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**This file details all program enhancements and revisions.**

For the most recent changes, scroll to the end of the file.

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Quikjoint release 1.00

05-07-95

First official release of Quikjoint for Windows. It is not normal to document changes over unofficial releases. However some of the standard Quiksoft for Windows features are updated. These are as follows:

1. In *View|Results* the title block is extended to include *Designed:* and *Checked:* boxes.
2. The operation of validation of numeric values within dialog boxes is improved. Previously if a bad value was entered and the user pressed the help button, access to help was refused and a *Problem - Value out of range* dialog box was displayed. This is fixed.
3. Using windows to switch between applications after selection of Quikjoint's *Zoom|In* option would cause a crash. This is fixed.
4. When using some printer drivers (*LJ4 in particular*) the printed text was too large. This is a bug in the printer drivers. However we observed that some software did not suffer the same problems as the Quiksoft programs. After extensive searching, a work around was discovered. Printed text size is now correct across the range of printer drivers. There remains a very small alignment difference, but this is not considered significant.
5. Finally although this is the first official release of Quikjoint, there were two prior releases for comment. This version of Quikjoint will **NOT** read data files created with earlier releases.

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**Quikjoint release 2.00****27-10-95**

1. Rigid moment connections including eaves and valley haunches have been completely re-written and greatly improved. The program now uses the methods described in the SCI/BCSI publication *Joints in Steel Construction Moment Connections*. The approach used in this guide is completely different to any previous UK practice. It must be said that overall it gives approximately the same answers as the old Quikjoint methods, however on occasions it can result in fewer flange stiffeners. The chief benefits are its greater flexibility. See items 2 and 3.
2. Moment connections can now use more types of shear stiffening including: Morris, K, N and supplementary web plates.
3. Moment connections' loads dialog boxes now contain radio buttons where the user can specify details relevant to shear acting on the column web.
4. PLEASE NOTE When pasting loads from the clipboard into an eaves haunch, the axial (horizontal) load will always come in as zero. The next releases of Quikport and Quikframe will fix this problem. For the moment they will have to be added by hand.
5. The previous design method (Horne & Morris) quite legitimately ignored axial force for portal frame eaves haunches, with the new method the compression can actually improve the haunch performance.
6. A problem was found in the source code dealing with the File open and File save as dialog boxes. The bug's manifestation is not clear, however we believe it to be the cause of Run time error 2 @ ????:???? and Error reading file. Code=???. Both these messages would be associated with use of bad file names. Could also cause the failure of double click under Windows 95.
7. When pasting sizes from the clipboard, UB's worked fine. However UC's did not. This is fixed.
8. When editing loads in object mode, a couple of the connections contained an error. On selecting and pressing the right mouse button the wrong load would be displayed. This is fixed.
9. Some connections require negative values of load to represent opposite sense. In object mode the program would only accept positive numbers. This is fixed.
10. In the list of connection types Eaves haunch is changed to Eaves/Valley haunch.
11. With 32 bit disk access turned off (Windows 3.11), when deleting projects Quikjoint could produce: Quiksoft error 3506. This is fixed.
12. The on-line help topic: Calculation methods available from the table of contents is updated.
13. Finally the changes to the program for the SCI/BCSA guide are very significant. Release 2.00 of Quikjoint will NOT read release 1.00's files.

**Quikjoint release 2.10****02-01-96**

This release of Quikjoint is now fully network aware. The installation disk contains the following program releases:

QUIKJOIN.EXE	release 2.10
INSTALL.EXE	release 2.12
UNINSTAL.EXE	release 2.12
QUIKNET.EXE	release 1.00

Dealers should be aware that codes used in QUIKNET are produced by release 3.00 of CODE.EXE.

If you are installing on a network you should obtain: *Quiksoft for Windows Network supplement*.

**Note:** After upgrading from an earlier release select *Options|Colours and styles...* and click on the *return to defaults* button. If you do not, the colour scheme may be wrong.

The changes to the software are:

1. Moveable project directory. The path to the project directory can now be specified in the installation program. Existing users could move their project directories by referring to the *Quiksoft for Windows Network supplement*. If other Quiksoft for Windows programs are installed, or may be installed in the near future, it would be prudent to obtain network aware versions. Ask your dealer for details of the latest versions of Quikframe and Quikport.
2. Some changes have been made to the copy protection system, in particular a new program QUIKNET.EXE for setting the number of concurrent network users. This program will be installed in your Quikjoint program directory. Normally this program is only of use to network users. However users should be aware that in the event of a system or program crash, they could be refused subsequent entry to the program with the message: *Only 1 copies can run concurrently*. If this occurs, either run QUIKNet and select *Log off users...*, or delete the file USER0001.NET in the Quikjoint program directory.
3. Users upgrading should encounter no problems and will not need to re-register their programs. The *Quiksoft for Windows Network supplement* has additional information.
4. The file INSTALL.INI in the root directory of the delivery disk contains the following new entries:
 

```

;      Set DDE=No to turn off DDE conversations with PROGMAN.EXE.
[Options]
DDE=Yes
      
```
5. During installation on some networks, the DDE conversation to create icons and program groups caused problems. It can now be turned off.
6. Both INSTALL.EXE and UNINSTAL.EXE have small improvements to make use of more modern code together with additional error checking.
7. The UNINSTAL program is changed. Under certain circumstances it could attempt to delete a *current* directory causing an error. This is fixed.
8. Item 4 of the software notice for Quikjoint for Windows release 2.00 warned that when pasting loads from Quikport for Windows into an eaves haunch, the axial load would remain zero. This was fixed in release 1.21 of Quikport for Windows.
9. Moment connections: Alpha chart page 23 of the guide and Appendix III page 139. The resulting value for alpha is now always in the range 4.45 to 2.PIE. In rare circumstances release 2.00 could produce values outside this range.

