

## **Twin Cessna Flyer Tech Advisor Tony Saxton's Comments on the Stewart Warner / Southwind Heater AD2017-06-02**

April 10, 2017

AD2017-06-03 Stewart Warner (Southwind) heater inspection AD is here. I'm rather surprised that this seems to have caught our group so unaware due to our repeated reporting concerning this issue.

This AD was defiantly not "sprung on us by surprise". Various specialized heater overhaul facilities had been warning for years the Southwind heater can were prone to cracking and would never make the then required 1000 hr. overhaul time without this occurring. I have been conducting the Twin Cessna Seminars since the early 1990s and have reported this information each time in the over 75 classes held.

In response to this weakness in design, several aftermarket companies, over the years, offered design changes to make the product better one being the former C&D Associates.

The well-publicized Cessna 401 defining accident concerning the heater occurred May 11, 2012, 5 years ago, and whether we blame faulty maintenance on the installed unit or not the NTSB made a valid point. the existing AD (81-09-09) lacked any calendar time mandated inspection criteria and provided no method to safely deactivate a faulty heater. As a 40+ year twin Cessna mechanic I have seen multiple factory originally installed heaters in southern operated aircraft that have NEVER reached the 250 1st inspection requirement and while legal, were certainly not safe.

The NTSB recommendation to the FAA prompted a normal Notice to Proposed Rule Making (NPRM) on August 20 2014 which was reported in this magazine and on the twincessna.org and the NPRM offered a full 60-day comment period. The Twin Cessna Flyer responded to this with a 5-page response and to my recollection only 11 other commenters offered any comments.

The Twin Cessna Flyer, through postings, the magazine, and again, during our seminars, stated an affirmation that an AD would certainly be forthcoming. The result, issued a full 2 ½ years after the end of the comment period, wasn't totally palatable but did consider numerous

comments and recommendations offered in the original comment period. I feel that the AD 2017-06-03 compliance cost is in actuality not astoundingly higher than the real cost of completing valid required maintenance to the heater as it should have been done. Heaters simply will suffer from sitting and not operating almost as much as being continually run. Fan bearings freeze up, old fuel plugs up the systems, wiring connections corroded, and internal corrosion continues.

I have, to date, completed several of these inspections and after getting set up, was not much more difficult than the long standing Janitrol 24-month AD. Have I found problems? Yes. The safety critical overheat switch in these units simply isn't working and yes can cracks are prevalent even on heaters within the original time limits. These are items the AD note was written to address so take the inspections seriously. Lastly on this topic the FAA purposely released the AD note this time of year (entering warm weather) knowing that there would be a lot of failures and offered specific directions in the AD to disarm and/or remove the heater and continue to fly while it is being fixed.

I would like to finish with some clarification. A great deal of animosity has been directed at Hartzel Engine Technologies (HET) on this matter. I'm not understanding this. No matter what the general public thinks a private company cannot enlist the FAA into an AD note. It is a regulation for any licensed product manufacturer to identify and notify the FAA of any internally found deficiency or safety issue as specifically listed in CFR21.3 but it is the FAA's decision through a specific mandated formula if AD note action is warranted. In this case the failing parts are not HET items but are however Stewart Warner Meggit units. This safety situation has been happening and well documented long before HET's last year's buyout out of C&D Associates and if anything can be said, HET may have embraced an opportunity but not with the any nefarious intent. On the contrary, this type of "Carpe Diem" is how free enterprise should work. To HET's credit they have not, today, increased the price on any item formally sold by C&D Associates, have increased availability and offer a viable method to alleviate the repetitive portion of this AD.

While we may lament that one person's lack of maintenance was at fault in all of this, as is frequently the case in aviation, "the faults of the weakest link in the chain will ultimately be suffered by the entirety".