

# LifeCheck V5 Release Notes

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## LifeCheck v5.7.0.5

January 2023

v5.7.0.4 is a minor maintenance release to address a few issues found during testing and initial roll-out of LifeCheck v5.7.0.

### Summary

Type	Description
<b>BREAKING CHANGE</b>	<b>PASSWORD SECURITY:</b> As part of a security review we have changed the way in which user passwords are stored within LifeCheck to use a more secure 1-way encryption mechanism. This ensures that user passwords cannot be recovered even when the encryption methodology is known. User passwords will be automatically converted to the new encryption as a user logs in. This does mean therefore that once a user logs in to LifeCheck using this version, it will not be possible to log in as that user from an older version of LifeCheck.
<b>BUG</b>	<b>Chassis Builder:</b> the extra characters '***' are prefixed to the start of the part number displayed where a component has been displayed for an entry in the template which does have a comment but has not been explicitly matched to this entry. This is as expected and the 'fix' is to remove the component and re-select it to set its location explicitly. LifeCheck was however also adding the '***' where no component had been selected which was incorrect
<b>BUG</b>	<b>Chassis Builder:</b> In the above case where a comment is used to allow a specific component to be selected for a specific node in the chassis template, it is important that this positioning is retained when doing a swap or quick swap (actually the position is reversed for the swapped in and out component) to avoid the above situation arising. In addition, if a component is moved from an explicit position either within Chassis Builder using the 'Remove' or 'Re-Locate' function or elsewhere in LifeCheck using the 'Re-Locate' function, Deleting the component or using drag and drop to move the component, the record which explicitly positions the component on the chassis must be deleted. These actions were not taking place again resulting in the loss of the explicit positioning of components on the chassis.
<b>BUG</b>	<b>Chassis Template:</b> If an assembly template had been defined for a part, selecting the properties of that part while within the Assembly > Templates window could throw an exception if the template could not be found.
<b>BUG</b>	<b>Teams:</b> When using the teams functionality, it was intended that if a team filter was selected, no components would be shown owned by other teams. This did not work where a Part Class was being displayed.

## LifeCheck v5.7.0

December 2022

v5.7.0 is a major LifeCheck update including a number of important enhancements and fixes to any issues reported in previous versions. This update does perform a database upgrade however the rules on older versions accessing a newer database have changed from this version onwards. This means that older versions of LifeCheck may still be used, but obviously will not be able to use the new functionality, even after this version has been installed and the database upgraded.

### Summary

Type	Description
<b>ENH</b>	<b>Right-click context menu:</b> These have been rationalised somewhat as the number of options was becoming unmanageable. There are now groups of options such as 'Assembly' and 'View' which group together associated actions.

ENH	<b>Assemblies:</b> When using the assembly builder, if the 'Assembly template' option and the assembly being built has a template defined, LifeCheck will now automatically select that template to build the assembly from.
ENH	<b>Assemblies:</b> Right click menu option, <b>Define Template</b> , (beneath the 'Assembly' item) allows the quick definition of a new assembly template based on the content and structure of the selected assembly.
ENH	<b>Assemblies:</b> Right click menu option <b>Update Template</b> (beneath the 'Assembly' item) will cause LifeCheck to search for any references to the selected assembly within any chassis or assembly templates including any specified for the assembly itself. The system will then analyse the template and the assembly and identify any differences (parts added or removed) and will offer the user the opportunity to update each template found to have differences to match the assembly.  Please note that at this time this matching will NOT include Part Classes as they could relate to multiple different actual parts making matching them with an assembly somewhat complicated. This limitation may be removed or relaxed in a future update.
ENH	<b>Assemblies:</b> Right click menu option, <b>Referencing Template</b> , (beneath the 'Assembly' item) displays a list of templates which directly reference the currently selected assembly. From the list displayed, the user may jump to view the template or update it to match the current assembly, subject to access rights.
ENH	<b>Component Trees:</b> Multiple selection is now possible across tree branches. In previous versions it was only possible to select items on the same branch and at the same level.
ENH	<b>Holding Area:</b> Add a flag to enforce the addition of a note when moving a component to one of the holding area locations
ENH	<b>Holding Area:</b> Allow a status to be set for any components moved to one of the holding area locations
ENH	<b>Component Status:</b> Require a note to be added when changing the status of a component. Note that if a note has already been specified when performing a swap and the swap to location also requires a note, only a single note will be enforced.
BUG	Chassis Builder: Fix bug when selecting an assembly within a parent assembly defined as a part class. The incorrect template was being used meaning the incoming assembly was not moved correctly leading to additional components being reported.
BUG	Chassis Builder: Fix bug when selecting a component in place of a part class, the part number of the selected component should be displayed but chassis builder still displayed the part class name instead.
ENH	<b>Part Properties:</b> Allow image to be rotated to fix orientation issues
BUG	Fix bug when sharing a location with child locations, the child locations are not also made shared.
ENH	Column Chooser: The 'Last Done' column selectable on the 'Checks' tab was intended for use only for Calendar based checks however this has now been extended to allow this field to be displayed for all other types of check. Note however as this value needs to be recovered for each component displayed, there will be a performance implication of displaying this data.
ENH	When changing the Team for a chassis in Administration>Chassis Numbers, LifeCheck will now also prompt to change the team for all components currently on the chassis.
ENH	Purchasing: Received Report, add event code, supplier, notes and cost centre as possible columns to display and add a column chooser to allow the user to select what they need to include in the report
ENH	Purchasing: Allow team to be specified on a PO line and when receiving components, team and cost are carried over to the components received.
ENH	Support a new 'Team' filter on Parts view. This allows you to display components which have been assigned to a specific team enabling better control of their inventory.
ENH	Support Team and Status columns as part of the data import. Note that these items MUST be defined within LifeCheck prior to performing the report as any team or status imported which is not found in the internal lists will be ignored.

ENH	Chassis templates: Optional Assemblies and Components – LifeCheck now allows an assembly or part in a chassis template to be flagged as 'Optional'. What this means is that if NOT specified it will not count to the total number of components required to complete a chassis build but will instead be listed in a separate 'Optional Component Count'. If selected on the chassis it will however be counted as normal. Optional components are also flagged both in the template and in Chassis Builder by having '(OPTIONAL)' appended to the part number following any comment. Optional components are great when you have for example, test equipment which may or may not be on the chassis and allows these to be discounted more easily and to not affect the overall build status.
ENH	Export LH pane of Parts View to Excel. This allows a complete list of parts or part classes to be easily exported from the LifeCheck database for future reference.
ENH	Add % Life left (Race) and % Life Left (Test) as displayable columns
ENH	Expand the 'Component Use' report to allow a part class to be specified and then list all component instances of each part within the specified part class.
ENH	Export and Import Chassis Passport: These functions have now been enhanced to ensure that all attributes relating to the chassis and the components on the chassis are written to the export file and are correctly recovered and entered into the new database. This includes chassis details as well as notes, documents and calibrations for the imported chassis.
ENH	Retiring Chassis: In previous versions of this function, all components had to be removed from the chassis before it could be retired. This did not allow for effectively retiring a built chassis where most if not all components on the chassis were also retired. This has now been changed to allow the chassis as a whole to be retired regardless of the number of components on the chassis. This results in not only the retirement of the chassis itself but also effectively all of the assemblies and components on the chassis.  If the chassis is 'un-retired' this will also include all of the components which were on the chassis.
ENH	New Part: Add a flag under Global Settings which will allow new parts to be created without defining a service for them and hence not creating a service check for all component instances of that part.
ENH	Chassis Changes report: Include the location the old component was moved to and that from which the new component was moved from in the display and report.
ENH	<b>Overview:</b> The Overview screen now allows the 'Chassis' (or other top level named container) count to be clicked on. When clicked, a list of chassis will be displayed in the results list showing the name, make, model, serial number, team and a count of sessions/distance run by each chassis. The displayed list may be filtered to display all chassis or just those for a specified team. A date range may also be specified, this determines which sessions are counted and which sessions will count towards the distance run displayed.
ENH	<b>Checks:</b> LifeCheck now supports the concept of 'related' checks. What this means is you may define for example a 'Major Service' and a 'Minor Service'. The Minor Service is set as related to the Major service and as such when the Major Service is reset, the Minor Service is reset also. The Minor Service reset is however NOT recorded within the History as it has been carried out as part of the Major Service. The advantage of this approach is that the correct count of major and minor services is maintained – a minor service is not counted in addition to the major service.  LifeCheck supports up to 3 related checks to be defined against any single check.
ENH	<b>Department Settings:</b> Allow all user specific settings to be reset. This would only normally be used when an internal error has occurred which seems to be user specific and resets all user specific settings to their default.

## LifeCheck v5.6.2.4

July 2022

v5.6.2 is a major LifeCheck update with some significant new functionality, some maintenance changes and fixes to any issues reported in previous versions. This update does not perform a database upgrade from v5.6.0 onwards.