10. Moment connections: Internally the equivalent length of Tee stub is now rounded off to the nearest millimetre. This makes the calculations more understandable and provides a closer correlation to manual calculations and the design guide. *See supplied demo connection in file mc-ex1.qj.*
11. Moment connections: Checks to welds to the tension flange are modified. The program now checks for a full strength weld. If weld is found to be full strength, no further checks are carried out.
12. Moment connections: Backing plates. The calculation for  $M_{bp}$  used for Mode 1 bolt failure was wrong. This is corrected.
13. Moment connections: Backing plates. The check for suitability for a plastic bolt distribution Step 1C page 25 is now changed. On the column side  $T_c$  thickness of column flange is replaced by the sum of  $T_c$  and backing plate thickness. See worked example page 125 of the guide.
14. Moment connections: Checks to beam web tension are modified. Quikjoint release 2.00 used the design strength  $P_y$  for the end plate, instead of the beam.
15. Apex haunch: Under certain circumstances, pasting loads from the clipboard, could result in a negative value for the shear. Fixed.
16. Eaves/Apex haunches: When using object mode to change the rafter pitch, the program would not accept a negative value. This is fixed.
17. Moment connections: Within the calculations immediately after the results summary, if a connection has failed, Quikjoint states what and suggests a course of action. Due to confused priorities in the Wizard's artificial intelligence, failures on the beam/rafter side tended to be reported as the column side. This is fixed.
18. Moment connections: The Wizards are changed slightly. After running the Wizard the diagram always showed the text ?? tk Flange Stiffs, even when there were none. Now this is only displayed if the connection Wizards have failed to produce a design that does not require flange stiffening.
19. Flexible web cleats: The Wizard failed to reset second and third backmarks in the cleat connection to the web of the beam. This is fixed.
20. On-Line help is improved. There is a new topic Adding flange stiffeners.
21. Finally Quikjoint's data file format has not changed. Release 2.10 will read 2.00's data files.

## Quikjoint release 2.21

05-03-96

The installation disk contains the following program releases:

QUIKJOIN.EXE	release 2.21
INSTALL.EXE	release 2.12
UNINSTAL.EXE	release 2.12
QUIKNET.EXE	release 1.00

If you are installing on a network you should obtain: *Quiksoft for Windows Network supplement*.

The changes to the software are:

1. Moment connections, including eaves and valley haunches, now accept two separate combinations of loads, one normal, one reversal. When pasting loads into the loads dialog, Quikjoint will observe the sense of the moment and paste it into the appropriate combination. It is therefore possible to *paste in* both a normal, and reversal set of loadings from Quikframe or Quikport. *QJW-R2.20-4*
2. Moment connections, including eaves and valley haunches now accept a web buckling/bearing stiffener adjacent to the top flange of the rafter. This is useful in conditions where high reversal moment exists. Under these conditions the Wizard's have been modified to automatically add these stiffeners. *QJW-R2.20-5*
3. Moment connections now accept a pitch for the member. *QJW-R2.21-10*
4. Moment connections now accept a level for the top of a column. *QJW-R2.21-10*
5. New technology is used so that Quikjoint can read data files created with older program releases. *QPW-R2.00-3, QJW-R2.20-3*
6. Operation of data validation in dialog boxes is improved. *QPW-R2.00-4*
7. During calculations for moment connections Quikjoint could crash giving a runtime error 207. The fault was due to an un-initialised real number, on rare occasions it could cause miss calculation of equivalent tee stub length for combined bolt rows. This is fixed. *QJW-R2.20-1*
8. Possible flange stiffener positions are shown as --\*--. Where a web buckling stiffener is applied, the possible flange stiffener position must be removed. This code is improved. *QJW-R2.20-6*
9. The dialog box that accepts single numeric entry is improved. *QJW-R2.20-7*
10. In previous releases the following would cause a general protection error: File|Open eaves.qj; Select top of plate level; in dialog type '9999' click OK; A data input error dialog is displayed; click OK; type '999'; click OK; Crash. This is fixed. *QJW-R2.20-8*
11. Previous versions could report a failure due to beam/haunch flange crushing. This would also cause the Wizards to stop and not find a working design. In fact, in this situation, the program switched to a Tee section in bearing which is never critical. This is fixed. *QJW-R2.20-9*
12. Referring to the moment connections guide, table 2.5. The program's column checks failed to recognise a bolt row next to a free end. This is fixed. *QJW-R2.21-12*
13. Moment connections, including eaves and valley haunches. The program now checks the end distance for the top bolt row in the column. *QJW-R2.21-13*
14. Moment connections, including eaves and valley haunches. Where reversal moment is applied, the program checks that the top of the column is high enough to cover the stiff bearing length. *QJW-R2.21-13*
15. There was a slight miss calculation of the best haunch depth. This is corrected. The value now exactly matches Quikports. *QJW-R2.21-14*
16. Finally, thanks to new technology Quikjoint release 2.21 will read all data files from 2.00 onwards.

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**Quikjoint release 3.00****29-03-96**

The installation disk contains the following program releases:

QUIKJOIN.EXE	release 2.21
INSTALL.EXE	release 2.12
UNINSTAL.EXE	release 2.12
QUIKNET.EXE	release 1.00

If you are installing on a network you should obtain: *Quiksoft for Windows Network supplement*.

The changes to the software are:

1. Simple connections: Fin plates are now implemented. *QJW-R2.24-19*
2. Simple connections: Addition of structural integrity checks and calculation of tie force as per SCI/BCSA guide. *QJW-R2.24-27*
3. Changes to column base: now accepts negative values for axial force and properly deals with tension, and uplift. *QJW-R2.22-16*
4. Changes to column base: sizes dialog box now asks: *suitable for end bearing?* and weld checks are changed accordingly. Also changes to weld checks necessary for base uplift. *QJW-R2.23-18*
5. Moment connections. Bolt selection in Wizards is restricted to grade 8.8. Addition check added prior to calculations makes sure all bolts are 8.8. *QJW-R2.22-15*
6. Simple connection web cleats: checks on web cleat bolts through beam web. The bearing value for the bolt used was for the out stand bolt. Fixed. *QJW-R2.24-20*
7. Simple connection web cleats: check for shear in beam web and cleats brought into line with Eurocode. *QJW-R2.24-22*
8. Simple connection web cleats and flexible end plate: support web shear check added in accordance with SCI/BCSA Guide. *QJW-R2.24-23*
9. Simple connections: checks on user input prior to calculations used to restrict connections to ten bolt rows, now twenty. *QJW-R2.24-24*
10. Simple connection web cleats and flexible end plate changes to Wizard: now selects 8.8 bolts; bug in cleat/plate length fixed; cleat hole cross centres always made even; default edge distance and centres now 40,70,70; default distance down to top of cleat, or plate now 50mm in line with SCI/BCSA guide. *QJW-R2.24-25*
11. Simple connection web cleats: small error in initialisation, could cause cleat backmark to be set zero. *QJW-R2.24-26*
12. Finally, thanks to new technology Quikjoint release 3.00 will read all data files from 2.00 onwards.

