

MecaStack Revision History

<u>Version</u>	<u>Date</u>	<u>Revision Description</u>
5.3.5.0	9/11/2017	Correct problem with Shape fac for L&P's being zero.
5.3.5.1	9/14/2017	Fix single gusset graphic error for chair, add error checking for load combo form launch.
5.3.5.2	9/15/2017	Corrections to Guy wire analysis
5.3.5.3	9/20/2017	Correct shape factor override on piping, wrong units for qz metric (A05), Support duplicate TOC, Matl metric temp
5.3.5.4	9/26/2017	Corrected the refractory weight determination
5.3.5.5	9/26/2017	Adjustments to Weight, and fix title on NBCC 10 for seismic
5.3.5.6	9/28/2017	Fix bugs in lifting analysis, import of ASCE 7-10 corrected, other minor bug fixes.
5.3.5.7	10/3/2017	Euro fatigue values not being retained, and other minor bugs.
5.3.5.8	10/4/2017	Correct manual override of shape factor
5.3.5.9	10/5/2017	Add Calt calculate for Euro Wind to address special requirement in NA for British
5.3.6.0	10/10/2017	Corrections to external loads applied to model, fix struc flange graphic and dim's.
5.3.6.1	10/11/2017	Correct sign for vertical load, and custom load combo screen was crashing
5.3.6.2	10/11/2017	Resolve some sign problems with primary loads, retained strake info after strakes turn off.
5.3.6.3	10/14/2017	Fix worst case summary, lift lwr radial offset allowed to be 0, add manual seismic, add ver to IBC 2012
5.3.6.4	10/16/2017	UBC 97 couldn't change source/dist, minor corrections to CICIND.
5.3.6.5	10/17/2017	Corrections to units and various items in CICIND wind/vortex, Indian vortex bug, Guy Wire Hardware.
5.3.6.6	10/17/2017	Fix graphics issues with baseplate
5.3.6.7	10/18/2017	Baseplate skirt corrosion note, fix some baseplate graphics issues, add vertical accel to response spectrum
5.3.6.8	10/19/2017	STS Table 4.4.7-1 use uncorroded thk, remove double consideration of skirt CA, fix DM rad for BaseDist>0
5.3.6.9	10/29/2017	Fix asymmetrical Deadmen not sticking, and dm radius wrong in report.
5.3.7.0	11/21/2017	Fixed some bugs with guyed analysis, add live/oper factors for resp seismic consideration, misc other bugs
5.3.7.1	11/29/2017	Correct some sign problems on support reactions for a guyed flare
5.3.7.2	11/30/2017	More work on the sign problems with support reactions on guyed flare
5.3.7.3	12/4/2017	Fix sign problem on self supported stack dead load, fix CICIND 2010 full formation producing loads with no vortex reqd
5.3.7.4	12/5/2017	Fix Baseplate OD for ID entry, fix axial stress being negative due to negative vertical load, fix refractory weight calc
5.3.7.5	12/10/2017	Correct double guy lug ring sec modulus and shear stress
5.3.7.6	12/11/2017	Oval vibration analysis wasn't printing for STS code. Some minor fixes on graphics.
5.3.7.7	12/12/2017	Revise the convention of Ext Load Vertical, negative is down and positive is up.
5.3.7.8	12/13/2017	Correct resp spectrum seismic mass, Ls for circumferential stiffeners and LF's for custom STS Vortex
5.3.7.9	12/15/2017	Manual shape factor data wasn't being retained.
5.3.8.0	1/1/2018	Add gen attach weight to Dead Weight, differentiate dead vs live platform weight, add correlation iter limit for Euro
5.3.8.1	1/2/2018	Adjust AISC Allowables to be higher when ASD = False
5.3.8.2	1/4/2018	Insulation on piping had a bug, and guy wire deadmen weren't printing right for sets 2+.
5.3.8.3	1/8/2018	Fix pdf save, flip ASCE 7 seismic ver to be negative, other minor bugs.
