PROJECT SPOTLIGHT

XT-1410/CD-850 Crossdrive Transmission Test Stand

MAE MUSTANG ADVANCED ENGINEERING
Fearless Innovation™

Anniston Army Depot (ANAD) is a major United States Army facility for the production and repair of ground combat vehicles located in Bynum, Alabama. ANAD is one of the depots capable of performing maintenance on heavy-tracked combat vehicles and their components The XT-1410 transmission is used on the M51 main battle tank and the M88 recovery vehicle. The CD-850 transmission is used on the M60 main battle tank. Mustang Advanced Engineering (MAE) was awarded a competitively bid contract to supply, provide turn-key installation, commissioning, testing, and training for a variable speed AC motor driven, air-cooled eddy current power absorption unit (PAU) loaded, transmission dynamometer test stand with a self-contained closed loop liquid cooling system capable of testing the XT-1410 and CD-850 transmissions.

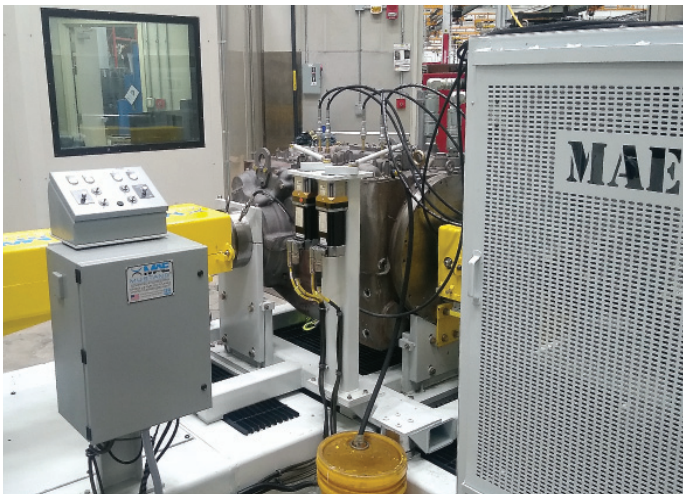
SNAPSHOT

Project:	XT-1410/CD-850 Crossdrive Transmission Test Stand
Customer:	U.S. Army
Where:	Bynum, Alabama
Benefits:	Allows testing of both the XT-1410 and CD-850 crossdrive transmissions on a single test stand
	Provides commonality of software, control systems, and mechanical components across several test stands

This design concept provides the capability to upgrade the test stand in the future to accommodate other crossdrive transmissions, if desired.

The input motor on the test stand is a low inertia, variable speed AC 400 HP motor. The two (2) outputs are loaded by air-cooled eddy current PAU's capable of absorbing over 700 HP each. The output loading unit also incorporate stall brakes capable of stall loads of 2,100 lb-ft each. An inertia weight is also integrated into the output load units to simulate vehicle weight during dynamic shifting tests.

The modular transmission mounting bases incorporate the transmission mounting brackets, actuators, driveshafts and guards. The base plate may be removed from the test stand



As can be seen in the picture above, the test stand incorporates interchangeable transmission mounting bases (XT-1410 shown) which allows the stand to test both transmissions.

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while maintaining relative position between all precision aligned parts. All cables, oil hoses, and/or air lines connected to equipment on the transmission mounting base are equipped with quick disconnects.

MAE's modular design not only saved ANAD the expense of a separate test stand and additional test cell infrastructure requirements, it greatly increases efficiency as a transmission being prepared for test can be placed in the transmission mounting base, aligned, and dressed with the appropriate fittings, cables, and actuators outside the test cell while another transmission is being tested.

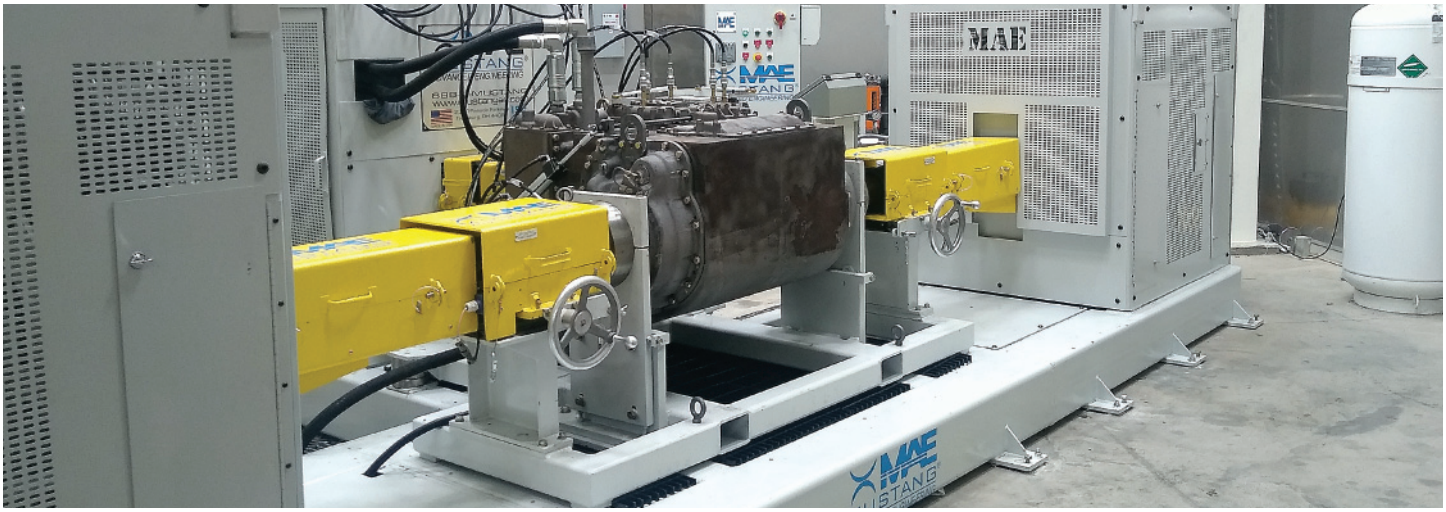
> *"Receiving another government contract award is a direct result of MAE's innovative, modular testing solution. The entire MAE team takes great pride in supporting America's Warfighters."*
>
> *- David Ganzhorn, V.P. Sales*

MAE has previously supplied ANAD with several in-line and crossdrive transmission test stands as well as ten (10) external, modular, soundproof enclosures with integral control rooms.

Adding another MAE test stand provides ANAD commonality of software, control systems, and mechanical components across several test stands.

The test stand was delivered with custom test sequences for each transmission based upon the current National Maintenance Work Requirement (NMWR). The software allows the operator to stop and then restart any test step without having to restart the entire test sequence. The software automatically performs data acquisition required by the selected test, after execution of the selected individual test has been completed, the semi-automatic test sequence is halted awaiting further action by the operator. The software generates a test report of the results at the completion of the test or when requested by the operator via the operator's control console. If a transmission fails a particular test, the test sequence indicates to the operator the failed test results. The software allows authorized users to define and save test sequences using MAE's script building feature.

"Receiving another government contract award is a direct result of MAE's innovative, modular testing solution.", said David Ganzhorn, VP Sales. "The entire MAE team takes great pride in supporting America's Warfighters".



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About MAE

Mustang Advanced Engineering is a leading supplier of advanced, custom engineered testing and measurement systems. Located in Twinsburg, Ohio since 1986, MAE delivers world-class testing solutions, custom design support, technical assistance, backed by a dedicated factory service team, making them a trusted source of expertise for the global industrial market. Visit MustangAE.com for more information. Follow them on Facebook, Twitter, LinkedIn, and Instagram.