

Team News

Volume 2, Number 1

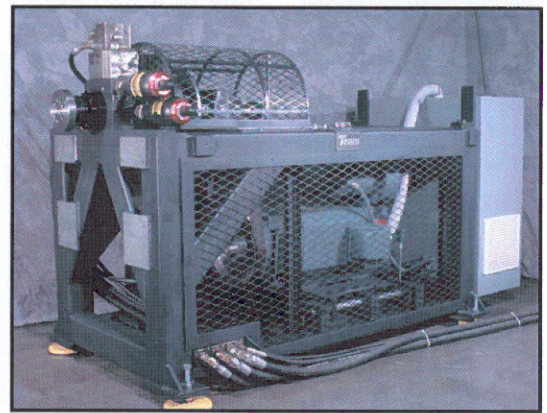
Engineered
vibration testing
solutions for
improved
product quality.

Engine Simulator Reduces Development Time and Cost

Traditionally development of engine-driven products has required testing with an operating engine. Because an operating engine is required, many tests are delayed until operational engines are available for testing purposes. Engines are frequently not available until very late in the development process. Getting a late start on testing naturally limits the amount of testing that can be performed and the number of design alternatives that can be evaluated.

Team Corporation's 900 Series of Engine Simulation Systems reduce development cost and time-to-market for engine-driven systems and components. By providing a programmable and flexible test platform, a Team Engine Simulation Systems enables the development engineer to perform more tests, more accurately, and earlier in the development process.

By using data from similar engines or from CAE models, the Team ESS can be used at the very beginning of the engine development program to evaluate several design alternatives quickly. Results from these tests can be used to narrow the alternatives to the most promising. Subsequent testing that incorporates measured data obtained on prototype engines allows quick and reliable comparison of the performance of the various designs under controlled, repeatable conditions.



Team Model 901 Engine Simulation System

The Team ESS uses closed-loop vibration control to provide repeatable test conditions test after test. By eliminating uncontrolled variables such as changes in engine performance over time and variations from engine to engine, the Team ESS brings a higher level of confidence to the testing process.

The PC-based Engine Simulation Controller (ESSCON) allows the operator to control the amplitude, frequency and duration of vibration. In addition

(Continued on page 2)

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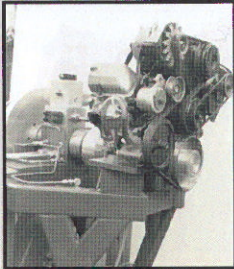
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In This Issue ...

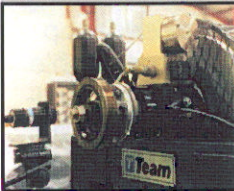
Engine Simulators	1
4 Posters	2
Satellite Slip Table	2
NEBS Testing	3
Seismic Testing	4
New Bearing Line	4

Engine Simulator Applications

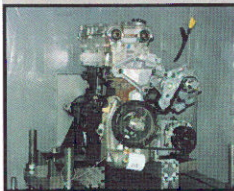
The Team Engine Simulation System has been applied in a variety of applications since its introduction over two decades ago. Some sample applications include:



Belt Drive Testing



Engine Damper Testing



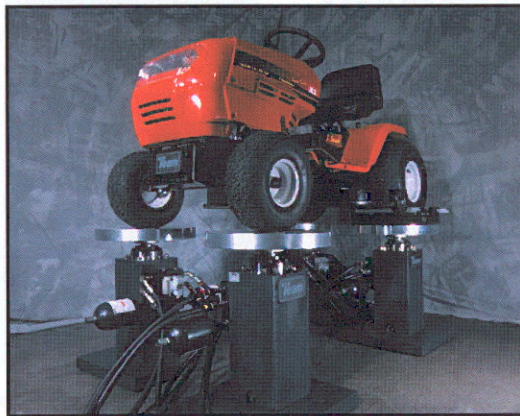
FEAD Acoustic Testing

4 Post Improves Garden Tractor Reliability

A major manufacturer of outdoor power equipment recently took delivery of a Team 4 Post test system. The system is used to test the company's line of and garden tractors.

Team Corporation delivered a complete solution including hydraulic power unit, exciters, and controls.

Team 4 Post systems are also in use at automotive manufacturers, suppliers, and independent test labs.



Team 4 Poster testing a garden tractor.

Engine Simulators (Continued from page 1) the speed of rotation can be controlled. A test scheduling feature allows for programming of engine duty cycles and looping of test sequences.

Aside from the physical space required, there are numerous safety and environmental issues related to an engine-drive testing facility. Among these are fuel handling, exhaust gas handling, and fire-suppression systems. By eliminating the need for fuel and the production of exhaust gases the Team ESS can significantly reduce facility costs. In addition, the flexibility of the Team ESS further reduces the overall facility investment.

The ease with which the Team ESS can be programmed significantly reduces time and cost for development of products used on multiple engine platforms. The performance of a single test specimen under many different engine conditions can be evaluated entirely from the control station. In traditional testing the product would need to be tested on a sample of each engine platform; thereby requiring multiple time-consuming set-ups or multiple cash-consuming test stations.

Slip Table for Satellite Testing Accepted

A 3 m x 3 m slip table incorporating Team T-Film Hydrostatic bearings recently completed acceptance testing in Europe.

The table is driven by multiple electro-dynamic exciters and will be used to test new satellites.

Team T-Film bearings were selected for use in the table because of the extreme moment restraint required by the application. During acceptance testing a bending moment in excess of 1300 kN-m was applied to the table. The T-Film bearing is the only bearing found to have sufficient load capacity and stiffness for this demanding application.



Completed 3 m x 3m slip table shown with test payload. (Photo courtesy of SEREME and Intespace)