Safety Systems
LABORATORY

STRUCTURAL • OCCUPANT • PEDESTRIAN • SYSTEMS

- Crash, HyGe & Safety Systems
- Test to Global & Corporate standards
- Legislative, development, model correlation
- Facilities used for official EuroNCAP tests
- Equipped to support high complexity tests

Millbrook's Crash Laboratory has held an outstanding track record in the field of crash testing for over 35 years. Our tried and tested facility design ensures excellent speed and alignment accuracy, carrying out the full range of frontal, side, rear and rollover impact scenarios to global or corporate standards, including FMVSS, ECE and EEC equivalents, TRIAS, ADR and insurance tests to Thatcham, Danner and AZT. We also have extensive experience of testing to Euro & USNCAP Protocols, including vehicle assessments by a former EuroNCAP Project Manager.

Millbrook's HyGe Laboratory has been providing test services to the rail, marine and aerospace industries for over 35 years, testing to Global and Corporate standards.

The Safety Systems Laboratory offers a range of flexible facilities for component and system testing for legislative approvals, development and model correlation. All tests benefit from rapid and customised data delivery so results can be evaluated quickly and decisions made.

Combining the original TRL-developed Pedestrian Impact test system with Millbrook's facilities and expertise provides a well equipped, flexible and knowledgeable resource for both development and homologation. Millbrook has established a strong reputation for achieving programme objectives quickly and cost-effectively, using its many years of commercial experience to deliver precisely what is needed. Now, with the definitive test system, the facility can deliver a wide range of tests at every stage of a pedestrian protection programme.

Equipped to support high complexity tests, we also offer the ultra-compact TDAS G5 Data Acquisition System, just one thirtieth the size and a fraction of the weight of a typical DAS unit, and digital cameras using a recording module that can be mounted anywhere in the vehicle with separate camera heads, some just two centimetres in diameter, providing flexibility to mount them wherever images are required.

Technical SPECIFICATIONS

Safety Systems Laboratory

Medium Energy Deceleration Sled

- Facility capability: Max. speed 50km/h (30mph); max. payload 500kg
- Deceleration and crush tests on vehicle structures
- ECE R12 (BLAK Tuffy – body block)
- Linear head impact

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Technical SPECIFICATIONS

Free Motion Headform Impact System

• Carry out head impact protection tests to requirements of FMVSS201u
• Flexible system permitting rapid set up and repositioning
• Compact launcher allows access with minimal modification
• Tests results available within minutes of test
• Max Speed: 30 km/h (18 mph) • Speed Accuracy: +/.2 km/h (+/.13 mph)

Static Airbag Deployment

• Temperature -35°C to +90°C (with sunload max temperature +120°C)
• Chamber can accommodate full Instrument Panel with buck
• Full instrumentation service to collect any data from the test
• Environmental conditioning of the airbag modules:
  - high or low ambient - humidity - dust ingress - drop and vibration tests - sun loading

Out of Position

• Legislative, development and model correlation • FMVSS208 • Airbag pressure • Airbag firing current

Airbag Abuse & Misuse

• Laboratory and Track Based Testing • Front, Side and Rollover sensor immunity testing
• Industry Standard & Millbrook developed matrix of tests

Bumper Pendulum System

• Testing to ECE R42, Federal Regulation 581 & CMVSS 215 & equivalents

Pendulum Impact System

• Pendulum impact using hemispherical impact face for ECE R17, R21 & R25 & equivalents

Seat Belt Anchorage Rig

• Seat belt anchorage static pull to ECE R14 and equivalents
• Quasi static load tests – 8 ram servo-hydraulic rig with digital load control

Other Capabilities

• Door hinge and latch strength test to ECE R11 and equivalents
• Seat and seat anchorage strength test to ECE R17 and equivalents
• Static load tests for aircraft seats and seat belts

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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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