# LUSAS 18.0 Error Fix and Modification Release Notes

This document lists modifications, other than the New Features in 18.0, that have been made since LUSAS 17.0-5 and is correct as of 6th Jan 2021.

## Version 18.0-6 Built 4th Jan 2021

### LUSAS Modeller 18.0-6 (36428)

**Errors fixed**
The following critical, major or minor issues are fixed in V18.0-6.

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|---|
| Modeller 'unable to determine architecture' of results files created after 31/12/2020 (28288) |

### No changes to Solver (6772)

## Version 18.0-5 Built 23rd October 2019

### LUSAS Modeller 18.0-5 (32436)

**Errors fixed**
The following critical, major or minor issues are fixed in V18.0-5.

| |
|---|
| Crash on opening contour dialog, after changing seed colours (26405) |
| Prestress tendon incorrectly defined - loading is outside search area (26382) |
| Slice resultants - unreasonably large values (26379) |
| Target stress does not tabulate if assigned to line start / end (26359) |
| When different load case is set active the slice print local forces do not get updated (26327) |
| Slice for volume- gvies zero with print local forces (26316) |
| Sweep surface to voulme by rotation using combined line option (26304) |
| Error In Meshing Reference Line (26295) |
| A model containing load curves, created in v17, might cause v18 Modeller to crash (26292) |
| Unable to view unaveraged user defined results that refer to principal stress (26289) |
| Epw for Grillage models using Depth not Width (26260) |
| BD21/01 Annex D - number of lanes loaded at 7.0m width (26259) |
| Cannot plot Contours/Values for beam stresses from nested combinations (26258) |
| RC section face changes when defining reinforcement (26228) |
| Cannot set SCPTOL variable referenced by slideline 'no contact' warning message (26187) |
| Incorrect vehicle position from VLO when a local coordinate set with an origin other than the global origin is active (26173) |
| Envelope summary window - right magnitude, incorrect loadcase number when Diagram is displayed for both min and max results. (26097) |
| Modeller crashes when PRW is used to extract enveloped Fx forces (25950) |
| Steel frame designer EN - error: Unrecognised variable: 'scripted.member.isCantilever' (25254) |

A number of fixes for cosmetic issues, documentation issues, installation issues, and development requests are also provided in V18.0-5.  Users with a reference number provided by LUSAS Customer Support may identify these from the following list:

26311, 22487, 26372, 26389, 26378, 26373, 26334, 26294, 26280, 26256, 26072, 25785

## LUSAS Solver 18.0-5 (6772)

### Errors fixed
The following critical, major or minor issues are fixed in V18.0-5.

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|---|
| Defining matrix properties (stiffness/mass/damping) for joint elements causes an error if the solution of equations is non-symmetric. (26300) |
| Solver not completing and no error given in slideline analysis (26143) |

## Version 18.0-4 Built 12th August 2019

## LUSAS Modeller 18.0-4 (31774)

### Errors fixed
The following critical, major or minor issues are fixed in V18.0-4.

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|---|
| Discrete patch load direction radio buttons do not create the correct load. For example patch X creates a surface normal load (26277) |
| Option to disable undo and increase the number of saved back up models (18197) |

## No changes to Solver (6741)

## Version 18.0-3 Built 10th July 2019

## LUSAS Modeller 18.0-3 (31774)

### Errors fixed
The following critical, major or minor issues are fixed in V18.0-3.

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|---|
| Loading incorrectly reported by Print Results Wizard when a transformation is in use (26147) |
| 2D Axisymmetric Fourier Elements - face load Pz is applicable, but the dialog does not offer it (26118) |
| Graph through 2d picking up elements outside the selected object set under certain circumstances (26110) |
| An error occurred in LUSAS Module Design Report. Error cleanDialog: Could not load file or assembly 'PresentationFramework' (25878) |

| Memory issues during calculation of time-dependent prestress losses (25798) |
|---|

A number of fixes for cosmetic issues, documentation issues, installation issues, and development requests are also provided in V18.0-3. Users with a reference number provided by LUSAS Customer Support may identify these from the following list:

26244, 26150

## LUSAS Solver 18.0-3 (6741)

**Errors fixed**
The following critical, major or minor issues are fixed in V18.0-3.

| Loading incorrectly reported by Print Results Wizard when a transformation is in use (26147) |
|---|
| Creep strains for CEB-FIP and EC2 are not computed correctly (26859) |