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Quikjoint release 3.01

16-04-96

The installation disk contains the following program releases:

QUIKJOIN.EXE	release 2.21
INSTALL.EXE	release 2.12
UNINSTAL.EXE	release 2.12
QUIKNET.EXE	release 1.01

If you are installing on a network you should obtain: *Quiksoft for Windows Network supplement*.

The changes to the software are:

1. Bases: Quikjoint release 3.00 contained a fault. Selecting a new base and adding sizes, loads and running the Wizard resulted in runtime error 200 @ 0012:36B6. The fault was due to weld sizes being initialised as zero. This is fixed. *QJW-R3.01-01*
2. If users want to upgrade from Quikjoint Portal edition to Comprehensive edition, or change name and address, then the introduction dialog box can be displayed by holding down the **Esc** key. Unfortunately under Windows '95 this does not work well. Users can now get the same affect by holding down the **F12** function key. *QJW-R3.01-02*
3. System interruptions could cause non-networked users additional problems with the message: *Network License. Only 1 copies can run concurrently*. This prevented subsequent use of Quikjoint. On normally configured non-networked systems this message will no longer appear. Note that Quiknet is now version 1.01. *QJW-R3.01-03*
4. Moment connections: Referring to Table 2.5 of the new design guide, Quikjoint dealt with situation 4 and 5 *bolt row next to a free end* even when the free end was to far away to have any effect. An additional check is added, and where this is the case, the free edge is ignored. Note this change has no effect on results, only presentation of calculations. *QJW-R3.01-04*
5. Quikjoint release 3.01 will read all data files from 2.00 onwards.



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**Quikjoint release 3.02****27-08-97**

The installation disk contains the following program releases:

QUIKJOINT.EXE	release 3.02
INSTALL.EXE	release 2.30
UNINSTAL.EXE	release 2.20
QUIKNET.EXE	release 1.02
DC.EXE	release 1.00

If you are installing on a network you should obtain: *Quiksoft for Windows Network supplement*.

The changes to the software are:

1. Problems have been encountered when trying to install Quiksoft programs on Windows NT and more specifically NTFS file systems. The problem was traced to a compatibility fault in some versions of NT. The INSTALL.INI file on the Quiksoft installation disk includes a new switch *32bit* that should be turned on prior to installation. Note that any previously installed version must be un-installed first. See *Notes for software distributors*.
2. All of the following are modified: Quikjoint.exe; Install.exe; UnInstal.exe; Quiknet.exe.

## Quikjoint release 4.00

14-01-98

The installation disk contains the following program releases:

QUIKJOINT.EXE	release 4.00
INSTALL.EXE	release 2.32
UNINSTAL.EXE	release 2.21
QUIKNET.EXE	release 1.03
DC.EXE	release 1.00

**Note:** This release of Quikjoint will read data files produced by all releases of Quikjoint after and including release 2.00. **But,** because of changes in the Quikjoints section tables, the selected sections in old data files may change slightly. You, the designer, must check this when working on old data files.

If you are installing on a network you should obtain: *Quiksoft for Windows Network supplement*.

The changes to the software are:

1. Sections tables: European sections tables are now supplied as standard.
2. Sections tables: All Quikjoint section tables supplied in this release were generated by Merlin. The missing 762x267x134UB is now included.
3. Apex haunches are now checked in accordance with the new green book moment connections guide. *QJW-R3.13-21*
4. Moment connections, eaves and apex haunches now accept stiffeners to the end plate. *QJW-R3.10-20*
5. Moment connections: Cap plates can now be added. *QJW-R3.14-24*
6. Moment connections, new checks for tension and compression stiffeners: Weld sizes are now calculated; input for stiffeners now include width and length; warnings added to cover poor stiffener sizes; additional tension check (*for stiffeners*) added. *QJW-R3.14-24*
7. A new *File|Custom bolts...* option is added. The new option may also be accessed from a new custom bolt button in the bolts dialog, accessed by clicking on the bolt details in the diagram, then right clicking. The new option facilitates the creation of a table of additional special bolts that can be used in connection design. See On-Line help for more detail. *QJW-R3.20-1*
8. A new *Options|Resolution and font size...* option is added. It's always difficult to get diagram text to fit neatly on the screen especially with different resolutions and windows font sizes. On lower resolutions and 800x600 large font we found that Quikjoint's diagram text, at default size, often went off the screen. The user may use this option to specify one of two conditions, accordingly Quikjoint will then apply a factor of 0.75 or 1.00 to the font size. Note that if the option is not used the program will look up the computers resolution and attempt a good default, however it can't detect large or small Windows fonts, so if your diagram text looks poor, try using this option. *QJW-R3.20-2*
9. A new *File|Addresses...* option is added. Users can now maintain up to six alternate addresses for the printed output. *QPW-R3.10-7*
10. Problems with Windows NT. The Win32 API call that converts a 64-bit file time to MS-DOS date and time is different on Windows '95 than Windows NT and gives different answers!
11. Quikjoint's error checking has been *softened*, so the error should give no further problems. *QFW-R3.60-2*
12. Date problem: This bug affects all Quiksoft for Windows programs when registered as demo copies, 16 and 32 bit versions across all platforms. If the program is installed on: 29th of the month, it will not work on the 30th and 31st at times prior to (before) the installation time; 30th of the month, it will not work on the 31st at times prior to the installation time; 31st of month all will be OK. This is fixed. *MER R2.10-01*

