



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

April 12, 2022

FUEL PUMP EXAMINATION

WPR21LA140

This document contains 4 embedded photos.

A. ACCIDENT

Location:	Everett, Washington
Date:	March 23, 2021
Aircraft:	Cessna, 172, N2164Z
NTSB Investigator-in-Charge:	Maja Smith

B. PARTICIPANTS

Eric M. Gutierrez
Air Safety Investigator
National Transportation Safety Board
Federal Way, Washington

Mark Platt
Air Safety Investigator
Lycoming Engine Manufacturing Company
Phoenix, Arizona

C. SUMMARY

The examination of the fuel pump did not reveal any mechanical failures or malfunctions that would have precluded normal operation.

D. DETAILS OF THE INVESTIGATION

Fuel Pump Examination

Examination of the mechanical fuel pump revealed that it was intact and undamaged. The actuator control lever remained attached to the fuel pump, was not damaged, and moved from stop to stop. The fuel pump was disassembled, and no debris was observed in the fuel chamber. Oil was observed in the compensator diaphragm chamber. The fuel valves remained in place and were unremarkable. The fuel diaphragm was intact and unremarkable. The oil diaphragm had cracking along the outer edge and a tear about ½ was observed near the center. Per the manufacturer, the tear and cracking on the oil diaphragm would not have an adverse effect on the engine ability to produce power.



Figure 1: View of fuel pump during exam (photo courtesy of the NTSB)

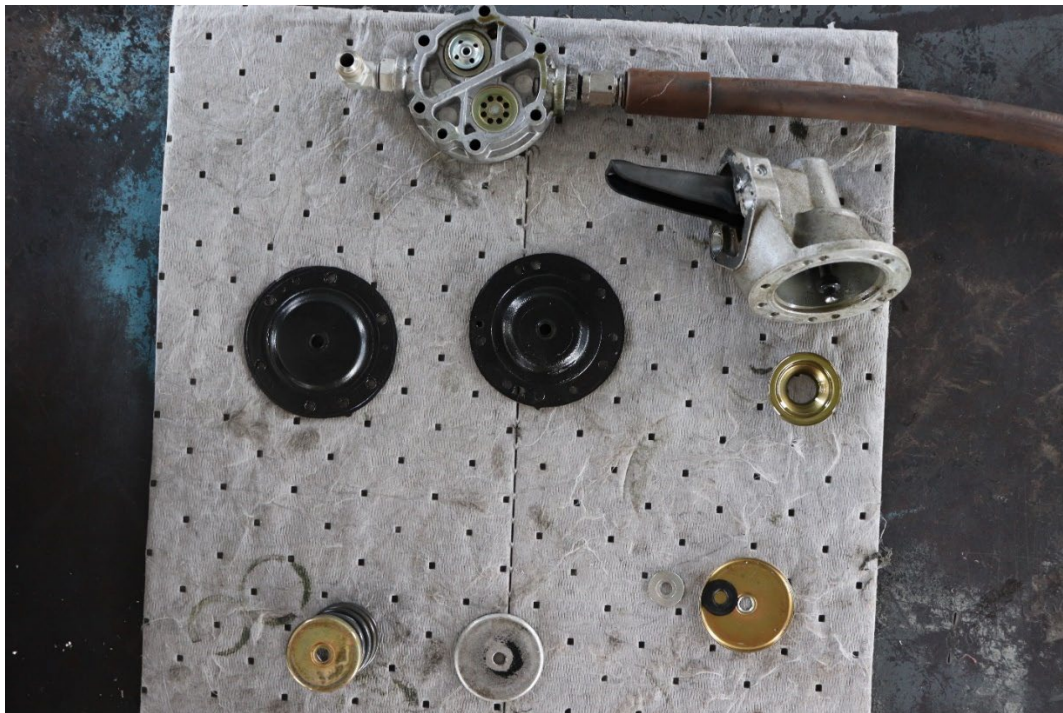


Figure 2: View of disassembled fuel pump during exam (photo courtesy of the NTSB)

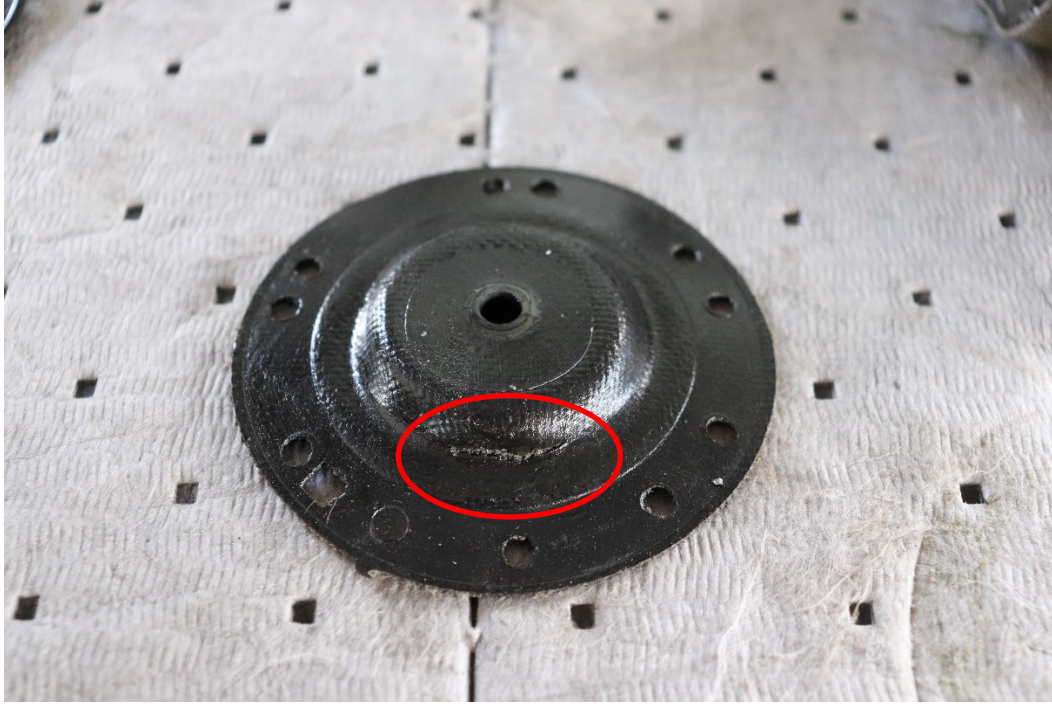


Figure 3: View of oil diaphragm with $\frac{1}{2}$ tear near center (photo courtesy of the NTSB)



Figure 4: View of oil diaphragm with cracking (photo courtesy of the NTSB)

Submitted by: Eric M. Gutierrez