

Millbrook Proving Ground

What is Millbrook?

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.

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.



We also engineer, develop and build low-volume service vehicles, trial and evaluate vehicle capability, investigate in-service failures and provide specialist driver training. An on-going investment programme continues to enhance our ability to deliver test procedures significantly in advance of planned legislation, to reduce programme costs and timescales (particularly for world-car programmes) and to provide test and development solutions for new technologies such as roll-over protection, hybrid powertrains and fuel cell systems.

The same highly skilled teams that support engineering programmes with many of the world's most prestigious vehicle manufacturers are available to fleets and end users in specialist areas such as LPG vehicle conversions and Enhanced Single Vehicle Approval (ESVA).

For more information about Millbrook, please visit the website, www.millbrook.co.uk

Job Descriptions

Job descriptions of all the engineering roles available at Millbrook are below. In some cases there is an undergraduate placement review which explains the role in their words.



Job Description -Engine Test Centre Engineer

Title: Engine Test Centre Engineer
Department: Powertrain
Location: Millbrook Proving Ground

The Department:

The Powertrain department consists of 3 sub-departments:

- Heavy duty exhaust emissions / climatic work – Variable Temperature Emission Chamber (VTEC)
- Light duty exhaust emissions laboratory.
- Engine Test Centre (ETC) with 12 engine test cells

They are responsible for:

- Worldwide Regulated Testing
- Custom Test Cycles
- Test Development & Certification
- Solution Finding

Key Responsibilities:

The student's main responsibilities will be to get involved with the general day-to-day running of the department, this will include:

- Hands-on experience, working in one or more of the Powertrain Labs, alongside experienced Technicians and Engineers on whole vehicles, engines, Powertrain components & test equipment.
- Office-based experience, working with the Powertrain Engineers, planning test programmes, supporting test activities, liaising with customers, processing test data and writing reports.

The undergraduate will gain invaluable hands-on experience working on a wide variation of Powertrain systems and test equipment, learning about the latest powertrain systems and test technology, learning from highly experienced test Technicians and Engineers.

Required Skills:

- Excellent communication and customer facing skills
- A good understanding of engineering
- Ability to use their initiative and to problem solve
- A driving licence is essential

Preferred Area of Study:

Mechanical or Automotive Engineering



Job Description – Vehicle Durability Engineer

Title: Undergraduate - Vehicle Durability Engineering
Department: Durability Engineering
Location: Millbrook Proving Ground

The Department:

The department is responsible for conducting durability tests on a wide variety of customer vehicles, maintaining high levels of accuracy and repeatability throughout. Typical tests conducted include Corrosion, Powertrain, Quality Assurance and whole vehicle Durability.

Key Responsibilities:

Working along side Durability Engineers, students will be responsible for monitoring, controlling and documenting the progress of test activities allowing development of their Engineering understanding.

- Prepare Test documentation, write Work Instructions and maintain driver comment/vehicle progress logs.
- Ensure vehicle maintains satisfactory progress
- Investigate problems, determine root cause and if necessary source replacement parts
- Liaise with customer and relay all pertinent test data
- Write Test Incident Reports (TIR's) to established criteria & compile End of Test Reports (EOT) within required time frames

The undergraduate will develop engineering skills in a business environment which will enable them to gain confidence both personally and professionally.

Required Skills:

- Studying for an HNC/HND Automotive Mech Engineering (minimum requirement)
- Studying for BEng Automotive / Mechanical Degree (preferred)
- Good verbal and written communication skills
- Sound Motor Vehicle/Engineering background
- Good computer skills ie Word, Excel
- A driving licence is essential and the student must be prepared to travel at short notice and work outside of normal hours when necessary

Preferred Area of Study:

Engineering



Job Description - Millbrook Vehicle Group Engineer

Title: Assistant engineer
Department: Millbrook Vehicle Group
Location: Millbrook Proving Ground

The Department:

The Millbrook Vehicle Group (previously known as the Vehicle Measurement Lab), conducts tests on the tracks on chassis systems of a wide range of vehicles. The scope of the work carried out within the Group can be described as follows:

1. Noise measurement tests – both internal and external (drive-by noise)
2. Data acquisition from transducers of all kinds – speed/distance, displacement, temperature, pressure, vehicle dynamics
3. Brake tests
4. Steering tests
5. Vehicle ride and handling tests – both objective and subjective
6. Road load data measurement using strain gauges and/or accelerometers
7. Data analysis and report writing

Key Responsibilities:

The student's main role, to start with, will be to work alongside the technicians learning how the group operates, how the test vehicles are prepared and tested, and how to use the equipment. Over time, the student will work more closely with the engineers running some of the tests.

- Customer liaison
- Test planning and implementation
- Test procedure development
- Reporting

During the students' time in the MVG, they will acquire a good understanding of how vehicles chassis systems, and complete vehicles, are tested and evaluated. The student will also learn how to interpret and satisfy customers' requirements, analyse data as the customer needs it and carry out test work alongside sometimes, demanding customers.

Required Skills:

- Excellent communication including customer facing skills
- A good understanding of engineering and motor vehicles in general
- Ability to use initiative and to problem solve
- A "can-do" attitude
- Driving licence

Preferred Area of Study:

Mechanical/Automotive/Electrical Engineering



Job Description – Component Test Laboratory

Title:	Component Test Laboratory Engineer
Department:	Component Test Laboratory
Location:	Millbrook Proving Ground
Brands:	Multi brand

The Department:

The Component Test Lab carries out a wide range of component and system durability and operating performance tests. The tests carried out within the Component Test Lab can be split up into five major areas:

8. Cyclic testing
9. Load tests
10. Vibration tests
11. Environmental tests
12. Measurement

Key Responsibilities:

The student's main role, to start with, will be to work alongside the technicians and rig builders learning how the lab operates and how to use the equipment. Over time, the student will work more closely with the engineers running some of the tests.

