


Advanced Engineering ● ● ● Testing Solutions

End-Of-Line Production Validation Testing



Smarter By
Design


MUSTANG
ADVANCED ENGINEERING

Mustang Advanced Engineering is an industry leader in the design, manufacture and installation of advanced End-Of-Line (EOL) test

stands for automotive, heavy-duty and off-road vehicle production & quality assurance testing applications.

MAE has extensive experience in the field of end-of-line (EOL) testing and offers a variety of products and services to support your production testing requirements. MAE has developed systems to handle multi-function vehicle testing, production electronic & wire harness testing, chassis sensor and electronic testing, production engine and transmission testing and many other applications. MAE can upgrade your existing production line hardware and software, interface with existing databases or supply a complete turnkey production testing solution.



Quality Assurance, Assured.

“Custom Solutions” Approach

MAE’s “custom solutions” approach focuses all of our product, application and automation experience on your specific measurement and testing requirements. Our goal is to provide tailored solutions that optimize our customers’ testing and development operations by providing intelligent system designs coupled with outstanding technical expertise and world-class customer support.

MAE provides a host of specialized EOL testing solutions, all designed to meet the customer’s specific and/or unique application. MAE’s modular design concept allows for a high degree of scalability and customizing, from simple chassis dyno test stands to highly-sophisticated and complex multi-function test cells with CAN interface.

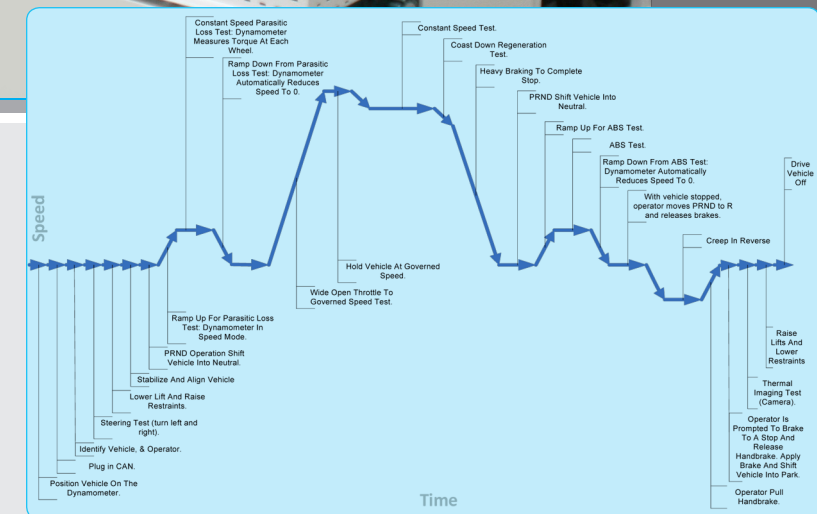


MAE-AC-4000 EOL Test Stands

MAE’s AC-4000 Series test stands offers a flexible solution for test control, data acquisition and operator interface, stepping test operators through each step of an automated EOL test sequence in a simple and user-friendly format, while collecting, analyzing and reporting on vehicle systems status and performance data. MAE’s AC-4000 test stand communicates with each test vehicle via CAN communication to determine pass/fail results and to establish certain vehicle system status as required during the test procedure. The flexibility of MAE’s systems allows us to easily adapt to meet unlimited test procedures and simulation requirements.

MAE’s experience and expertise with sophisticated end-of-line systems stems from having supplied a host of fully-integrated, automated testing solutions for a wide range of EOL testing applications. MAE offers completely customized end-of-line testing solutions for your specific production validation applications.

A sample EOL test procedure is illustrated in the figure on the right. MAE can easily customize an automated EOL test sequence to meet your EOL testing requirements.



Thermal Imaging and vibration analysis are commonly integrated into EOL test stands. Thermal images on key under hood points before and after cycle testing allows QA engineers to establish pass/fail criteria based on areas of interest and temperature limits.



Single-position, multi-function EOL test stands for heavy-duty and off-road vehicles is a specialty area for the engineers at MAE.

