

Test system renovation

With a number of updates implemented, an existing test rig now provides greatly improved exhaust system analysis capabilities

m+p international

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➤ Faurecia is a leading global player in the automotive industry, with 330 production sites and R&D centers worldwide. Its business is focused on automotive seating, exterior systems including front ends and shock absorption systems, interior systems including instrument panels and center consoles, and emissions control technologies.

m+p international has updated and perfected the integrated exhaust systems testing rig used by Faurecia Emissions Control Technologies in Shanghai. The new test system consists mainly of an eight-channel m+p VibPilot vibration control system, a TIRA three-ton shaker, a NI cFP controller and the ignition system.

First of all, m+p engineering replaced the existing vibration control hardware with an m+p VibPilot system. This compact measurement front end provides 102.4kHz simultaneous sampling, source capabilities for IEPE sensors, TEDS support for automatic front-end configuration, as well as two precision analog outputs. An m+p VibUtil software tool was added for communication with external equipment and test sequencing. Eight digital input channels and eight digital output channels establish links to external equipment for combined testing. The software easily combines individual tests of identical



LEFT: The recently refurbished exhaust systems tester installed at Faurecia



ABOVE: m+p international's vibration control system communicates with the existing ignition system control software

or different modes in any complexity of nested loops and sends test status reports by e-mail or text message.

Secondly, to enable communication with the m+p vibration control system, m+p engineers modified Faurecia's existing ignition system control software – without the need for any additional new hardware. The ignition system user interface was also converted into Chinese by m+p international. The updated system controls the synchronization of the ignition and vibration test cycles and also detects and safely handles fault conditions, which avoids overtesting

and reduces the number of tests required. Other high-performance applications include different ignition configurations under different vibration models, start/stop control of time/temperature programs, etc.

The system ensures consistency and synchronicity of the vibration ignition testing while accommodating complicated testing standards and the harshness of long duration tests, thereby greatly improving the engineers' efficiency. With the expertise of m+p engineers, vibration testing has been matched to the customers' special requirements, providing a much wider range of experimental testing methods.

m+p international's engineering department has the know-how and all the resources necessary to design and construct custom-made vibration and functional test stands. Standard products include vibration control systems used by leading environmental test labs worldwide, dynamic signal analyzers for a range of NVH applications, and multichannel data acquisition systems.

"m+p always considers customers' requirements as a first priority, doing its best to adapt hardware and design-specific software in cooperation," says Levin Sun, component test team leader at Faurecia Emissions Control Technologies. "Furthermore, we appreciate its fast response and after-sales support." ◀