13. Column bases: When checking the end plate thickness on compression and tension sides of a base plate, Quikjoint could correctly enter Failed in the summary, but show the wrong unity factor. *QJW-R3.10-1*
14. Column bases: The units for moment in the drawing showed kN/m. Corrected. *QJW-R3.10-2*
15. Moment connections, weld checks: Quikjoint checks the weld to the beam web in the tension zone. However, where a connection only has a single tension row of bolts and that row is above the top flange of the beam (extended plate) there is no tension zone. This caused Quikjoint to flag an error. Fixed in this release. *QJW-R3.10-3*
16. Moment connections, weld checks, shear zone: On connections with a single row of bolts below the column flange and ShearRows set to one, it's common for there to be no weld available to carry the shear. Quikjoint now produces a proper error message. *QJW-R3.10-4*
17. Simple connections, fin plates: The warning ' $t < 0.15a$ ', used a value of  $a$  equal to the distance to the centroid of the bolt group, it should have been to the line of the first column of bolts. See page 98 of BCSCA Pub 206/92. The fault affected fin plate connections with more than one column of bolts only. *QJW-R3.10-5*
18. Simple connections, shear in beam web, fin plates, cleats and end plates: When these checks were updated for the newer green book, the plain and block shear checks were rationalised into something closer to the old BCSCA brown book. This always resulted in conservative results. Our judgement was that this would be of no consequence, but it proved critical on several connections using long fin plates with UC sections as beams. These checks are re-written to exactly match the green book. *QJW-R3.10-6*
19. Eaves haunch: In the sizes dialog box if the user entered zero pitch and a zero haunch length, then clicking on Calculate best haunch depth would produce an error 16003. Could also cause a 18501 error when running the Wizard. Additional checks on user input and appropriate warnings are now issued. *QJW-R3.10-7*
20. Beam bearing, bearing general: In the calculations, when  $D1$  was less than  $20t$ , the length of web acting with any web buckling stiffener was misleading. Results are now made clearer with more intermediate values. *QJW-R3.10-8*
21. Moment connections: When the top of an end plate stopped below the centre line of the rafter flange, Quikjoint could crash with an 18510 error. This is corrected. Also additional checks are added on user input to ensure that the top (and bottom) of end plates cover the flanges. *QJW-R3.10-9*
22. Moment connections with very high axial compression. The affect of the compression was to cause the connection to reverse resulting in no tension in the bolts, and often a compressive force that was greater than the column capacity. Extra checks are now performed and suitable errors given. *QJW-R3.10-10*
23. DXF output: Text output was not sized properly. Circles were not transformed properly. Additional explanatory text is added to the DXF Setup dialog box. *QJW-R3.10-11*
24. Connection Bearing: general: In the sizes dialog, a caption was wrong. Also the input for beam overhang ( $D1$ ) accepted 1001, but pressing calculate produced an error. These are fixed. *QJW-R3.10-12*
25. Moment connections and eaves haunches: When there are no flange stiffeners Quikjoint still stated 'Flange Stiffs' in the diagram. This led checkers to believe that the design required stiffeners when it did not. The program now only states the size of stiffeners once the first stiffener has been added. *QJW-R3.10-13*
26. Simple connections, warning messages are added at the top of the results to cover the following situations: Where the beam flanges are wider than the column depth between flanges; where any end plate is wider than the depth between fillets of the column; where any web cleat assembly is wider than the depth between fillets of the column. *QJW-R3.10-14*
27. Moment connections. Eaves haunch: The Wizard now checks to make sure that the end plate is wide enough for the bolts at the given cross centres before presenting its defaults. *QJW-R3.10-15*
28. Moment connections: Where a column had no stiffeners, then Quikjoint could wrongly deal with the column edge for the top and bottom bolt in the bolt group. This error would produce a conservative result. *QJW-R3.10-16*

29. Moment connections and Eaves haunch, additional checks on data input: If an end plate is narrower than the beam flange (Error); if there is no room for the fillet weld to continue around the toes of the beam (Warning). *QJW-R3.10-17*
30. Simple connections, checks on local stability of notches: All simple connections now use the same green book check. *QJW-R3.10-18*
31. Moment connections extra data checking: end distance for the top bolt in column; and where reversal moment is applied, a check that the column extends up to cover the stiff bearing length. *QJW-R3.10-19*
32. Moment connections: Additional checks are added on bolt position relative to flanges and stiffeners. Appropriate warnings and errors are given. This prevents an error 18510. *QJW-R3.13-21*
33. Eaves haunches: Problem with haunches cut from plate when used with European sections tables. The drawing showed flange thicknesses for a 914x419UB. This was caused by the introduction of European section tables, but is now fixed. *QJW-R3.13-22*
34. Moment connections: The check on column webs with buckling stiffeners has been re-written. The old code used 40tc for the length of the web instead of 40tc+ts, being based more on BS5950 than the green book. *QJW-R3.13-23*
35. All connections: After running the Wizard, Quikjoint now re-displays the joint so that it fits nicely on the screen (performs a screen fit). *QJW-R3.14-25*
36. Moment connections: At the start of the detailed calculations the program now puts out a message stating the column web shear consideration. *QJW-R3.20-4*
37. A couple of small faults affecting the help system are fixed. More specifically when repeatedly accessing context sensitive help, subsequent help text could be for the wrong topic. Fixed. *QJW-R3.20-3*
38. Help system: The help system is updated to include all new features. General improvements have also been made.

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**Quikjoint release 4.01**

**21-01-98**

The installation disk contains the following program releases:

QUIKJOINT.EXE	release 4.01
INSTALL.EXE	release 2.32
UNINSTAL.EXE	release 2.21
QUIKNET.EXE	release 1.03
DC.EXE	release 1.00

It is important to read the software notice included with release 4.00 of Quikjoint. In particular the warning regarding sections.

The changes to the software are:

1. The new option *Options|Resolution and font size...* described in item eight of release 4.00's software notice introduced a small fault. It was intended that this option only affect the size of text and other items on the screen. Unfortunately it also reduced sizes on the print preview and in the printed diagrams. This is fixed. *QJW-R4.01-1*

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**Quikjoint release 4.02****12-03-98**

The installation disk contains the following program releases:

QUIKJOINT.EXE	release 4.02
INSTALL.EXE	release 2.32
UNINSTAL.EXE	release 2.21
QUIKNET.EXE	release 1.03
DC.EXE	release 1.00

It is important to read the software notice included with release 4.00 of Quikjoint. In particular the warning regarding sections.

