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Service Bulletin

Compliance is Considered Mandatory

The technical content of this letter is FAA Approved

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TURBOCHARGER INSPECTION AND REPLACEMENT

REASON FOR REVISION: To revise the serial number effectivity list by adding S/N KCN01116.

INTRODUCTION:

It has come to the attention of Kelly Aerospace Power Systems of a disabled turbocharger where the turbine and compressor wheel shaft bearing journals were pushed inward and damaged on a part number 466304-0003 turbocharger. Examination of the damage revealed that a conical vibration along the turbine wheel and shaft assembly was the principal source of the damage. Investigation of the cause has determined that the turbine wheel shaft assembly for this particular turbocharger may have been improperly balanced. Continued operation with a turbine wheel shaft imbalance may result in the separation of the turbine wheel head from the shaft rendering the turbocharger inoperative and may result in the partial or total loss of engine power.

This Service Bulletin is being issued to mandate the replacement of affected turbochargers part number 466304-0003 as listed in the table below.

COMPLIANCE:

Prior to next flight. *If the turbocharger replacement can not be accomplished on site, a ferry permit is required to deliver the aircraft to a suitable facility for repair. (To determine if the turbocharger is suitable to apply for a ferry permit, see visual inspection below.)*

EFFECTIVITY:

Any engine or aircraft utilizing Kelly Aerospace Power Systems turbocharger P/N 466304-0003 with the serial numbers listed below.

Suspect Serial Numbers

KCN00933	KCN00945	KCN01109	KCN01121	KCN01191	KCN01207	KCN01220
KCN00934	KCN00946	KCN01110	KCN01122	KCN01192	KCN01209	KCN01223
KCN00935	KCN00947	KCN01111	KCN01174	KCN01193	KCN01210	KCN01224
KCN00936	KCN00948	KCN01112	KCN01176	KCN01194	KCN01211	KCN01225
KCN00937	KCN00949	KCN01113	KCN01178	KCN01196	KCN01212	KCN01226
KCN00938	KCN00950	KCN01114	KCN01180	KCN01198	KCN01214	KCN01228
KCN00939	KCN00951	KCN01115	KCN01181	KCN01199	KCN01215	KCN01229
KCN00940	KCN00952	KCN01116	KCN01183	KCN01201	KCN01216	KCN01230
KCN00941	KCN01104	KCN01117	KCN01185	KCN01202	KCN01217	KCN01231
KCN00942	KCN01106	KCN01118	KCN01187	KCN01203	KCN01218	KCN01233
KCN00943	KCN01107	KCN01119	KCN01188	KCN01205	KCN01219	KCN01234
KCN00944	KCN01108	KCN01120				

PROCEDURE:

CAUTION:

This procedure must be performed by competent and qualified personnel familiar with engine and airframe maintenance activities that are specific to turbocharged aircraft.

CAUTION:

Do not depend on this Service Bulletin for gaining access to the aircraft or engine. This will require that you use the applicable manufacturers maintenance manuals or service instructions. In addition, any preflight or inflight operational checks require use of the appropriate AFM or POH.

This procedure has two steps. First, the visual inspection, the purpose is to determine if the turbocharger may be used and is suitable for the relocation of the aircraft. Second, the basic instructions to remove, replace, and check the turbocharger. *See caution above. See Table on page 1 for serial numbers affected.*

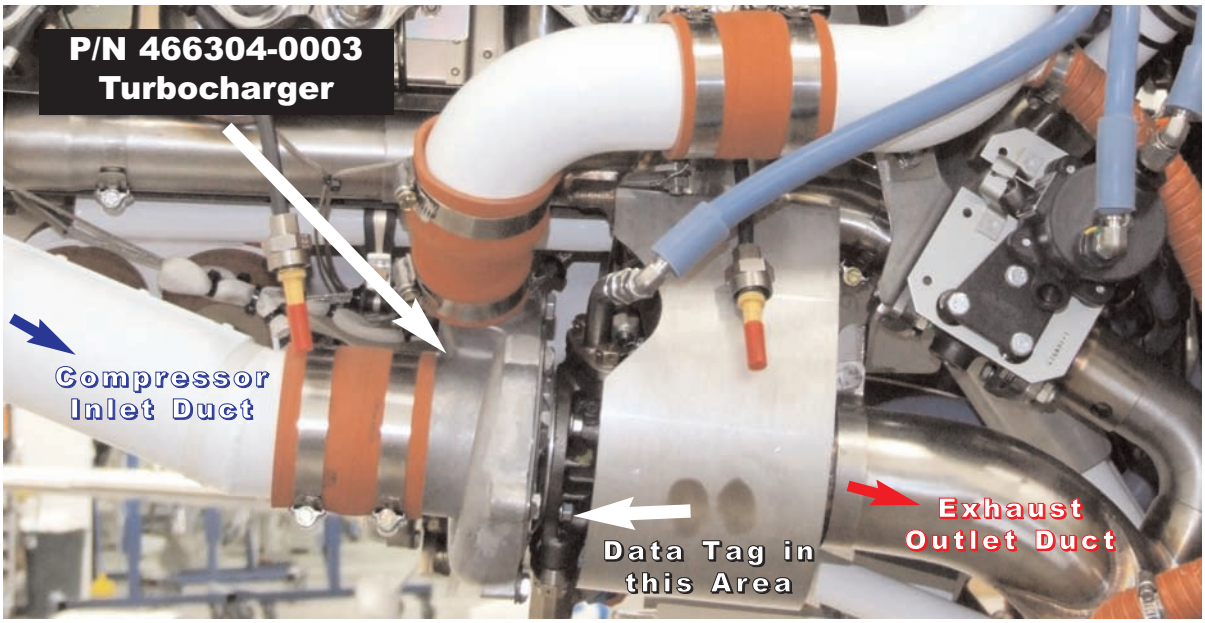

Figure 1 - Turbocharger Installation

VISUAL INSPECTION:

1. Access the aircraft turbochargers in accordance with the instructions in the aircraft maintenance manual.

2. Remove the compressor inlet ducts to expose the compressor wheels using the STC holders instructions. Refer to Figure 1.

