



CheckMate for SOLIDWORKS® Changes

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GENERAL

Version - 1425

Enhancements - General since 1425

1. Changes.PDF added to Installation
2. Level isolation (right click on level in level control tab).
3. Forces uninstall of CheckMate before installing a new version.
4. Copywrite dates changed to 2023
5. cmUtil.exe SuperPro key reading error now written to CMSW_LOG.TXT
6. Updated PCM ribbon
7. Has a second phone number in the header for customer/supplier/engineer/mathdata/programmer

Bug Fixes - General since 1425

1. Fixing Browser colors
2. GTM/programming browser display of several spherical diameter related items fixed.
3. GTM/programming browser display colors.

PROGRAMMING

Version - 1425

Enhancements- Programming since 1425

1. Added support to the Scan data loader for concentricity, symmetry, and circular and total run out.
2. AutoMBD issues related to multiple surface profile on same feature fixed as are multiple balloons on one line for same.
3. Level isolation revised: level displays even if hidden, level list background changes.
4. TOL/CORTOL on constructed plane to become TOL/CORTOL on first point used in construction.
5. Zeiss Calypso DMIS TOL/PERP, PARLEL, ANGLR etc now use FA() instead of DAT() for datum reference (if feature was a COMPOUND feature, then first feature referenced by COMPOUND feature is referenced).
6. Zeiss Calypso DMIS CONST/PARPLN is now CONST/PLANE...MIDPL.
7. Zeiss Calypso DMIS TOL/WIDTH on a constructed PARPLN becomes a TOL/DISTB between two planes.
8. Flattening Cylinders to a major aXis for true position.
9. Collision avoidance clearance moves fixed for parallel planes.
10. DMIS output screen "Use probe names" now a 3-state switch with new choice "Auto probe names".
11. Version history info implemented for QIF 2.1 and 3.0 (was in place for 2.0), all now switched by "Document revision history".
12. The handling of complex features (blind hole and slot with depth, chamfer, countersink and counterbore) from AutoMBD is complete in both on-feature and ballooned tolerance modes.
13. DMIS output for Capvidia complex features via QIF in place for all but chamfer features.
14. Datum target support added to AutoMBD (not accessible via dimXpert API, had to do it the old fashioned way).
15. Master/sub from cylinder/cylinder/plane and cylinder/cylinder/point (all parallel in both cases) support added.
16. AutoCS completed support when connectors turned off.
17. The complex hole measurement (blind hole, countersink, counterbore) stuff in place for the QIF workflow.

18. New PC-DMIS button added to probe edit dialog for loading info from .PRB and .RESULTS files .PRB –displays Build_list.txt showing components in probe build up .RESULTS – probe angles and configurations populated. You can select all .PRB and .RESULTS file in one go.
19. Probe edit now supports a variety of probe index parameters beyond 7.5° increments
20. Counterbore tolerance from QIF captured as flavored note diameter2 and width (TODO: measurements and constructions at output need more work)
21. Blind hole depth from QIF captured as flavored note length (TODO: measurements and constructions at output need more work)
22. (TODO, the above but via AutoMBD)
23. AutoMBD forces an empty segment before beginning (if open segment is empty it is used, otherwise a new segment is opened)
24. MeasAll cylinder vectors are now justified based on blind hole bottoms or closest bounding box wall.
25. Chamfer tolerances from QIF captured as flavored note width and angle tolerances (still TODO: measurements and constructions at output)
26. Counterbore tolerance from QIF captured as flavored note diameter2 and width (TODO: measurements and constructions at output need more work)
27. Blind hole depth from QIF captured as flavored note length (TODO: measurements and constructions at output need more work)
28. (TODO, the above but via AutoMBD)
29. AutoMBD forces an empty segment before beginning (if open segment is empty it is used, otherwise a new segment is opened)
30. MeasAll cylinder vectors are now justified based on blind hole bottoms or closest bounding box wall.
31. QIF Loader and Dmis output has been enhanced for complex features like slots and countersink holes
32. Flick mode can be enabled/disabled on a per-feature basis for circle/cylinder/cone. Having PH20 unchecked disables flick mode for all features. Modus only for now.
33. ParPLN removed from PC-DMIS output and substituted with planes and a distance between.
34. Comments added for PC-DMIS TOL/POS
35. New DMIS flavor for handling TOL/POS in PC-DMIS 2022 and later
36. First cut at AutoMBD, etc. avoiding fixtures when selecting target points for testing.
37. AutoMBD fillet measurements improved
38. More update Calypso from 7.2 to 7.4 - plane measurements not coming through/
39. The probe radius for the new binary geoactuals is taken from the “actuals file”, it is now Calypso to Equator ready* - update Calypso from 7.2 to 7.4
40. Support added for binary format geoactual data- update Calypso from 7.2 to 7.4 (we’ll need to see more of these as time goes by, they’re not a fixed format)
41. If PH20 selected on the output program screen, Modus DMIS add ALLAXESTOUCH to circle and cylinder PTMEAS.
42. Support for formulas in Calypso loader.
43. Safety plane support improved in Calypso loader.
44. Third datum on second tier of QIF composite position supported in programming browser
45. Header setup “Math Data” tab re-titled as “CAD/MBD”.
46. QIF loader nominal angle for angularity determined from referenced feature and datum if nominal is -1.0 (FormatWorks idiosyncrasy)
47. Added more support for extracting datum names from feature names for the Calypso Program loader.
48. Add automatic reordering of multi point measurements.