5.3.8.4	1/9/2018	Chg'd num of cycles to long variable and fixed load combo's for CICIND

5.3.8.5	1/10/2018	Correct load combinations, add xml files for standard flanges.
5.3.8.6	1/11/2018	Allow for custom S entry on several vortex code menus (STS, CICIND and Indian)
5.3.8.7	1/18/2018	Correction to Euro code Vortex, crashing
5.3.8.8	1/25/2018	Correction to platform wind area, fix problem with lifting impact load
5.3.8.9	1/29/2018	Bug fixes, no tip data causing program to crash, Euro seismic wiping out Guy Th data
5.3.9.0	1/30/2018	Corrections to vortex when NBCC selected, extraction bugs fixed, other minor issues
5.3.9.1	1/31/2018	Correct bug with guy hardware, gen attach conc wt wrong units
5.3.9.2	2/1/2018	Guy Lug Wt, Find Fail Fixed, Exit saving fixed, other minor bugs
5.3.9.3	2/5/2018	Weight error with use of strakes
5.3.9.4	2/6/2018	Avg 1/3 mass for Aero Damping showed wrong value for metric, vortex for STS was only considering riser mass
5.3.9.5	2/13/2018	Work on speed and memory usage, fix guy wire info not printing, auto size turnbuckle sometimes broke, graphics bugs
5.3.9.6	2/14/2018	Found additional issue with defl joint coords for non-linear analysis, struc flange had +/- ver load reversed.
5.3.9.7	2/20/2018	Fix bugs with guyed stacks and metric units.
5.3.9.8	2/27/2018	Fix ability to enter custom strouhal number for STS, and fix other bugs.
5.3.9.9	3/1/2018	Fix bug with strake entry.
5.4.0.0	3/6/2018	Fix BC to allow pinned base for guyed stack and show guy wire form in demo mode, check for cone at top.
5.4.0.1	3/7/2018	Add Euro EQ custom option, fix Euro Wind not considering proper elevation when Base_Dist > 0
5.4.0.2	3/10/2018	Fix DM formatting issue for metric, UBC-97 seismic always using Soil A, Shackle Column width, Flare Tip Metric Units
5.4.0.3	3/13/2018	Indian defl Load Combo to use Wind Static, IsLined wasn't working always, Seismic wasn't considering LiveLoad fac
5.4.0.4	3/16/2018	Correct properties for S275 and S355, add Load/Save option for design codes, fix seismic mass, update help file
5.4.0.5	3/21/2018	Fix TLD weight error for metric, and Euro Group option for vortex
5.4.0.6	3/25/2018	Fix ovaling vibration bug with API560, updated Help, change Euro Vortex layout for inputs
5.4.0.7	3/29/2018	Clean up lift extraction items, minor corrections to NBCC 2010
5.4.0.8	4/1/2018	Corrections to ISO 13705, conversion problems with Vc and Allowable stress Elevations for base elev
5.4.0.9	4/3/2018	Corrections to ISO 13705, Stiffening ring Hs, Hs/D and Actual stress load num
5.4.1.0	4/11/2018	Correct insert bug on StrucFlange form, and minor corrections to stack geometry form formatting
5.4.1.1	4/25/2018	Correct external load for Oper and Live, fix auto generate platforms, make changes to security.
5.4.1.2	5/1/2018	Correct AISC fatigue category bug and correct Chinese angle shape database.
