



2900 Selma Highway  
Montgomery, AL 36108 USA  
Tel: 334-386-5400 Fax: 334-386-5450

# Service Information Letter

## Letter A-142

### **Turbocharger Installation and Turbine Housing Mounting Tab Shim Washers**

#### 1. Planning Information

##### A. Effectivity

- (1) Hartzell Engine Technologies (HET) turbocharger P/N 406610-0005 or P/N 406610-9005 (all serial numbers). The affected turbochargers are FAA PMA approved.

**CAUTION: DO NOT USE OBSOLETE OR OUTDATED INFORMATION. PERFORM ALL INSPECTIONS OR WORK IN ACCORDANCE WITH THE MOST RECENT REVISION OF THE HET 400600-000 TURBOCHARGER MAINTENANCE MANUAL (MM) AND THIS SERVICE INFORMATION LETTER (SIL). INFORMATION CONTAINED IN THE MM AND THE SIL MAY BE SIGNIFICANTLY CHANGED FROM EARLIER REVISIONS. USE OF OBSOLETE INFORMATION MAY CREATE AN UNSAFE CONDITION THAT MAY RESULT IN DEATH, SERIOUS BODILY INJURY, AND/OR SUBSTANTIAL PROPERTY DAMAGE. REFER TO THE SIL AND MM INDEX FOR THE MOST RECENT REVISION LEVEL.**

##### B. Concurrent Requirements

- (1) None

##### C. Reason

- (1) Hartzell Engine Technologies LLC, formerly Kelly Aerospace Energy Systems, LLC (KAES), turbocharger P/N 406610-0005 contains a turbine housing P/N 406722-0021 that has an additional mounting tab installed to accommodate airframe designed mounting brackets. HET has become aware of a potential condition which may affect the normal installation of the turbocharger and for which additional instructions are required.
- (2) While the mounting tab geometry meets HET design requirements, the manufacturing tolerance may cause a variance in fit in this area.
- (3) A gap may appear between the aircraft turbocharger mounting bracket and the turbine housing mounting tab in normal installation.
- (4) If not shimmed when installed, tightening the aircraft turbocharger mounting bracket on to the turbine housing mounting tab may introduce stress on the tab and/or bracket.
- (5) Regulatory action is not expected.

##### D. Description

- (1) This Service Information Letter is being issued to advise installation instructions and should a gap be noticed per 1.C.(3) above, a corrective action. The corrective action adds locally procured washers during installation to fill the gap as required.



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E. Compliance

- (1) Upon the installation of any turbocharger P/N 406610-0005 or P/N 406610-9005, in accordance with the instructions in this Service Information Letter.

F. Approval

- (1) FAA approval has been obtained on technical data in this publication that affects type design.

G. Manpower

- (1) Negligible during normal turbocharger installation.

H. References

- (1) Kelly Aerospace Energy Systems Service Bulletin 23.
- (2) HET 400600-0000 Turbocharger Overhaul & Maintenance Manual.
- (3) Aircraft maintenance manual (applicable to the Cessna model).

I. Other Publications Affected

- (1) None

J. Weight and Balance

- (1) Not affected

2. Material Information

A. New P/N	Description	Qty.	Thickness
AN960-XC616LL	AN Spec. - Locally Procured	(1) A/R	.016 inch
AN960-XC616L	AN Spec. - Locally Procured	(1) A/R	.032 inch
AN960-XC616	AN Spec. - Locally Procured	(1) A/R	.064 inch



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#### 3. Accomplishment Instructions

**WARNING** THIS PROCEDURE MUST BE PERFORMED BY COMPETENT AND QUALIFIED PERSONNEL WHO ARE FAMILIAR WITH ENGINE AND AIRFRAME MAINTENANCE THAT IS SPECIFIC TO THE TURBOCHARGING SYSTEM. FAILURE TO DO SO MAY RESULT IN ECONOMIC LOSS, EQUIPMENT DAMAGE, AND/OR PHYSICAL INJURY.

**CAUTION 1** DO NOT USE OBSOLETE OR OUTDATED INFORMATION. PERFORM ALL INSPECTIONS OR WORK IN ACCORDANCE WITH THE MOST RECENT REVISION OF THIS SIL AND THE APPLICABLE CESSNA, TELEDYNE CONTINENTAL (TCM), AND/OR HET 400600-0000 MAINTENANCE MANUAL. INFORMATION CONTAINED IN THESE MANUALS OR THIS SIL MAY BE SIGNIFICANTLY CHANGED FROM EARLIER REVISIONS. USE OF OBSOLETE INFORMATION MAY CREATE AN UNSAFE CONDITION THAT MAY RESULT IN DEATH, SERIOUS BODILY INJURY, AND/OR SUBSTANTIAL PROPERTY DAMAGE. REFER TO THE APPLICABLE CESSNA, TCM, AND/OR HET 400600-0000 MAINTENANCE MANUAL INDEX FOR THE MOST RECENT REVISION LEVEL OF THE PUBLICATION.

