US Department of Transportation
Docket Operations M-30
West Building, Ground Floor
Room W12-140
1200 New Jersey Avenue
SE Washington, D.C. 20590

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DEPARTMENT OF TRANSPORTATION
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DOCKET OPERATIONS

Docket No. FAA-2021-0875
Project Identifier AD-2021-00675-E

Dear Sir:

I currently own a Cessna L-19 Birddog aircraft equipped with a Continental O-470-15 engine and the F&M Oil Filter Adapter installed.

When I first purchased the aircraft the original fiber gasket was installed and not leaking. Shortly after I purchased the aircraft I complied with the Mandatory Service Bulletin published by Stratus Tool (Tempest) and installed the AN900-29 copper crush washer and torqued the securing bolt to the specified torque of 65 FT LBS. Prior to torqueing to 65 FT LBS I called Tempest to inquire if that amount of torque was required. They said yes, that when F&M owned the PMA they started at 50 FT LBS, then they increased that to 55 FT LBS. When Stratus Tool (Tempest) took over the PMA they moved the torque to 60 FT LBS and then 65 FT LBS.

65 FT LBS is an equivalent torque that you would put on an automobile head bolt. Let me point out that you are torqueing a piece of aluminum (oil filter adapter) to a piece of magnesium (oil pump housing) with the oil pump housing only having 5 threads to screw the oil filter adapter into. I have installed a new copper crush ring and resurfaced the face of the oil pump and torqued the assembly to 45 FT LBS with no leaks for the past 50 hours of flight. MORE TORQUE IS NOT THE ANSWER!

As soon as I installed the first copper crush ring I had oil leaks originating from the face of the oil pump housing and the matching face on the oil filter adapter. The copper crush ring is insufficient to make the seal leak proof, especially if the face of the oil pump housing is not brand new with a perfectly square face. The area available for sealing is approximately 3/8 of an inch wide all the way around the circumference of the oil pump housing. The copper crush ring only uses a small portion of this available sealing area.

A gasket material similar to the gaskets used in propeller governors would be a better solution. An oil resistant outer layer, with a stainless steel mesh center layer for strength, and an oil resistant inner layer would be a better solution. I have spoken with gasket companies and have found gaskets that will withstand 6,000 psi and 500 degrees Fahrenheit are available. This gasket would cover the entire sealing faces of the oil filter adapter and the oil pump.

Tempest has a gasket making branch of their company and they are fully capable of making a better gasket than just reverting to the AN900-29 copper crush ring, which is prone to leaks. As I stated above, more torque is not the answer. An improved gasket that will cover the entire sealing area available is the answer.

FAA...do the right thing and make the manufacturer design a better gasket, installed with a torque that is commensurate with the material being torqued. Don't pass this burden on to the aircraft owner when it is not the aircraft owner's fault that the original gasket was faulty from the start.

Sincerely,

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