

Case Study – Fuel Injector Feature Verification

Customer Problem

A major manufacturer of diesel engines produces two similar types of fuel injector housings. One housing had an internal key slot—the other one did not. During the manufacturing process, these two housing types were inadvertently mixed, which resulted in injector failure and engine damage.

The manufacturer had always relied on manual visual inspection to tell the difference in the parts. The visual inspection process was difficult due to the narrow ID of the part, dark discoloration from heat treatment and internal shadowing. In addition, human attentiveness, focus, and concentration can be problematic during long term, repetitive visual examinations.

The Solution

The manufacturer decided to use an eddy current test system to inspect the parts. The eddy current test system looks for a difference in material mass of the parts, and was able to clearly differentiate the two types of fuel injector housings. The manufacturer used a single channel eddy current instrument and custom eddy current probe that was inserted precisely into the fuel injector housing. This test can be performed with an [InSite HT](#) or Criterion NDT [CR-11](#).

The manufacturer was able to eliminate failures due to part mix-up, reduce inspection time and reduce inspection labor costs.

For more information visit our website at www.criterionndt.com or call Criterion NDT at 253-929-8800.

Equipment: [InSite HT](#) or [CR-11](#), Custom Eddy Current Probe



Figure 1 - Fuel Injector Housing

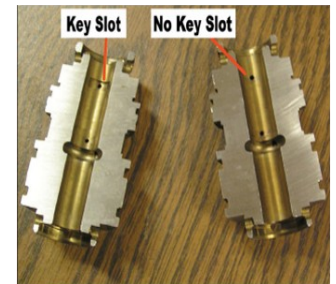


Figure 2 – Cut Away View of Fuel Injector With and Without Key Slot