The changes to the software are:

1. All connections: The check performed to ensure that a connection had a minimum number of bolts had become corrupted. This is fixed. *QJW-R4.02-1*
2. Eaves haunch: A new check is performed to ensure that the haunch geometry is proper. If it is not, then a special dialog box is displayed including a help button. If help is clicked the user is presented with text and a diagram explaining the problem and the input that Quikjoint expects. *QJW-R4.02-4*
3. All connections: As numbers (decimal and integer) are typed into Quikjoint, the program validates that the key strokes form a proper number. This process has been improved. The program no longer accepts leading or trailing spaces as valid input. Also when numbers are displayed they are now displayed without leading spaces. This makes it easier to select and edit numbers, without encountering logical problems. *QJW-R4.02-5*
4. Eaves haunch: Under some conditions, if the user entered unsatisfactory haunch length and depth, it was possible for the wizard crash with an 18501, or 18502 error. The fault was due to the wizard misplacing the bottom bolt row. New checks are added to ensure that the Wizard is progressing properly, if it is not, then the Wizard's connection design is stopped. *QJW-R4.02-2*
5. Eaves haunch: Small fault. If haunch section size was 914x419x388ub, then if the haunch length and depth was selected in the drawing and right clicked on, the *Calc best haunch depth* button would be greyed out. Fixed. *QJW-R4.02-3*
6. In the dialog box displayed by the *Options|Sizes* menu option, specifying poor input triggered the *Value out of range* message, but failed to prevent the dialog box from closing. This is fixed. *QJW-R4.02-6*

A note regarding the QSDlgs16.DLL problem: This release of Quikjoint will work happily with all releases of and including Quikframe for Windows release 4.00.

## Quikjoint release 4.10

24-05-00

The installation disk contains the following program releases:

QUIKJOINT.EXE	release 4.10
INSTALL.EXE	release 3.10
UNINSTAL.EXE	release 2.21
QUIKNET.EXE	release 1.03
DC.EXE	release 1.00

The improvements in release 4.10 of Quikjoint will appeal most to user's of the new Quikbeam for Windows. Quikbeam users will be able to copy connections directly from Quikbeam to clipboard, and paste back into Quikjoint. Simple, moment and bearing, connections are all covered.

The changes to the software are:

1. Changes so that Quikbeam's connections can be pasted from the clipboard. When displaying the: *Joint type* dialog, Quikjoint now looks in the clipboard to see if there is a connection present. If there is, it automatically pre-selects that joint type. *QJW-R4.10-1*
2. New sections tables are included: ASTM.sec - American sections to ASTM specifications; Japanese.sec - Japanese wide flange shapes.
3. Note Quikjoint is supplied with the same version of Brit.sec and Euro.sec as release 4.02. This is because, unlike other Quiksoft programs, Quikjoint stores the user's selected sections as an index into a table of sections with the same kind (*e.g. it stores the number 32 indicating that the section is the thirty second UB in the table.*) Thus, with Quikjoint, altering a sections table can affect the selected sections.
4. Users must therefore be aware that they should not export Brit.sec from the latest release of Merlin. Further, if users create custom sections, the section must be given a new, different kind (*CustUB*) before exporting.
5. If despite this warning, Merlin's newer Brit.sec is exported, users have two options: load and update the selected sections in all their existing designs (*move down the table eight places*); or better, revert to the older Brit.sec by reinstalling Quikjoint from their delivery disk. Non-standard section tables should be deleted first.
6. Quikjoint will be modified in this respect in due course.
7. The code that displays the Toolbar is improved. The toolbar is now updated much more quickly, preventing an annoying flicker when results are selected. *QPW-R3.18-30*
8. Bearing connections: beam over beam and beam over column. Whatever grade was selected the support grade in the diagram was always shown as 43. This is corrected. However, note that when the program checks bearing in the supporting column grade 43 is still used. This is because bearing is equally critical in the packs, and Quikjoint assumes all fitting material to be grade 43. *QJW-R4.10-2*
9. Beam splices: the diagram used to display the units for the moment as kN/m. Fixed. *QJW-R4.10-3*
10. Simple connections, bolted to column flanges and webs: whilst doing the block shear check for the column flange/web, if the connection had only one line of bolts, Quikjoint miscalculated the dimension '*L1*' (*min vertical bolt centre*). Quikport now traps this situation and sets '*L1*' to the bolt cross centres. *QJW-R4.10-4*
11. Quikjoint no longer attempts to restrict printed output for demo copies. *QJW-R4.10-5*
12. Calculation output for moment and simple connections has additional text referring to the relevant Green book guide. *QJW-R4.10-6*
13. Quikjoint's On-Line Help is upgraded.

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**Quikjoint release 4.11**

**14-09-00**

The installation disk contains the following program releases:

Quikjoint.exe	release 4.11
Install.exe	release 4.00
Uninstal.exe	release 3.00
Quiknet.exe	release 1.03
DC.EXE	release 1.00

1. During section selection, all Quiksoft programs display section types in the order that they appear in the program directory. The order of this list is dependent on many factors including the original order on the delivery disk.
2. On occasions users found that American sections were displayed ahead of British.
3. Quikjoint is modified so that sections always appear in following order: Brit; Euro; ASTM, Japanese.  
*QJW-R4.11-1*



**Quikjoint release 5.00****06-02-01**

This release of Quikjoint operates in accordance with BS5950:Part 1:2000.

Quikjoint for Windows is now supplied in self-extracting zip files:-

For Windows '95 '98 NT and 2000:

QJ-32-500.exe

QJ-32-del.exe

For Windows 3.1:

QJ-16-500.exe

QJ-16-del.exe

If you are supplying on disk, rename the first file INSTALL.EXE and the second UNINSTAL.EXE

The self extracting files contain the following program releases:

QUIKJOIN.EXE	release 5.00
INSTALL.EXE	release 4.00
UNINSTAL.EXE	release 3.00
QUIKNET.EXE	release 1.03

If you are installing on a network you should obtain: *Quiksoft for Windows Network supplement*.