3. Visually inspect each turbocharger through the compressor inlet for any signs of contact. Look for witness marks from the impeller wheel, giving careful attention to the outer edges of the wheel blades and the inner wall of the compressor housing. Contact marks on the housing from the wheel will appear as a burnishing on the inner wall. Grooves or gouges of any sort are cause for turbocharger replacement. Utilize supplemental lighting if needed to facilitate visual inspection.

4. If any anomalies are noted during the visual inspection, replace the turbocharger. If nothing appears in the visual inspection, the turbocharger is suitable to submit for a ferry permit. This will allow the aircraft to be relocated to qualified facility for turbocharger replacement.

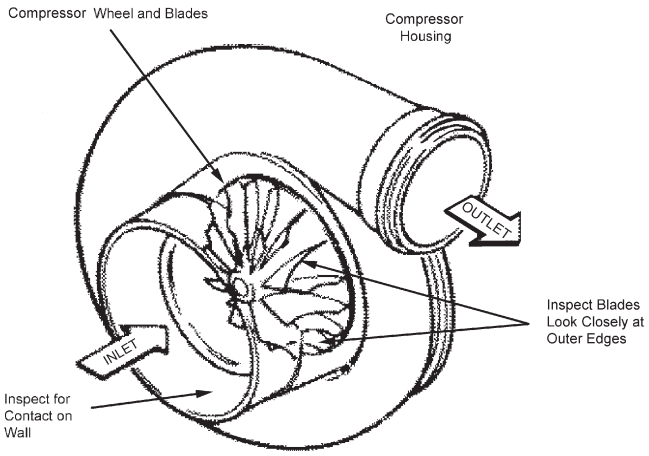

Figure 2 - Turbocharger Inspection Points

TURBOCHARGER REPLACEMENT:

1. The affected turbocharger part number 466304-0003 must be removed and replaced per the table shown on page 1. Each aircraft has two turbochargers. Check the data tag on each to identify whether the serial number of the turbocharger is one that is affected. When identification is made, remove the turbocharger from the aircraft. Removal must be in accordance with the aircraft, engine, and/or STC holders maintenance manuals or service instructions. Contact the aircraft manufacturer to determine the disposition of the suspect turbocharger and information regarding the return of the turbocharger(s). All warranty applications must be made through the aircraft manufacturer. *Refer to Fig 1 as required.*

2. Upon replacement of the turbocharger, it is recommended that the inlet and outlet oil lines be flushed and the oil and oil filter be changed in accordance with the aircraft and/or engine manufacturers maintenance manual or service instructions.

3. Utilizing the applicable aircraft, engine, and/or STC holders maintenance manuals or service instructions, re-install the turbocharger assembly and connect the oil lines. Connect the turbocharger compressor inlet duct and coupling, torque the clamps to manufacturer specifications. Connect the exhaust outlet duct carefully, position and torque the “V” band clamp to manufacturer specifications. *It is critical that a new gasket be installed at the oil drain adapter and the installed and torqued down properly. An oil leak in this area may result in engine oil starvation and subsequent engine failure.*

RETURN TO SERVICE:

NOTE:

Check for the latest publication issued by the applicable aircraft manufacturer regarding exact aircraft model, serial number and warranty procedures.

1. When the turbocharger has been replaced, the aircraft may now be prepared for return to service.

2. Refer to Kelly Aerospace Power Systems Service Bulletin 23 and perform the recommended turbocharger operational tests. This consists of turbocharger pre-lubrication, ground running tests, and and operational flight test. Make sure no air, exhaust, or oil leaks are present. *Service Bulletin may be viewed or downloaded online via www.kellyaerospace.com.*

4. Utilizing the applicable aircraft and engine manufacturers maintenance manuals, install any portion of the aircraft removed to gain access.

5. Upon successful completion of this service bulletin per the applicable compliance time listed on page 1, make an appropriate log book entry.

PARTS REQUIRED:

One (1) or two (2) each, turbocharger, part number 466304-0003* as required. Up to (4) each, turbocharger oil inlet or drain adapter gasket, part number as per the STC holders or aircraft manufacturers parts list. Parts must be obtained from the airframe manufacturer.

** The approved turbocharger replacement part may be P/N 466304-0003 (new) or P/N 466304-9003 (rebuilt).*

WARRANTY STATEMENT:

The sole warranty applicable to this service publication is related to the terms and conditions in the aircraft or engine manufacturers Limited Warranty Policy. This publication does not imply or state any responsibility for the workmanship of any person or entity performing work or maintenance on the turbocharger, engine, or aircraft. All claims for warranty must be forwarded to the the airframe and/or engine manufacturer per the requirements contained in their Limited Warranty policies as applicable.

CONTACT INFORMATION:

If you have any questions concerning the instructions in this service bulletin, please contact Kelly Aerospace Power Systems Technical Support at 888-461-6077.

Questions concerning aircraft service or operation must be forwarded to the applicable manufacturer of that product.