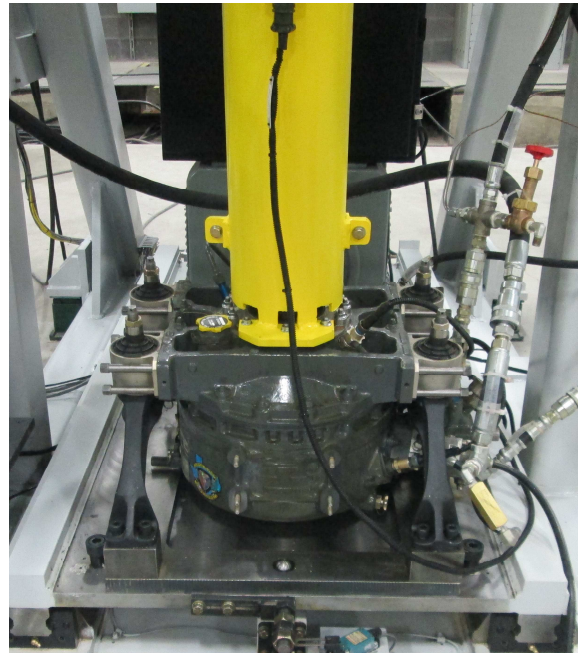


# HELICOPTER TRANSMISSION TEST STANDS



## KIOWA OH-58C/D HELICOPTER TRANSMISSION TEST STAND

The helicopter has evolved into a highly valuable air mobile vehicle for both military and civilian needs. The helicopter transmission, just as well as engines and rotors, require highly sophisticated and technically advanced transmission test systems to develop a technology base for future rotorcraft advances.

Mustang Advanced Engineering is one of only a few companies in the world that has developed systems and possesses the experience to deliver the highly specialized testing solutions demanded for this application. MAE has experience building advanced testing solutions for helicopters like the OH-58 Kiowa and the AH-1, the Kawasaki OH-1, the Bell 47, and the HH-60G Pave Hawk. The experienced team members at MAE are experts at creating custom solutions to fit specific testing requirements.

Transmission and high-speed gearbox testing applications have long been a specialty and area of technical expertise for the team of testing and applications engineers at Mustang Advanced Engineering. Regardless of the unique challenges of your application, MAE has a complete systems solution to meet your helicopter transmission testing needs.

MAE is widely regarded as a leading global provider of dynamometer systems for a wide range of applications that require accurate and repeatable inertia simulation, speed control, force control or acceleration control. Mustang's line-up of dynamometer and test systems have evolved and acquired techniques and capabilities resulting from decades of experience in developing "high accuracy" simulation and test systems.

# HELICOPTER TRANSMISSION TEST STANDS



KIOWA OH-58A/C & D TEST STAND



FIGURE 1 - MAIN GEARBOX BEING LOADED INTO TEST STAND

Mustang Advanced Engineering (MAE) recently supplied and installed a new test stand capable of testing the OH-58C/D helicopter main gear boxes and tail rotor gear boxes for the U.S. Military. The contract called for MAE to deliver a turn-key solution which included interfacing with existing and/or new facility utilities including, but not limited to, electrical power, lighting, compressed air, ambient air, HVAC, filtering, domestic water, cooling water, heat exchangers, facility utilities, concrete, and switchgear.

The test stand is configured with three AC variable speed dyne motors, all directly coupled to the test articles and configured in a common bus arrangement to allow the electrical power to be re-circulated within the system. This drive configuration offers significant power savings over the life of the test stand and provides a true next-generation "green" test stand.



FIGURE 2 - TAIL ROTOR GEARBOX BEING LOADED INTO TEST STAND

The three AC motor system included a power package that produces up to 8,509 lb-ft of torque at speeds up to 6,200 rpm, capable of meeting or exceeding the various DMWR requirements of the U.S. Military for these specific gearboxes.

In addition to the main test stand, the turnkey systems were supplied with an oil cooling system, fixturing and quick-connect test article mounting systems, torque disc calibration systems, MAE's TRANSdyne Control Software and a comprehensive data acquisition package.

MAE's unique fixturing design allows changeover of test articles to be accomplished within 20 minutes while providing the capability of testing 4 unique gearboxes with a single test stand.

[www.mustangae.com](http://www.mustangae.com)  
1-888-468-7826

## U.S. Corporate Headquarters

2300 Pinnacle Parkway • Twinsburg, OH 44087  
Ph: (330) 963-5400 • Fax: (330) 425-3310  
[sales@mustangae.com](mailto:sales@mustangae.com)