



Service Bulletin

TAT SB08-01

Issued: February 8, 2008
Model SR22 w/ Tornado Alley
Turbo, Inc. Turbonormalizer
installed pursuant to Engine
Technologies, Inc. STC
SA10588SC on Cirrus Design
Corporation Model SR 22 aircraft

COMPLIANCE

Mandatory: Tornado Alley Turbo considers this Service Bulletin to be MANDATORY. Accomplish this Service Bulletin at the next scheduled service or within 25 hours, whichever comes first. Compliance time begins upon the date of this Service Bulletin.

EFFECTIVITY

There are two groups of affected serial number aircraft. The aircraft serial numbers applicable to each group are identified in Cirrus Owner Service Advisory SA 08-03. See that document for the specific aircraft serial numbers.

Group A:

Cirrus Design SR 22 aircraft that incorporate the Tornado Alley Turbo, Inc. Turbonormalizing System installed pursuant to ETI STC SA10588SC. This group requires inspection and modification of the right hand side exhaust elbow, only.

Group B:

Cirrus Design SR 22 aircraft that incorporate the Tornado Alley Turbo, Inc. Turbonormalizing System installed pursuant to ETI STC SA10588SC. This group requires inspection and modification of both the right hand and left hand exhaust elbows.

APPROVAL

Engine Technologies, Inc., the Turbonormalizing System STC holder, has approved all technical data in this Service Bulletin that affects the type design.

PURPOSE

The purpose of this Service Bulletin is to inform affected owners and operators of a minor alteration to an exhaust component required for improved durability of the tailpipe assemblies.

DESCRIPTION

This Service Bulletin contains procedures to modify the right hand exhaust elbow (Group A) and both the right hand and the left hand exhaust elbow (Group B). This exhaust elbow is inserted between the tailpipe and the wastegate outlet fitting. See Figures 1 & 2.

Figure 1. Right side shown.
Left Side Similar.

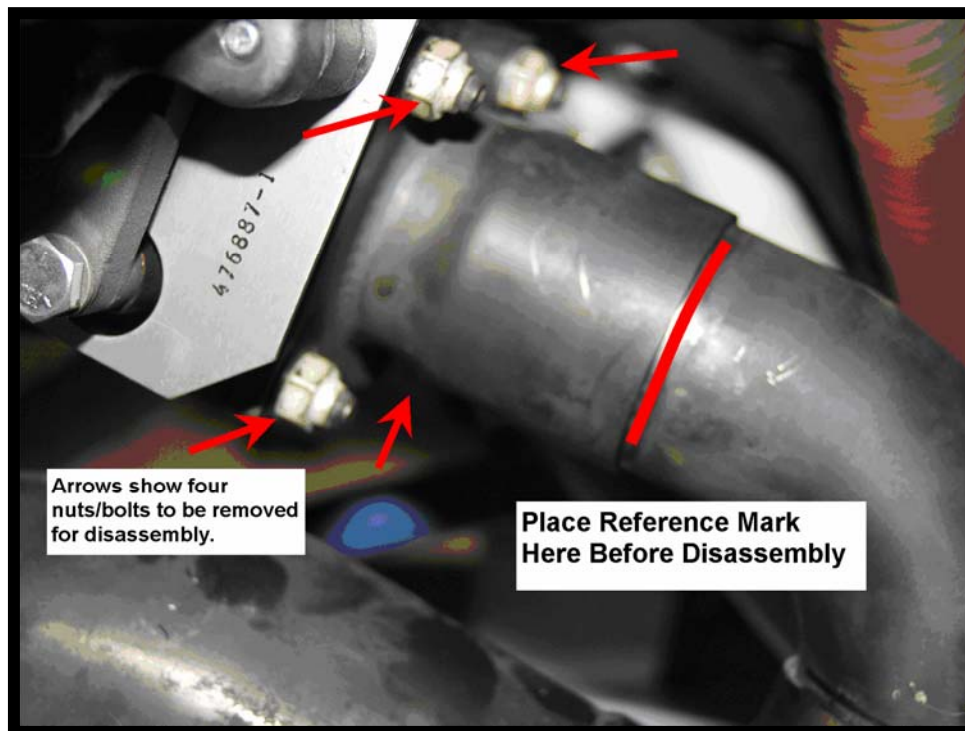
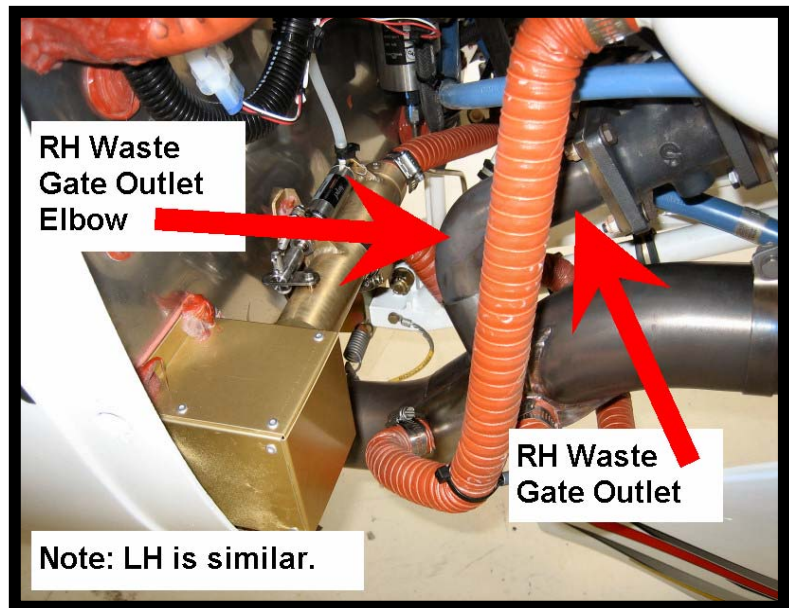


Figure 2.
Left side.
Showing where to place reference mark before disassembly.

