



SHOCK &

VIBRATION

With 3,000 miles of dedicated test courses and the full range of standard shock and vibration courses, NATC provides a broad range of test services and is a certified testing alternative to government proving grounds. NATC also serves as an overflow test site for government and OEM proving grounds. All shock and vibration testing is supported by thoroughly equipped maintenance and fabrication shops, and full engineering redesign capability to provide rapid modification and retest of vehicles and components.

Shock and Vibration Road Courses

NATC has developed certified simulations of shock and vibration test courses found at commercial and government proving grounds including Aberdeen Test Center, Yuma Proving Ground, and the Marine Corps Air Ground Combat Center.



NATC also has dedicated ride quality (RMS) and shock and vibration test courses that are meticulously profiled to quantify shock and vibration inputs. Our road profiling methodology using the Dynamic Force Measurement Vehicle allows us to create test course

simulations of terrain and road roughness found anywhere around the world. It also gives us the means to monitor and maintain proper course contours, assuring precise, repeatable test results day after day, week after week, year after year.

Rail Impact, Transportability, Container Certification

NATC has a Government approved, dedicated rail impact facility and performs rail impact tests on a variety of vehicles and systems including shelters and ISO containers. Rail impact tests, which simulate the railcar sorting and train assembly practices of a railroad also called "hump" tests - may be either fully instrumented or limited to visual inspections for buckling, distortion, and tie-down integrity, depending on the test requirement. NATC can perform rail



impact tests in accordance with MIL-STD-810 and other commercial, government, and international standards. As part of our transportability testing and classification, NATC performs standard drop and ISO structural tests on shipping containers, shelters, and other components.

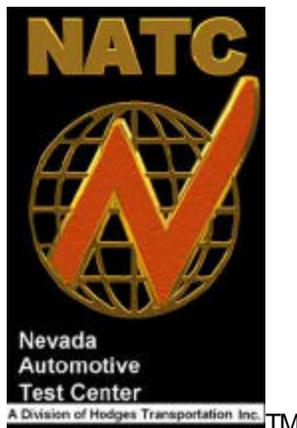


Human Factors Engineering

NATC works extensively with commercial and government organizations in the United States and abroad to determine acceptable levels of energy inputs to drivers, riders and passengers of a variety of different vehicles. Using a combination of dedicated ride quality courses and worldwide road network simulators, NATC will help to quantify the energy inputs to the driver or rider locations.

Instrumentation and Data Acquisition

Shock and vibration testing at NATC is supported by thorough, leading edge instrumentation, on-board data acquisition, in-house data analysis, and techniques such as high-speed photography, videography, and flash x-ray inspection. Vehicle dynamics data is utilized to support on-site development of dynamic simulations and predicted performance models, shortening the time required to isolate, identify, and correct potential failures. In addition, NATC can generate reliable shaker input data for evaluation of components.



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