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SIGNATURE ANALYSIS OF TRANSMISSION CLUTCH ASSEMBLY

Market driver:

Premature automatic transmission failures can be caused by rolled o-rings and lip seals that go undetected during original assembly process.

Test requirement:

Monitor the assembly process to detect abnormal conditions indicating that o-rings or lip seals are being rolled, sheared, or torn. Develop an assembly “signature” using correctly assembled components to determine the characteristics that fall outside of that acceptable assembly signature.

CTS Solution:

CTS developed a monitoring system to measure the force, displacement and time of the assembly process for the clutch. With this system a typical assembly “signature” was developed to identify properly assembled clutch assemblies. These signatures identified the critical elements of the assembly process and allowed the customer to make adjustments when any part of the signature graph for an assembly exceeded its established limits.

