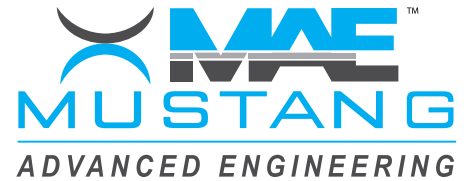


# Project Spotlights



An MAE publication highlighting some of the latest advanced engineering projects.



## Mustang Advanced Engineering Delivers Nebraska Tractor Test Compliant Mobile Tow Dynamometer Laboratory

MAE recently delivered a sophisticated Mobile Laboratory Tow Dynamometer for use in validating tractors to the Nebraska Tractor Test Drawbar Test. Previously MAE delivered the PTO test stand, which is used to perform the PTO portion of the Nebraska Tractor Test to the same customer. The Mobile Lab Tow Dynamometer consists of a modified extended cab class-8 over-the-road truck with a modified powertrain and adjustable front tongue assembly. The system is supplied with a tractor fuel measurement system to measure the pulling tractors fuel usage during testing. A weather Station is located in the dynamometer system to measure ambient temperature, relative humidity and barometric pressure, while a portable data pod located in the test tractor's cab captures the tractor's engine rpm, engine pressures & temperature. The system is also easily expanded to communicate with the tractor's ECM.



The cab of the tow dynamometer was also modified with 4 custom air-ride chairs, a work station, a large mounted plasma monitor, cabinets, and a laptop PC control system. The operator can adjust operating speed ranges right from the driver's seat. A tractor to tow dynamometer communication system is installed so the system drivers can communicate to each other. The towing hitch assembly has the ability to automatically adjust from 200 to 1,000 mm (8" to 39") and can be operated in an auto-follow mode during tow operation.

This sophisticated tow dynamometer was developed and optimized to meet our customer's specific application and testing requirements. This included maximum continuous drawbar capacity in excess of 130,000 N (30,000 Lbs.) and continuously power absorption in excess of 200 kW (270 Hp). The customer's requirements limited the speed from 0.5 to 30 km/hr (.3 to 18.6 mph). Future systems that require higher or different performance criteria can be easily developed with an optimized powertrain system for power performance up to 450 kW (600 Hp), drawbar performance up to 225,000 N ( 50,000Lb.) and speeds up to 110 km/hr (70 mph).



**ISO 9001:2000 Certified**

**Offices Worldwide**

**U.S. Corporate Headquarters**  
**Mustang Advanced Engineering**  
2300 Pinnacle Parkway  
Twinsburg, OH 44087  
Phone: (330) 963-5400  
Fax: (330) 425-3310  
Email: [sales@mustangae.com](mailto:sales@mustangae.com)

**[www.mustangae.com](http://www.mustangae.com)**

## 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](http://www.mustangae.com).

**advanced engineered testing solutions**