



Service Bulletin

TAT SB10-02, Revision B

Issued: 01/20/10

Revised: 05/17/10, 09/20/11

Model SR22 w/ Turbonormalizer

Installed per STC SA10588SC

And SE10589SC

COMPLIANCE

MANDATORY: Tornado Alley Turbo considers this Service Bulletin to be **MANDATORY**. These instructions are effective on the date of issue. First inspection should be completed at the next maintenance event where cowl removal is required or within 50 hours of issuance of this Service Bulletin, whichever comes first.

EFFECTIVITY

All Cirrus Design SR22 aircraft equipped with a Tornado Alley Turbo Inc. Turbonormalizing System installed per STC SA10588SC and SE10589SC.

APPROVAL

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

PURPOSE

The purpose of this Service Bulletin is to instruct owners of Turbonormalized Cirrus Design SR22 airplanes to have the supplemental tailpipe hangers inspected and replaced.

DESCRIPTION

The tailpipes on Cirrus SR22 aircraft with the turbonormalizing system installed per STC's SA10588SC and SE10589SC employ supplemental tailpipe retention methods to hold the tailpipes in place in the event of tailpipe V-band clamp failure. These supplemental tailpipe retention methods use brackets that have been reported to crack in the welded areas of the brackets or may create stress on the exhaust that may lead to cracks in the exhaust manifold. Therefore, a new one-piece tailpipe retention bracket has been developed to replace the two-piece welded bracket previously installed on the left hand tailpipe and a new bracket has been developed to support the right hand tailpipe utilizing a different support location.

There are three versions of the right hand exhaust. The first generation right hand exhaust incorporates a "bridge" style support rod bracket from the exhaust's turbocharger flange to the turbo support rod. Subsequent generations of the right hand exhaust incorporate a tab on the outboard edge of the exhaust turbocharger flange. An angle is bolted to the tab and the angle is used to hold the turbo support rod bracket and turbo support rod. The right hand exhaust without the tab for the angle is referred to in this service bulletin as the "Generation I" exhaust. All other right hand exhaust systems are referred to, for this service bulletin, as "Generation II" exhaust.



“Generation I” exhaust with bridge style turbo support rod bracket. Rod not shown in second picture.

FREQUENCY

The initial tailpipe bracket inspection is to be completed at the next scheduled inspection interval after the issuance of this bulletin or within 50 hours, whichever comes first. Both right hand and left hand tailpipe brackets are to be replaced when cracked, if removed for maintenance, or at the next annual inspection, whichever comes first. Upon installation of both the new 22-6200045 L/H tailpipe bracket and new 22-6200039 R/H tailpipe bracket continue with standard inspection intervals as outlined in the TATI Instructions for Continued Airworthiness, document number 22-6460004.

WARRANTY INFORMATION

When tailpipe brackets are to be replaced, contact Tornado Alley Turbo, Inc. for replacement tailpipe brackets. After September 20, 2011 the brackets are no longer free of charge. Since labor is to be performed in conjunction with other standard maintenance, labor is not warranted.

MANPOWER REQUIREMENTS

For inspection and installation of new tailpipe brackets: One mechanic, one hour
 For subsequent inspections: One mechanic, 15 minutes

WEIGHT AND BALANCE

Weight change: None.

MATERIAL INFORMATION

To replace Left Hand tailpipe bracket
 One 22-6200045 L/H tailpipe bracket
 One MS21046C4 nut (if required)

To replace Right Hand tailpipe bracket on “Generation II” exhaust (with tabbed turbocharger flange)
 One 22-6200039 R/H tailpipe bracket
 One AN5C7A bolt
 Two AN4C11A bolt
 One MS21046C5 nut (if required)
 Two MS21046C4 nut (if required)

To replace Right Hand tailpipe bracket on “Generation I” style exhaust

One 22-6200039 R/H tailpipe bracket

One AN5C7A bolt

Two AN4C11A bolt

Two AN6C13A bolt

One MS21046C5 nut (if required)

Two MS21046C4 nut (if required)