5.4.1.3	5/3/2018	Correct guy wire length (Too long), Baseplate sign convention, Double guylug Crotch clearance, Tilt on Round Nozzles
5.4.1.4	5/4/2018	Fix problem with Vertical Stiffeners giving strange results, and AISC fatigue categories
5.4.1.5	5/9/2018	Fix Guy length on Guy Hardware sheet, External Vertical Load Sign issues for Weight and Oper case
5.4.1.6	5/11/2018	ASCE 7-10 wind with Cat I had infinite loop, improve single guy lug check, fix bug in sect prop calculator
5.4.1.7	5/12/2018	Guy hardware crashing when regional settings use comma for decimal, extra length not added to guy length consistent
5.4.1.8	5/15/2018	Some more corrections to handle regional settings using comma instead of decimal (guy wire related)
5.4.1.9	5/17/2018	Added Euro lifting stress check, corrected Euro to be Limit States designation, fixed discrepancy in Lift reactions
5.4.2.0	5/24/2018	Fixed bug with round nozzle repad properties, Euro Fatigue Life bug, Deadmen naming convention
5.4.2.1	6/5/2018	Guy length wasn't taking lug offset into consideration, fix u-clip and thimble model #

5.4.2.2	6/15/2018	Fix help fro AISC 36010 Fatigue, Save Load Combos, Filter only Ext Loads for type Dead in lifting analysis, Add material input for Guy Lugs, allow entry of JE = 1 for pressure, fix Ext Loads API lookup with metric units.
5.4.2.3	6/17/2018	Fix Euro code when strakes used (Fatigue check trying to perform) and Euro summary was grabbing last case, not worst
5.4.2.4	6/21/2018	Added check for updates option, fix jacket units inconsistencies, Jacket weight issues
5.4.2.5	6/22/2018	Fix avg diameter calc for mode 2+ in CICIND
5.4.2.6	6/25/2018	Fix External loads which were being doubled in the dead load case.
5.4.2.7	6/27/2018	Fix glitch with Self Network License, fix Euro Fatigue which wasn't calculating.
5.4.2.8	6/29/2018	Dead load shear and moment wasn't being added (Only started in v5426), thermal expansion was considering entire stack to point of interest being at the specified temperature so inaccurate when varying temps entered.
5.4.2.9	7/9/2018	Change Cone so it doesn't check hoop, since it's already checked at small and large end. Add new unity check for Euro Code, Add a check to filter out NaN for modes, corrections to composite section properties checks, and other minor bug fixes.
5.4.3.0	7/16/2018	Correct bug where Load Combo's wouldn't open with some Eurocodes.
5.4.3.1	7/18/2018	Jacket graphics issue, double guy lug without rings, single user activation leads to demo screen.
5.4.3.2	7/23/2018	Upgrade security to be compatible with TLS 1.2, Fix import error for old version of MS, Fix metric units for Multi-Tip
5.4.3.3	7/28/2018	Add NBCC 2015 to the software. The seismic changed quite a bit from 2010, the wind no longer has shape factor info and so we had to use 2010, and the dynamic criteria changed a little.
5.4.3.4	8/7/2018	Correct search for help file, update Material database to include bolts and use that database in bolt lookup for strucflg and baseplate, modifications to trial form to require phone #, minor bug fixes with graphics and other issues.
5.4.3.5	8/10/2018	Bolt material database was not correct, and bolt lookups needed fixed (Pulled yield instead of ultimate)
5.4.3.6	8/14/2018	Remove Vortex load case from ISO13705, fix ma for top 1/3 of stack for ASCE 7 wind
5.4.3.7	8/17/2018	Make lifting ASD and fix customized codes ASCE 7-10 not working for load combinations.
5.4.3.8	8/20/2018	Fix wind loads applied not matching reactions, off by bottom member loading. Fix custom stiffening ring input. Fix Ls used for rings.
5.4.3.9	8/21/2018	Adjustments to stiffening ring eff length 'Ls', fix take-up half-length not showing up in guy length calc
5.4.4.0	8/22/2018	Fix problem with lifting reactions, fix custom load combo for custom codes, fix ASCE 7-10 references
5.4.4.1	8/23/2018	Fix issues with selecting ASCE 7-10 wind (Not ASCE 7-10 option within STS)
5.4.4.2	8/28/2018	Fix custom stiffeners for rings, and fix headers incorrectly indicated "Hot" even on cold cases
5.4.4.3	9/3/2018	Fix problems with guywire loads and reactions not being consistent, standard stiffening ring object reference error
5.4.4.4	9/6/2018	Max reactions filtered to only include load combos, fix bug with Euro fatigue
5.4.4.5	9/12/2018	Allow cone to be entered at top of stack, revised trial to new webform
5.4.4.6	9/23/2018	Fix crash due to lifting with tailing at centerline
5.4.4.7	9/25/2018	Change default sign on seismic loads to + so that it combines properly with external loads, added shear and moment on external loads for Live internally, fix cone, baseplate and strucflange to not consider loads with unchecked "stress" column.