## Version 18.0-2 Built 3rd June 2019

## LUSAS Modeller 18.0-2 (31413)

**Errors fixed**
The following critical, major or minor issues are fixed in V18.0-2.

| Materials Library - AASHTO 2nd and 3rd-7th Concrete - Properties when using 'Advanced define' should include adjustment for density (26057) |
|---|
| Materials Library - AASHTO 8th Concrete - Modulus of Elasticity when using 'Advanced define' should include adjustment for density (26054) |
| Attempt to view results from combinations and envelopes from grillage model results in error messages (26039) |
| Cannot move geometric attributes from one analysis to another (26037) |
| Out of memory when generating datafile with many loadcases and loading attributes (26026) |
| Memory issues when calculating prestress losses (25955) |
| Slice > Print local forces gives incorrect result for some basic combinations (25954) |
| 3D volume slice contours averaging fails due to an averaging option to do with surfaces (25945) |
| Fatal database error when using a Principal Stress as a primary component (25938) |
| Assign to range of loadcases errors when used with constraint equations (25910) |
| Not possible to modify system parameter NXCONS through Model Properties dialog (25907) |
| Cannot assign a tendon to a shell or a volume in v18.0-0 (OK in prior versions) (25899) |
| Error should occur on tabulation if model has no units set and 'gravity' is assigned (25874) |
| Graph through 2D using annotation line - unexpected distances reported when projection option 'Vertically' is selected (25808) |
| Concrete density in Material library (IRC:112-2011) referred to superseded IRC:6-2000 (25803) |
| Undo on Create PRW, when PRW window is still open, causes Modeller to close due to 'Unexpected Error' (25776) |

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| Wood Armer results not available for a combination where Geometric assignments are made to an analysis other than the base analysis (25775) |
| Inspection location for beams shows only one value, when multiple unaveraged results should be shown (25746) |
| Incorrect tabulation when local distributed loading (or discrete loading) is assigned within loadcurve (25745) |
| Tendon Properties dialog labels should more correctly be 'Installation losses' and 'Post-installation losses' (25711) |
| Problems meshing for specific sizes of quadratic order shell elements (25705) |
| 'An error occurred' when 'time dependent-losses' are switched off while using AASHTO prestress option 'losses are based on time inputs and calculated stresses' (25696) |
| 'Unexpected end' message encountered when solving Analysis with Prestress Loss calculations if using the Analysis Treeview context menu (25672) |
| Modeller closed unexpectedly when calculating prestress losses in tendons with elastic shortening in one specific model (25652) |
| Creating Multiple Surfaces option does not create all possible surfaces in certain circumstances (25650) |
| Tendon mapping errors in shell model if a surface is detected as warped (25623) |
| Search Area topology invalid for specific mesh arrangement, causing VLO to fail (25583) |
| In scripting, PRW .showResults() not using the nextGridWindowID (24581) |
| Yield flags incorrectly inherited from when using 'start with deformed mesh' from prior analysis (24126) |
| Yield flag in Values layer not working for modified Mohr Coulomb material (24109) |
| Plastic strain contour not available using the modified Mohr-Coulomb material (24107) |

A number of fixes for cosmetic issues, documentation issues, installation issues, and development requests are also provided in V18.0-2. Users with a reference number provided by LUSAS Customer Support may identify these from the following list:

26004, 25952, 25944, 25939, 25911, 25889, 25753, 25752, 25751, 25739, 25730, 25707, 25695, 25687, 25671, 25619, 25543, 25462, 25399, 25096, 24385, 24102, 22328, 21301

## LUSAS Solver 18.0-2 (6695)

### Errors fixed
The following critical, major or minor issues are fixed in V18.0-2.

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| Time dependent E, fc and ft values are not displayed correctly when model 109 is combined with a codified creep and shrinkage model. (25868) |
| Convergence problems in nonlinear analysis with joint matrix material (25834) |
| Cross section beam analysis fails to run unless OPTION 403 is set (25602) |
| Mass matrix for point mass element PM3 and surface mass element TM3 is computed incorrectly if a non-symmetric solution is requested (25315) |

**Version 18.0-0 Built 6<sup>th</sup> March 2019**

## LUSAS Modeller 18.0-0 (30573)

### Errors fixed

The following critical, major or minor issues are fixed in V18.0-0.