49. Added ALL,DME,'TOLERANCE_NAME' for DMIS VFORM caused tolerance names to be used in place of usual characteristic identifiers in Modus .RES and .RTF (a .RES or .RTF created with this option will not load into CheckMate reporting. The DMIS format .OUT file will still load into CheckMate reporting.)
50. Added support for per-unit flatness tolerances to AutoMBD (per-unit straightness still requires extra work)
51. Per-unit flatness now supports rectangular (non-square) zones like 0.01/10X5 and circular zones like 0.01/Ø8 (enter -8 or d8 to specify circular)
52. PC-DMIS loader enhancement to convert trims to surface at depth
53. PC-DMIS DMIS output now emits SNSSET/DEPTH for FEAT/EDGEPT (trims)
54. Modus DMIS: DATSET with FA(s) now makes a temporary datum(s) and replaces FA with DAT
55. Measure-line with multiple picks now straightens picks with first and last pick used as reference
56. Support for profile of a surface on cylinder/cone/torus/sphere enabled (manual programming using ballooned tolerance)
57. Support added for per-unit flatness and straightness for planes, lines, plus ballooned tolerances in edit feature/tol dialog
58. Support added for per-unit flatness and straightness DMIS output
59. Support added for per-unit flatness and straightness QIF output
60. Support added for per-unit flatness and straightness DMIS program loader
61. Support added for per-unit flatness and straightness QIF loader
62. Handles MBD reference features (lines and planes) as CheckMate nominal references features
63. Tolerance names from AutoMBD now preserved on reference features (includes datum label)
64. Invalid plane selections for CMPARPLNI, CMPARPLNO, CMSYMLPNI, CMSYMLPNO now locked-out, warning issued to user
65. DMIS loader support added for GeoDMIS TOL/HAPEX
66. SW2022/SW2023 generated composite tolerances now handled in AutoMBD
67. MCosmos Pure DMISpak DMIS flavor outputs a comment line after every DMIS GOTO/ statement to workaround the Pure DMISpak translator bug where it ignores some GOTO/ statements.
68. Auto-mixed measurement strategy now ignores inside filet radii for automatic boundary turn-down
69. Measurement point removal now support for PARPLN/SYMLPN
70. PC-DMIS PERP/PARLEL/ANGLR now reference FA() instead of DAT()
71. Accessibility analysis auto point removal implemented for PARPLN/SYMLPN
72. If no automatic coordinate systems are created from DRFs, CheckMate now tries to create one from the first three datums
73. PC-DMIS tol position appears first in OUTPUT statement
74. Calypso loader support for programable stop added
75. Calypso loader support for pre/post messages added
76. Has some QIF loader enhancements to handle FW balloon numbers on notes.
77. AUTOMBD AND QIF2SEG - Cylinder depth now based on default setting and not 1/3 of the way into the cylinder.
78. Allows duplicate group members (green linked icons) to be removed from segment using "Delete" popup menu item.
79. output added for constructed sympln
80. Circular GOTOs button invisible (until implemented).
81. QIF loader: clearance distance set to approach + 1mm for circle/cylinder/cone/sphere features.
82. QIF loader: Jumps into independent segment mode when loading (so all datums will be created/recreated in current segment).