- Customer liaison
- Test planning and implementation
- Rig design and build
- Reporting

During the students' time in the Component Test Lab, they will acquire a better understanding of how components are assembled to make up systems and what these parts need to go through to be deemed fit for purpose. The student will also learn how to interpret specifications and carry out test work alongside sometimes, demanding customers.

Required Skills:

- Excellent communication and customer facing skills
- A good understanding of engineering
- Ability to use initiative and to problem solve

Preferred Area of Study:

Mechanical/Automotive/Electrical Engineering



Job Description – Crash Test Engineer

Title:	Crash Test Engineer
Department:	Crash Testing
Location:	Millbrook Proving Ground
Brands:	Multi brand

The Department:

The Crashworthiness department consists of 3 sub-departments:

- Crash – Full-scale legislative and development crash testing of motor vehicles
- Hyge Sled – Sled acceleration testing for the automotive, aerospace, rail and marine industry for restraint system development
- Safety Systems – Component level testing of automotive restraint systems and associated components

Key Responsibilities:

The student's main responsibilities will include:

- Co-ordination of crashworthiness test work
- Supervision, and where necessary, conduction of tests
- Liaison with customers and legislative authorities
- Writing of test reports
- Timely and accurate delivery of all post test information

The training offered by the Crashworthiness department will be concentrated on one of the three sub-departments. The training is designed such that, before the end of their training, most undergraduates will be able to operate in this sub-department as a Millbrook test engineer. It will also allow some experience of the other two sub-departments.

Required Skills:

- Excellent communication and customer facing skills
- Application of practical engineering skills
- Ability to accurately and concisely report test work
- Understanding of the importance of meeting commitments

Preferred Area of Study:

Mechanical or Automotive Engineering



Undergraduate Placement Review Crash Test Engineer

Name: Geoff Ayton
Year: 2008 - 2009
University: University of Hertfordshire
Degree: Automotive Engineering with Motorsport MEng

My role

Based in the HyGE sled my core role has been involved in setting up and co-ordinating sled tests. This includes writing a test request - detailing all the customers requirements then setting up the test, co-ordinating its firing and then processing the data and compiling the reports. The content of the tests varies depending on the industry the customers come from - wheelchair and wheelchair restraints, aircraft seating, various luggage and tool transport solutions, and automotive safety system testing. Occasionally customers with less common test requirements may need rigs built to mount their components onto the sled, in which case working with the customer a rig is specified and designed and then taken to the Fabrication Team to be built. As part of the role it has been important to pay attention to detail and double check everything as a mistake can mean an invalid test, which can prove expensive both to the customer and to Millbrook, also reports must be produced with accuracy as they can be a basis for passing or failing the safety of a product. I have also undertaken many individual projects during the year improving testing facilities and equipment and even setting up a display for the military show DVD.

What have I gained from the placement?

I have gained a confidence in my own engineering judgement and having the opportunity to apply it in an atmosphere where getting it right first time is important has been excellent experience. My communication skills when working as part of a team and dealing with customers have massively improved, particularly leaving hand-over notes when taking leave. The ability to multi-task has also been an important skill; there is a lot of switching between jobs and task - having to run the current test while prepping for the next and reporting on the previous, in addition to any other projects that may be going on! I've become a more flexible person throughout the placement in both my approach to solving problems and being able to re-prioritise when new tasks arise. One of the most important things is gaining an insight into general working life - working with colleges and managerial staff, taking on the responsibilities of my role and generally as a member of staff (punctuality, interaction with other staff and so on) and working independently to achieve targets and deliver results when they are required. Towards the end of the placement I have been involved in a couple of projects where my skills of co-ordinating tasks and people (project management) to achieve various goals at the right times leading to achieving a final result to meet a deadline have been really tested and as a result greatly improved. Achieving the results has also been incredibly satisfying and self-certifying. I think the whole experience has advanced me beyond expectation both personally and professionally.

Highlight of my placement year!

It's difficult to state a single highlight but the best things that come to mind are getting to work with a great team in the sled who I've got to know personally as well as professionally, making significant contributions to Millbrook such as co-ordinating the DVD display, the manufacture and repair of new facilities (camera



mounts/rigs/Reg 44 Crash test Rig). Running my first solo tests and just getting the opportunity to work in an environment where all the latest technology is being tested and developed.



Job Description -Emissions Engineer

Title: Emissions Engineer, Vehicle Emissions Laboratory
Department: Powertrain
Location: Millbrook Proving Ground

The Department:

The Powertrain department consists of 3 sub-departments:

- Heavy duty exhaust emissions / climatic work – Variable Temperature Emission Chamber (VTEC)
- Light duty exhaust emissions laboratory.
- Engine Test Centre (ETC) with 12 engine test cells

They are responsible for:

- Worldwide Regulated Testing
- Custom Test Cycles
- Test Development & Certification
- Solution Finding

Key Responsibilities:

The student's main responsibilities will be to get involved with the general day-to-day running of the department, this will include:

- Hands-on experience, working in one or more of the Powertrain Labs, alongside experienced Technicians and Engineers on whole vehicles, engines, Powertrain components & test equipment.
- Office-based experience, working with the Powertrain Engineers, planning test programmes, supporting test activities, liaising with customers, processing test data and writing reports.

The undergraduate will gain invaluable hands-on experience working on a wide variation of Powertrain systems and test equipment, learning about the latest powertrain systems and test technology, learning from highly experienced test Technicians and Engineers.

Required Skills:

- Excellent communication and customer facing skills
- A good understanding of engineering
- Ability to use their initiative and to problem solve
- A driving licence is essential

Preferred Area of Study:

Mechanical or Automotive Engineering