**CAUTION 2** DO NOT DEPEND ON THIS SERVICE INFORMATION LETTER FOR GAINING ACCESS TO THE AIRCRAFT OR ENGINE. ACCESS REQUIRES USE OF THE APPLICABLE MANUFACTURER'S MAINTENANCE MANUALS OR SERVICE INSTRUCTIONS. IN ADDITION, ANY PREFLIGHT OR IN FLIGHT OPERATIONAL CHECKS REQUIRE USE THE OF THE APPROPRIATE AFM OR POH.

#### A. Identification & Location

- (1) Access the aircraft turbocharger in accordance with the instructions in the applicable aircraft maintenance manual.
- (2) If the turbocharger installed is P/N 406610-0005, (or -9005), continue to 3.A.(3).

**NOTE:** Do not rely on the aircraft or engine paperwork alone to identify the turbocharger part number.

- (3) If the turbocharger installed is NOT P/N 406610-0005, (or 406610-9005), continue to the "Return to Service" section step 3.D.(1).



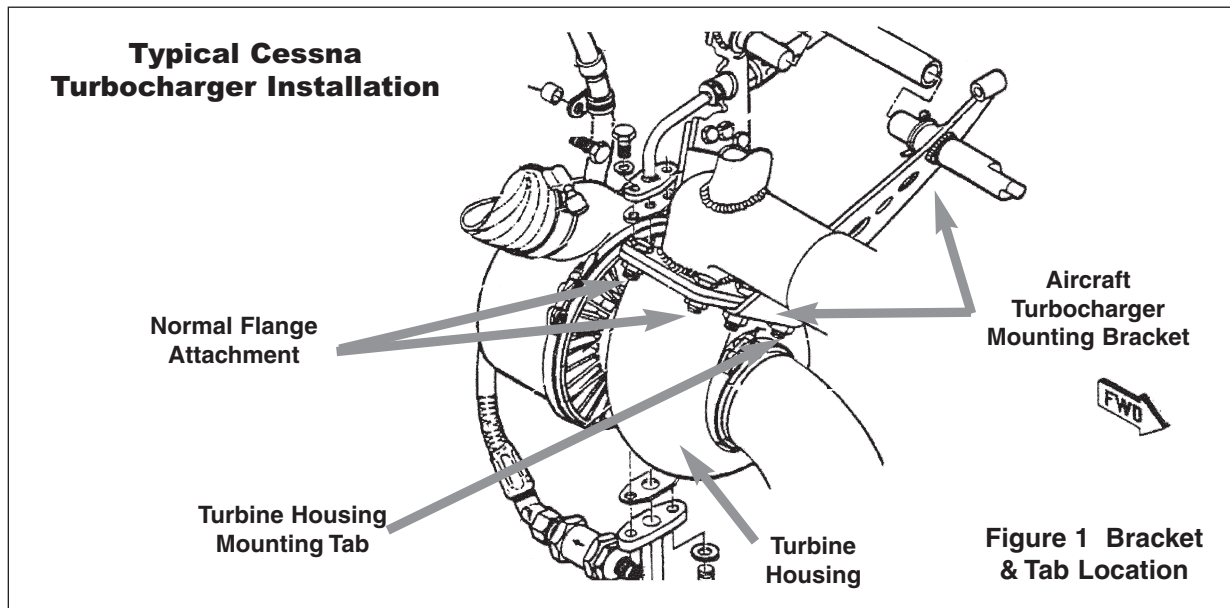
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- (4) Begin the turbocharger installation per instructions found in the applicable section of the aircraft maintenance manual.
  - (a) Locate the interface between the aircraft turbocharger mounting bracket and the turbine housing mounting tab on the turbocharger installation. Refer to Figure 1.





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- (5) Identify if a gap exists in the installation.
- (a) The example in Figure 2 shows a removed turbine housing which has the turbine housing mounting tab location condition. Identify the turbine housing mounting tab location with respect to the normal mounting flange face. The tolerances in the machining of the turbine housing mounting tab (as well as other installation tolerances) may generate a gap that varies in size.