83. 'C' + left-click to determine if face has associated CheckMate measurement improved: deselects anything in browser first.
84. 'J' + left-click shortcut added to join two adjacent surface, plane, trim measurements by picking connector between them.
85. 'B' + left-click shortcut added to break surface/trim measurement at picked location.
86. 'V' + left-click shortcut added to reverse picked augmented line ('R' taken by SW for recent files).
87. CMRENAME now handles prefixes like SP.PT, SP#PT, in addition to SP. And SP, i.e., brought into parity with CMPREFIX (help document will need updating)
88. Added being able to copy segment while preserving Label names.
89. Added Convert POS Tol to Comp Tol from Legacy Programs.
90. Added CMRECALL/REFFEAT support for Cylinders,Spheres,Cones etc.
91. QIF loader/AutoMBD:If a feature is flagged and the user is happy with it as is, there is a new popup menu choice to un-flag it.
92. QIF loader/AutoMBD:Flagged features can be selected using the Select popup menu pull-right or selection dialog.
93. QIF loader/AutoMBD: If there is a problem with the generated program, Features will be flagged showing that they need to be looked at.
94. Fixes crash with long comments (>63 characters) in feature edit dialog
95. Ballooned notes now loaded from QIF
96. Multi-face parpln outer features QIF loader now handles scrambled face order
97. The QIF document clearly has cone features where the adjacent cylinders make more sense. New switch added to QIF loader to replace cone with diameter tolerance with adjacent cylinder.
98. Diameter tolerances on cones suppressed (some did not have adjacent cylinders). TODO-need to explore what the intent here is. Possibly diameter of cone-plane intersection?
99. Length tolerances on cones suppressed. TODO-need to explore what the intent here is. Possibly distance between cone-plane intersection and cone-cylinder intersection?
100. MMC on position applied to cones suppressed for LK-DMIS
101. Elongated cylinder measurements replaced with slot measurement at top measurement level for LK-DMIS (diameter tolerance becomes width tolerance)
102. Parallelism/perpendicularity/angularity of a cone not supported in LK-DMIS, cone is used to construct an axis line and the tolerance is applied to that line instead
103. Construction of parallel planes from points of two planes measured with different probes failed (probe sizes do not match error). Using midplane instead worked but failed later when a parallelism/perpendicularity was applied (measurement point set needed error). So now parallel planes features are constructed from the points of two planes with each point going through a CONST/POINT...MOVEPT,0,0,0 to remove the probe size from the equation
104. Elongated cylinder added to selection popup menu
105. Message about number of items selected/de-selected added
106. Select Child Items menu item added (selects only directly dependent tolerances/constructions/coordinate systems, does not recurse)
107. In AutoMBD and QIF loader screens all post-load automations can be disabled as a group (or re-enabled as a group remembering previous selections)
108. Improves AutoMBD loading: pos+composite pos, tangent plane, controlled radius
109. QDAS results loader improved to handle more K2009 tolerance types
110. QDAS results loader mines K2002 comment field for feature name

111. QDAS results loader mines K2002 comment field for tolerance type (to be overridden by K2009 field if present)
112. Global edit now includes tabs for XYZ,diam,etc. for global editing balloon tolerances (previously, on-feature tolerances were used to update ballooned tolerances for XYZ,diam,etc.)
113. Calypso loader support for multi-level slot measurement added
114. Program browser handling on non-tolerance notes improved (FCF column populated)
115. Balloon number can be applied to a datum definition
116. Balloon number can be applied to a non-tolerance program note
117. <tol_balloon> tag and column added to CSV tols program output.
118. FCF for CSV tols now uses same code as browser/edit screen (STD_GDT font).
119. Dually approach/retract/search default now sticking for trim measurements.
120. Trim measurement defaults now used for edge points.
121. Trim measurement global edit now used for edge points.
122. Edge points now display with dually approach/retract.
123. Surface end of edge point now displays white (to differentiate from trim surface which is grey), edge end displays yellow.
124. integration of tolerance balloon numbers into CheckMate browsers.
125. feature names #.#.# no longer truncated at second decimal place.
126. fixed issue with relative probe move on slot pick from browser.
127. tangent plane modifier for orientation tolerances add to programming FCF.
128. controlled radius support added to programming FCF and DMIS output.