| |
|---|
| Graph through 2D Resultant Effects not working on part model (26262) |
| Modeller may crashes upon renumbering loadcases Ids (25554) |
| Non unity load factor causes target stress load to be ignored or analysis to fail (25548) |
| Presence of a non-structural mass on a node prevents a temperature load being applied (25506) |
| LPI command setHistoryDump() uses the wrong results file ID (25495) |
| Yield flags not displayed with the Modified Mohr Coulomb model (25473) |
| Nonlinear cable tuning targets tab offers empty list of results entities when a results file is open and the first loadcase has more than one increment (25459) |
| No error generated when load attributes are assigned via a range that includes a nonlinear cable tuning loadcase (25458) |
| Problems importing a particular .bdf file (Nastran Bulk Data file) (25436) |
| Problems meshing cylindrical surfaces with combined lines (25393) |
| Print Results Wizard reports dominant loadcase ID incorrectly with using enveloping with beam/shell slice results (25374) |
| Results transformations incorrectly applied in IMD (Response Spectra) loadcase (25347) |
| Initial imperfection not tabulated when model is only partly visible (25342) |
| 'Select elements' does not work when 'Joints' and 'End releases' are switched off in the Mesh layer properties dialog (25318) |
| Print Results Wizard  - no results diplayed for forces in Inspection Locations (25317) |
| After merging in a model that contains graphs, it is not possible to save the merged file (25260) |
| 'Invalid option entered' error message when trying to plot beam/shell slice resultants of a factored combination of two envelopes (25250) |
| Loading chapter of a Report needlessly includes details of all load attributes when only a selection of loadcases are being reported upon (25243) |
| Traffic load optimisation 'Adjust base length at cusps' option in BD21/01 leads to unexpected results (25192) |
| Supports being assigned to active loadcase, instead of specified analysis, when using Bridge licence (25180) |
| Print Results Wizard closes without warning when results other than eigenvalues are requested for more than one loadcase in a model which contains more than one eigenvalue analysis (25174) |
| Incorrect answers are obtained from prestress if 'losses based on time inputs and calculated stresses' and 'approximate losses requiring input of estimated stresses' are both used in the same model (25151) |
| Problems using Time Management module in a staged construction analysis which also includes nonlinear cable tuning loadcases (25146) |
| Create loadcase from Combination creates loadcases for 'all' even if some combinations are deselected (25116) |
| Cannot tabulate a loadcase containing both local distributed line load and 'distributed to perimeter' area loads (25081) |

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| Unexpected 'Overflow' error when double-clicking to access load factor for 'gravity' loading. (24975) |
| No error generated when a nonlinear control is added to an analysis where 'Choose loadcases to solve' has previously been used to 'skip' loadcases (24962) |
| Prestress eccentricity incorrectly reported for shell elements in the Report Writer (24949) |
| Can't create a basic combination using loadcases from a results file which has been manually loaded (24921) |
| Graph through 2D - Deflection cannot be displayed unless other quantity is plotted first (24914) |
| CL loads with variation function limits not tabulated accurately (24906) |
| Traffic Load Optimisation for BD86 and BD37 for decks with 4 lanes or more very slow (24862) |
| Eigenvalue controls should be valid for any loadcase which is preceded by loadcases which have nonlinear controls, even if lift-off supports are present (24779) |
| Combination method is reset to 'Factored' after closing and reopening the model (24722) |
| At the end of a VLO run, a significant amount of time (sometimes 3 times longer than the actual run itself) is spent evaluating the magnitude of the discrete loading (24681) |
| Multiple discrete load assignments with different factors reported incorrectly (24675) |
| Calculation of derived components for smart combination with primary component 'all' dependent upon visible model (24672) |
| Wood-Armer - Thick Shell results not accessible through the Diagrams - Graph locations option (24621) |
| Graph through 2D utilises selected lines but the related Graph wizard ignores selected points, leading to unexpected behaviour. (24606) |
| Chinese tendon load attribute dialog textbox can disappear due to attempts to re-size (24595) |
| Section through 3D results not available for basic combination (24586) |
| Specifying a very narrow manual contour range when there is a large range of actual values can give misleading contours (24560) |
| Wood-Armer influences not available for optimisation in VLO (24413) |
| Section property calculator gives errors when using comma decimal marker (24398) |
| Prestress losses gives error and will not calculate when tendon loading is applied to curved surfaces mesh with shell elements (24387) |
| Variations which are used within attributes should be included by the Report Writer (24373) |
| Some facilities (e.g. 'loadcases to solve') not functioning correctly when loadcase names are identical apart from blank, hyphen or underscore characters (24351) |
| Beam/shell slice orientation cannot be rotated (24172) |
| Unable to import an IFC4 file that is entirely composed of surfaces (24106) |
| Thermal link geometric properties dialog thickness cell and Help button not functioning correctly (24104) |
| User defined results can't cannot operate on results from different shell layers in the same expression (24101) |
| Analyses with Slideline change may fail unless non-symmetric solver is manually switched on (24034) |
| Standard section library beams have zero plastic torsional constant (24019) |
| Deformation exaggeration feedback in drawing layers Treeview doesn't precisely match window summary annotation (24012) |
| Print results wizard summary shows 'max' and 'min' values, even when 'extreme' results were asked for (23979) |

