



**SUBJ:** Exhaust systems; Piper PA-23-250

**SAIB:** CE-12-44

**Date:** September 17, 2012

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

## **Introduction**

This Special Airworthiness Information Bulletin (SAIB) alerts you, owners and operators of **Piper Model PA-23-250 (Aztec) aircraft equipped with Lycoming IO-540-C4B5 engines**, of an airworthiness concern with the engines' crossover exhaust assemblies.

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

## **Background**

Within a 6.5 year period, there were six crossover exhaust assembly failures in Piper Model PA-23-250 airplanes equipped with Lycoming IO-540-C4B5 engines. The time in service (TIS) was documented for four of these crossover exhaust assemblies and was not less than the engine time between overhaul (TBO) stated in Lycoming Service Instruction No. 1009AU, Recommended Time between Overhaul Periods.

Each engine on a Piper Model PA-23-250 airplane has a crossover exhaust assembly consisting of two Piper parts (or their FAA approved equivalent parts): a stack inboard (tube) and a crossover (tube). According to the Piper Aztec Parts Catalog (Piper part number 753-522), each crossover exhaust assembly is available with two different exhaust joint designs.

While the FAA is unaware of any safety related issues with the crossover exhaust assemblies in question, functional and durability issues with these assemblies might exist. These issues include, but are not limited to, an increase in exhaust noise, smoke emanating from the engine nacelle, heat damage to parts within the engine nacelle, and the initiation of an engine fire.

## **Recommendations**

We recommend that owners and operators of Piper Model PA-23-250 airplanes equipped with Lycoming IO-540-C4B5 engines perform the inspection defined below immediately on crossover exhaust assemblies with a part TIS greater than or equal to engine TBO, and every 50 hour TIS or 180 calendar days thereafter, whichever occurs first:

1. Remove the necessary engine cowling per Piper Aztec Service Manual part number 753-564 to access the exhaust assembly of each engine;
2. Remove the 33178-02/04 shroud top and 33178-03/05 shroud bottom per Piper Aztec Service Manual part number 753-564;
3. Inspect the surfaces of the 33178-02/04 shroud top, 33178-03/05 shroud bottom, 33420-02 stack inboard right engine, 33419-03 stack inboard left engine, and the 28279-14 crossover right engine and 28278-12 crossover left engine (for ball-joint type exhaust systems); and, the 31212-02 crossover

left engine and the 31226-05 crossover right engine (for slip joint type exhaust systems) with a flashlight and mirror for chafing, cracking, distortion, exhaust stains, holes, and pinholes;

4. Inspect the forward center slip joint formed by each stack inboard (tube) and crossover (tube) for seizure;

5. Repair or replace (with airworthy Piper parts or their FAA approved equivalent parts) all damaged Piper parts or seized slip joints before further flight;

6. Reinstall the 33178-02/04 shroud top and 33178-03/05 shroud bottom per Piper Aztec Service Manual part number 753-564; and

7. Reinstall the necessary engine cowling per Piper Aztec Service Manual part number 753-564.

#### **For Further Information Contact**

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#### **For Related Service Information Contact**

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