Ten Tips for Root Cause Analysis

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A root case analysis is performed to identify the cause of failures so that corrective actions can be implemented to prevent a recurrence. This can be difficult when the problem being investigated is both subjective and transitory, which is often the case for a squeak and rattle issue in a vehicle. Automotive customers are becoming more demanding and vehicles are beaming quieter. This is a very bad combination when a vehicle has a squeak and rattle issue. Performing a root cause analysis on an automotive squeak and rattle issue is not like other types of root cause analyses. Often, the investigator only knows that “there is a sound coming from over there.” The problem may only be present under certain conditions which adds to the complexity of the investigation. Removing a part to measure it may also chance the conditions resulting in the noise no longer being present and removing a part may also change its geometry making measurments data difficult to acquire. Such investigations often require unique approaches to root cause analysis.

This talk will present ten tips for root cause analysis based on automotive squeak and rattle experience. Although based on experience in the automotive industry, these tips are applicable across industry. They can be applied when dealing with anything from a machined dimension out of specification to an improperly assembled assembly in a more complex system.