Lotus Suspension Analysis provides a user-friendly tool for the design and analysis of suspension geometry. Standard suspension types using individual pre-filled templates provide easy creation of kinematic models in either 2D or 3D modes.

**TEMPLATES**
Lotus Suspension Analysis templates include: Double Wishbones, Macpherson Struts, Trailing arm, Semi-trailing arms, Pull-rod and Push rod damper actuations, ‘A’ frames and ‘H’ frames. Users can create and distribute their own unique templates.

**KINEMATIC RESULTS**
Kinematic results include Camber Angle, Castor Angle, Toe, Kingpin Angle, Roll Centre Position, Damper Ratio, Spring Ratio, Track Change, Wheelbase Change, % Anti Squat, % Anti Dive and % Ackermann.

Results can be displayed either graphically or numerically over specified Bump, Rebound, Roll and Steer articulations.

**HARD POINT EDITING**
The suspension hard points can be selected on-screen and simply edited to review changes to the suspension characteristics. Alternative approaches can be used including point editing through on-screen dragging. Picking a point and dragging it along one or more axes, the graphical results being updated as you move the point.

Points can be moved as a ‘group’ such that the dimensional relationship of a wishbone can be retained.

**TOLERANCE ANALYSIS**
The effect of point tolerance on the calculated suspension derivatives can be calculated and displayed through the same interactive environment, by simply selecting the point and setting the tolerance value.
COMPLIANCE ANALYSIS
To enhance the capability of Lotus Suspension Analysis the stiffness properties of all bushes can be defined to calculate compliant displacements and bush forces.

EXTERNAL FORCES
In addition to the defined suspension spring properties, external forces can be defined to review the effects of compliance on suspension geometry and its derivatives.

ANIMATION DISPLAY
The compliant deformation can be animated either throughout the suspension travel or as a scaled ‘deformed geometry’ sequence at a particular suspension position.

EXTRA FEATURES
Additional features are included to list results in textual form, list hard points at a particular suspension increment, re-set ride height, scale track and wheelbase.

Graphical results include options to ‘store’ the currently displayed line, compare to a user defined curve and sum deviations of both as a numerical value.

USER TEMPLATES
Users can define their own kinematic templates through a combination of defining parts, hard points and key hard point tagging. Bushes are added at connections between parts such that kinematic models can support compliant analysis. User templates allow anti-roll bars, lever systems, twin outer ball joints etc. to be included.