### Summary

Type	Description
ENH	Add new 'Can Add Parts and Components' user access right. The default is yes to allow upwards compatibility, but this option allows you to prevent certain users from adding new parts and components. Note this also disables the 'Import' function.
BUG	New part: Set a default part type as if left blank an error occurs
ENH	Add new 'non-car part' part type. This can be used in conjunction with an enhanced 'Show' menu on the parts view to allow car and non-car parts to be held in the database but hide non-car parts other than when needed.
ENH	New <b>Part Use</b> report – this report allows you to see which parts are not used by the specified Chassis Template. The idea of this report is to allow 'old' or unused parts to be identified within the LifeCheck database and then retired or deleted. Parts which are not referenced by a chassis template (other than non-car parts) are likely to be historical and can clog up the database, especially the 'Parts View'.
ENH	Support colour coding of components belonging to specific teams
ENH	Add 'On Order' to the Inventory screen to link the inventory to components on order using the LifeCheck purchasing module
ENH	Allow components with an expiration date to have that set to 'Not Set'. This will allow expiring components to be created but for their expiration date to only be set once the component is used.
ENH	Contract/Expand supported on the Show Life and Inventory screens to allow additional screen area for the data display.
ENH	Re-structure the Inventory screen to move the filters to the left for compatibility with other screens.
ENH	Component Views: Support a range of shortcut keys in the various 'tree' views  CTRL + F Find in Screen CTRL + SHIFT + F Find in Database CTRL + SHIFT + Expand CTRL + SHIFT - Contract CTRL + C Column Chooser CTRL + P Print SHIFT + P Properties CTRL + X Export to Excel
ENH	Delete Service Reset: When deleting a reset for a service (check), you can now also delete the corresponding service for sub-components within an assembly. Note however that LifeCheck will use the current build of the assembly which may be different to that when the service was initially reset.
CHANGE	UILL Report – Change the way in which this is created to take an existing file as its source and to add to this file as opposed to creating new files from scratch each time.
BUG	Fix issue with the Swap and Quick Swap function when used in chassis builder on parts which have a comment set. The explicit placement of a component to a specific commented 'slot' in the template may be lost if the swap functions are used.
ENH	Database Reset: This should only ever be used in extreme circumstances but allows you to effectively reset the database, deleting all existing data such as parts and components. Please ensure that your users do NOT have access to the Database Maintenance menu option by disabling this under Administration>Departments & Users > User Properties
ENH	Chassis Builder: Add new 'Make Part Class' option. This option allows a placeholder part in a chassis or assembly template to be swapped for a part class in a single operation rather than having to delete the part and then add the part class.

<b>ENH</b>	Show Life: Support user specific and shared reports folders
<b>BUG</b>	Allow Service Kits to be created with all of their child components. The checkbox was previously disabled for service kits and wheel sets
<b>BUG</b>	Component Properties: Display the <b>Delete</b> menu option when displaying component history unless the selected history record is a check reset
<b>CHANGE</b>	Find Function: Improve performance and correct potential loop which could cause the find to hang
<b>ENH</b>	Add Global Settings flag which prevents non-administrators from changing life codes for existing components.
<b>ENH</b>	Holding Areas: Allow the status of a component to be set when moved into or out of a holding area location to aid identification of quarantined components and also to aid in returning them to stock after inspection. This works in conjunction with a previous change which allowed a service sheet to be invoked when moving a component out of a holding area location

## LifeCheck v5.6.1

May 2022

v5.6.1 is a minor LifeCheck update with some maintenance changes and new functionality as well as fixes to any issues reported in previous versions.

### Summary

Type	Description
<b>CHANGE</b>	<b>LifeCheck Integrator Service: OPTIONAL MODULE.</b> The new service provides an offline mechanism by which LifeCheck import files can be imported into the system and also a mechanism by which reports can be run offline on a scheduled basis with the results of the report saved to a specified folder as a Microsoft Excel file and optionally emailed to 1 or more users.
<b>ENH</b>	Find and Find in Database now supported as a right-click menu option meaning it is available on all main screens. In particular Chassis Builder and Show Life did not previously have this functionality but now do.
<b>BUG</b>	Users; Deleting a user could fail if they are linked to other records such as notes and chassis history. This has now been fixed by marking the users as deleted but not removing the record allowing them to remain linked to these records for historical purposes.
<b>ENH</b>	Support 'Parent Assembly' as a displayable column on 'Show Life'
<b>ENH</b>	Contrast font colour when 'dark' background colour defined based on status/life
<b>BUG</b>	Quick Swap in Chassis Builder could leave the swapped out component on the chassis

## LifeCheck v5.6.0

April 2022

v5.6.0 is a major LifeCheck update with some significant changes and new functionality as well as fixes to any issues reported in previous versions. A database upgrade will be necessary meaning that all users will need to upgrade at the same time.

### Summary

Type	Description
<b>CHANGE</b>	Chassis Handling: In previous versions of LifeCheck, each department had its own view of the chassis for historical reasons. This led to complications as LifeCheck had to combine components placed on multiple instances of the same chassis on such screens as chassis builder and chassis view. In this version, only a

	single instance of each chassis is maintained, and the upgrade process will merge all of the chassis instances together.
<b>ENH</b>	Services: Allow a service period to be set for a defined interval such as '12 months' rather than a distance or time run. In all other ways the service will behave as per other checks. The period defined maybe a number of days, weeks or months.
<b>ENH</b>	Service Sheets: Service sheets can now be triggered when a component is moved to or from a specific holding area location. This allows for a formal process to be established where checks must be completed before a component can be recovered from a quarantine area
<b>ENH</b>	Directional Lifting: This function allows components which are 'directional', that is may be used in a left hand or right hand mode, to be used in either mode and for their life limit to be set per 'mode'. That is they may have a life of 1000km when used as a left hand component and another 1000kn when switched to right hand mode or vice versa.
<b>BUG</b>	Last Note: This feature was broken in v5.5.5.x meaning the last note was not always displayed when requested.
<b>ENH</b>	Part /Component properties and also component display – make it more obvious when a part and/or component has been retired.
<b>ENH</b>	Add history to a component when its parent part is retired or resurrected
<b>ENH</b>	Extend Holding Area to allow additional locations and child locations to be defined
<b>ENH</b>	Support 'Single-use' components. This is a part level attribute which, when set, flags all component instances of that part as single use. When an assembly containing single use components is serviced, all single-use components are automatically removed and sent to a nominated location within the Holding department.
<b>ENH</b>	Show Life: Allow 'Parent Assembly' to be displayed as a column
<b>BUG</b>	Show Life: Reset was not clearing all filters
<b>CHANGE</b>	Allow user level access (administrator / read-only) to over-ride that set for a department
<b>ENH</b>	Where a large number of components have been imported it is possible for a single location to contain an excessive number of components at the same level which may result in performance issues. To handle this, LifeCheck will now allow you to define the maximum number of components which may be displayed at any level. If exceeded, LifeCheck will only display up to that number. This defaults to 3000.  To complement this, a new right click option of 'Filter Displayed Components' has been added. This allows a full or partial search string to be defined which will be used to filter the display to only show those components with a part number containing the specified filter string. Note this is case insensitive. Any filter string can be cleared by using the right click option and deleting the string. If filtered, the filter string defined will be shown to the right of the primary location node.
<b>CHANGE</b>	Prevent double click on the scroll bar within Chassis Builder' from invoking the Component properties window
<b>ENH</b>	Support 'XD' as Expiration Date within the Build Sheet creation.
<b>ENH</b>	Allow child components to be placed beneath wheels. This allows for a wheel assembly to be defined including for example, TPMS Sensors and wheel nuts within the wheel itself.
<b>ENH</b>	Add support for comments from the chassis template in Assembly Builder to match Chassis Builder functionality
<b>ENH</b>	Purchasing: If an issue number is specified on a PO line it will be copied to all components received on that line
<b>ENH</b>	Admin>Departments and Users: Allow the Admin department to define/edit locations for all departments under 'Edit Department'
<b>ENH</b>	Support export of the list of Parts in Parts View
<b>ENH</b>	Show Life, improve the progress reporting in Show Life – also add a warning when there is a very large results data set (> the maximum number of rows set under Admin>Global Settings) to allow you to back out of an operation which may take a long time to complete.
<b>BUG</b>	Relocate Screen>Find: Found components are not highlighted, this has now been fixed.

<b>ENH</b>	UILL Support: Support new UILL column in Import Parts to define whether or not a part should be included in the UILL. In addition a new option has been added to prevent new parts from being created by the import. This allows an externally generated import file to be used containing parts not held within LifeCheck without fear of new parts not meant to be held in LifeCheck from being created.
<b>ENH</b>	Team Support: Allow components removed from a chassis or swapped off a chassis to be automatically moved to the 'main' location set for the team owning the component. In addition, any new components created within Chassis Builder with a team specific chassis selected, will be assigned to the selected team by default
<b>ENH</b>	Reports: Add support for new filter under history of 'Show components changed after...'. This will filter the report to only show components which have had changes made to them since the specified date. Changes include such things as adding sessions, moving the component or changing selected fields. Note that as the report is run, the date is updated to the current date allowing this report to be used to identify components changed since the last time the report was run (you must save the report definition afterwards if the report is being run manually).
<b>ENH</b>	Reports: allow the report to be exported directly to Excel skipping the main display. This is of particular use for very large / long running reports such as complete component lists. Note that the export will not contain formatting such as colour coding which you would get if it were first output to screen.
<b>ENH</b>	Parts View: Allow the entire parts list to be exported to Excel.

## LifeCheck v5.5.5.6

January 2022

v5.5.5.6 is an interim release with new functionality as detailed below.

### Summary

Type	Description
ENH	'Find' function extended to allow a search for ANY displayed text i.e. will search for the specified text in any field displayed in the current window
ENH	'DB Find' function extended to allow a search for text within a batch number, issue number or any component extension value. The display of results has been enhanced to use the 'standard' tree allowing the selection of columns, sorting, export to excel and other similar common functionality.
ENH	Login: Password reminders can now be requested, these are sent to the registered email address of the user requesting the reminder (if any). Note this uses the email settings defined under Administration>Email Configuration and for the user in question to have their email address defined.
BUG	Correct bug importing Sundries – the count field if specified would duplicate the sundry component as well as set the number of sundries.
CHANGE	When importing sundries, LifeCheck would always use an internally generated life code even if one was specified in the import file. This has been changed to allow the life code for a sundry to be defined.
ENH	When selecting a component from the left hand pane of chassis builder, the window displayed (if there are > 10 matches) will now allow the selection of the appropriate part where a part class is required. This can allow filtering of the available components to be of the selected part and not all matches.
FIX	Part Import: Correct issue where new checks are not created against a component if they did not already exist
CHANGE	Allow multiple columns and rows for checks when creating new components
ENH	Component Use Report: Allow jumping from the Parts view or Component View screen to the Component Use report pre-selecting the current part.
ENH	Log component movements in History
ENH	Notes Display: When displaying a list of notes, this list is now displayed in a grid which supports filtering. This means you can for example filter the list of notes to show only those on a specific date or of a specific category
ENH	Reset of a Check: Notes added as a check is reset are added to the component for which the check is being reset. The note category is now set to a value equal to '<check> Reset'. This will allow these notes to be more easily identified and selected using the filter above.
ENH	Support for export of notes to excel or pdf
ENH	DB Fine: Add support for searching in component notes



## LifeCheck v5.5.5.0

December 2021

v5.5.5 is an interim release with new functionality as detailed below and fixes to issues reported in the base v5.5.4 version.

Note that this upgrade does update the LifeCheck database and as such, all users should upgrade at the same time.

### Summary

Type	Description
CHANGE	<b>Show Life:</b> Add the ability to select the holding department and/or locations therein to include in the report
ENH	Support URL's as documents
ENH	Make notes rich text – you can add clickable links into a note. These are however only clickable when editing the note.
ENH	Component View: Allow the Part Type to be displayed as a column, this allows sorting to make assemblies easier to find
ENH	Chassis templates: Support Sundries within Chassis templates. You can now have for example a 'collection' of 8 NASbolts as a single line in a chassis template. When selecting / swapping the sundry items, LifeCheck will extract the required number from the collection specified
ENH	Sundry Items: New merge function to merge individual groups of a specific sundry into a single group. The individual sundries may be in separate locations (but not on a chassis) and will be merged into the first selected item
BUG	If the SQL Server has a non UK locale with a different date format, certain operations such as setting the first / last used date may fail with an invalid date format message. These update queries have been modified to use an ISO date format which works on all locales
ENH	Part View: Add 'Type' column to allow sorting by part type (assemblies / parts / sundries etc)
ENH	Chassis Builder: LifeCheck normally does not allow non-matching assemblies to be placed on the chassis – make this switchable so the user can over-ride if absolutely necessary.
BUG	Fix issue with the 'Add' button being disabled under Part Properties > Service Sheets meaning you could not assign a service sheet from here.
ENH	Notes: Add name of the user who added the note
ENH	Documents: Add name of the user who added the document
ENH	Sessions: Record the name of the user who added a session, serviced a component or otherwise created a chassis history record
BUG	Fix issue with Component Use report when displaying by life code – nothing was displayed.

## LifeCheck v5.5.4.0

November 2021

v5.5.4 is a maintenance update to fix issues reported in the base v5.5.3 version and add some minor new functionality.

Note that this upgrade does update the LifeCheck database and as such, all users should upgrade at the same time.

### Summary

Type	Description
<b>CHANGE</b>	<b>Show Life:</b> Performance improvements when running a report which includes a part filter
<b>ENH</b>	Support section and sub-section as displayable columns
<b>ENH</b>	Allow a default driver to be selected for each chassis and then automatically pre-selected as a session is run.
<b>BUG</b>	<b>Part Properties:</b> Fix issue when displaying properties of a part which has multiple faults for components instances. Could crash if the same fault was added multiple times
<b>BUG</b>	<b>Show Life:</b> Fix issue in Show Life when 1 or more chassis have been selected – the report will only include the instance of the chassis in the current department and not ALL instances of the chassis
<b>ENH</b>	<b>Error reporting:</b> LifeCheck is now linked to Microsoft AppCenter meaning that details of any unexpected errors encountered by LifeCheck will be sent to Microsoft AppCenter automatically allowing faster and easier diagnosis of faults. No personal data other than the registered company ID is sent with these error reports.
<b>BUG</b>	Adding or removing a session to/from a component did not update the 'Last Used' date and if all sessions were removed did not update the 'first used' date and 'first used on' fields
<b>ENH</b>	Display First and Last Used dates on Component Properties.

## LifeCheck v5.5.3

September 2021

v5.5.3 is an Interim release with some major new functionality requested by users.

### Summary

Type	Description
ENH	<b>Support for 'Sub-locations'</b> . LifeCheck now allows sub-locations to be specified either at a department level and at the Shared location level. Only a single sub-level is supported. All displays have been updated to initially display the selected location but now an additional 'Child' drop down will be displayed allowing the sub-locations beneath the selected location to be selected.
ENH	<b>Service Kits</b> : When servicing a chassis as a whole it may be that the service items are to be applied to various parts of the chassis and where multiple items are to be replaced it can be time-consuming to find these in the chassis build. The idea of a 'Service Kit' is to define the individual items to be replaced and bring them together in a 'Service kit' which can then be applied to the chassis or a branch thereof. 'Applying' a service kit will loop through the items in the kit, find the matching items in the chassis build and replace them.
ENH	<b>Teams</b> : In previous versions of LifeCheck the 'Chassis' could have a 'Team' set for it although this was mostly used within the fault tracking system. This has now been extended to allow components to also be associated with the team. This in turn has allowed LifeCheck to identify components belonging to different teams and prevent them from being placed on to Chassis belonging to other teams. Note that this only applies to the Chassis Builder and it is recommended to configure LifeCheck to prevent chassis from being modified other than via the Chassis Builder!
ENH	<b>Part View</b> : Allow the 'Manufacturer Part Number' to be displayed in the left hand pane. This is implemented by an additional item on the right click context menu under the 'Show' option.
ENH	<b>Chassis Builder</b> : Add links to the various component counts, clicking these links displays a popup window which displays the matching components, for example 'low on life' components. From this window a component may be selected and the 'Goto Component' clicked. This will display the selected component in Chassis Builder.
ENH	<b>Password Policy</b> : It is now possible to set and enforce a password policy under <b>Administration &gt; Departments and Users</b> . The policy defines whether or not a password is required and if so the minimum requirements for any password set.
ENH	<b>Component Status</b> : Allow component status's to be defined such that components of the specified status may not be placed on a chassis, may be placed on the chassis after a confirmation or may be placed on a chassis regardless

## LifeCheck v5.5.2

June 2021

v5.5.2 is a maintenance update to add some user requested functionality.

Please note that there is a breaking change in this version which may require some user interaction

### Summary

Type	Description
<b>BREAKING CHANGE</b>	In previous versions the 'Admin' user had special rights and could do things which no other user (including other administrators) could. This has been changed in this update as it relied on checking the actual name of the department which no longer fits given the introduction of 'Users' in v5.5.0.  This MAY cause issues as LifeCheck now considers all users set as Administrators as being able to

	<p>perform all administration functions including creating new departments and users.</p> <p>In addition, other functions are now wholly controlled by the user access rights and are not affected by the 'Administrator' status. This could mean that some administrators may not be able to perform functions which they could previously if that function has not been explicitly set under Administration&gt;Departments.</p>
<b>PERFORMANCE</b>	The main views within LifeCheck have been substantially updated to improve their performance, especially where large numbers of components are displayed or where fields which are held in separate tables, such as component checks or extension fields are displayed. This change will affect all screens.
<b>ENH</b>	Build Templates – Add support for the expiration date (XD) and Last Node (LN) to be specified as substitution values within build sheet templates.
<b>ENH</b>	Check Reset – Allow sub-components to be selected or de-selected when servicing their parent assembly so that some or all of the assembly components may be serviced or omitted from the service rather than all or nothing as was the case previously.
<b>BUG</b>	Fix exception when viewing time limited components – some values could exceed the range allowed for times.
<b>BUG</b>	Support for multiple series seems to have broken in v5.5.1. This was found internally and has not been reported but is fixed in this update.
<b>BUG</b>	'First Used' date added in 5.5.1 could return an incorrect date depending on what sessions have been recorded.
<b>ENH</b>	Add 'First Used On' column to return the Chassis (primary assembly) the component was first used on.

## LifeCheck v5.5.1

March 28<sup>th</sup> 2021

v5.5.1 is a minor maintenance update to add some user requested functionality.

Please note that this update WILL update the database and as such ALL users will need to update at the same time otherwise they will not be able to use LifeCheck.

### Summary

Type	Description
ENH	New 'First Used' column on all Component Views – this adds the date a component was first used to all displays where a list of components is displayed.
ENH	<b>Overview:</b> A new main panel 'Overview' has been added. This displays some statistical data for LifeCheck such as counts of components in various states as well as some initial charts of such things as component status's

## LifeCheck v5.5.0

February 24<sup>th</sup> 2021

v5.5.0 is a minor maintenance update adding some minor new functionality and fixing a number of reported issues

Please note that this update WILL update the database and as such ALL users will need to update at the same time otherwise they will not be able to use LifeCheck.

### Summary

Type	Description
ENH	<b>Part Class Categories added.</b> You may now group part classes into categories so they can be more easily found where large numbers of part classes have been defined. Part classes will also be displayed in an alphabetic order whereas previously their order was determined by the order in which they were created.
ENH	<b>Chassis and Assembly Template Categories Added.</b> In a similar way, both chassis and assembly templates may also have a category set for them. This is of most use in conjunction with Assembly Templates and the ability below for these to be associated with Parts.
ENH	<b>Parts and Assembly Templates</b> It is now possible to associate an assembly template with a Part. The primary use of this is where the part also has a part class set, is an assembly and where that part class is used within a chassis template. The combination of chassis templates, part classes and assembly templates allows the Chassis Builder to be able to analyse and maintain the content of an assembly when used in place of a part class whereas in previous versions assemblies were not supported for part classes.
ENH	<b>Build Sheets:</b> Add TR1; TR2; TL1 and TL2 as build sheet template substitution placeholders for Time 1 Run; Time 2 Run; Time 1 Left and Time 2 Left respectively.
BUG	<b>Assembly Builder:</b> Fix issue when using assembly templates to build an assembly
BUG	<b>Remote Database:</b> Fix issue transferring existing data to a new database using the 'Remote Database' function.

## LifeCheck v5.4.4

February 8<sup>th</sup> 2021

v5.4.4 is a minor maintenance update adding some minor new functionality and fixing a number of issues mainly in the fault tracking module.

Please note that this update WILL update the database and as such ALL users will need to update at the same time otherwise they will not be able to use LifeCheck.

## Summary

Type	Description
ENH	<p><b>Login:</b> As of this version we have moved to a user login as opposed to a department login. By default 'users' will be created for each licenced department and as such this change should be transparent to most users. What it does allow however is for multiple users to be defined per department (subject to licensing restrictions). The number of departments is no longer limited – this may result in additional departments now being visible on such screens as 'Re-locate Components'. These can be easily tidied up under Administration&gt;Departments.</p> <p><b>*Please see the important note below</b></p>
ENH	<p><b>All Views – Allow 'Parent Assembly'</b> to be chosen as a displayed column. This is of most use in 'Parts View' where it is often useful to be able to see which assembly a displayed component is in.</p>
ENH	<p><b>Wheel Lifing:</b> Add new filter to 'Wheel History' to allow wheels to be selected as the top level item to show the history of a single wheel allowing the user to drill down to the event -&gt; wheel set -&gt; wheels in set.</p>
CHANGE	<p><b>Wheel Lifing:</b> Allow the service of a wheel to be deleted. Previously this option was disabled.</p>
ENH	<p><b>Technical drawings:</b> Allow technical drawings to be located in sub-folders of the folder specified and for the first matching file to be displayed.</p>
ENH	<p><b>Sundry Components:</b> When moving via the 'Re-locate' menu option, allow all or some of the sundries to be moved and/or merged with any pre-existing sundries in the target location.</p>
ENH	<p>Add colour coding to the Component properties screen to mirror that found in the main views.</p>
BUG	<p>Fix issue when changing the 'duration run' values for a component as this was being incorrectly recorded as a distance change in the history. The only real effect of this bug was when viewing the Component History.</p>
CHANGE	<p>Various screen format and colouring changes. In an attempt to standardise the main screens within LifeCheck we have taken the opportunity to change some of the background and font colours. The overall aim of this change is to allow for future styles to be applied allowing custom or corporate colour schemes to be applied to LifeCheck. We also now allow a Corporate logo to be specified which will be displayed on the main logon screen.</p>
ENH	<p><b>Part / Component Properties:</b> Add a 'Documents Folder' field to a part. This folder can be opened using the 'Open Documents Folder' context menu option or from within Part/Component Properties. It is a simple link to a general folder containing documents related to the part/component. The folder itself is specified within Part Properties.</p>
BUG	<p>Fault Tracking: Fix error sending notifications for faults which are not linked to an event.</p>

## Department + User Changes

In previous versions of LifeCheck, Departments were the primary licensed item and were also the way in which you would login to the system. In this update this has changed – we now have the concept of users within departments allowing for multiple users to be defined within a single department.

The upgrade process will create a single user login for each licensed department and as such the switch to users should be transparent as login names, rights, access restrictions and passwords will be copied from the departments to users.

You may however notice a difference when you view the list of Departments under Admin > Departments and also on the 'Re-locate' view. The reason for this is that there is no longer a limit on the number of departments you can define, just the number of users. As such the 'default' departments created by the initial LifeCheck installation will be visible – typically 10 departments were created although of course you would have only been able to see and login under the number for which you are licensed.

These additional departments can if desired be deleted or you may wish to make use of them as additional storage departments. The previous licensed departments count will now apply only to the number of users.

If you have any problems with departments being no longer visible or any other issues with this change, please contact technical support at <mailto:support@trenchant-tech.com>.

## LifeCheck v5.4.3

October 2020

v5.4.3 is a minor maintenance update adding some minor new functionality and fixing a number of issues mainly in the fault tracking module

### Summary

Type	Description
ENH	<b>Fault Tracking:</b> Add new substitution parameters for Fault Notifications
BUG	<b>Fault Tracking:</b> Multiple faults could be created if you do not close the 'Add Fault' window after creating a new fault. The faults would all be the same but with different fault numbers
ENH	Display circuits in alphabetic order – ensure that newly added circuits are correctly sequenced
ENH	<b>Fault Tracking:</b> Add a new 'Root Cause' field which will be requested as a fault is closed.
ENH	<b>Fault Tracking:</b> Add the ability to specify custom filters in the Faults view
ENH	<b>All:</b> Add a 'Goto Folder' option on the Documents view
ENH	<b>Fault Tracking:</b> Display linked faults using a parent/child hierarchy and prevent anything other than a single parent/child relationship.
ENH	Display event names in alphabetic order in 'Add Session'
ENH	Allow retired Chassis to be displayed in Chassis History
BUG	Chassis Templates: fix issue preventing chassis template from being deleted when comments have been set.
ENH	<b>Add Component:</b> It is now possible to assign custom life codes when creating multiple instances of a component. By selecting the 'Custom' life codes option you can manually set life codes where they are not to be assigned sequentially.
ENH	Allow a note to be created for multiple components – select a number of components, right click and the 'Add Note' option will now be available to allow the same note to be added to all of the selected components.
CHANGE	Disable the Properties menu option when multiple items selected.
ENH	The display is now updated after adding notes, resetting limits and resetting checks via the right-click menu option rather than requiring a manual refresh.
ENH	Allow double-click on components found in 'DB Find' to jump to display the Properties of a component. Also support a right click menu to do the same.
BUG	<b>Fault Tracking:</b> Correct bug causing a crash if a when displaying part/component properties with child faults where their parent fault was not applicable to the part/component.
BUG	Parts View: Fix issue with sort order getting reset

## LifeCheck V5.4.1.9

August 18th 2020

LifeCheck v5.4.1.9 is a cumulative update adding some minor new functionality and to fix all issues reported in v5.4.1.

### Summary

Type	Description
ENH	Documents :- It is now possible via a right click menu option to open the folder location for any

	documents attached to a part, component, session, fault or elsewhere.
<b>ENH</b>	Fault Tracking – It is now possible to link faults to each other so that a parent / child type relationship between faults may be defined.
<b>ENH</b>	Fault Tracking – Changes to documents and notes are now tracked as part of the history of a fault.
<b>CHANGE</b>	Fault Tracking – It was identified that the 'Close Fault' button needed to be moved to be adjacent to the fault status as users were clicking on the button thinking it would simply dismiss the window.
<b>ENH</b>	Fault Tracking – Allow the displayed faults to be filtered by a full or partial part number so displaying only those faults related to the specified part(s).
<b>ENH</b>	Fault Tracking – Allow faults to be created without closing the 'Add fault' window allowing additional changes to be made (such as linking the fault to another fault which can only be done once the fault has been created).
<b>ENH</b>	Fault Tracking – Add 'Last History Date' and 'Last History text' as displayable fields within the Faults View
<b>ENH</b>	Fault Tracking – When exporting to Excel from the Faults View the generated file was not being automatically opened so this function has been added.
<b>BUG</b>	Fault Tracking – Read only users may view faults details but were not able to view documents attached to the fault. This has been fixed.
<b>BUG</b>	Terminology – it is now possible to change the wording use for what was previously 'Race' and 'Test' limits to specify your own terminology. This change had not been applied to the 'Add Component' and 'Show Life' screens meaning they were still displaying 'Race limit' and 'Test Limit' regardless of if these values had been changed under Admin>Global Settings>Terminology.
<b>ENH</b>	Allow retired chassis to be selected on the 'Chassis History' screen by adding a checkbox
<b>ENH</b>	Race calendar – Improve the tooltip displayed when hovering over an appointment to show circuit/session and the description text.
<b>BUG</b>	Documents View – the date displayed for documents associated with parts/components and so on was always displayed in the US format regardless of the current locale. This has now been fixed
<b>BUG</b>	Fault Tracking – could not clear the link between a fault and a child fault.
<b>ENH</b>	Colour Coding – add new colour coding settings for service limits and for the new wheel tracking module. This allows different limits and colours to be defined for services and for wheel lifing as their values are substantially different to the overall life values.
<b>NEW</b>	<b>Wheel Lifing</b> – This is a new optional module which allows wheels to be lifed outside of the normal 'Add session' processing. This avoids the unnecessary splitting of sessions when the only components changed are the wheels and allows mileage to be assigned to wheels and wheel sets. Please contact Trenchant Technologies, Ltd for further details on this module.

## LifeCheck V5.4.1.0

April 2020

LifeCheck v5.4.1.0 is a major release which includes a new optional module aimed at Fault Tracking of components and assemblies within the LifeCheck database. It also includes a number of smaller changes and bug fixes as listed below.

## Summary

Type	Description
<b>CHANGE</b>	LICENCING – On entry to LifeCheck for the first time after this update, you will be asked to enter a Unique PIN. This PIN may have been sent to you via email but if not please request your PIN by emailing <a href="mailto:support@trenchant-tech.com">support@trenchant-tech.com</a> . The PIN enables LifeCheck to securely connect to the Trenchant Technologies licence server and will allow future licence key updates to be downloaded directly from the server rather than having to be emailed to you and then entered into the software.
<b>BUG</b>	When retiring parts which have existing component instances from the parts View > Retire parts menu option, the part may not be retired correctly. A second retire request will correctly retire the



	part as all component instances of that part have then been re-located or deleted.
<b>ENH</b>	Extend the size of the 'Session Comments' box in Session history to allow long comments to be more easily viewed
<b>ENH</b>	Add a 'Goto Session History' option to the right-click menu displayed in Component Properties>History
<b>BUG</b>	Correct bug which causes the switch to the Race Server to fail when copying table data
<b>CHANGE</b>	Optional modules within LifeCheck are now visible even if not licensed. Clicking on an unlicensed option will display a window allowing the user to view details of that module on the LifeCheck web site.
<b>ENH</b>	Support import of service limits based on time not distance ('SERVICE TIME NEW' and 'SERVICE TIME SINCE LAST'). These are used if a value has not been set for the corresponding service distance value.

### LifeCheck V5.3.9.2

October 2019

LifeCheck v5.3.9.2 is a minor maintenance update. It does however require a database upgrade and as such all PCs will need to be upgraded at the same time.

### Summary

Type	Description
<b>BUG</b>	Fix an issue with an error being displayed when deleting sessions. This was caused by an entry in the Race Calendar which needed to be deleted prior to the session being deleted but which was not.
<b>BUG</b>	Inventory: The Stock Level filter was not working correctly and was always selecting to check against the minimum stock.
<b>ENH</b>	Add the ability to pre-define Event Names which may be selected when recording sessions. This is an option available under Global Settings. If set the user MUST select from the list of event names previously defined when recording a session. This helps to maintain consistency within LifeCheck and is required by the forth coming Fault Tracking module.
<b>ENH</b>	Inventory: Add display of manufacturer, part type and part class to this screen. Also ensure that the columns visible are remembered and restored together with column widths
<b>ENH</b>	Allow Manufacturers and Suppliers to be defined outside of purchasing as they may be useful with the Inventory module also.
<b>ENH</b>	Part Import> Support the importation of component extension field values. For example if a component extension field has been defined with a name of 'GAIN' a component specific value for this field may be imported using a column entitled 'CE>GAIN'.
<b>BUG</b>	Fix bug in Chassis History which when combining sessions did not combine The 2 time field values.
<b>BUG</b>	Fix issue exporting to Excel from Session History which resulted in an empty file being created.

### LifeCheck V5.3.9

September 2019

LifeCheck v5.3.9 is a minor maintenance update.

### Summary

Type	Description
<b>CHANGE</b>	Display Time Run for non-lifed components if distance run has been configured to be displayed under Admin>Global Settings
<b>BUG</b>	In the Show Life report, components were not being displayed if they should have been included by a 'Life Left' filter where the filter was set to service but the component was not lifed. This report has been modified to take service values into account even if they are defined as not lifed.
<b>ENH</b>	The 'Life Left' filter within the 'Show Life' report has been enhanced to allow any periodic

	maintenance check to be specified. In addition you can now request that the component is included if ANY limits (distance or time) have been exceeded.
<b>ENH</b>	The 'Extra Components' window has been extended to also display the distance run for each component. This value is also exported to excel where requested.
<b>BUG</b>	Correct an issue with the 'DB Fine' function when the component found is in a shared location – the 'Display Component' function did not work correctly in this case.

## LifeCheck V5.3.8

August 2019

LifeCheck v5.3.8 is a minor update with some significant new functionality and a number of fixes to issues reported in earlier releases

### Summary

Type	Description
<b>ENH</b>	Add new 'Changes' report to the Chassis Builder. This report details those components which have been changed on the chassis since the last session run by that chassis and forms the basis of a 'Change Sheet' which can be provided to the mechanics to identify which components need to be changed for the next race.
<b>ENH</b>	Ensure session history fields are refreshed if sessions are added while this screen is displayed.
<b>ENH</b>	Chassis templates – add 'clear comment' function to remove any comments set on items
<b>BUG</b>	When changing a life code within Component properties it was possible to specify a life code of an existing component held in the holding area. This caused an SQL error rather than being picked up. This has now been fixed
<b>ENH</b>	LifeCheck passwords are now stored encrypted. All passwords will be encrypted as part of the upgrade process and subsequently will always be stored in the database encrypted.
<b>BUG</b>	Fix issue when changing life limits in Component properties where if you change both race and test at the same time sometimes the change to 'race' will not stick for the current component
<b>CHANGE</b>	Parts View : Save sort column for the left hand pane of the Parts View
<b>ENH</b>	Allow re-life to be applied to all components of the same part class as the initial component (if any). Also a re-organisation of the 'Re-life Components' selection screen.
<b>ENH</b>	Ensure all components are refreshed when in Parts View or Chassis Builder and you change a common property of a component displayed in the right hand pane.
<b>CHANGE</b>	Race Calendar – Do not convert times in a different time zone to the current time zone. Append '(local)' to the subject lien for appointments where a 'local' time has been specified i.e. in a time zone other than the current one.
<b>BUG</b>	Correct sorting issue when displaying chassis sessions which are sometimes not in the correct order based on the date and order run.
<b>ENH</b>	Allow a department specific location to be promoted to be a shared location.
<b>BUG</b>	Fix issue with department settings not saving 'Remove Component' or 'Swap Component' default location if set to a 'Shared' location.
<b>BUG</b>	Fix issue with the 'Other components' menu option crashing where one or more of the other components are in a 'Shared' location.
<b>CHANGE</b>	Build Sheets – when creating build sheets ensure that numeric values are exported as such to the Excel file.
<b>CHANGE</b>	<b>RACE CALENDAR:</b> This is a change in behaviour! When recording a session, LifeCheck will now as before add an entry to the race calendar. In previous versions however, this entry simply identified the fact that a session had been recorded and on which day.  As of v5.3.8 this functionality has changed – The session will now be added for the day on which the session has been recorded and will be set to be either race/test/practice/qualifying or other

	<p>depending on that recorded.</p> <p>The purpose of this change is to make the Race Calendar more usable in conjunction with forecasting as the actual sessions recorded will be added to the calendar. Additional functionality will allow these sessions to be duplicated for subsequent years avoiding the need to manually define all sessions in the calendar yearly.</p>
<b>CHANGE</b>	RACE CALENDAR: A context menu has been added to events recorded on the race calendar allowing you to Add the selected Session to a chassis. This displays the 'Add Session' window with the session details pre-selected.
<b>ENH</b>	RACE CALENDAR: Add the ability to 'clone' a range of events, adding 1 year to their start and end dates so as to pre-populate the next years events from the existing definitions.
<b>CHANGE</b>	ADD SESSION – you can now select a calendar event defined on the race calendar to pre-select fields on the 'Add Session' window.

### LifeCheck V5.3.6

April 19th 2019

LifeCheck v5.3.6 is a minor update with some significant new functionality and a number of fixes to issues reported in earlier releases

#### Summary

Type	Description
<b>BUG</b>	If using the 'Next' and 'Previous' component button within Component properties, calibrations are not correctly refreshed.
<b>BUG</b>	Custom part icons lost when changing the properties of a part.
<b>CHANGE</b>	When creating components and setting 'Check' limits, allow the specification of 'Distance Since last Service' or 'Tim Since last Service' rather than 'Distance To' and 'Time To' as this fits better with the ability to set an initial distance run. Also default these values to the distance/time run.
<b>CHANGE</b>	Prevent attempts to add a check to a part where there are no component instances of that part as the check limits must be stored against a component

### LifeCheck V5.3.5

April 16th 2019

LifeCheck v5.3.5 is a minor update with some significant new functionality and a number of fixes to issues reported in earlier releases

#### Summary

Type	Description
<b>*ENH</b>	The Chassis Builder compares and maintains the current build of the Chassis however it is possible for 'Additional' components to be added to the Chassis outside of Chassis Builder. Where this happens, the Chassis Builder will list these as 'Extras' but will not show their location in the build. For this release, a new Department level setting has been added to clearly show in the Chassis Builder where additional components are located on the Chassis and will allow these components to be removed. By default this setting is enabled. Use of this feature will help avoid instances where the chassis matches the template but has additional components which should not be present and as such should not be added to sessions.
<b>ENH</b>	Add the ability to delete a report
<b>ENH</b>	Add the ability to export only top level items to Excel from the 'Show Life' screen
<b>BUG</b>	On Chassis Builder, clearly highlight by colour coding and a different icon where a 'Component in Stock' is already on the chassis and prevent this component from being selected or swapped within

	the chassis as that was causing inconsistent behaviour.
<b>ENH</b>	Allow notes and components to be associated with a chassis and display these as part of the chassis properties.
<b>ENH</b>	Allow notes and status changes to be cascaded down into all components within an assembly if the note/status change is made to an assembly.
<b>BUG</b>	Fix issue with Add Note not working in the left pane of the Chassis Builder

### LifeCheck V5.3.4

January 18th 2019

LifeCheck v5.3.4 is a minor update with some significant new functionality and a number of fixes to issues reported in earlier releases

#### Summary

Type	Description
<b>ENH</b>	Save and restore Window sizes for a selection of often re-sized windows such as 'Add Session', 'Part Properties' and 'Component Properties'
<b>ENH</b>	Save and restore Column Widths for a selection of 'Grid' displays such as Component History
<b>ENH</b>	Add a history record as components are created (manually or via import). This history record should highlight the starting distance so that this is always clear.
<b>BUG</b>	Admin > Locations – the list of locations grows each time this window is displayed as the entries are duplicated.
<b>BUG</b>	Sessions listed in the 'Remove Sessions' window can become duplicated and as the window is not sizeable it is not easy to see all of the information – fixed by ensuring the list is always cleared before re-display and making the window sizeable – as above its size is saved and restored.
<b>ENH</b>	Export 'strike-out' text appearance to Excel.

### LifeCheck V5.3.3

December 19th 2018

LifeCheck v5.3.3 is a minor update with some significant new functionality and a number of fixes to issues reported in v5.3.2.

#### Summary

Type	Description
<b>ENH</b>	Add the ability to have notes and documents against top level chassis.
<b>BUG</b>	Part Classes not being handled correctly in the 'Show Life' reports
<b>ENH</b>	Validate assemblies as they are swapped or selected in Chassis Builder to ensure that they match the chassis template noting that it is acceptable for the assembly to be missing components but cannot contain additional components.

### LifeCheck V5.3.2

November 20th 2018

LifeCheck v5.3.2 is a minor update with some significant new functionality and a number of fixes to issues reported in v5.3.1.

#### Summary

Type	Description
<b>ENH</b>	When displaying component properties do not have the 'life code' field as the active control on entry as it is too easy to accidentally change the life code value

<b>BUG</b>	Chassis Template screen – part classes not being populated
<b>ENH</b>	Validate assemblies as they are swapped or selected in Chassis Builder to ensure that they match the chassis template noting that it is acceptable for the assembly to be missing components but cannot contain additional components.
<b>ENH</b>	Save column ordering on main display screens – note this may affect the ordering of columns on various screens the first time they are displayed as LifeCheck will not be able to determine the ‘correct’ ordering until it is restarted. Please correct the column ordering as required and this will be saved on exit.
<b>BUG</b>	Fix issue on DB Find jumping to a component where the correct location was not selected if the location was a chassis and the correct component was not always selected.
<b>ENH</b>	Display parent component life code in ‘DB Find’ form
<b>BUG</b>	Correct sorting ‘oddity’ on the Chassis Builder where the sort order seemed to change when you selected components or refreshed the screen.
<b>BUG</b>	Data Setup – part classes duplicated each time the screen is displayed
<b>CHANGE</b>	Allow the ‘Race’ and ‘Test’ labels to be user defined. This allows the definition of 2 distinct limits for each component which may be the case where these components may be used in different environments, locations or series. These labels are defined under Global Settings and will affect all users.

## LifeCheck V5.3.0

October 10th 2018

LifeCheck v5.3.0 is an interim with some significant new functionality and a number of fixes to issues reported in v5.2.6.

## Summary

Type	Description
<b>ENH</b>	Multiple Series Support – This function is subject to a separate license as it allows multiple LifeCheck databases to be accessed from within a single LifeCheck application. The previous unsupported functionality has been replaced by a new form accessible under Administration>Race Series. This will only be available for teams who had historically used the undocumented functionality or who have licenses to maintain multiple databases.
<b>ENH</b>	Add a new user access level to restrict which users are allowed to remove ‘extra components’ from the chassis within the Chassis Builder screen.
<b>ENH</b>	When creating new components, ensure that the last specified batch and/or issue number is inherited by the new component. This allows new components to default to the last used batch and issue numbers.
<b>ENH</b>	Increase the size of the ‘life codes’ box when creating multiple new instances of a component. The box is also arranged in columns so that more life codes are visible.
<b>ENH</b>	Department Settings – Allow an existing Microsoft Excel file to be specified to be used as a template when exporting data from LifeCheck. The data will be added to the end of the first sheet defined within the template file. In addition, LifeCheck now defaults to creating Microsoft Excel files in the later .xlsx format.
<b>ENH</b>	Add Session times to the Session History screens so it is possible to see the times run in each session as well as the distance.
<b>ENH</b>	Save the sort selection in Parts View on exit from LifeCheck and restore on re-entry.
<b>ENH</b>	When refreshing the Chassis Builder screen, the refresh should refresh both the left and right panels to ensure that any new components in stock are displayed without having to move off the component and back on.
<b>ENH</b>	Component Use Report – If multiple instances of the same component were used on the chassis, the report would only show the first used. The report has now been enhanced to display the life codes of

	all components used.
<b>BUG</b>	Delete and re-locate functions act on every other selected component rather than all.
<b>BUG</b>	Using the 'Swap Component' function from the 'Show Life' reporting screen only moves the parent (top level) component and not all child components which leads to components being 'orphaned' within the database.
<b>BUG</b>	Exception reported when using the arrow keys to navigate up/down through the list of sessions displayed in Component Properties>Add Session.
<b>BUG</b>	Prevent new instances of 'retired' components from being created.

## LifeCheck V5.2.6

August 20th 2018

LifeCheck v5.2.6 is a minor maintenance release to address any issues reported in v5.2.0 and add some new minor functionality

### Summary

Type	Description
ENH	Add a new 'Session Component' report which shows the usage of individual parts with respect of sessions and chassis. The report can either detail the specific life code of a component used on a chassis for each session selected, or can display the chassis for specific life codes of components used for each session selected.
BUG	Fix a bug in the 'Swap' and 'Quick Swap' component on the Chassis Builder when swapping an assembly it did not swap all child components also in some cases.

## LifeCheck V5.2.5

August 1st 2018

LifeCheck v5.2.4 is a minor maintenance release to address any issues reported in v5.2.0 and add some new minor functionality.

### Summary

Type	Description
CHANGE	<b>Major re-structure and optimisation of the various 'Trees' within LifeCheck to improve performance and make more use of cached data. This should have a significant effect on all views within LifeCheck but especially the 'Chassis Builder' screen.</b>
ENH	Add a new flag in Global Settings of 'Disable Chassis Changes outside of Chassis Builder'. This setting is designed to be used when Chassis Templates are being used to prevent users from changing the build of a chassis from for example the 'Re-locate Components' or 'Chassis View' screens as this can lead to builds which do not conform to the template.  It is recommended that this setting is checked for all new users and all users who have created chassis templates.
ENH	Allow export from the list of additional components within Chassis Builder.
ENH	Allow 'Shared' locations to be selected from the 'Re-locate To' menu option.
BUG	5.2.4.5 Fix bug importing a chassis template where the component has existing check values.
BUG	5.2.4.5 Fix bug giving SQL error creating a new component instance in Parts View where a default location had been set for the department logged in
BUG	5.2.4.5 Fix bug in the database find function where the component found was in the holding area – the name of the location could not be determined as the cached location/department tables do not contain the holding area.
BUG	5.2.5 Fix bug in Assembly Builder / Chassis Builder which could result in orphaned components and display issues where selecting a component and swapping didn't work as expected
BUG	5.2.5 Fix bug in Chassis Builder where if you swap an 'Extra' component the list of extras was not updated meaning the extra component was listed incorrectly.
CHANGE	5.2.5 Change to the code which re-locates components to add extra checking to ensure that components are always re-located with any children avoiding orphaned components.
ENH	Performance improvements to the 'Record Session' function

### LifeCheck V5.2.3

June 20th 2018

LifeCheck v5.2.3 is a minor maintenance release to address any issues reported in v5.2.0 and add some new minor functionality.

#### Summary

Type	Description
<b>BUG</b>	Fix issue with 'Shared Locations' if selected for default location in Department Settings
<b>BUG</b>	Allow Shared Locations to be specified within a filter on the 'Show Life' screen
<b>BUG</b>	Correct problems with departments and locations being set with Administration settings and then that department or locations being deleted or renamed
<b>CHANGE</b>	Separate 'Shared' locations from other department specific locations in screen such as 'Re-locate' by adding a new 'Shared' department within which shared locations are listed.
<b>CHANGE</b>	Enhance the identification and selection of chassis and shared locations by prefixing their names with the primary container name ('Chassis', 'Engine', 'Pack' etc) or '[shared]' in the case of a component in a shared location. This makes identifying that a particular location is in fact a chassis or is shared much simpler.
<b>BUG</b>	Fix issue in session history where if components are no longer available, the component history could fail to be shown for the entire session

### LifeCheck V5.2.2

May 3rd 2018

LifeCheck v5.2.2 is a minor maintenance release to address any issues reported in v5.2.0 and add some new minor functionality.

#### Summary

Type	Description
<b>BUG</b>	Fix issue with 'Retire Chassis' which only retires the chassis for the logged in department – it now retires the chassis for all departments.
<b>BUG</b>	Fix issue with some parameters not being substituted in the 'Build Sheets' function.
<b>BUG</b>	Fix a number of issues relating to Calibrations
<b>BUG</b>	Name of template not saved when creating a new chassis template
<b>BUG</b>	Display issues when re-sizing component properties form
<b>BUG</b>	Lock/unlock code did not handle selecting multiple nodes in one operation
<b>BUG</b>	Correct an issue obtaining audit data where the default language of the database is not UK English
<b>ENH</b>	Allow only 'Missing Items' to be exported from the Chassis Builder control



## LifeCheck V5.2.1

March 15th 2018

LifeCheck v5.2.1 is a minor maintenance release to address any issues reported in v5.2.0 and add some new minor functionality.

### Summary

Type	Description
ENH	New 'Relocate To...' function available from the right-click options menu. This allows you to re-locate 1 or more assemblies/components to a new department/location using the menu option.
ENH	Add 'Time' filters to Show Life report

## LifeCheck V5.2.0

February 9th 2018

LifeCheck v5.2.0 is a major release which adds some significant new functionality. It is recommended that all users upgrade to v5.2.0 at their earliest convenience to ensure they are able to access these features.

### Summary

Type	Description
ENH	Chassis Templates :- Add a 'Find;' option to the Part Picker.
ENH	Chassis Builder :- Add options to change the status, reset a check and add a note to components as per the functionality on other component displays.
ENH	Assembly Builder :- Re-work to build the selected assembly rather than having to select a template assembly initially. Also use any chassis template as the template for the assembly with an option of using an existing assembly as currently.
ENH	Allow new calibrations to be defined from Part Properties. This has required a change to the way in which calibrations are held which will cause the database calibration tables to be rebuilt to hold calibration limits against parts rather than components.
ENH	Parts View / Chassis Builder – when displaying an assembly in the right hand pane of the Parts View / Chassis Builder we now display the part number and allow assemblies to be drilled down on to see sub-assemblies.
ENH	Allow parts and components to be 'owned' by a department and for this ownership to be colour coded in displays.
ENH	Remove defaults from Add Session to prevent accidentally adding sessions with wrong dates, circuit, session etc.
ENH	Inventory control – add a component status filter so that components can be excluded/included based on their status.
ENH	Session Changes Report – add driver names and current status of components swapped in/out of the build.
ENH	Add the ability for assemblies to be locked by a department. Locked assemblies cannot be modified in regards to their content, i.e. cannot add or remove items to or from the assembly but the components within the assembly can still be edited.
ENH	New 'read-Only' mode for departments. Departments flagged as read-only cannot make any changes within the LifeCheck database.
ENH	Allow 'Part Class' to be displayed in the left hand pane of the Parts view via the 'Show' menu
ENH	Allow the Date of a recorded session to be edited.
ENH	Allow an event name to be specified when adding sessions
ENH	Chassis Builder :- New 'Remove Component To' menu option on left hand pane to allow a component to be removed to a specified department/location.
ENH	Add the ability to track chassis distance via odometer readings and display these readings within chassis history.

## LifeCheck V5.1.9

November 8th 2017

LifeCheck v5.1.9 is a minor release to correct a few issues reported in the previous release

### Summary

Type	Description
ENH	When adding 'Chassis' to session comments including the details of the chassis as well as the name if they have been specified. This allows transient details such as revisions to be tracked in the chassis history.
ENH	Allow multiple drivers to be specified when recording a session to support driver changes in endurance racing without the need to have separate sessions.
ENH	Add drivers and times to the Chassis History screen
ENH	Add the ability to change times when editing session details

## LifeCheck V5.1.8

October 30th 2017

LifeCheck v5.1.8 is a minor release to correct a few issues reported in the previous release

### Summary

Type	Description
BUG	Prevent a component being selected in the 'Components in Stock' panel where the parent assembly has not already been selected.
ENH	Display 'Description' column when displaying a Part Class on both the parts View and Chassis Builder screens to allow the components to be more easily identified.
BUG	Prevent a Part which is a parent in a chassis template or has component instances which are parents from being converted from an assembly to a standard part.
CHANGE	Sort various items within settings such as drivers, circuits, sections etc
CHANGE	Data Setup – display horizontal scroll bars as necessary
BUG	Handle auto-logon where the department no longer exists or is invalid
CHANGE	Report failure to create backup files in a more friendly way.
CHANGE	Component Displays – when right-clicking on a non-selected row, LifeCheck will now de-select any rows already selected and select the row being clicked. This simplifies the process of using the context menu as it will always work on the node selected.
ENH	Add a new 'Last Used' attribute for a component. This value will be updated as a session is added for all components which are updated by the session. It can be selected as a displayable column using the Column Chooser.
BUG	Components within a part class are not displayed in Parts View / Swap Component if they are in a 'shared location' and the part class itself is selected.

## LifeCheck V5.1.6

October 10th 2017

LifeCheck v5.1.6 is a minor release to correct a few issues reported in the previous release

### Summary

Type	Description
BUG	Correct a bug which caused an exception to be reported when deleting a component if the database was initially created under v5.1.4 or newer.
BUG	Correct a bug which caused an exception when removing a node from a Chassis Template
ENH	Add a diagnostic function for Component Time run verification/correction

<b>BUG</b>	Fix display issue where 'Duration 2 Run' was showing 'Duration 1 Run' value
<b>ENH</b>	Allow session times to be displayed in the 'Session History' and for these times to be modifiable when editing the session.

## LifeCheck V5.1.5

October 4th 2017

LifeCheck v5.1.5 is a minor release to add new functionality into LifeCheck

### Summary

Type	Description
<b>ENH</b>	<p>Extension to the BoM import functionality. It is now possible to specify a 'BoM Level' field which is a numeric value to define the nesting level of parts. BoM Levels start at 1 and must be sequential, i.e. a level 2 component must be directly beneath a level 1 part.</p> <p>In addition a 'Quantity' field has been added. This allows the creation of multiple parts within a chassis template to be defined without the need for multiple rows. So if for example the template requires 8 bearing caps, these can be defined once with a quantity of 8.</p>
<b>ENH</b>	Support for comments against regular parts in Chassis Templates. In previous releases comments could be added within a Chassis Template only for parts defined as Part Classes. From this version a comment may also be added to a regular part so it is now possible to have for example 2 brake rotors and to add a comment to each stating which is the right hand and which the left hand.
<b>BUG</b>	Swap Component may not list components which are in the same part class as the component being swapped. In addition the Swap function was not filtering out the component being swapped out or components in the same location and the same parent component which it should have done.
<b>BUG</b>	If an attempt was made to create a new component instance of a part for which a previous check had its limit set to 0, LifeCheck would throw an exception and would not populate some fields correctly. In addition an exception would also be thrown when you tried to create the component. The fix now handles a zero limit for checks although a formal mechanism for removing redundant checks from a part has been implemented under Part Properties and should be used instead of setting the limit to 0 as this prevents the check from being displayed but leaves data for the check in the database.

## LifeCheck V5.1.4

September 15th 2017

LifeCheck v5.1.4 is a minor release to add new functionality into LifeCheck

### Summary

Type	Description
<b>ENH</b>	Major re-format of the Chassis Builder screen. The 'Additional Components' panel has now been removed and replaced by a 'Components in Stock' panel. This panel displays all instances of the part selected and allows for Select, Swap and Quick Swap functions to be performed directly from this list rather than from the right click context menu on the left pane. Additional Components are now accessed by a button click.
<b>BUG</b>	Correct a bug in 'Next Low/Out of Life' searching in the Chassis Builder which could cause the system to hang
<b>ENH</b>	Add support for database in the series.xml file
<b>ENH</b>	Add the ability to rename a chassis template
<b>ENH</b>	BoM import – after importing parts the code will interrogate parts imported and will convert any
<b>ENH</b>	BoM Import – add flag to prevent existing parts from being changed by a BoM import
<b>CHANGE</b>	Support for the Chassis Rebuild functionality has been dropped in this version. This will be re-

	introduced in a future release with additional functionality
<b>BUG</b>	Chassis Builder – Stock Components was displaying components from the holding area when a Part Class was selected
<b>ENH</b>	Initialise 'Time 1 Limit' and 'Time 2 Limit' for new components to that saved from the last instance of that component.

### LifeCheck V5.1.3

August 25th 2017

LifeCheck v5.1.3 is a minor release to add new functionality into LifeCheck

#### Summary

Type	Description
<b>ENH</b>	Support 2 distinct and individual 'time' limits within LifeCheck for components. These limits can be set separately and can have their 'Title' defined under Administration>Global Settings. The intention is to support lifing where 2 distinct times are recorded such as 'On' and 'Run' time.  Note that if the old 'Race' and 'Test' duration columns are displayed these will need to be re-selected using the column chooser as the new column names are not compatible with the old values.
<b>ENH</b>	Performance improvement to all screens due to a change in the way the column sets are created. Previously all possible display columns were included and then hidden if not required – now only those columns which are displayed are included to improve the time taken to 'build' the display.
<b>ENH</b>	Support for life codes which include '/', '\', or '_' characters. Previously if a life code was defined as '123\456' the next life code generated would have been '124\456' as the '\' was not included in the list of delimiters and hence the first portion of the string was incremented to give the next life code as '124\456'. The algorithm has been updated to allow for these delimiters and if found to increment the second numeric and not the first.
<b>ENH</b>	Add A Department Setting which allows the default location to be defined for components added from the 'Parts View' screen. Previously they could only be created in the base location for the department logged in but now this can be over-riden on a department by department basis.
<b>ENH</b>	Add more 'fuzzy' matching for technical drawings to ignore hyphen and underscores
<b>ENH</b>	Add support for 'Shared' locations. These appear as per department specific locations but are common across all departments
<b>ENH</b>	Display parent assembly in Component Propert

### LifeCheck V5.1.1

July 28th 2017

LifeCheck v5.1.1 is a minor release to add new functionality into LifeCheck

#### Summary

Type	Description
<b>ENH</b>	Update the 'Chassis Changes' report to include the status of components removed from the chassis and also give more details of the session and chassis being displayed. A new 'Report' function has been added to allow this information to be exported to an Excel spreadsheet.
<b>BUG</b>	Correct an upgrade issue from early versions of LifeCheck which could cause a crash as the product registration key was incorrectly read from settings which previously had been used for other purposes.
<b>ENH</b>	Add a filter to the 'Inventory' view to allow components already on the Chassis to be excluded from the inventory counts. This is of most use when you need to know just the spares situation rather than total inventory or where the chassis themselves are not owned and therefore components on the chassis are no longer in Inventory.

<b>ENH</b>	Inventory Control – save display layout between refreshes of this screen
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## LifeCheck V5.0.9

July 5th 2017

LifeCheck v5.0.9 is a minor release to add new functionality into LifeCheck

### Summary

Type	Description
<b>CHANGE</b>	Default Add/Remove session dialog to sessions in the last 12 months always
<b>ENH</b>	Upgrade Part/Component import to support csv files which were causing an exception with the old code which could not handle the quotes Excel adds around fields containing commas.
<b>BUG</b>	Address issues with the Race Server / Factory Server and Link / Detach functionality and allow the target database name and Azure mode to be specified in both instances. A syntax error could be reported in the previous release when trying to use the 'Race' mode functionality as the database name was not always being set correctly.

## LifeCheck V5.0.7

May 8<sup>th</sup> 2017

LifeCheck v5.0.7 is a minor release to add new functionality into LifeCheck

### Summary

Type	Description
<b>ENH</b>	Add 'COST' as a new field within the part/component import functionality to import the cost of the part/component being created
<b>ENH</b>	Allow life codes in the import to have a life code defined as 'XXX'. This will allocate a unique, temporary life code to the newly created component.
<b>BUG</b>	Fix bug where adding a new non-lifed component with a duplicate life code would cause an unhandled error to be displayed rather than as per lifed components where the actual error is reported tidily and the user is able to correct the problem
<b>CHANGE</b>	When converting a part from lifed to non-lifed or vice-versa, do not change the distance run values so that the operation can be reversed if necessary or in the case of making a part lifed, the current distance run will be carried forward
<b>ENH</b>	Change colour coding of 'time' values so that the 'to next values are the only ones colour coded
<b>BUG</b>	Fix issue with resetting of a timed service not actually resetting the time since last check value
<b>ENH</b>	Add ability to create a new instance of a component while in the 'Assembly Builder'

## LifeCheck V5.0.5

March 2017

LifeCheck v5.0.5 is a minor release to add new functionality into LifeCheck

### Summary

Type	Description
<b>ENH</b>	Store product registration details in the database rather than locally on each PC. This allows for the registration details to be entered once to register all installations.
<b>ENH</b>	Add the ability to define periodic checks as having a time limit rather than a mileage limit
<b>ENH</b>	Add handlers to identify cases where the database connection has not been specified correctly or is not available. Previously this would have resulted in a LifeCheck error, in v5.0.5 onwards the connection issue is reported and the user is able to enter new credentials and try to connect again.

<b>ENH</b>	Support multi-column sorting in all views by holding shift when clicking on column headers.
<b>ENH</b>	Add the ability to create a new instance of a component while in the 'Chassis Builder'

## LifeCheck V5.0.0

January 2017

LifeCheck v5.0.0 is a major release to add new functionality into LifeCheck

### Summary

Type	Description
<b>ENH</b>	Allow the name of the LifeCheck database name to be changed. This allows for the first time multiple databases to be maintained on the same SQL Server as previously the database name had to be LifeCheckV4.
<b>ENH</b>	Allow colour coding and strikethrough to be specified for Custom Component Status's
<b>ENH</b>	Update the 'Add Component' screen to be better organised and to decrease its overall size. This allows for smaller displays to be used while allowing this window to be viewed. In addition the display of 'checks' has been updated to allow for more checks to be added for each part while allowing them to be displayed in a more concise manner.
<b>ENH</b>	Add a function in the 'Select Component' form when building a chassis which allows a partial or full life code to be entered and the list of possible components scanned for the first match. This should help finding the specific component when a large number are displayed and matches the functionality in the 'Swap Component' form.
<b>ENH</b>	Add a 'Reset Filters' option on the Show Life reporting screen
<b>BUG</b>	Correct a bug in the 'Show Life' screen whereby a filter was always applied on 'Component Status' of 'Active' as there was no 'All' option. This has now been added and is the default.
<b>BUG</b>	Fix exception when using the 'Assembly Builder' where the template component is not on a chassis template