CHARTER STEEL

REVEALING THE ROOT CAUSE

How Targeted Testing Helped Uncover the Source of an Engine Fastener Fracture

CHALLENGE

When a vehicle experienced both immediate and delayed fractures in a fastener within its engine, the OEM sought assistance from the fastener manufacturer and Charter Steel to help identify the cause. We promptly initiated laboratory analysis on the parts to determine whether the issue originated in the fastener design or its production.

RESULT

With our technical service lab capabilities, the Charter Steel team prioritized analyzing the parts and quickly delivered the results to the OEM. The analysis determined that the medium carbon alloy grade steel met the required standards for the high tensile application. After this confirmation, our team met with the automotive OEM and the fastener manufacturer to discuss the findings and further investigate the part production and installation process. Through this collaborative effort, and with our assistance in ruling out potential causes, the OEM and fastener maufacturer were able to determine the source of the fastener fractures.

SOLUTION

Through rigorous testing and analysis, our technical lab services team confirmed that the fracture was not due to any anomalies in our steel. As an ally, we are dedicated to producing ultra-high tensile material with exceptional cleanliness, but our commitment goes much further—we put our partners and their results first. Driven by our customer-centric approach and dedication to our partners' success, we collaborated closely with the automotive OEM and fastener manufacturer to gain a deeper understanding of their processes and design to help identify the root cause of the fracture.