The changes to the software are:

1. Changes for grade designation. e.g. Grade 43 is now S275 etc. *QJW-R5.00-1*
2. Concrete stress now 0.6 fcu (was 0.4 fcu); Weld stress and electrode changes. *QJW-R5.00-2*
3. Symmetrical column bases with no moment are re-coded to work in accordance with BS5950:Part 1:2000 *QJW-R5.00-6*
4. Two new options are added in line with other Quiksoft products, they are *File|Description* option *View|Headers* option. *QJW-R5.00-4*
5. A new menu option is added called *Options|Hide Warnings*. The new option temporarily hides the warnings that appear at the top of Quikjoint's calculations and printout. See the On-line help for more details. *QJW-R5.00-16*
6. Major new releases of Quikjoint will now require an 'upgrade code' *QJW-R5.00-5*
7. Moment connections (eaves, and apex haunch). In the diagram supplementary plates (SWP's) now include further details including size. *QJW-R5.00-18 17-01-01*
8. Moment connection - Eaves haunch. This connection now permits the input of a single bolt row below the bottom flange of the haunch. *QJW-R5.00-21*
9. Moment connections. A second edition of the Green Book has been published describing different (*simpler*) checks for the web weld in the tension zone. Quikjoint now uses the new method. Quikjoint also checks if the weld is full strength, if it is, it passes it and looks no further. This was always the method used for the tension flange, but is now added to the web shear zone and flange compression zone checks. *QJW-R5.00-24*
10. Moment connections (*eaves, apex haunch, rigid moment*). The error message that prevented a connection with an end plate narrower than the beam/rafter flange from being designed is replaced with a warning. *QJW-R5.00-16*

11. Moment connections (*eaves, apex haunch, rigid moment*). When the axial load is high the following problems may occur:
  - a) With very high compression, the tension bolts may not be in tension.
  - b) With very high tension the compression zone may not be compression.
  - c) With very high compression the modified moment can evaluate as negative.Problems b) and c) were not detected. Quikjoint now displays an appropriate messages. *QJW-R5.00-17*
12. When checking moment connections with bad bolt spacing, Quikjoint could stop with an error 18510. Quikport now traps this situation and shows either: WARNING Bolt is close to flange/stiffener. Check bolt access; or Error in program input. Bolt clashes with a flange/stiffener. *QJW-R5.00-7*
13. Moment bases - Two new checks added: Holding down bolt anchorage; Transfer of shear to concrete foundation.

Because the HD Bolt anchorage check described in the green book for moment connections is applicable to reinforced concrete bases only, the method adopted by Quikjoint is the conical pullout test described in the Steel Designers' Manual fifth edition page 795. The concrete surface stress limited to 0.03 fcu. *QJW-R5.00-26*
14. Simple fin plate connection. A check for fin plate bending is added. *QJW-R5.00-20*
15. Simple fin plate connections. Quikjoint did not apply the check described at bottom of page 43 (Check 3) of the green book guide. The check 'beam web bending' is now applied for both fin plates and double web cleats. *QJW-R5.00-23*
16. Simple connections.
  - a) Additional code is added to check the cross centres in the supporting column.
  - b) Error and warning messages are now more explicit as to where the problem is. e.g. Cleat, column, Flange plate, etc. *QJW-R5.00-32*
17. Simple connection with beam bearing over column. In the part of the calculations where the bearing in the supporting column is checked, Quikjoint failed to ensure that b2 was less than the column width. A minor fault, but fixed. Also with this connection, Quikjoint now checks that the beam overhang is large enough to cover the column, if it is not the program now displays an input error message. *QJW-R5.00-8*
18. The Wizard is refined for simple connections:-

With very small beams the Wizard uses a cleat or fin plate detail with a single line of bolts. When a single bolt line is used the Wizard now uses two columns of bolts.

The Wizard now checks to see if the plate or cleat fouls the bottom flange when the default top dimension is used. If it does the top dimension is reduced. *QJW-R5.00-29*
19. Beam splices - four changes:-
  - a) The Wizard now uses M16 bolts for the smaller, lighter sections. This prevents it selecting web plates that won't fit.
  - b) The program prevents the user from deleting all the holes in the flange splice plates.
  - c) The user can now add, or delete rows of bolts in the web plate by selecting and using Insert, or delete.
  - d) If the web plate is too large for the beam web, the program displays a user input error. *QJW-R5.00-10*
20. Beam splice moment connection. There was a limit of two metres applied to the length of a splice plate. The limit is now four metres. *QJW-R5.00-22*
21. Pressing Ctrl+C when running Quikjoint with an open connection file caused it to crash. Unfortunately, this is the method used by other programs to obtain selected text (e.g. Encarta's Quick Define). So these could also cause problems. Fixed. *QJW-R5.00-3*
22. Moment connections and eaves haunches have new code to check that the edge distance of the bolts in the column conforms with section 6.2.2.4 and Table 29 of the BS *QJW-R5.00-9 15-01-01*
23. Eaves, Apex haunch and rigid moment connections. The Wizard could overestimate the number of shear rows. When the number of shear rows was calculated, the number of tension rows was set to the

minimum. With the newer green book design methods, part of the shear is carried by the tension bolts. As a consequence the calculated number of shear rows was too high. Fixed. *QJW-R5.00-31*

24. Simple flexible end plate connection. If the end plate covered the flanges, then the calculation for the weld length to the web was slightly wrong. This is fixed. *QJW-R5.00-19*
25. Flexible end plates. A customer commented that Quikjoint was using the wrong length of weld on a flexible end plate connection. His connection had an end plate extended below the bottom flange of the beam. The end plate shear and structural integrity checks are now modified to cope with this detail. *QJW-R5.00-28*
26. Moment bases. A customer recently brought our attention to the fact that, in his opinion the Design Wizard for moment bases behaved slightly illogically when laying out HD bolts and calculating the plate width. We have revisited this part of the code and made a couple of small changes, so that it should now appear more consistent. *QJW-R5.00-25*
27. Moment bases. Since bases are designed assuming single curvature plate bending and prying does not occur, Quikjoint now uses the enhanced tensile values from BS5950:Part 1:2000 and the Green Book. In the Wizard the bolt diameter, length, end plate size and Anchor plate size, now follow the Green Book recommendations. *QJW-R5.00-26*
28. On-line help is updated and extended to cover Quikjoint's new features.

## Quikjoint release 6.00

18-07-02

This release has been created to conform to the revised Green book: *Joints in Steel Construction - Simple Connections*. Quikjoint has also been extended and improved to include: simple connections to SHS, RHS and CHS columns; bearing and non-bearing column splices; hollow section tension splices; UB/UC column bases; and SHS, RHS and CHS bases. Where appropriate slotted holes, Holo-bolts and FlowDrill holes have also been included.