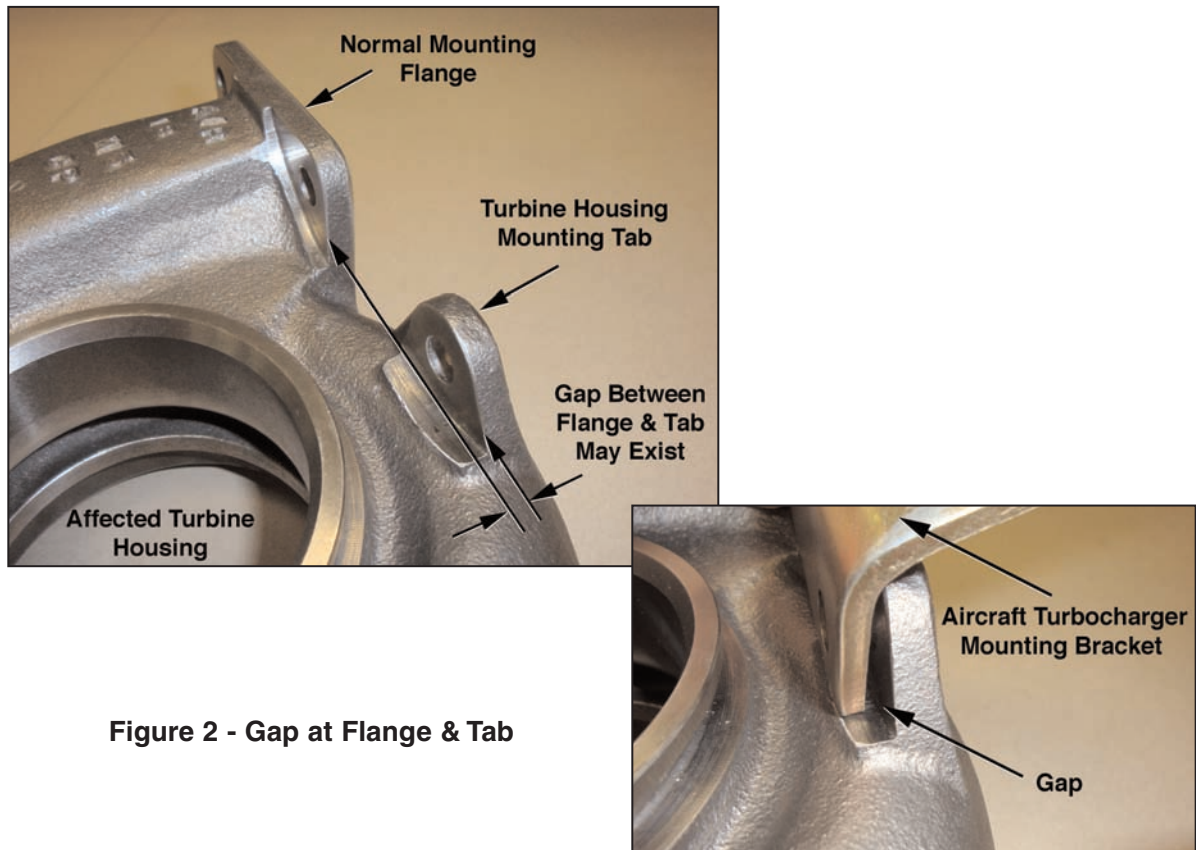


Figure 2 - Gap at Flange & Tab

#### B. Installation

- (1) When installing the turbocharger, observe the initial fit of the turbine housing to the aircraft turbocharger mounting bracket. A gap at the turbine housing mounting tab to aircraft turbocharger mounting bracket must not exceed 0.015 inch.



