

## **What is “Stiction?”**

By Chris Gabrelcik , Certified Lubrication Specialist

In recent years, the term “stiction” has joined the conversation between diesel mechanics and drivers. But what is stiction, exactly?

This simple demonstration will help you visualize stiction. Pour a small amount of water on a countertop. Now slide a paper towel over the spill. Feel the difference in the amount of drag after the towel absorbs the water. That drag is stiction.

Imagine the inside your diesel’s injector. A thimble full of engine oil has the high pressure job of driving the intensifier piston under extreme heat. Over time, that small amount of engine oil breaks down and leaves a gummy residue on the internal parts. As those parts move, they experience a drag (like the wet paper towel). The sticky, gummy residue of burnt oil on moving engine parts causes a dragging friction. We call that stiction.

Drivers sometimes choose to use lubricants to resolve stiction. This creates a temporary improvement as lubricants can relieve the dragging effect for only a short time. Lubricants are not designed to remove the sticky burnt oil residue which is the cause of stiction. A short time after a lubricant has been added, the stiction symptoms return. Treating stiction with a lubricant is like spraying cooking oil on a dirty frying pan. It only masks the problem. Actually, stiction’s negative impact to your diesel’s performance never left as it was simply masked by the lubricant.

Stiction can occur on your diesel’s injectors, o-rings, springs, piston and the turbocharger. The most obvious symptom of stiction is a diagnosis of a failed injector. Common symptoms of stiction occur well before your mechanic runs the diagnostics on your engine. If you are experiencing slow starts or bucking and chugging, especially on cool mornings, stiction could be building up. If your diesel hesitates to accelerate or has been losing power, then you could be experiencing stiction. A steady and consistent drop in your MPG can also be an indicator of a stiction problem. To eliminate these symptoms, choose an additive specifically designed to remove stiction.

Chris Gabrelcik is certified with STLE as a CLS and OMA. He personally developed and tested a product designed to remove stiction called Hot Shot’s Secret Stiction Eliminator.