Because the new Quikjoint uses a more modern sections file format, any custom section files exported from Merlin must be deleted from the Quikjoint program directory, BEFORE INSTALLING THE NEW RELEASE OF QUIKJOINT. Make sure your Quikjoint program directory (usually c:\quikwin\qjw) contains only the following sections files: Brit.sec, Euro.sec, ASTM.sec and Japanese.sec. Any others must be deleted before installation.

When the new release is first run it will add an entry to Quiksoft.ini. If the custom sections are still required you can run Merlin and re-do *File|Export (but only after Quikjoint has run)* Merlin will look in Quiksoft.ini, read the entry added by the new Quikjoint and see what version of sections file is required.

The self extracting files contain the following program releases:

QUIKJOIN.EXE	release 6.00
INSTALL.EXE	release 4.00
UNINSTAL.EXE	release 3.00
QUIKNET.EXE	release 1.03

If you are installing on a network you should obtain: *Quiksoft for Windows Network supplement*.

Please note that it is important to restart you computer after installation or upgrading. Not doing so, caused a number of protection faults on our test machine.

The changes to the software are:

1. Simple connections - Cleats, plates and fin plates are modified so that their plane shear and block shear checks conform. New checks for combined shear and bending capacity are added. The check for shear and bending interaction of the beam web is rewritten. These changes constitute a virtual rewrite. Be aware that the new version will give slightly different answers. *QJW-R6.00-01*
2. Quikjoint's existing column splice is replaced by two new connections: bearing column splice and non-bearing column splice, both to the new guide. *QJW-R6.00-02*
3. So that Quikjoint can access the additional section types it now uses the more modern *Merlin* format of sections file. Once the new Quikjoint has been run, Merlin will be able to export the correct format automatically. *QJW-R6.00-03*
4. The Quikjoint installation now includes an index file Quikjoin.idx. This is used by Quikjoint so that it can read 'old format' data files that index the old sections file. *QJW-R6.00-04*
5. Simple connections to RHS, SHS and CHS columns are added. *QJW-R6.00-05*
6. Short slots added (kbs) *QJW-R6.00-05*
7. Holo-bolts added; Flowdrill holes added. *QJW-R6.00-06*
8. Punching shear check added for fin plates. *QJW-R6.00-06*
9. SHS, RHS and CHS tension splices added. *QJW-R6.00-06*
10. Simple bases UB, UC, SHS, RHS and CHS added. *QJW-R6.00-07*
11. Holding down bolts added in grade 4.6 and 8.8 including larger diameters. *QJW-R6.00-07*
12. Eaves haunches. If a level for the top of column 999 was entered meaning that the column carries on to a higher level, the diagram was destroyed. Fixed. *QJW-R6.00-08*

13. Checks on maximum length for flexible end plate, fin plate and cleats are increased from 1000 to 2000mm. Originally 1000mm was thought suitable, but now using Merlin, Quikjoint can be used to design connections between very deep plate girders. *QJW-R6.00-09*
14. Beam over beam bearing. Immediately after the summary of results the following message is issued:  
*Note. The supporting beam 457x191x67 UB S275 should be checked separately. QJW-R6.00-10 17-07-02*
15. When the user selects *View|Results*, Quikjoint's toolbar changes to the results toolbar. The results toolbar now includes a printer setup button. *QJW-R6.00-11*
16. Finally the On-line help is extended and improved.

**Quikjoint release 6.10****23-10-02**

Release 6.00 of Quikjoint was produced to a final draft of the revised Green book: *Joints in Steel Construction - Simple Connections*.

Release 6.10 is fully in accordance with the final published document.

Because the new green book only became available this month, most users will still be operating release 5.00 of Quikjoint to the old green book guide. They should therefore first read the notes for release 6.00, in particular those relating to changes in Quikjoint's section file format.

The self extracting files contain the following program releases:

QUIKJOIN.EXE	release 6.10
INSTALL.EXE	release 4.00
UNINSTAL.EXE	release 3.00
QUIKNET.EXE	release 1.03

The changes to the software are:

1. Various small changes required by the final publication of: *Joints in Steel Connections - Simple Connections* (as opposed to the draft) *QJW-R6.10-07*
2. Bearing: Beam over beam; beam over column; and general. These are rewritten to fully conform with BS5950:Part 1:2000. The beam over column connection is less conservative in that it now accounts for four stiffeners over the flanges of the column.  
Bearing checks performed as part of moment connection checks remain unchanged. These will be updated (*if necessary*) once the SCI publish a revised moment connections guide. At the time of writing revision of the green book for moment connections is not planned. *QJW-R6.10-06*
3. Moment connections and eaves haunches. In the Loading form, the ratio of out of balance moment over total moment now has a simplified prompt with a Help button that provides detailed explanation. *QJW-R6.10-05*
4. Simple connections. The introduction of hollow section columns in release 6.00 introduced a fault. Selecting '*Simple: Beam to ply thickness*' in the connection type form caused Quikjoint to crash. Fixed. *QJW-R6.10-01*
5. Work has been carried out to reduce Quikjoint's memory usage. *QJW-R6.10-02*
6. Non-bearing column splice. In the web plate only one or two bolt columns are available. In release 6.00 of Quikjoint the user could input three, but Quikjoint would ignore it. This version displays a proper error message. *QJW-R6.10-03*
7. Non-bearing column splice. For structural integrity, or tension splices it was intended that the user enter negative values of  $F_c$  and  $F_{cd}$ . However when (*for tension splices*) the program calculated the maximum tension in the flange plate the program used  $F_{cd}$  (*Factored dead only*) rather than  $F_c$  (*Factored dead only*). Fixed. *QJW-R6.10-04*
8. Additional checks are made to user input as follows: the program checks that  $F_c$  and  $F_{cd}$  are the same sign (*both compression or both tension*); the program checks that  $F_c$  is always larger (*or equal to*)  $F_{cd}$ . *QJW-R6.10-04*

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**Quikjoint release 6.11****07-11-02**

This release implements only small changes over release 6.10. All regarding beam bearing checks.