5.4.4.8	9/27/2018	Fix an error in NBCC 2015, Vref was incorrect because q should have been multiplied by 1000
5.4.4.9	10/3/2018	Fix problems with dead load and external loads, fix load combo table in output, Euro wind parameters not printing
5.4.5.0	10/5/2018	Fix Struc Flange description of Ft to be Ultimate, fix problem with Files.ini empty, Memory leak on LoadCombo

5.4.5.1	10/12/2018	Fix "consider cones as stiffener" so value is retained, fix extract for pressure, IBC Seismic Vertical Load wasn't included
5.4.5.2	10/23/2018	There was a problem with the summation of forces and reactions that was created as a results of v5437, that was most noticeable on a guyed stack. This release reverted back to the reaction logic used in v5436.
5.4.5.3	10/24/2018	v5452 didn't resolve all of the reaction discrepancies, and so we went through the entire support reaction calculation procedure to try to resolve the issues.
5.4.5.4	10/27/2018	Add IBC 2015 and add AISC 360-16 stress to the customized stress options.
5.4.5.5	10/30/2018	Fix problem with pressure entry error, CICIND Loadcase for D+V doubled dead load, Enter orientation for vertical stiffener, toggle units made more clear on Stack Diameter input.
5.4.5.6	11/1/2018	Fix problem with ASCE 7-10 wind (not STS option)
5.4.5.7	11/8/2018	Fix AISCE 360 Fatigue option when customized codes used, Fix output issues when Asymmetrical guys used, fix consolidation of ladders in output to just include all ladders, EIAdj not being applied in deadman elevation entry.
5.4.5.8	11/26/2018	Correct STS stiffening ring check to use the FS based upon ASD or LRFD selected, fix Operating load which was being doubled if manual load combo's being utilized, for STS stiffening rings use largest OD and smallest Fy/E for checks.
5.4.5.9	12/2/2018	Fix some issues with guy wires.
5.4.6.0	12/4/2018	Fix effective length issue with cones, fix stiffening ring Fy when baseplate ring at bottom, fix Seismic ver to be negative and make baseplate 'Fc' description consistent.
5.4.6.1	12/13/2018	Fix Euro Custom terrain entry and correct metric Stack spacing value (was displayed in feet)
5.4.6.2	12/20/2018	Fix live load reverting to 100 psf, metric units sometimes break up cone different, correct API-5L-B properties, fix custom pipe weight.
5.4.6.3	1/10/2019	Fixed mis-placed paranthesis in Xx calcaultion in Euro code
5.4.6.4	1/16/2019	Make Guy wire Unity check only for load combos, fix error with Vo printed for ASME STS-1 Metric units, Dir Increment wasn't being displayed, added A-105 to material database.
5.4.6.5	1/18/2019	Fix bug that caused moments to be too high at top of stack, for tall stacks the impact was minimized toward the bottom. Fix Elevation reference on Single Guy Lug for metric units. Corrected xml file in package for A-105.
5.4.6.6	1/23/2019	Fix issue where Material Tensile stress was either zero, or converted to metric incorrectly.
