

Summary of Examination

Examination Date: 09/17/2013

Location: Air Transport; Phoenix, AZ

Persons Present: Nicole Charnon, Air Safety Investigator; Continental Motors, Inc.
L. Pete Kelley, Airworthiness Inspector; FAA Scottsdale Flight Standards District Office

The #5 cylinder was removed from the engine during a June 28, 2013 examination. The #5 cylinder's exhaust valve displayed a green discoloration on its face indicating a possible exhaust gas leak. Close examination of the #5 cylinder exhaust valve in the area behind the green discoloration revealed small cracks on the seating surface of the valve. The following photographs concentrate on the #5 cylinder exhaust valve.

Closer Examination of #5 Exhaust Valve:





The engine, with the #5 cylinder already removed was brought out of storage and hung from a hoist. The remaining 5 cylinders were removed from the engine and examined. The remaining cylinders and their valves displayed typical deposits and coloration.¹

Cylinder #1:



Cylinder #2:



¹ It should be noted that the engine underwent extensive thermal exposure following the accident. Dark coking and soot coated numerous external and internal engine components. Even some of the normal combustive byproducts that were adhering to the pistons and cylinders were covered in dark soot and coking.

Cylinder #3:



Cylinder #4:



Cylinder #5:



Cylinder #6:



Examination of the six pistons revealed no anomalies or signs of operational distress. The photographs below depict each of the six cylinders.

Pistons:



