
VEHICLE DYNAMICS AND LIMIT HANDLING INTRODUCTORY COURSE

Location / Venue: Millbrook Proving Ground

An Exclusive day at The Millbrook Proving Ground, Bedfordshire is a unique facility designed for the testing of vehicles by the motor industry. It is not open to the general public, so your access can only be via motor industry approved professionals.

Course Duration and Overview:

Our aim is to enhance driving skills through a better understanding of the vehicle dynamics and to experience the limit handling of the vehicle.

Arranged as a 1 day introductory course (09.00 to 16.30) which includes practical driving in emergency braking, accident avoidance and skid identification and control, punctuated with short presentations on how the vehicle is performing.

Training is provided to the highest quality and will be carried out in a safe track environment with the guidance of a fully qualified and highly experienced instructor, who has spent over 25 years in the specialist motor industry.

You will gain knowledge from a professional who has enjoyed a rewarding career in motor sport preparation and management, together with vehicle evaluation and experience in teaching industry standard advanced driving techniques both on the road and on Proving Grounds not only in the UK but extensively in Europe, including The Lausitz Ring race and test track in Eastern Germany as well as the infamous Nurburgring (Nordschliefe).

Millbrook facilities to be used:

- *High Speed Bowl*
- *Mile Straight*
- *Steering Pad*
- *Handling Circuit*

Vehicle used: Ford Mondeo 2 litre
Training ratio: 1 : 1, 2 : 1 or 3 : 1



Course Content

Introductions: Sign in and Health & Safety briefing for the Proving Ground, the vehicles to be used and to conduct a track tour

Overview of Aims and Objectives for the day stating order to the facilities to be used

1. Facility: High Speed Bowl

Aims and Objectives

To experience high speed driving at speeds in excess of 120mph in order to understand steering responses at various speeds and to develop greater awareness and forward planning skills. Limit points

To understand accident avoidance techniques at varying speeds and as a Single Lane Change and Double Lane Change, in order to experience steering responses and vehicle behaviour. (Lanes 1 & 2)

This will be achieved at 30 mph, 50 mph and 70 mph

Understanding neutral speeds of the vehicle, by the steering geometry matching the radius of curve with minimal steering input.

2. Facility: Mile Straight

Aims and Objectives

To understand Threshold Braking and experience this from 30mph, 50mph and 70mph

To understand how ABS works and experience ABS working at various speeds from 30mph / 50mph and 70mph

To understand how the two braking systems differ and how it will affect Overall Stopping Distances from 30mph / 50mph and 70mph



To be able to gauge (using markers alongside the edge of the Mile Straight) the distance it will take a vehicle to stop with ABS compared to Progressive/Threshold braking, taking into account the conditions on the day.

In car presentation on Braking Techniques, ABS principles, Threshold and High Speed Braking, followed by a demonstration.

3. Facility: Steering Pad

Aims and Objectives

To understand and to experience Oversteer and Understeer by tracing a 40 metre radius line driving the vehicle to the grip limit.

To understand how a front wheel drive vehicle will Understeer by identifying, practicing and correcting the Understeer

To understand the vehicle dynamics

In car presentation on vehicle behaviour on or approaching grip limit. Explanation of Understeer followed by a demonstration

4. Facility: Handling Circuit

Aims and Objectives

To understand the principles of Cornering techniques using a safe system on approach and when negotiating bends

To understand positioning for maximum safety and stability ('The Correct Line', Braking Points and Exit Points)

To enhance Forward planning skills especially for the exits

In car presentation on vehicle behaviour when cornering. Explanation of cornering techniques for left and right bends when approaching, negotiating and exiting, followed by a demonstration.

Debrief:

