Description of New Features and Bug Fixes at Version 4.03i

			Description
1	New	New Solver Type	New solver type added as type 11 that is used for drive shaft inboard joints that translate along an axis to accommodate the plunge.
2	New	Graphics Visibility	To allow user control over graphical element display, a switch has been added to control the visibility of the graphic primitive dimension.
3	New	Drive Shaft	Drive shaft joint property added, radius of joint, to enable calculation of inboard joint ball centre travel.
4	New	User SDF's	The User SDF editing display has been modified to include a list of user SDF's such that they can be included by selection into other user SDF's.
5	New	SDF Parameters	A set of 'Parameters' have been added to the user SDF edit tool. This provides a means of using model properties as variables rather than having to hard code fixed values into the equations, (example Wheelbase).
6	Change	Graphic Editing	To make it easier to edit model graphic element properties, the standard graphic editing display now supports a 'scrolling through' function by using the 'Page Up' and 'Page Down' keys.
7	Bug Fix	Roll Axis	The Roll axis positions are no longer included in the graphical autoscale routine, since in some instances with unstable roll centres this caused problems with the graphic display not re-drawing.
8	New	Excel Export	The enhanced Export to Excel routines have been added to the x-y graphs. These enable exporting to existing/current Excel files as New Worksheets rather than always creating a new excel file.
9	New	User SDF's	The 'short label' can be used within user SDF functions for referencing points and point forces.
10	Bug Fix	Template Editor	Graphics editing in template editor had an issue with some of the pop-up menus not functioning correctly. This has now been resolved.
11	New	Save	The 'Save' option has been added to the main file menu to work alongside the existing 'Save As' menu.
12	New	Ball Joint Display	The Excel export options have been added to the ball joint rotation graphical display.
13	Change	Solver Settings	The ground plane solver settings are now saved with the model file. Previously these were only stored in the INI file.
14	New	Local Co-ordinate systems	Local co-ordinate systems have been added for the definition of hard point positions. Hard points can now be defined in a local system such that as the local system position/orientation is modified, points defined in this local system are also modified.

15	New	Results Labels	In the results listings for bush rotations, forces and displacements users can switch between using either the short label or the long label for each point.
16	New	Auto-load	The 'auto-load' function has been extended to recognise either space delimited or tab delimited data.
17	New	Steering Travel	A new solver option has been added that allows steering displacement to be optionally defined by the absolute position value. This is in addition to the original defined by change in position.
18	New	Roll Angle	A new calculation is used to determine in bump motion a pusedo roll angle. Allows some extra SDF's to be determined in the bump motion.
19	New	Solver Type 12	A new post solver type 12 has been added that is an alternative to solution type 8. This solution type 12 has a fixed selection of the two available solutions based on that used in the static position.
20	Change	Graphics library	A new version of the third party graphics library has been introduced. This has allowed for a display switch 'Use Software Double Buffer' to be introduced that improves the 'double buffering' ability on differing graphics cards.
21	New	New Templates	Two new templates have been added, no's 32 and 33 for a variation on the rigid axle template and the steerable Strut template.
22	New	Template point type	A new template general point type 73 has been added. This is to enable points attached to ground(body) that have any steering motion applied to them. Potential use is a point on the ground that is used by the steering point as a local axis marker.
23	Bug Fix	List Point	A problem on listing rear suspension points has been fixed.
24	Bug Fix	Ball Joint	The potential for a menu outside of the current defined range to be miss-used has been fixed in the ball joint target display.
25	Bug Fix	Colours	The mode shape and forced damped results plots could previously have incorrect colours used when first drawn. This has now been fixed.
26	Bug Fix	Optimiser	A problem caused by fixed variable array sizes has been reso9lved at this release.
27	Change	Combined Motion	Previously the combined motion mode only had an 'extended' option. In that it only supported individually defined displacements. At this release (and in line with the other modes), the combined mode also now has a 'standard' mode, where the displacement limits are set by the bump, rebound and steering travel limits.
28	Change	Ball Joint Target	The ball joint target display has been changed such that it use the currently set displacement mode for its display. Previously it was fixed to always use the extended combined displacement mode.

29	New	Ball Joint Target	A new option has been added to the marker selection with this display. Previously markers could only be selected for the relevant part. This has been optionally extended to include either both parts involved with the joint or all parts in the model.
30	New	Ball Joint Target	Also added to the list of marker points for the ball joint display options for global x, global y and global z.
31	New	Slotted Joint	A new convenience function has been added to edit the model template, by converting a simple track rod ball joint to a slotted joint.
32	Change	Part Labels	The part centre prompt labels have been changed to include both the part number and the part label. Previously only the part number was given which was not always intuitive.
33	New	Spline Editor	The spline editor tool for extended combined travel mode, has been enhanced by the addition of a simple text editor that may be more convenient to use than the spread sheet display.
34	New	Solver Warning	To avoid unnecessary solver warning messages a new solver tolerance has been added. It compliments the original ‘kinematic solution tolerance’ which remains. The new solver tolerance is the ‘Warning Level’ tolerance which sets the solution error for which a user should be warned.