WARRANTY INFORMATION

Labor cost for this Service Bulletin will be covered by the STC holder. The stated man-hours are covered under this warranty. Only Authorized Cirrus Service Centers are eligible for warranty consideration. Special approval for other maintenance facilities may be obtained by contacting Tornado Alley Turbo, Inc.

MANPOWER REQUIREMENTS

Group A:

1.25 hours.

Group B:

2.25 hours.

OTHER PUBLICATION AFFECTED

N/A

WEIGHT AND BALANCE

Weight change: Negligible.

MATERIAL INFORMATION

Information sheet:

An information sheet, "TAT SB08-01 Service Bulletin Information Sheet," is supplied as part of this service bulletin. It must be completed and returned for warranty credit and payment.

ACCOMPLISHMENT INSTRUCTIONS

Group A

Group A aircraft require modification of the exhaust elbow **ONLY** on the right hand side. (Group B aircraft require modification of the elbow on both the right and the left hand side.)

Inspection:

1. Within the next 25 hours, or at the next regularly scheduled service, whichever comes first:
 - a. **Read all of these instructions.** Then, gain access to the **right hand side** of the aircraft by removing the lower right hand cowl.
 - b. Visually locate the wastegate outlet on the aft side of the right hand wastegate. See Figure 1. Disconnect the heater hose clamp and hose from the intercooler to facilitate inspection and access.
 - c. Visually inspect the right angle exhaust elbow and the area where the elbow inserts into the tailpipe, for any signs of a crack in the weld of the vertical receptacle in the tailpipe into which the short leg of the right angle elbow is inserted. If any cracks are observed, then contact Tornado Alley Turbo, Inc. for replacement parts before return to service or further flight.
 - d. Clean the area where the elbow is inserted into the wastegate outlet tube.
 - e. Mark the exhaust elbow at the aft end of the wastegate outlet tube.

- f. Remove the four nuts and bolts securing the wastegate outlet flange and swaged 1.75" tube into which the right angle exhaust elbow is inserted.
 - g. Lift on the 1.75" diameter exhaust elbow and remove both components from the aircraft. In some cases, some modest interference of the wastegate flange with the wastegate may exist, but in almost all cases, the elbow and wastegate outlet should be able to be removed without further disassembly of the exhaust system.
 - h. Remove the exhaust elbow from the wastegate outlet swaged tube and clean any exhaust residue from the elbow and wastegate outlet tube assembly. **Be careful to preserve the previously applied reference mark.**
 - i. Measure the length of the elbow from the previously applied reference mark to the end of the long leg of the elbow.
 - j. If this measurement is greater than 1.00", shorten the elbow so that the engagement, when re-installed, will be no more than 1.10" and not less than 1.00" as measured from the reference mark.
 - k. If the engagement length is less than 1.00" but is more than 0.90" then simply re-install the elbow. If the engagement is less than 0.90" then contact Tornado Alley Turbo, Inc., for a replacement elbow.
 - l. Technique for shortening the elbow: Use good shop practices. Recommended, but not the only method, is to mark the final cutoff line and use a metal cut-off saw and trim the part with some remaining excess and then make the final length adjustment with a belt sander, then use a deburr tool and clean the inside and outside edges of the elbow. Alternative methods would include the use of an abrasive cut-off tool, followed by adequate deburr of the inside and outside edges. Wear safety glasses.
2. Re-install the elbow and the wastegate outlet assembly as follows:
 - a. Re-install wastegate outlet with the right angle exhaust elbow properly inserted into the wastegate outlet and the tailpipe.
 - b. Loosely install the nuts on the four bolts.
 - c. Adjust the position of the wastegate outlet with the right angle elbow inserted into both the tailpipe and the wastegate outlet for a "nominal" fit with good alignment.
 - d. Note: the wastegate outlet has slotted holes. Normally the slotted holes should be oriented so the wastegate outlet flange can be adjusted in-board and out-board. However, it is permissible to orient the wastegate outlet so that it can be adjusted vertically, if a better fit up is obtained.
 - e. Torque nuts to 70 in-lbs.
3. Complete the aircraft records by noting compliance with Service Bulletin TAT SB08-01 in the aircraft logbook.
4. Return the completed "TAT SB08-01 Service Bulletin Information Sheet" and all replaced parts, if any, to Tornado Alley Turbo, Inc. for warranty credit.

Group B

Using the same instructions and technique described above for Group A aircraft, accomplish the same inspection and modification for BOTH THE RIGHT AND LEFT side wastegate outlet elbows.

For further information:

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