



SUMMARY OF FINDINGS

Eric M. Gutierrez
Air Safety Investigator
Western Pacific Region

Date: May 20, 2022
Person Contacted: Christopher K. French (A&P)
NTSB Accident Number: WPR22LA133

Narrative:

The following is a synopsis of the information provided by Mr. French in an e-mail correspondence.

Engine Controls: Found to be in working order. Throttle and Carb Heat moved freely and actuated properly, but the mixture control was jammed due to the oil sump being forced rearwards during the crash. After disconnecting the mixture cable, it was found to move freely through its range.

Crankshaft/Pistons/Cylinders: The crankshaft turned freely by hand with perceivable resistance for compression strokes of the cylinders, with no unusual noise or resistance at any point. After removing the rocker box covers the valve train appeared to be intact and functional on all cylinders.

Fuel: Fuel was present in the header tank, and turning the fuel selector valve from the OFF position allowed adequate fuel flow and pressure to the carburetor. The control was stiff, but workable.

Carburetor: Removed carburetor from the aircraft and drained fuel from the fuel bowl (normal amount of fuel was present). Disassembled the carburetor and the entire assembly seemed to be in working condition, with floats attached and moving freely, needle valve attached, accelerator pump functional, and no missing or damaged parts.

Magnetos: Magneto switch was found to ground the magnetos in the OFF position, and unground magnetos properly based on key position, with neither magneto grounded in the BOTH position. Removed magnetos and all gearing was intact and without significant damage or wear. Impulse couplings on both magnetos were functional. Some white residue in the distributor cap but not enough to disrupt

function or airworthiness. Magneto harnesses intact and airworthy. Spark plugs were not fouled or overly worn.

Induction: Air filter was present, and any dirt or debris could be easily attributed to the crash. Carb heat ducting was intact and appeared airworthy. The air duct between the air filter box and the carburetor was damaged significantly during the crash and pulled mostly free of the aircraft. The ducting seems to have been of the SCEET variety, approximately 2 in. diameter, with both an inner and outer silicone-impregnated cloth with wire coil sandwiched between. Careful disassembly showed significant disbonding of the inner and outer layer, but further investigation showed areas where oil and debris that did not seem to be associate with the crash were present between the disbonding. It appears the inner layer may have had some areas unsupported during a negative pressure flow, which would have been during engine operation.

Attached are two photos: One shows the borescoped interior of a disbonded region of the SCEET induction duct, and the other shows a cylinder borescope image showing some shiny particles near the cylinder valves (suspected lead deposits).



Figure 1: View induction duct (photo courtesy of A&P)

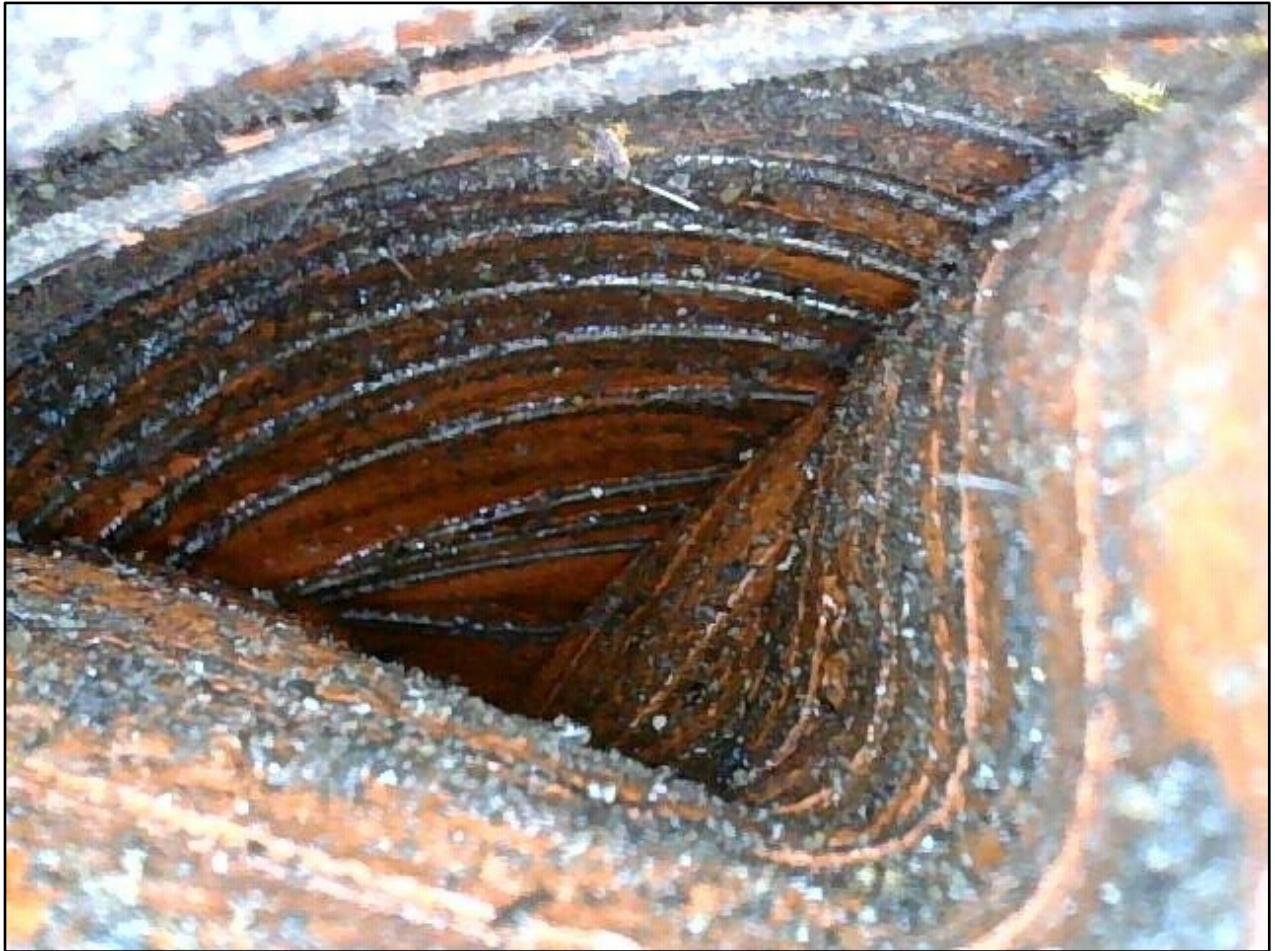


Figure 2: View of borescope induction duct (photo courtesy of A&P)



Figure 3: View of cylinder borescope (photo curtesy of A&P)