



Service Instruction

TAT SB11-02, Revision None

Issued: 03/22/2011

Revised:

Model SR22 w/ Turbonormalizer

Installed per STC SA10588SC

And SE10589SC

COMPLIANCE

RECOMMENDED: Tornado Alley Turbo considers compliance with these Service Instructions to be a very important part of the aircraft maintenance program that should not be ignored. These instructions are effective on the date of issue. First inspection should be completed the next time the cowling is removed for routine maintenance.

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 Instruction that affect the type design.

PURPOSE

The purpose of this Service Instruction is to instruct owners of Turbonormalized Cirrus Design SR22 airplanes to have the engine driven fuel pump inspected for leakage around the mixture control shaft and to have the mixture control shaft seals replaced with alternative seals if needed.

DESCRIPTION

The fuel pumps on Cirrus SR22 aircraft with the turbonormalizing system installed per STC's SA10588SC and SE10589SC employ engine driven fuel pumps that are modified from the original engine driven fuel pumps on the normally aspirated engines. During the modification of the fuel pump for installation on a turbonormalized engine the fuel pump is dismantled, modified with newly manufactured parts, and then reassembled. During this process the fuel pump will receive new O-ring seals on the mixture control shaft. These seals were originally made of Nitrile or Buna N. Service has shown that some of these O-ring seals appear to be damaged over time. When mixture control shaft O-ring seals begin to deteriorate they will allow a very small amount of fuel to leak past the O-rings into the engine compartment. Newer O-ring seals made from a fluorocarbon rubber elastomer can replace the original Nitrile O-rings and provide improved durability and performance.

FREQUENCY

The initial five step engine driven fuel pump inspection described below is to be completed at the next cowling removal. Repeat that inspection at each annual inspection.

In addition, each time the cowling is removed, visually check engine driven fuel pump for fuel stains around the mixture control shaft. Fuel stains around the mixture control shaft are an indication of deteriorated O-ring seals.

Have O-rings replaced whenever there are signs of fuel leakage from the fuel pump mixture control shaft.

WARRANTY INFORMATION

Initial and repetitive inspection labor time is not covered under warranty. Parts and labor are warranted by Tornado Alley Turbo, Inc. for turbonormalizing systems still under the initial 2 year warranty period. Removal and replacement labor time will only be approved after verification of failure. Contact Cirrus Aircraft for warranty considerations for turbonormalizing systems still under the third year of the 3 year warranty. All other turbonormalizing systems are not warranted.

MANPOWER REQUIREMENTS

For inspection of engine driven fuel pump for leaks at the mixture control shaft: Two mechanics, 10 minutes
For removal and replacement of engine driven fuel pump: One mechanic, 4 hours

WEIGHT AND BALANCE

Weight change: None.

MATERIAL INFORMATION

The following items should be replaced when replacing the engine driven fuel pump:
1 each Continental P/N 649982 fuel pump gasket

ACCOMPLISHMENT INSTRUCTIONS

1. Remove cowling.
2. Visually check engine driven fuel pump for fuel stains around the mixture control shaft. Fuel stains around the mixture control shaft are an indication of deteriorated O-ring seals.
3. If there are no visible fuel stains around the mixture control shaft, have someone in the cockpit turn on the auxiliary fuel boost pump and cycle the mixture control. Watch the fuel pump for signs of leakage while the auxiliary fuel pump is on and the mixture control is cycled.
4. In either case, if there are signs of fuel leaks around the mixture control shaft of the engine driven fuel pump, remove the fuel pump and send to Tornado Alley Turbo, Inc. for rework to replace the O-rings on the mixture control shaft with new fluorocarbon O-rings.
5. Upon return of the fuel pump reinstall onto engine. Check fuel flow and adjust as required as outlined in Tornado Alley Turbo, Inc. Continued Airworthiness Report 22-6460004 (available on-line at www.taturbo.com/drawings/).