



Description of New Features and Bug Fixes at Version 4.02i

			Description
1	Bug Fix	Bush Properties	Previous versions translated local co-ordinate axis systems from RHS to LHS instead of mirroring. This would produce incorrect asymmetric results if a bush local axis did not align along the global axes. This has now been fixed.
2	Bug Fix	Start-up	With saved graph settings it was possible to cause a system failure when starting due to a sequence error. This has now been resolved.
3	New	Cut + Paste	The standard right mouse cut/paste/copy type menus are now available within the result listing displays. This was previously not the case.
4	Change	Wheelbase	The default wheelbase difference solution has been changed from floating to fixed. This ensures that when creating a new model with both front and rear suspensions modelled, the correct placement of front and rear wheel centres occurs.
5	Bug Fix	Force Set Labels	Previously force sets 6 and 7 had the wrong labels. Exiting users will need to modify these by hand as the incorrect label settings will have been saved to their ini file. Test 6 should be '30mm trailed opposed lateral' and test 7 should be 'Hub parallel longitudinal'.
6	New	Template editor	Extra 'test' options added to the template editor to highlight differences between the defined data and the auto-fill data.
7	New	External Forces Drawing	External forces are drawn on both left and right hand suspensions to illustrate symmetric or asymmetric nature of any loading.
8	New	External Forces Editing	Left and right hand external forces are now dragged independent of each other to allow for asymmetric loading.
9	New	Calculated forces drawing	The calculated force are added to both right and left hand suspensions. This is to support the asymmetric analysis conditions.
10	Change	Right and Left points	From this release the right and left hand suspensions sides in bump travel are solved separately rather than just mirrored. Currently the hard point geometry must be the same as must the bush definitions, but you can have asymmetric forces. Point on both left and right hand sides can be selected / listed but only the RHS can be 'dragged'.
11	New	Default Force set	Option added from within external force editing to select the 'default' force set. Previously you had to use the right mouse menu on the compliance results graphs to do this.
12	Change	Editing	Extra traps have been added for model editing such that external forces and bush definitions are recognised when picked and the detailed 'edit' box is displayed rather than the simple edit box.



13	Change	Spring force	The setting for whether a spring force is include in the calculations is no longer a global setting but is now based on the load case setting. Thus load case settings now match displayed case.
14	Change	Roll solution	Similar to the bump solution in that both left and right hand sides are solved under full roll left and roll right articulation. Principally added to support asymmetric loading and cross linking to enable both left and right hand wheels to be plotted.
15	New	Graph Plotting	Both right and left-hand wheel results are now plotted to the x-y graphs.
16	New	SDF results	Both right and left-hand wheel results are listed for all articulation types in the SDF and bush results files.
17	New	Template type	Template type 8 has been added to the default templates file. This uses a 'h' frame lower link with local toe drop link.
18	Bug fix	Squat - dive	Extra traps have been added to the squat and dive calculations to deal with potential 'square' suspension geometry causing crash through divide by zero.
19	New	Graphic Colours	The colour of components can be modified from the defaults through a new column in the template editor under 'graphics'. Simple colour by index number is used.
20	Change	Small Bump Step	The default value for small perturbation in bump has been changed from 0.005mm to 0.05mm. The small value was found to lead to instability with some suspension models.
21	Bug Fix	Tracking length	Previously editing the tracking length set it to zero with no way of re-setting this. Now fixed.
22	New	Ride Height	Option added to ride height change utility to re-set the fitted length of the springs based on the change in length caused by the ride height change.