Industry-Leading Test Solutions

Market Application Case Study:

ENGINE ASSEMBLY LEAK TESTING

Market driver:

Manufactures perform leak testing on engine assemblies to ensure they meet specification to avoid expensive warranty claims. Testing routines are conducted on air/oil, fuel, and coolant cavities to determine the engine is properly sealed and to ensure there is no internal cross contamination of cavities and engine systems.

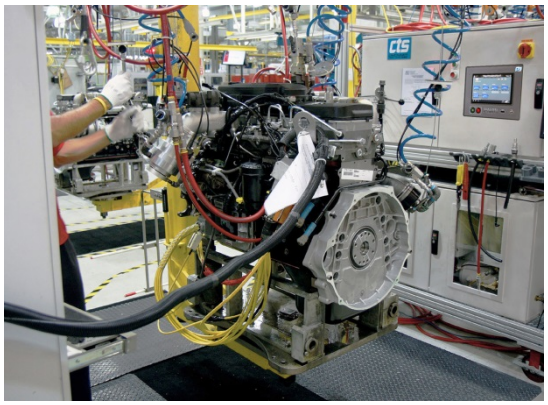
Test requirements:

Engine leak testing is performed at final assembly, with main engine component parts installed. Engine leak testing is performed using independent tests - performed with unique pressures and test times for each cavity. The leak testing system should be portable, self-contained, and provide flexibility and allow the system to be positioned close to the Engine Assembly test location and its overall physical size is important.

CTS solution:

CTS offers several instrument models that can be applied to engine leak testing. The Blackbelt Pro instrument is our next generation of multi-test, multi-port, multi-channel test instrumentation. The Blackbelt Pro provides leak and flow, pressure, and vacuum testing in one integrated instrument and configurable to include up to 4 independent test ports. For this application, one (1) Blackbelt Pro instrument provides all the functionality for this 3-chamber mass flow engine leak test application. It can be equipped with 1 to 4 independent flow sensors each with different ranges to accommodate low, medium, and high flow requirements for increased capability.

The Blackbelt Pro provides the capability to perform synchronous and asynchronous testing and the flexibility to customize programs to provide sequential and conditional test routines. As compared to previous engine test systems, the Blackbelt Pro solution provides additional operating efficiency controlling the test sequencing as a stand-alone instrument, as well as reducing system hardware costs by using a single Blackbelt Pro instrument.



View of CTS Engine Leak Test System