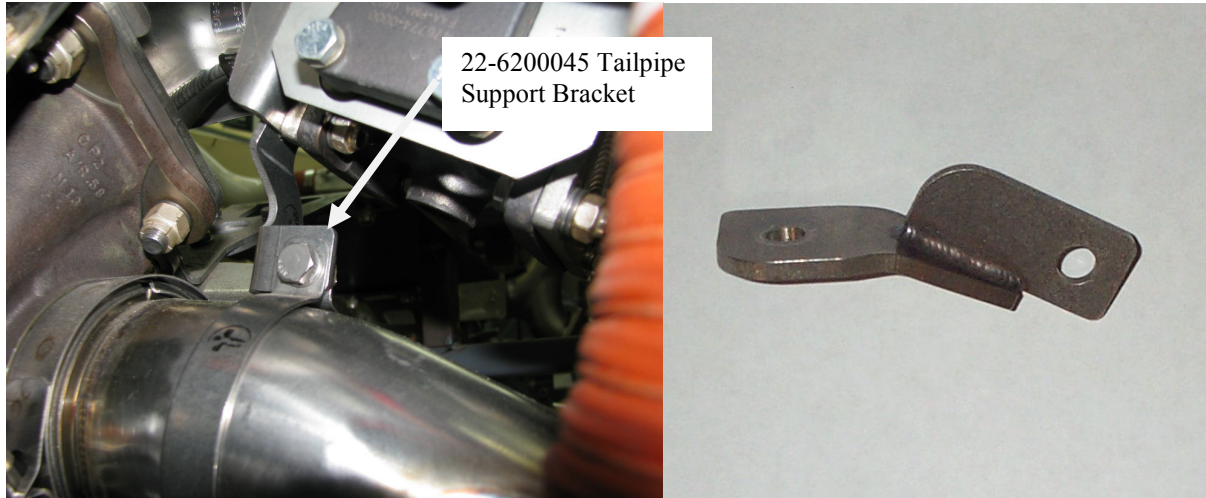
Two MS21046C6 nut (if required)

One 22-6200046 bracket

One 22-6100007 support bracket

ACCOMPLISHMENT INSTRUCTIONS

1. Remove cowling.
2. Using a bright flashlight, inspect the left hand tailpipe support bracket that holds the flat band clamp around the left hand tailpipe. If the left hand support bracket is cracked or broken, replace it with a new 22-6200045 bracket in accordance with instructions in this bulletin. Using a bright flashlight, inspect the right hand tailpipe support bracket that holds the flat band clamp around the right hand tailpipe and the exhaust system in the area of the tailpipe support as outlined in the TATI Instructions for Continued Airworthiness, document number 22-6460004. Perform any required maintenance on the right hand exhaust based upon the inspection. If the right hand tailpipe support bracket is attached to the right hand wastegate flange and needs to be removed for any maintenance, replace the bracket with a 22-6200039 bracket at that time in accordance with instructions in this bulletin.
3. To replace the left hand tailpipe bracket remove the existing tailpipe bracket. Install 22-6200045 bracket with existing hardware. Slide flat tailpipe band clamp into position and attach to 22-6200045 bracket with existing hardware. If the locknuts do not continue to show resistance to turning, replace them with new MS21045C4 nuts. Tighten nuts to 70 in-lb.