Bug Fixes- Programming since 1425

1. fixed AutoMBD mishandling of some specific profile callouts.
2. Fixes glitch with QIF complex feature browser display.
3. Conversion to a .PRB was failing because the SW API call to was not working. In testing I found it works fine in both SW2020 and SW2021 but not in either SW2022 or SW2023. The "obsolete" API call does work across the board and is the internal workaround.
4. issue with the release build not using the parsed text MBD for complex holes.
5. /#CMU,AUGEDIT,UVMEAS problem with multiple picks fixed
6. Datum labels are forced to uppercase.
7. /#CMU,AUGEDIT,UVMEAS problem with multiple picks fixed
8. Datum labels are forced to uppercase
9. QIF2SEG creates a major Torus Radius Nominal when QIF is calling for the minor radius.
10. View-dependence AutoMBD glitch has been fixed
11. Group surface global edit issues fixed
12. PC-DMIS missing coordinate system issue fixed
13. Issue with defined start/end angle and point generation for cylinders and cones fixed
14. DMIS output: 0,0,0 vector on constructed point related to DISTB with diameter MAX/MIN fixed (several issue fixed in that code)
15. Shift-drag/esc-delete of points on plane/surface with multiple internal probe moves fixed
16. CC on single feature or set of features going back and doing whole program on second pass fixed, now just does selected feature(s)
17. Esc-delete now works to delete picked internal probe move
18. Best-fit cone reporting entity construction fixed
19. fixes angle-between issue with QIF loader

20. AutoMBD intersection features from non-existent dimXpert features (i.e., features not attached to a face) and now skipped. Was causing action line property manager page to be left open after load
21. Auto-mixed point selection was buggy, fixed.
22. Issue with corrupted parallel planes feature after AA fixed.
23. Angle fixed on measured sympln
24. Constructed sympln fixed
25. FCF for position sympln no longer diametrical
26. Browser description of sympln pos fixed
27. QIF loader: Fixes bug with QIF width limit tolerances
28. Fixes issue with zero-setback and scan mode measurements
29. Fixes issue re too long feature names.
30. Fixes issue about MLB slot length from single-pick 6-point slot measurements.
31. QIF loader: AA crash with SLDPRTs containing surfaces in addition to solid fixed.
32. Simulation issue with plane-with-clear fixed.
33. Simulation issue with helical scans fixed.
34. If QIF2SEG finds 2 faces on a cylinder, only 1 cylinder measurement will be created.
35. Constructed Parallel Planes was not working.
36. CMRENAME invalid index error when checking for duplicate balloon labels fixed
37. CMRENAME balloon numbers now transfer to reporting entities
38. We now get the text/outfiles of the UUIDs when the 'bare min output' is selected on the output program screen.
39. /#SFI,COSMOS(,GWS) new MCosmos ASC format loader in place.
40. AutoMBD with 2022 was showing some issues with distance between.
41. BASIC diameters showing incorrect.
42. Added support for a dist between and max diameter of a cylinder.
43. Added flagging in the Prog Browser, when MBD items need additional hand work to fix.
44. QIF loader: Minor bug fixes.
45. Fixes issue with CMEDIT crash
46. Issue with QIF loading of elongated cylinder feature causing AA troubles fixed
47. General loader issue with auto approach retract turndown not sticking so simulation and vector display length did not match, AA troubles, fixed
48. QIF loader: the geoactuals dialog coming up for each measurement.
49. FA(label)=FEAT/LINE not supported. That output is now suppressed.
50. TOL/PERP on a cone not supported. Cone is now used to construct a line, and the tolerance is applied to the line instead.
51. Fixes issue with failed plane/cylinder construction with CMSFCONST
52. Fixes the release/debug mismatch with grid measurement.
53. When planes/surface/parallel planes are set to grid, a new, user-setting independent algorithm is used instead if:
54. 1) Grid point selection fails after 4 iterations.
55. 2)The face is circular with a single circular or non-circular hole, or non-circular with a single, centered, circular hole.
56. Relative move with a slot is now working.
57. reprojecting surface points not projecting correctly.
58. datums labels not being created with correct names.

