

Vehicle TEST

MEASUREMENT • ASSESSMENT • COMPLIANCE • TESTING

- All vehicle types
- Data collection, analysis, interpretation
- Benchmarking & evaluation
- Expert assessment & meaningful feedback
- World wide legislation

Millbrook's Vehicle Group has a vast pool of experience to call upon to assist customers in meeting their development and legislative test targets. Whether testing over the comprehensive range of tracks within the proving ground, or at off-site locations including hot and cold weather field trips, we will present analysed, meaningful results in a timely and cost effective manner.

Performance

Acceleration, deceleration, Vmax or in-gear performance logged as well as brake tests and vehicle coastdowns. All parameters are logged at sample rates up to 100Hz and results output in any format. Lap-times recorded or instant analysis using latest generation GPS based data loggers. Gradeability testing conducted on our Hill Route which will provide any type of gradient from 7% to 26%.

Brake Systems

Legislative or brake system optimisation work carried out to all world-wide standards (ECE/EEC, Federal, ADR etc). Capable of testing on all vehicle types including ABS and non-ABS systems Test equipment especially designed for system static testing on heavy duty vehicles or buses. Dynamic tests can be carried out in either laden or unladen conditions as required.

Drive-by Noise

Full legal drive-by noise testing site featuring an ISO approved surface. All world test procedures are covered. Bruel & Kjaer drive-by noise system with radar speed / position sensing equipment. Transport for London (TfL) recognised site for internal and external noise testing. Pressure Pulsation rig and accompanying full scale chassis dynamometer for exhaust system preconditioning.

Whole Body Vibration

Since its introduction, we have gained significant expertise in the testing and analysis techniques associated with the ISO directive 2631-1:1997 "Mechanical Vibration & Shock – Evaluation of human exposure to hand, arm and whole body vibration". This analysis can either be carried out by gathering data around our proving ground or in 'real-world' situations on the public highways. We use the latest generation software programmes to analyse and interpret the test data in order to supply you with highly accurate Daily Dosing Values or evaluating exposure limits. The results of these tests can quickly be interpreted and reported in an easily understood format.

Vehicle Dynamics

Our drive teams provide essential feedback on vehicle dynamic handling concerns and issues on any size or type of vehicle. Our years of experience have allowed us to develop well defined driving schedules which, combined with our meaningful 'real-world' ratings scale, means we can accurately feedback on vehicle behaviour. To quantify vehicle dynamic behaviour we use the latest generation GPS-based Slip Angle Sensors that give in-depth data of vehicle performance and dynamics in any environment.



Sealing and Intrusion

Water Intrusion, mist and spray, mud and dust intrusion on whole vehicles or components can be carried out in our laboratories or on the test tracks.

Electromagnetic Compatibility

Electro Magnetic Compatibility (EMC) Testing to 2004/104/EC standards can be carried out in a fully accredited EMC laboratory with a stirred mode chamber, a large temperature controlled chamber for full vehicle and vehicle systems tests, and screened rooms for conducted, transient and surge testing. Vehicles can be tested in any operational modes (e.g. Engine Running [Immunity and emissions] or Ignition on [Emissions only]) and any development or back-to-back test can be easily accommodated.

Tilt and Stability

Using Millbrook's large Tilt Table and with many years of dynamic behaviour evaluation on our test tracks, all legislative (including COIF testing) and development testing can be conducted on one secure site. All preparation can be carried out by Millbrook including instrumentation and raised CofG loads.

Road Load Data Acquisition

Comprehensive data logging can measure displacement, velocity, acceleration and event logging, using the latest generation data acquisition system. Data can be collected at Millbrook or at any site, including public roads. Our expertise techniques includes post test analysis and interpretation.

Vehicle Benchmarking and Evaluation

With our many years experience in vehicle benchmarking trials, we can provide expert teams of vehicle evaluators to assess any aspect of a vehicle or group of vehicles. Advice is also available on the most suitable vehicles or tests to perform to help you determine your benchmark targets. Full test reports generated quickly and in customer derived formats.

Technical SPECIFICATIONS

Semi-Anechoic Chamber

- Acoustic testing in a 6m x 8m x 4m semi-anechoic chamber
- Chamber has a 250 Hz cut-off frequency, full width and height vehicle access doors
- Extensive noise and vibration analysis capability

Tilt Table

- Rated Load: 42 000 kg
- Platform Dimensions: 9.0 m x 3.5 m
- Maximum Tilt Angle: 45°
- Raise & Lower Speed: 0.3 °/sec down to 0.1 °/sec

Millbrook OVERVIEW

Millbrook is one of Europe's leading locations for the development and demonstration of every type of land vehicle, from motorcycles and passenger cars to heavy commercial, military and off-road vehicles. Located at the geographical centre of the UK automotive and fuels industry and situated centrally in the strategic Oxford to Cambridge Arc just 65 kilometres to the north of London, our custom-built facility provides virtually every test, validation and homologation service necessary for today's demanding programmes, complemented by a worldwide reputation for confidentiality, service and competitiveness.

Although significant work has been done commercially on behalf of many research organisations, Millbrook has always focused on real world applications and understand the constraints, limitations and budgetary controls that affect our customers. Our staff have experience and expertise from backgrounds in test work within vehicle manufacturers' engineering departments, so they know what their customers expect from a test. Putting working relationships first, and seeing things from the customer's point of view, means Millbrook's support will survive the test of time.

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