation. However, it can be assumed to be correct through accurate torque measurement of installation nuts or bolt heads, but only if proper assembly procedures and approved materials are used. The use of approved lubricants and procedures is absolutely essential to achieve proper bolt pre-load. If certain sealants are used between the case halves or under the cylinder decks during the assembly process, the coating layer can create a “soft joint” and allow relative movement of the faying surfaces. Within a few operating hours, the sealant will creep and the joined components may loosen and fret. Eventually, the main crankshaft bearings may migrate or rotate and loss of proper bolt pre-load may occur. In addition, extruded sealant on the engine interior can detach, migrate into the oil passages, and block oil flow. Once any of these conditions occur, catastrophic engine damage can result. **Applying any unapproved sealant (RTV, gasket maker, etc.) to the crankcase cylinder deck, cylinder deck chamfer, cylinder mounting flange, cylinder base O-ring, cylinder fastener threads, or crankcase main bearing bosses is not an approved procedure.**

## **Recommendations**

The FAA recommends that owners, operators, and maintenance personnel read and adhere to the contents of the following service publications when performing maintenance to these products:

- Continental Motors Aircraft Engine Service Bulletin No. SB96-7D, Revision D, dated August 11, 2015
- Continental Motors Aircraft Engine Service Information Letter No. SIL-99-2C, Revision C, dated September 16, 2014

The FAA also recommends that owners, operators, and certificated repair stations refer to applicable Instructions for Continued Airworthiness for approved materials and methods.

**For Further Information Contact**

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