REPORTING

Version – 1425

Enhancements- Reporting since 1425

1. added support for Verisurf results files and empty results files of all types.
2. /#SFI,CSV6,TOL will take tolerances from .CSV measurement file (/#SFI,CSV6 still takes tolerances from .TXT nominal file).
3. Reporting/RC/GTM Browser colours user-definable via CMREPDEF.
4. Added implicit constraints to GTM composite lower tiers.
5. The GTM now has position for planes.
6. New column in CSV tols output <ordinal> showing program order (also used for sorting duplicate balloon/tol names)
7. Composite tolerances now handled by CSV tols output
8. CSV tols output handling on non-tolerance notes improved
9. Two modes for CSV tols output: expanded = one record per each feature/tol pairing, condensed = one record per tol (on feature or ballooned)
10. integration of tolerance balloon numbers into CheckMate reports.
11. added <balloon> tag and data to CSV stats output.

Bug Fixes- Reporting since 1425

1. Problem with using balloon numbers in label template only working for on-feature tolerances, and not ballooned tolerances.
2. Issue with PC-DMIS results loader fixed.
3. Average bonus was being calculated incorrectly, division by the number of samples was being performed twice.
4. Getting Excel error when making a multisheet report
5. This fixes the Excel out crash.
6. fixes a DMIS results loader crash with PC-DMIS files
7. When GD&T FCF mode selected for labels, frame factor set to 0.5
8. Balloon number for angle between weren't coming across.
9. excel Reports giving an error when using multiple parts and no browser open.
10. After the fact balloon Tolerance not viewing correctly in Browsers.

GEOMETRIC TOLERANCING MANAGER

Version – 1425

Enhancements- GTM since 1425

1. Changes to the way GTM deviations are selected and GTM fits are displayed.
2. Profile-of-a-line implemented for GTM (in general, really, requires existing results to be reloaded)

Bug Fixes- GTM since 1425

1. DRF glitch with 2+ orientation tolerance datums fixed (loader issue)
2. DRF material condition on 3-datum lower tier of composite tolerances fixed

3. crash with new use GTM deviations control fixed
4. issue with new GTM control visibility fixed

SOFTFIT SOLVER

Version - 1425

Enhancements- SoftFit Solver since 1425

1. RC Browser feature names color to match tolerance condition. (caution color if ambiguous)

Bug Fixes- SoftFit Solver since 1425

2. Fixes nasty bug in fitting engine with respect to cylinder length.

POINT CLOUD METROLOGY

Version - 1425

Enhancements- PCM since 1425

1. Added support to the Scan data loader for concentricity, symmetry, and circular and total run out.
2. /#CMSTLIN,COLOR will prompt for color of loaded mesh.
3. CMCLIPMESH
4. Added colmap default to choose among COLMAP CMM, COLMAP ALL, and COLMAP NOEDGE /#SFI options for creating reporting entities after colmap load
5. Added colmap default to replace existing reporting entities when firing /#SFI (not automatic because user may want to compare CMM/ALL/NOEDGE results)
6. Added RPL modifier to /#SFI to replace existing reporting entities with COLMAP CMM, COLMAP ALL, and COLMAP NOEDGE
7. Added Auto-delete of reporting entities when loading a new colormap
8. Implements user-defined "grey" color for colormaps and digital twin reports (CMDEF dialog).
9. New switch on colormap defaults screen to use new alternate rotation registration for finicky STL models

Bug Fixes- PCM since 1425

1. Colmap results loader was firing the wrong command after the first time.
2. One of the colmap plane measurements showing 1000 mm deviation in Y.
3. Initial color saturation dev in the colmap defaults won't stick
4. SW crashes when selecting the "Lock Display" button in PCM Adjust Defaults Screen
5. Fixes issue with colormap legend display

KNOWN ISSUES:

SOLIDWORKS 2022

- Balloons created for DimXpert PMI of "Hole Wizard Dimensions" are lost when the file is saved.

CAPVIDIA

Formatworks:

- Formatworks requires the font called "Y1.5-2018.ttf" to be installed, to show the DRF's correctly in the graphics area. Capvidia does not install this font so the user must install it. It is supposed to be in the folder C:\Program Files\Capvidia\FormatWorks Professional x64 Edition\fonts\

MBDVidia

- Currently does not support "Point Defined Surface" which causes errors when importing a QIF file with results data (created by CheckMate) into MBDVidia.