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| Deleting volumes containing combined lines can lead Modeller to close without warning (23925) |
| Moving volumes containing combined lines can lead to 'failed to correctly process change of position edit for point <n>' error (23924) |
| Temperature dependent properties added to nonlinear material produces an error message (23908) |
| Only the first deactivation in a staged analysis is tabulated if the same feature is deactivated more than once without being activated in-between (23906) |
| Envelopes can show wrong dominant loadcase number in certain instances when averaged values are in use (23884) |
| Print Results Wizard default option reported nodes multiple times if the node belongs to multiple features (23273) |
| Pedestrian moving load script from LUSAS website does not run when Tabbed Document layout is in use (22929) |
| CWMax for Concrete are not visible for plane stress elements when elements with materials other than Concrete are also visible (22843) |
| Buckling mode and mass participations and mode shape is in the wrong direction because of very small Iyz in library section (21405) |
| Trilinear Earth Pressure joint material - Definition of empirical constants A, B used in calculation of kh - clarification of units (20375) |
| Modeller cannot tabulate datafile in a large multiple analysis model due to memory issue (19794) |
| Running the Print Results Wizard for Force/Moment results for Thick 3D Beams on a combination that contains an IMD loadcase other than as the first of the loadcases produces database errors in LDCMBL (18985) |
| Yield flags disappear when magnitude of stress decreases in subsequent loading increment (16775) |
| Beam/shell slicing facility should error when slice passes through composite shells (8958) |

A large number of fixes for cosmetic issues, documentation issues, installation issues, and development requests are also provided in V18.0-0.  Users with a reference number provided by LUSAS Customer Support may identify these from the following list:


26261, 26215, 25567, 25504, 25477, 25469, 25448, 25444, 25440, 25423, 25372, 25343, 25306, 25270, 25268, 25266, 25231, 25215, 25212, 25197, 25191, 25133, 25098, 25089, 25040, 25036, 25011, 25008, 24987, 24969, 24968, 24953, 24950, 24907, 24865, 24864, 24839, 24814, 24813, 24807, 24784, 24770, 24768, 24762, 24744, 24743, 24739, 24737, 24733, 24729, 24718, 24663, 24656, 24640, 24629, 24611, 24609, 24603, 24600, 24583, 24580, 24563, 24562, 24558, 24541, 24526, 24520, 24510, 24507, 24498, 24474, 24470, 24465, 24463, 24461, 24447, 24435, 24434, 24430, 24428, 24419, 24416, 24415, 24403, 24401, 24365, 24361, 24355, 24335, 24330, 24328, 24304, 24296, 24287, 24285, 24243, 24236, 24203, 24199, 24194, 24179, 24178, 24171, 24168, 24165, 24143, 24111, 24083, 24018, 23988, 23952, 23926, 23910, 23870, 23847, 23816, 23792, 23754, 23737, 23720, 23676, 23663, 23659, 23647, 23564, 23537, 23515, 23505, 23457, 23417, 23398, 23397, 23395, 23259, 23171, 23135, 23129, 23112, 23110, 23108, 23096, 23076, 22987, 22972, 22954, 22881, 22823, 22814, 22699, 22672, 22597, 22182, 21304, 21049, 20784, 20484, 20376, 19976, 19835, 19523, 19497, 19414, 19388, 19377, 19269, 19178, 18693, 17820, 17525, 16466, 16464, 16346, 16238, 16111, 15549, 15312, 15207, 14983, 14965, 14845, 14282, 14013, 11595, 10242, 9918, 8680, 7282, 6921, 5844, 2899, 599


**LUSAS Solver 18.0-0 (6601)**

**Errors fixed**

The following critical, major or minor issues are fixed in V18.0-0.

| |
|---|
| Warning message should be issued for negative hardening gradient in plastic material models (24693) |
| Initial stresses erroneously applied twice for Modified Mohr-Coulomb materials (24110) |
| Eigenvalue Buckling Analysis fails for BMI elements under certain conditions when using solvers other than Fast Block Lanczos (21838) |