



SAIB: CE-13-07

Date: December 13, 2012

SUBJ: Engine Exhaust; Tailpipe V-band Couplings

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) informs owners, operators, and maintenance personnel of **Cessna Aircraft Company Model T206H airplanes** about the potential for in-flight fire as a result of failure of the V-band coupling (V-band clamp) securing the tailpipe to the turbocharger or the wastegate elbow to the wastegate valve.

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

Background

This SAIB is the result of an in-flight fire on a Cessna T206H with only 1,000 hours time-in-service (TIS) since new. Investigation revealed the V-band coupling that secures the tailpipe to the turbocharger housing had failed in-flight resulting in hot exhaust gas impingement on the firewall and consequent burning around the base of the firewall into airplane structures. The amphibious airplane had spent approximately 700 hours TIS of its life in or near salt water. Per the recommendations contained in the Cessna T206H maintenance manual (MM); up to the time of the fire, the incident airplane should have undergone (20) 50-hour specific inspections of the V-band coupling and had (10) annual inspections, which also identify the specific inspection of the V-band coupling. This indicates the need for greater diligence in inspection and replacement of the exhaust system V-band couplings and adherence to the recommended inspection intervals and procedures contained in the maintenance manual.

Additionally, the incident V-band coupling had a design feature that is not documented by Cessna to be included in their approved type design. The incident coupling was of a (3) segment type, having three separate v-segments inside the flat band versus (2) v-segments called for in the Cessna type design. We have been provided one other failed example of a 3-segment coupling from the field as well. The 3-segment couplings from the incident airplane and the field appear to be the correct diameter. However, the failed couplings are distorted, corroded, and exhibit no discernable identification markings. We are not aware of any FAA PMA for V-band couplings on the Model T206H airplane that use a 3-segment V-band coupling.

Recommendations

The FAA recommends that you do the following:

1. For tailpipe V-band coupling replacement, use only (2) segment Cessna part number S1921-1 or FAA-approved PMA replacement part that is specifically approved for the Model T206H (1998 and after). There are currently two suppliers of the S1921-1 part number: Eaton (Aeroquip) and National Utilities Company (NUCO), which is further identified in the Cessna MM as "Aeroquip S1921-1" or "NUCO S1921-1".

2. Adhere to the Cessna T206H Maintenance Manual, Revision 16 or later (hereafter referred to as MM) and the inspection requirements, procedures, and intervals defined therein for exhaust system and turbocharger installations. Specifically; the Inspection Time Limits, Exhaust Tailpipe Assembly Removal/Installation, and the V-band Coupling Clamp Inspection as defined in Chapter 5-10-01 and 78-10-01 of the MM respectively. Notably, strictly adhere to the 50-hour interval for the repetitive V-band coupling clamp inspection and checks.
3. Acknowledge and adhere to the (2) different final torque requirements for the two different supplier parts (Aeroquip / NUCO) that are eligible as single part number S1921-1 V-band coupling clamps, as defined in Chapter 78-10-01 of the MM.
4. Install the Engine Exhaust Tailpipe Lanyard Installation per SB99-71-06, dated December 6, 1999, for serial number (S/N) airplanes T20608001 through T20608112. Ensure that for airplanes S/N: T20608113 and after that the Engine Exhaust Tailpipe Lanyard Installation as defined in the Illustrated Parts Catalog, Revision 18 or later, Chapter 78-10-00 of the MM is installed on your airplane. There have been field reports of the tailpipe lanyard installation not being installed on airplanes, and this is an item of required equipment as defined in the Cessna T206H Pilots Operating Handbook and FAA Approved Airplane Flight Manual.
5. Replace all exhaust system V-band couplings with more than 400 hours TIS with new FAA-approved original equipment manufacturer or FAA PMA V-band couplings. Thereafter, replace all exhaust system V-band couplings at 400 hours TIS or less based on condition, whichever occurs first, with new FAA-approved original equipment manufacturer or FAA PMA V-band couplings, unless the manufacturer recommends or FAA regulations require a more reduced life or more frequent replacement interval. Record the V-band coupling part number, date, and airplane hours TIS in the airplane log book.
6. As part of all normal pre-flight inspections of the nose section, include an item for the copilot's nose area of the cowling to reach under the airplane to check the tailpipe for security in its mounting. A loose tailpipe or easily displaced tailpipe should be brought to the attention of maintenance personnel prior to further operations.
7. Airplanes that operate in or near salt water are susceptible to corrosion of materials at a much higher rate, including stainless steel components such as V-band couplings. For airplanes in this environment, regularly fresh water rinse and soap wash. Pay particular attention to those systems and components contained inside the structures that may not be directly impinged upon by the salt water in operations or the fresh water or soap washes, e.g., turbocharger housings, exhaust piping, engine accessories, etc.

For Further Information Contact

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