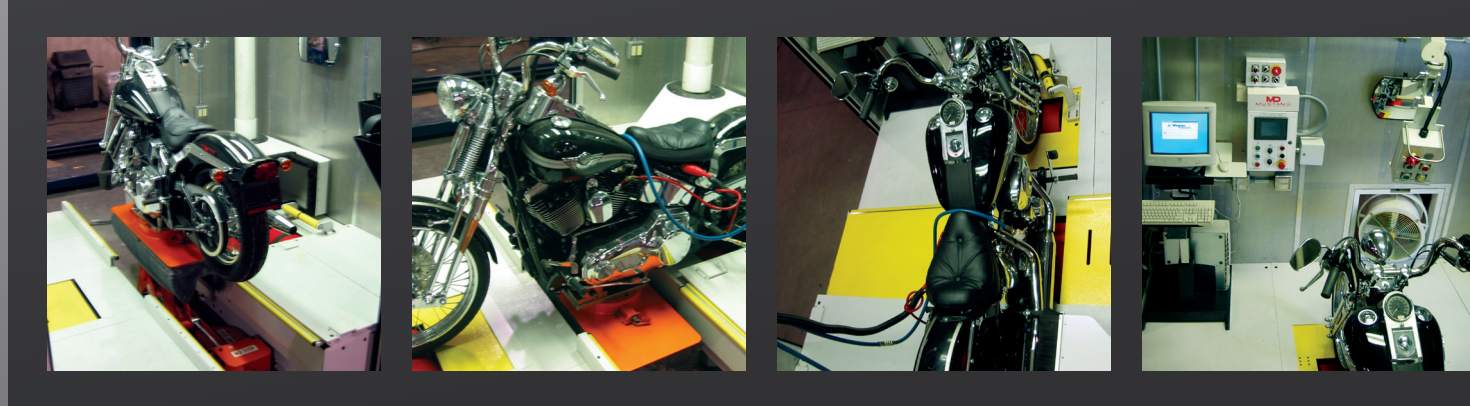
Multi-Function End-of-Line Test Stand for MRAP Vehicles

This EOL system performs an entire series of EOL functionality tests including vehicle performance tests, driving course test, exhaust brake testing, retarder testing, functional and visual test, ECU test and DTC evaluations via the dynamometer portion of the multi-function tester. The brake portion of the multi-function tester performs a complete interactive function braking system test of the foundation brakes and the ABS braking system. The comprehensive series of vehicle functional testing is designed to be performed with the vehicle remaining in a single position on the multi-function tester.



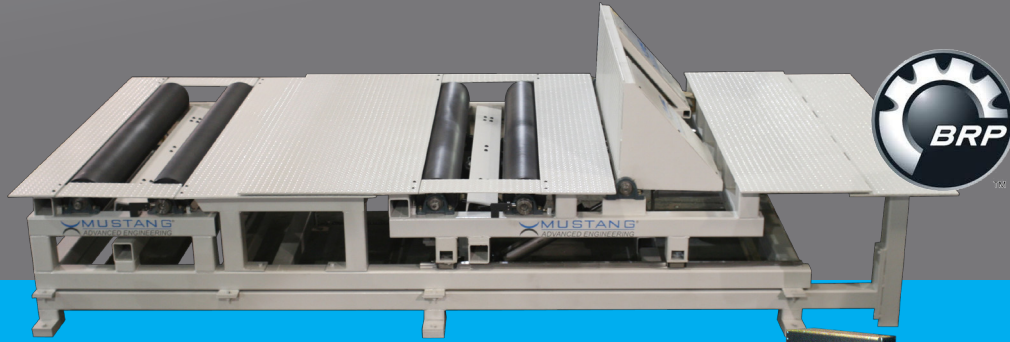
MAE has delivered EOL test stands to companies such as Honda, Harley-Davidson, Bombardier, CAT, Toro, Club Car, and a host of other

world-class OEMs that insist on the best EOL testing systems to verify that their product quality and performance meet the highest standards.



Self-Contained End-Of-Line (EOL) Test Cells

For this project, MAE supplied all of the equipment, software and engineering requirements, including system design, installation, start-up and training for three self-contained end-of-line test cells. Each of the three test cells contained a multi-function chassis dynamometer capable of variable wheelbase adjustment, dynamic vehicle load testing, brake testing, road simulation and function testing. A front and rear wheel restraint system limits the motorcycle's movement while under test. All of these tests are performed in a single position while the motorcycle is on the assembly cart.





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About MAE

Mustang Advanced Engineering is a leading provider of comprehensive testing solutions for the development and testing of engines, powertrain systems and complete vehicles. Founded in 1975, Mustang has long been a trusted source of expertise in measurement and testing technologies for the global industrial market. World-class product offerings, custom design support and technical assistance, backed by a dedicated factory service team, has positioned MAE among the global leaders in providing advanced testing solutions.

As a global leader in the design, manufacturing, and integration of advanced testing and measurement systems, MAE has delivered and continually supports literally thousands of test systems to virtually every corner of the globe.

Our mission is to achieve the highest possible level of customer satisfaction by providing innovative technical solutions and product designs and by striving to achieve perfection in product quality, delivery and service. At MAE, our customers are our highest priority - we do everything in our power to satisfy our customers. Our entire organization understands that the customer comes first and nothing else is more important.

To learn more about how MAE can help solve your most demanding testing challenges contact one of our sales engineers or visit www.mustangae.com.



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