5.4.6.7	1/31/2019	Fix problem with Guylug info being cleared, and url on project info header
5.4.6.8	2/5/2019	Fix problems with Double Guy Lug, and Struc Flange showing pass in TOC when it was failing
5.4.6.9	2/11/2019	Add ASCE 7-16 option to Customized, Fix Ver Stiff Shape Factor to match help manual, Fix CICIND10 ability to select reduced method with Group/Custom, add STS flange check for Max bolt spacing <= 6 in
5.4.7.0	2/19/2019	Fix errors in Double Guy Lug, Struc Flange not working for lifting, Euro Vortex not printing Nodes/Antinodes
5.4.7.1	3/5/2019	Fix CICIND avg upper diameter, shape factors for flare tip, EQ IBC 2015 add clause 15.4.2 for T < 0.06 Sec
5.4.7.2	3/19/2019	Fix problem with P-Delta calc, Fix refractory extraction, correct STS wind conversion to read ASCE 7-10.
5.4.7.3	4/3/2019	Fix problem with Struc Flg elevation when base elevation > 0, and fix problem with guy lug entry error
5.4.7.4	4/25/2009	Adjust the way Euro code handles Fatigue when N>1E8, Fix Metric handling of Material Properties Database for Curve A, B, etc..., improvements to login screens and check for updates, make Graphics controls collapsable.
5.4.7.5	4/26/2019	Added element size entry to lifting analysis, and when stack is vertical during lift (90 Deg) make boundary conditions such that lateral displacements are zero.

5.4.7.6	5/9/2019	Fix problem with v5475 that ran staadpro everytime, fix regional setting problem for guy wires with countries using commas instead of decimals, change guy wire details to display forces and not unity checks for primary cases, fix some red/green inconsistencies in TOC tree, Added a perform analysis button to the bottom right, fix units not changing values on Stack Dimensions form.
5.4.7.7	5/15/2019	Added ability to enter fatigue categories for portions of stack for Euro and CICIND. Fixed Vzmean calculation for NBCC 2010 and NBCC 2015. Fixed Fult for Anchor bolts defaulting to 15000 psi instead of 58000. Added fatigue specs to output for Euro and CICIND, and added Anchor bolt material spec to output.
5.4.7.8	5/18/2019	Fix elevation output in response spectrum for Euro, it was adding Base Elevation twice in displayed values
5.4.7.9	5/28/2019	Fix problem with NBCC wind not initializing object, and add wt provisions when Platform at very top of stack
5.4.8.0	6/11/2019	Add ability to use stiffening rings inside of stack, fix Base Elevation not being used in ASCE 7 wind design.
5.4.8.1	6/12/2019	Fixed a bug found with internal stiffening rings
5.4.8.2	6/20/2019	Fix issue with IS 6533 and Ref Elev non-zero, fix struc flg nomenclature for Tloc using P instead of Fb
5.4.8.3	6/27/2019	Fix bug with category used Euro Fatigue, and also a bug selecting API-560 code
5.4.8.4	7/11/2019	Apply uniform loads as joint loads only and remove end moments since it seemed to make intermediate moments off, validated against StaadPro and hand calculations. Add to StaadPro generator to include a separate file which includes all loads and combinations. Added check to make sure elevations entered in descending order on Geometry and Fatigue (AISC) screens. Added ability to select printer in Baseplate graphics printout.
5.4.8.5	7/24/2019	Upgrade to v12 of Graphics library, Fix base elevation for Stack Tensile Stress report, fix units issues with BS 6399
5.4.8.6	7/31/2019	Bug Fixes
5.4.8.7	8/5/2019	Bug fixes in software.
5.4.8.8	9/3/2019	Fix bug with refractory weight not calculating correctly on last element of stack. Added new Indian code for Wind (EQ not yet complete). Fix disable guy lug option. Fixed some units inconsistencies on Indian code, and moments were off by one row in output.
5.4.8.9	9/17/2019	Modify to allow a flange to be entered on the inside of stack, add properties for A-333-Gr.6 to database
5.4.9.0	10/13/2019	Corrections to Indian 2015 Wind, add Indian 2015 Seismic, if Stiff ring exists on cone always display ring check to give consistent unity ratio comparison of load cases, fix refractory/insulation weight going to one element below bottom of range.
5.4.9.1	10/14/2019	Deflection for static wind wasn't being calculated for new Indian standard.