



Service Bulletin

TAT SB09-02

Issued: 01-20-10

Cessna 177RG w/ Turbonormalizer

Installed per SA4081NM and

SE4082NM

COMPLIANCE

MANDATORY: Tornado Alley Turbo considers this Service Bulletin to be **MANDATORY**. These instructions are effective as of the date of issue. Modification should be completed within the next 50 hours of the issuance of this bulletin, at next annual inspection, or prior to June 1, 2010, whichever comes first.

EFFECTIVITY

Cessna 177RG aircraft equipped with a General Aviation Modifications Inc. or earlier FliteCraft Turbo or Turbo 2000 Turbonormalizing System installed per STC SA4081NM and SE4082NM prior to March 1, 2009. This service bulletin does not apply to turbonormalized Cessna 177RG aircraft that have been updated to the Cardinal Cruiser™ System III configuration with more efficient turbocharger, intercooler, and larger oil cooler.

APPROVAL

General Aviation Modifications, Inc., the Turbonormalizing System STC holder, has approved all technical data in this Service Bulletin that affect the supplemental type design.

PURPOSE

The purpose of this Service Bulletin is to instruct owners of Turbonormalized Cessna 177RG Airplanes to have the fuel injection servo reflowed to increase full power fuel flows to improve climb cooling on the turbonormalized engines and to provide a new Airplane Flight Manual Supplement with more detailed operating instructions and emergency procedures. The increased fuel flows and new Airplane Flight Manual Supplement operating methods are intended to significantly improve cooling margins during hot weather operations.

DESCRIPTION

Reflow of fuel injection servo to increase full power fuel flows and installation of new Aircraft Flight Manual Supplement. Turbonormalized Cessna 177RG aircraft that meet the requirements of this Service Bulletin are identified as having the Tornado Alley Turbo Cardinal Cruiser™ System II configuration.

MANPOWER REQUIREMENTS

One mechanic, 6 hours

WEIGHT AND BALANCE

Weight change: None.

MATERIAL INFORMATION

Material required: 1 each Lycoming 66224 gasket
 1 each Cessna 2050005-1 gasket
 1 each GAMI 77-8900001 placard
 High temperature RTV silicone

ACCOMPLISHMENT INSTRUCTIONS

- Remove cowling
- Remove Bendix fuel injection servo in accordance with appropriate sections of Cessna 177RG maintenance manual and Lycoming IO-360 series maintenance/overhaul manual.
- Send fuel injection servo to Tornado Alley Turbo, Inc. for reflow along with aircraft N number and serial number as well as engine model number and serial number and time in service since last overhaul of servo (see Parts and Service Availability).
- Install reflowed fuel injection servo in accordance with Lycoming IO-360 series maintenance/overhaul manual. Adjust throttle and mixture linkage, if required, in accordance with Cessna 177RG maintenance manual.
- Set engine magneto timing as listed on Placard P/N 77-8900001:

This engine has been modified in accordance with STC SE4082NM.	
Engine	Magneto Timing
IO-360-A1B6	20 ± .5° BTC
IO-360-A1B6D	22 ± .5° BTC

- Clean a flat 1 x 2 inch area on the #4 cylinder rocker cover with acetone or isopropyl alcohol. Apply a 77-8900001 placard on the cleaned area with high temperature RTV silicone such as Permatex “UltraCopper” P/N 101B or equivalent. Allow to cure thoroughly prior to operating the engine.
- Remark fuel flow and cylinder head temperature indicators as follows (if gages are to be remarked on the face of each gage the work must be accomplished by a certified instrument repair station):

Instrument (Range)	Red Line	Green Arc	Yellow Arc	Red Line
	Minimum	Normal	Caution	Maximum
Fuel Flow	---	6.0 – 21.5 gal/hr	---	22.0 gal/hr
Cylinder Head Temperature	---	200°- 415°F	415°- 475°F	475°F

- Remove the following placard from the instrument panel:

DO NOT LEAN BELOW 5,000 FT. ABOVE 75% POWER

- Replace existing Airplane Flight Manual Supplement for STC’s SA4081NM and SE4082NM, dated 07/16/90 with new Airplane Flight Manual Supplement, AFMS - Cessna 177RG System II, dated 04/14/2009.
- Notify pilot(s) that procedures outlined in AFMS - Cessna 177RG System II should be reviewed prior to next flight.

PARTS AND SERVICE AVAILABILITY

Contact Tornado Alley Turbo, Inc. for pricing and availability of servo reflowing, servo overhaul if required, and turbonormalizing system replacement parts.

For more information about this Service Bulletin and additional upgrades to the Cessna 177RG turbonormalizing system go to www.taturbo.com.