

Lindberg Joshua

From: [REDACTED]
Sent: Thursday, October 27, 2016 10:55 AM
To: Lindberg Joshua
Subject: FW: Rotec 3600 problems
Attachments: Fuel Pump Quad ring.pdf; Fuel Screen.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Josh,

This is from the mechanic of N83WR. I went out and observed the disassembly of the fuel pump, fuel regulator and the fuel injector body (TBI). The Fuel pressure regulator and TBI were unremarkable. The screen in the fuel pump was out of place when they disassembled it. Perhaps this compromised the quad-ring from sealing properly and introduced air into the fuel system at high power settings?

From: [REDACTED]
Sent: Thursday, October 27, 2016 9:45 AM
To: Bolton, Rick (FAA); Stearmanbob
Subject: Rotec 3600 problems

Rick, this is Andy at Aircorr Services. I have been scouring the internet again, and have found some more Rotec TBI problems. I Googled "Rotec TBI quit on takeoff" and found several almost identical problems. One on Rotec's own website. One guy wrote that if he advanced the throttle too quickly, it would quit after 20 seconds. Another wrote that the ram air effect as the aircraft gained speed would cause an increase in air pressure pull the regulator diaphragm and lose power. Also, on Rotec's forum there is a response from Rotec to a problem stating that the mixture stops on the TBI aren't necessarily the actual full rich or lean positions. Huh? Rotec says due to variations the builder is responsible for finding those and creating proper stops in the mixture linkage. Several instances where the engine lost power or quit all together on climb out, all of them with a different explanation from the experts. I think the TBI should have received more R&D before release. Here are a few links. In all of them it is the builders responsibility to modify the TBI to make it work. All trial and error.

<http://www.rotectbi.com/Examples.html>
<http://www.sonexbuilders.net/viewtopic.php?f=8&t=2010&start=20>
<http://www.vansairforce.com/community/archive/index.php?t-114648.html>
<https://forum.rotecaerosport.com/forum/tbi/general-aa/59-tbi-mods>

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Thank You
Andy Lasswell

Lindberg Joshua

From: [REDACTED]
Sent: Wednesday, October 19, 2016 2:49 PM
To: Lindberg Joshua
Subject: RE: CEN17LA011 - N83WR Fokker Tri-wing

Josh,

I went to examine the engine last week. The electric fuel pump is working correctly. The fuel filter in the electric pump was very clean. The gascolator was clean also.

I found some interesting information on the internet concerning the fuel pressure regulator. There have been a lot of issues noted in discussion forums about lapping material being left in the regulator and causing performance issues. This same regulator appears to be used in a fuel injection kit for Lycoming engines used in experimental aircraft.

The regulator is mounted directly to the throttle body which is suggested by Rotec. Unfortunately the engine is so close to the fire wall that we couldn't remove it without removing the entire engine. Everything else about the engine was unremarkable.

I got a call yesterday. The owner has removed the engine and pulled the fuel regulator. I am going back out next Tuesday to disassemble the regulator.

Thank You,

Rick Bolton
FAA/Airworthiness

From: Lindberg Joshua [mailto:[REDACTED]]
Sent: Tuesday, October 18, 2016 11:06 AM
To: Bolton, Rick (FAA)
Subject: RE: CEN17LA011 - N83WR Fokker Tri-wing

Rick,

The owner said you planned to examine at the engine last week? Were you able to find any new information?

Thanks,

Josh Lindberg
Air Safety Investigator
National Transportation Safety Board
[REDACTED] office

Rick Bolton – HOU FSDO [REDACTED]

Occurred 10-03-2016 @ 1730 cdt

Location Fulshear, TX 1 mile from Covey Trails Aipark (X09)

Aircraft N83WR Fokker DR-1 (9 cylinder R3600 Rotax engine) – Tri-wing airplane

Pilot Blake Thomas [REDACTED]
[REDACTED]
The Villages, FL 32163
ATP – sel, mel [REDACTED]
CFI – sel, mel, I
Class I – 2/1/2016
[REDACTED]

Just built aircraft with others. Installed engine. Secured aircraft and did a full power run-up. Worked fine. Did 8 high speed taxi runs on rwy – Worked fine. Preflight and found a couple minor oil leaks which they fixed. Added a little fuel. Took off and it felt like the power rolled back. Didn't have enough power to stay airborne. Landed in a nursery about 1 mile from airstrip.

Builders removed wings and moved the airplane back to the airport, which is a residential airpark, prior to notifying anyone. The Spars on all three right wings were broken.

Pilot has left area and went to Florida to secure his house prior to the hurricane. FAA said he has been very cooperative. Newly retired [REDACTED] pilot.