Vehicle Tuning

Objective Testing

CAE Tools

Module 1

Introduction to Vehicle Evaluations

Who:
New Dynamics/Other Engineers

Duration:
2-3 Days

Outcome:
Learn Cayman Evaluation System for vehicle-level subjective evaluation of vehicle dynamics performance. Acquire techniques and skills to use the system for vehicle tuning. Methods include subjective evaluation of vehicle dynamics performance. Acquire techniques and skills for vehicle tuning.

Module 2

Introduction to Vehicle Objective Testing

Who:
New Vehicle Dynamics Engineers

Duration:
2-3 Days

Outcome:
Learn basics of on-road vehicle testing techniques and understand objective metrics for ride, steering, handling, and braking. Learn US government NHTSA J-turn, roll stability, and yaw stability test procedures and evaluation criteria.
Module 3

Introduction to CAE Tools

Who: New Vehicle Dynamics Engineers

Duration: 3-5 Days

Learn basic spreadsheet-based CAE tools used in the development process and how to input vehicle or system level test data into those tools. Introduction to parametric vehicle models and their uses.

Module 4

Vehicle Dynamics Evaluations

Who: Vehicle Dynamics Engineers

Duration: 2-3 Days

Continuation of Module 1 expanding evaluation skills and techniques required to perform detailed development work. Understanding of effects of front and rear suspension, steering system, wheel/tire and brake system changes. Three days includes in-car instruction on proving grounds or public roads.

Module 5
Laboratory Objective Systems Testing

Who: Vehicle Dynamics Engineers

Duration: 3-4 Days

Learn system-level testing and data analysis techniques to diagnose vehicle issues using K&C testing, four-poster rig testing, steering system test stands, damper/corner module testing or tire/wheel system testing.

Module 6

Applying CAE to the Development Process

Who: Vehicle Dynamics Engineers

Duration: 5 Days

Learn how to effectively use multi-body CAE tools in the development process. Learn modeling techniques for different components and systems and how to correlate a full vehicle model for use during development.

Component

Module 7

Vehicle Tuning Techniques
Training Curriculum

Who: Experienced Dynamics Engrs

Duration: 3 – 10 Days

Outcome: Learn hands-on tuning techniques and processes for springs, stabilizers bars, dampers, bushings, mounts, steering system and tires. Content and duration tailored to individual needs of the customer.

Module 8

Vehicle Testing Methods

Who: Vehicle Dynamics Engineers

Duration: 3-5 Days

Outcome: Hands-on learning of vehicle instrumentation and testing methods for ride, steering, handling and braking metrics. Learn methods for validation of component changes, benchmarking and vehicle sign-off. Content and duration tailored to individual needs of the customer.

Module 9

Advanced CAE Techniques

Who: Vehicle Dynamics Engineers
Full Vehicle

Module 10

Vehicle Dynamics Development

Who: Vehicle Dynamics Engineers with experience or have completed Modules 1-8

Duration: 10 Days