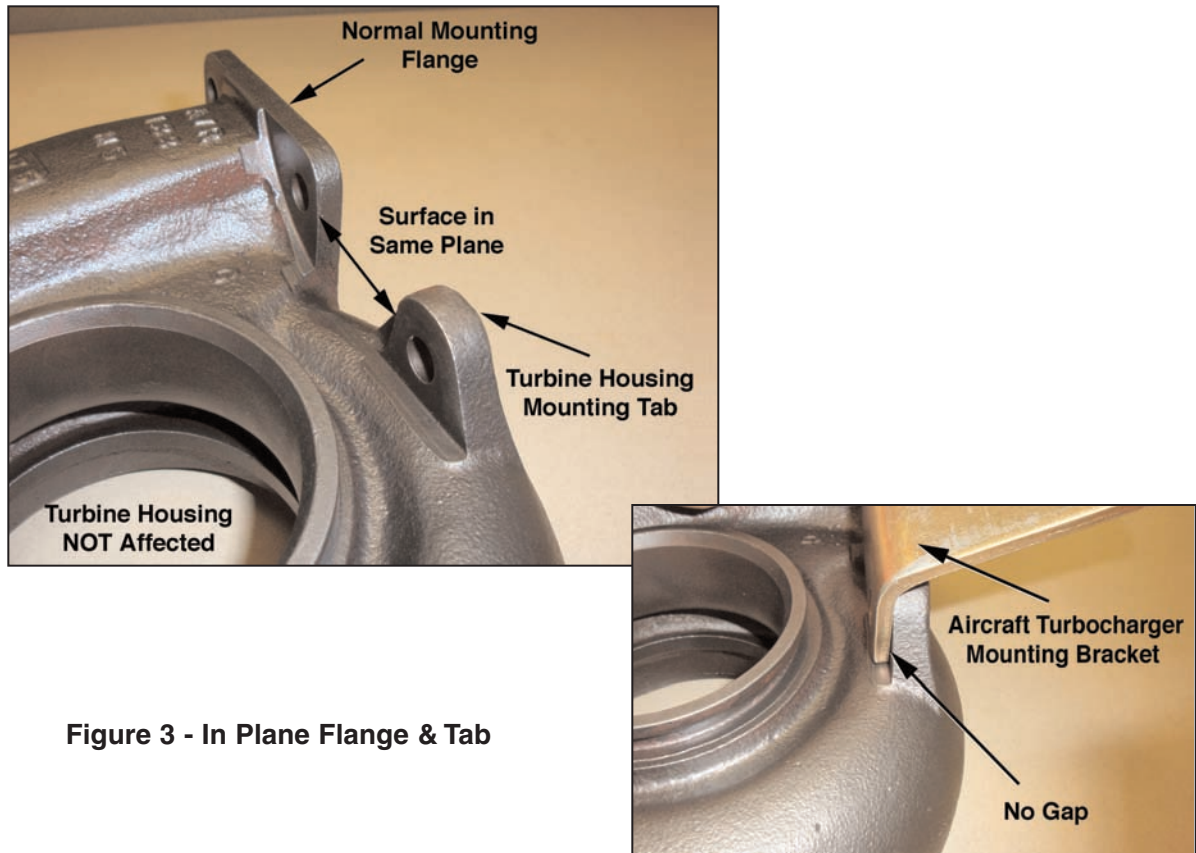
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- (2) If the initial fit of the turbine housing to the aircraft turbocharger mounting bracket shows a gap 0.015 inch or less, continue with the normal installation procedures per the applicable section of the aircraft maintenance manual. See Figure 3.
  - (a) Upon successful completion of the aircraft turbocharger installation, proceed to "Return to Service" 3.D.(1).
- (3) If the initial fit of the turbine housing to the aircraft turbocharger mounting bracket shows a gap that exceeds 0.015 inch, continue with 3.C.(1)



**Figure 3 - In Plane Flange & Tab**





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#### C. Corrective Action

- (1) To correct a gap condition, shim by adding a washer or combination of washers approved by this Service Information Letter eliminating gap when installing the turbocharger.
- (2) Shimming at the turbine housing mounting tab may be accomplished using any combination of washers AN960-XC616, AN960-XC616L, or AN960-XC616LL. See Figure 4.
- (3) Upon the addition of the washer or combination of washers, continue the turbocharger installation per the applicable section of the aircraft maintenance manual.
  - (a) Upon successful completion of the aircraft turbocharger installation, proceed to "Return to Service" 3.D.(1).



**Figure 4 - Shimming at Turbine Housing Mounting Tab**



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#### D. Return to Service

- (1) After the turbocharger has been properly installed, the aircraft will be ready for "return to service".
- (2) Perform the recommended turbocharger operational tests in accordance Kelly Aerospace Energy Systems Service Bulletin 23.
  - (a) The operational tests consist of turbocharger pre-lubrication, ground running tests, and operational flight test.
  - (b) Make sure no air, exhaust, or oil leaks are present.

NOTE Kelly Aerospace Energy Systems Service Bulletin 23 may be viewed or downloaded from the HET website at <http://www.hartzellenginetech.com>.

- (3) Using the applicable aircraft and engine manufacturer's maintenance manuals of the latest revision, install any portion of the aircraft that was removed to gain access.

E. Upon successful completion of this Service Information Letter per the applicable compliance listed, make an appropriate log book entry.

#### 4. Warranty Statement

- A. The sole warranty for the actions within this service information letter are contained in the HET Limited Warranty Policy issued with the purchase of each new or rebuilt turbocharger (see terms and conditions therein).
- B. Issuance of this service information letter in no way constitutes an implied or expressed warranty of any kind.
- C. This publication does not imply or state any responsibility for the workmanship of any person or entity performing work or maintenance on the turbocharger or electrical system.

#### 5. Contact Information

- A. All communications regarding this Service Information Letter, must be placed either through Hartzell Engine Technologies Technical Support at (888) 461-6077 or via Fax (334) 386-5450. For the Warranty department, (334) 386-5441.
- B. Written communications must be placed through Hartzell Engine Technologies Technical Support, 2900 Selma Highway, Montgomery, AL 36108, USA.
- C. If E-mail communication is desired, go to our website:<http://www.hartzellenginetech.com> and select "contact"and follow the instructions.