



Federal Aviation Administration

Memorandum

Date: JAN 20 2015

To: Angela Anderson, Manager, Management Services and Recommendations
Division, AVP-400
Attention: Rolf Brockmeyer

Thru: William Schinstock, Acting, Manager, Standards Staff, Small Airplane
Directorate, ACE-110

From: Margaret Kline, Manager, Wichita Aircraft Certification Office, ACE-115W

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Subject: Response to FAA Safety Recommendations 14.148

This is our final response to FAA Safety Recommendation (SR) 14.148. This recommendation is the result of failure of an AN911-2D fuel fitting and subsequent engine compartment fire on a 1979 Cessna Model R182. After review of the SR and the supporting data, we don't find that further action is warranted at this time.

SR 14.148:

"Because of a potential safety issue, it is recommended that an Airworthiness Directive be issued to change this AN911-2D aluminum nipple fitting to an MS fitting made of steel."

We reviewed the National Transportation Safety Board accident/incident and Monitor Safety Analyze Data databases for the last 15 years for other like occurrences and/or failures and found no reports to support the SR position other than that which was reported in this SR.

We have shared this SR with Cessna. Cessna does not agree to the proposed fitting material change to steel. We agree with the Cessna position. It is noted here that all of the other metallic plumbing fittings in the Model R182 fuel system are constructed from aluminum. Due to the increased likelihood of dissimilar metals corrosion it is not recommended to change just one of those fittings and not have concerns about precluding dissimilar metal corrosion. Additionally, the AN911-2D nipple is an industry standard part which is used in numerous fuel, hydraulic and pneumatic systems, throughout the aerospace industry. It is commonly used in the fuel system of many other Cessna airplanes. The incident reported in this SR is the only report Cessna has received, wherein an AN911-2D nipple cracked and caused a fuel leak.

Cessna believes it is very likely the nipple was cracked for a time prior to complete separation. Evidence of this crack should have been detectable during ground inspection prior to complete

failure of the nipple in the form of fuel staining and/or a strong fuel odor. We concur with that perspective. ²

Cessna believes the Model R182 fuel system maintenance and inspection information already published in the service manual and service documents (Service Bulletins, Service Letters, Service Newsletters, etc.), is sufficient to detect cracks and/or leaks in the fuel system before they become catastrophic. We concur with that position.

Based on the above information, the Wichita ACO plans no further action at this time, and recommends that FAA SR 14.148 be closed. If you have any questions, please contact Jeff Janusz, Aerospace Engineer at (316) 946-4148.