Description of New Features and Bug Fixes at Version 4.03j

Description

1	Change	Start up	A number of changes to the start-up process have been introduced. The <database> INI file check is made for all users, not just select client installations. The templates are now also checked for and read from the <database> folder.
2	Change	Instantaneous Centres	The calculation for the instantaneous centres has been changed to use the wheel centre and the tyre contact point. The later instead of the upper ball joint. This gives amore stable solution for high bump steer models.
3	New	Local Co-ordinate systems	The local co-ordinate definition has been extended so that the selected points can now also define the –ve directions as well as the +ve directions for axes and plane points.
4	Change	Template Solver Type 8	The template editor functionality has been changed for solver type 8 the roll bar links. The arguments can be more consistently read from columns 9 and 10 as well as the previous 6/7/8.
5	Bug Fix	Ball Joint Target	Corrections have been made to the labelling and axis scales. The scaling was previously out by a factor of 1.3
6	Bug Fix	User SDF	The insert SDF button for the User SDF panel would not become enabled without reopening the user sdf editor. This has now been fixed.
7	Bug Fix	Graph Store Exc	The graph store exclusive option did not correctly remove all the other graph data when selected. This has now been resolved.
8	Bug Fix	Force Arrows	External force arrows that are given a –ve magnitude were drawn in the same orientation as a +ve force. This could cause confusion and they are now drawn such that they not only reflect the orientation but also their magnitude.
9	Change	Point Picking	For the coincident point picking pop-up menu, the menu entries have been modified to use the 'short' point label. Previously it used the points template number which was not clear.
10	New	SDF's	Three new SDF's have been added to enable users access to steering related parameters for Ackerman type calculations. They are Ackerman Delta, Ackerman Average and Ackerman error.
11	New	User Lines	User Lines have been added for User SDf and Graphics lines. Previously they were only available for the standard SDF's. This means that graphical SDF's and User SDF's can be included in the settings for the optimizer targets.
12	New	User Windows	Text entries in user windows have been modified to have an extra property. This new property controls the visibility/use of scroll bars on text widgets that have a y-size greater than required for a single line of text.
13	New	Convert to Axle	A trap has been added to the convert to axle option on full vehicle models. You cannot convert a corner model to an axle

model if both ends use the same template.

14	Change	Drive shaft Angles	The returned values for drive shaft angles have been changed from reporting the included angle to reporting the angle from in-line. Thus results are now 180 minus the old value.
15	New	Batch Pause	A pause command has been added to the supported batch commands. This can be used together with a prefix string to halt a batch file and wait for user input, such as a new value, before proceeding with the remainder of the batch run. The 'pause' command has an optional prefix string parameter.
16	New	Batch Hidden line	The batch file checks for the '&' character at the end of each batch command string to identify if it is required to echo the command string to the TTY display. If the '&' character is not present the command string is displayed.
17	Bug Fix	Report Editing	The report editor did not correctly add and insert new lines into the editor. This has now been fixed.
18	New	Report Editing	The option of using the standard file browser to locate command files and text files has been added to the report file editor spread sheet. The right mouse brings up the 'browse' menu option.
19	New	Report Editing	Support is now include for the <install> and <database> functionality in report file entry names.
20	New	Batch	Support for editing of the spring and damper properties has been added to the list of a standard batch commands. Previously this could only be performed using the dialogue box editor.
21	Bug Fix	Local Co-ordinates	Points that are used to define a local co-ordinate system cannot be defined in that co-ordinate system. This was previously possible using the point editor. This has now been trapped for a points set to 'display' only in the local system. They remain defined in the original global value. Additionally this local co-ordinate position display previously could be in error when using some of the extended displacement settings. This has now been resolved.
22	New	SDF Forces	The inclusion of forces in user SDF's has been extended to enable forces to be included as either global or local values. Local values are only relevant if the point is 'bushed'. Local values thus referring to the local axis system of the defined bush.
23	Bug Fix	Joggle Crash	Previously when in point joggle mode a crash sometimes occurred when switching in and out of dynamic viewing. This has been trapped for.
24	Bug Fix	Compliance Solver edit by part	Previously it was possible to identify a small change in solution when using bush rotation pre-loads in an edit by part mode. Difference occurred over subsequent solution runs. In that a second run may give a small change in the result. This was caused by the definition point of the bush axis points. This has now been resolved.

25	Bug Fix	Solver	In some instances the solver would fail when trying to solve for an articulation that went through the zero point. Particularly a problem for the extended bump option. This has now been resolved by 'seeding' the solver initial estimate with a small offset.
26	Bug Fix	Ball Joint Target	The ball joint target solution loop did not implement the 'displacement by position' options. Instead it reverted back to 'displacement by travel'. This has now been fixed.
27	New	Displace by increments	An option has been added that allows the user to define the displacement by the number of steps rather than the increment size. These are set under the normal "Data / Parameters" area, whilst the option is enabled through the "Solve / Motion / Solve by Number of Steps"