

Safety Corner

The Saga of Crimson 13

By Dave McClurkin

The following is an example of how a discrepancy can have more than one cause. It also illustrates how being as specific as possible when writing up a discrepancy can aid maintenance in troubleshooting and resolving the problem.

A few weeks ago an instructor advised the Chief Flight Instructor that Crimson 13 seemed to be underperforming. When pitching for V_y the aircraft would barely climb. The RPM also seemed lower than expected. Beyond that everything else seemed normal so the Chief Flight Instructor conducted a few test flights. The write up changed to something like:

“When established in the proper climb attitude the aircraft produced a reasonable rate of climb, but the indicated airspeed read 10 knots lower than V_y . The RPM also seemed lower than expected. When flying into and with the wind the TAS also showed about 10 knots lower than GPS ground speed.”

Given that write up maintenance immediately checked the line from the pitot tube to the airspeed indicator and discovered a leak. The leak was quickly repaired. On a subsequent test flight the airspeed indicator was behaving. When establishing the proper climb attitude, the aircraft showed a reasonable rate of climb and the airspeed indicator showed 79 knots. The airspeed tried out pretty close to what was expected. But . . . the RPM still seemed a bit low. Well, most of the problem seemed to be solved. Maybe we should let it go and just live with the RPM not being quite right. As pilots we shouldn't feel quite right about this solution, so the new write up became:

“Airspeed indicator working as advertised, but RPM still lower than expected.”

At that time RPM values were listed for each phase of flight – static, takeoff, climb, cruise etc.

Armed with this write up maintenance did a lot of trouble shooting. They confirmed that when compared to other warriors the full power RPM in a static run up was a couple of hundred RPM lower than expected. They adjusted the

throttle cable – a little improvement, but not much. Now it was time to tear into the engine a bit more. Upon removing the muffler they discovered that several baffles had come loose and were partially blocking the exhaust outflow from two cylinders. Somewhat like sticking a banana up the exhaust pipe of a car, this created backpressure into the cylinders during the exhaust stroke. The backpressure worked against the engine and reduced the RPM. If we had decided to simply “live with it,” would the muffler had deteriorated further and caused a sudden and significant loss of power at an inopportune time? Who knows? I would prefer not to find out one way or the other!

So here's the moral with a caveat. If it's not quite right, write it up and be as specific as possible in the write up. A specific write up will get maintenance pointed in the right direction.

The caveat? If you're in the air and something is not quite right (oil pressure dropping, smoke in the cabin etc.) it is best to get the airplane on the ground as safely and expeditiously as possible. Time spent trouble shooting the problem in the air might be the difference between a safe, uneventful landing and a real emergency. In retrospect the Chief Flight Instructor can rightfully be criticized for making too many “test” flights and not grounding the airplane sooner.

Live and Learn – or maybe I should say **Learn and Live!**