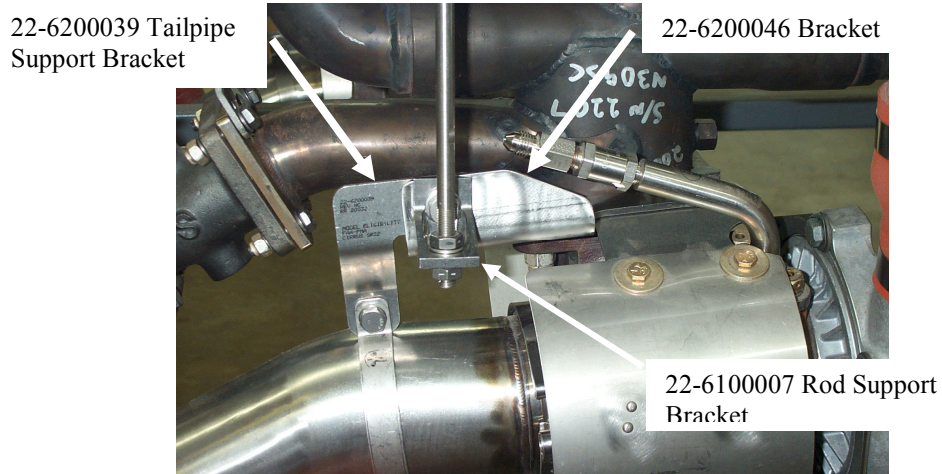


Installation of left hand tailpipe support bracket

Old style (welded) left hand tailpipe support bracket

4. (a) For “Generation I” right hand exhaust:
To replace the right hand tailpipe bracket remove the existing tailpipe bracket. Install AN4C11A bolts in place of the bolts removed from the wastegate flange. Tighten nuts to 70 in-lb (if the locknuts do not continue to show resistance to turning, replace them with new MS21045C4 nuts). Cut the safety wire and remove the lower nut holding right hand turbo support rod. Slide the rod up and out of the way to gain access to the bolt holding the lower rod support. Remove the two outboard turbo flange bolts and the lower rod support channel bracket from the turbo flange. Install a 22-6200046 bracket on the outboard portion of the turbo flange on top of the turbo heat shield support with two AN6C13A bolts and existing washers and

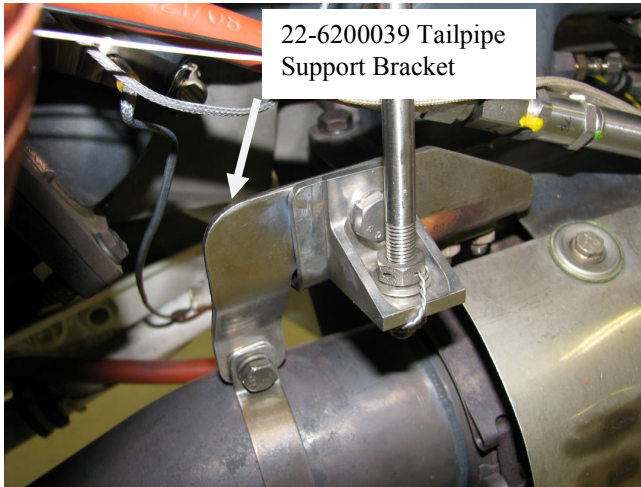
nuts. If the nuts do not continue to show resistance to turning, replace them with new MS21045C6 nuts. Tighten MS21045C6 nuts to 275 in-lb. Install a 22-6100007 rod support bracket on the outboard side and a 22-6200039 tailpipe bracket to the inboard side of the 22-6200046 bracket with an AN5C7A bolt. Install washer and locknut. If the locknut does not continue to show resistance to turning, replace it with new MS21045C5 nut. Tighten nut to 180 in-lb after reinstallation and alignment of turbo support rod. Reinstall turbo support rod, verify that rod is properly aligned and tighten lower nut to 100 in-lb. Resafety lower turbo support rod nuts. Slide flat tailpipe band clamp into position and attach to 22-6200039 bracket with existing hardware. If the locknut does not continue to show resistance to turning, replace it with new MS21045C4 nut. Tighten nut to 70 in-lb.



Installation of right hand tailpipe support bracket on “Generation I” right hand exhaust

(b) For “Generation II” right hand exhaust:

To replace the right hand tailpipe bracket remove the existing tailpipe bracket. Install AN4C11A bolts in place of the bolts removed from the wastegate flange. Tighten nuts to 70 in-lb (if the locknuts do not continue to show resistance to turning, replace them with new MS21045C4 nuts). Cut the safety wire and remove the lower nut holding right hand turbo support rod. Slide the rod up and out of the way to gain access to the bolt holding the lower rod support. Remove the AN5C6A bolt holding the rod support to the angle bracket attached to the turbo flange. Replace the AN5C6A bolt with an AN5C7A bolt. Place a 22-6200039 tailpipe bracket on the inboard side of the angle bracket and install washer and locknut. If the locknut does not continue to show resistance to turning, replace it with new MS21045C5 nut. Tighten nut to 180 in-lb after reinstallation and alignment of turbo support rod. Reinstall turbo support rod, verify that rod is properly aligned and tighten lower nut to 100 in-lb. Resafety lower turbo support rod nuts. Slide flat tailpipe band clamp into position and attach to 22-6200039 bracket with existing hardware. If the locknut does not continue to show resistance to turning, replace it with new MS21045C4 nut. Tighten nut to 70 in-lb.



Installation of right hand tailpipe support bracket on
"Generation II" exhaust

Old style right hand tailpipe support bracket

5. After initial inspection of tailpipe brackets repeat inspections every time the cowling is removed or every 50 hours, whichever comes first until the next annual inspection. If not done during previous inspections or maintenance, replace brackets at next annual inspection.

PARTS AVAILABILITY

Contact Tornado Alley Turbo Inc. for replacement tailpipe brackets.