The self-extracting files contain the following program releases:

QUIKJOIN.EXE	release 6.11
INSTALL.EXE	release 4.00
UNINSTAL.EXE	release 3.00
QUIKNET.EXE	release 1.03

The changes to the software are:

1. Beam bearing - The provision of clause 4.5.2.2 last paragraph was missed. Where a stiffener is present Quikbeam now uses the least value of design strength of the beam web and the stiffener. *QJW-R6.11-01*
2. Beam bearing - For welded plate girders created in Merlin, Quikbeam now reduces *Asnet* to allow for a corner snipe to avoid the web/flange fillet weld (*clause 4.5.2.2 calls these cope holes*). Quikbeam assumes the snipe to be the leg length of the fillet weld calculated as the next weld size above  $0.7 \times t$  where  $t$  is the web thickness for the beam. *QJW-R6.11-02*
3. Beam bearing - Where in the calculations Quikjoint states the size it now also states the number of stiffeners. *QJW-R6.11-03*

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**Quikjoint release 6.12**

**03-12-02**

Two errors are corrected.

The self extracting files contain the following program releases:

QUIKJOIN.EXE	release 6.12
INSTALL.EXE	release 4.00
UNINSTAL.EXE	release 3.00
QUIKNET.EXE	release 1.03

The changes to the software are:

1. Release 5.70 of Quikport contained a bug fix (item 16 in Quikport's release notes) unfortunately this bug fix effectively disabled DXF output. Fixed. *QJW-R6.12-01*
2. Tension splices using circular hollow sections - If the user changed the plate diameter from that chosen by the Wizard, the right hand diagram would be miss drawn. Fixed. *QJW-R6.12-02*



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**Quikjoint release 7.00****15-01-08**

Quikjoint XP release 7.00 is now fully 32 bit and Microsoft Vista compliant. The program includes comprehensive on-line help including a rich set of tutorial videos. Quikjoint's user interface remains largely unchanged (*we saw no need for improvement*), however selection of items for change in the drawing is now more direct and more in keeping with modern Windows programs.

Quikjoint XP release 7.00 runs under all versions of Windows from '95 onwards and is supplied in a single self extracting file: QJ32-700.exe. This self extracting file will automatically guide you through program installation, upgrade, or removal.

Quikjoint XP release 7.00 uses a different format for its data files. It will **not** read files created with the old version. However it will be installed alongside the old Quikjoint giving you access to both versions for as long as is necessary.

For a quick introduction to the new program, Quikjoint includes on-line video tutorials. Select *Help|View video tutorials* on Quikjoint's main menu.

This program is a complete rewrite of the earlier version. The software is improved:-

1. Quikjoint XP is now 32 bit.
2. Quikjoint XP will now run under Windows XP with a limited user account as well as Microsoft Vista.
3. All of Quikjoint's forms are redesigned and rewritten to conform with the style of modern windows programs and other members of the Quiksoft library.
4. Quikjoint's on-line help system and manual are redrafted. The help system is now based upon Windows compiled HTML.
5. Quikjoint is now ready to use our new routines developed for EC3.

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**Quikjoint release 7.01****18-09-08**

Quikjoint XP release 7.01 is supplied in a single self extracting file: QJ32-701.exe. This self extracting file will automatically guide you through program installation, upgrade, or removal.

Quikjoint XP release 7.01 reads data files created with release 7.00 only. It will **not** read files created with older versions. However it will be installed alongside the old Quikjoint giving you access to both versions for as long as is necessary.

The changes over release 7.00 are:-

1. The DXF output in release 7.00 did not work. This is fixed. Also if the data file had not been saved and named the DXF file may have been created outside of the current project folder. *QJ R7.00-01*
2. Following overseas installation problems additional diagnostic code is added. This will not affect the normal operation of Quikjoint but will enable a quick solution should the problem occur in the future. *QJ R7.01-01*

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**Quikjoint release 7.02****19-11-08**

Quikjoint XP release 7.02 is supplied in a single self extracting file: QJ32-702.exe. This self extracting file will automatically guide you through program installation, upgrade, or removal.

Quikjoint XP release 7.02 reads data files created with release 7.00 onwards. It will **not** read files created with older versions. However it will be installed alongside the old Quikjoint giving you access to both versions for as long as is necessary.

The changes over release 7.01 are:-

1. Simple connection to CHS column: Program now correctly permits only fin plate connections.  
*QJ R7.02-01*
2. For simple connections some or all of the bolts through a column or beam web are often subject to double shear from a similar connection on the other side. This shear is entered as a value of 'additional shear' shared by a number of 'bolt rows'. The error message that deals with the case of an 'additional shear' entry but a zero number of 'bolt rows' is improved. *QJ R7.02-02*
3. Simple connections - fin plates: Quikjoint's connection wizard suggests a suitable connection layout and size. This is modified to exactly match Table 6.4 of the SCI guide. *QJ R7.02-03*
4. Simple connections - web cleats and fin plates - structural integrity: During calculations for the tension capacity of the beam, if the vertical bolt centres were changed outside of the connection wizard (by clicking on the drawing) the new centre may not have been used in the calculations. Fixed. *QJ R7.02-04*
5. Simple connections - fin plates - structural integrity: The detailed calculations for the tension capacity of the fin plate displayed the gross area rather than the net. The calculations themselves were correct. *QJ R7.02-05*
6. Since converting to the 32bit XP version (release 7.00 onward) selecting File|Print when viewing the connection drawing failed to print. This is fixed. Results printout was unaffected. *QJ R7.02-06*

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**Quikjoint release 7.10****16-01-09**

Quikjoint XP release 7.10 is supplied in a single self extracting file: QJ32-710.exe. This self extracting file will automatically guide you through program installation, upgrade, or removal.

Quikjoint XP release 7.10 reads data files created with release 7.00 onwards. It will **not** read files created with older versions. However it will be installed alongside the old Quikjoint giving you access to both versions for as long as is necessary.

The changes over release 7.02 are:-

1. Quikjoint's tab bar (*displayed across the bottom of its window*) contains a new *3d* tab. Selecting this tab displays a 3d model of the connection. The model can be manipulated using the scroll bars, mouse wheel, zoom buttons and right mouse click popup menu. *QJ R7.03-01.. QJ R7.03-06*
2. Additional data validation is added to the forms for beam bearing checks. This avoids program crashes due to zero plate thicknesses when viewing the 3d image. *QJ R7.03-07*
3. Quikjoint could also crash if the concrete strength for bases was entered as zero. Fixed. *QJ R7.03-08*
4. When a level for the top of column beam etc. was negative it was displayed in Quikjoint's drawing as [--25]. Corrected. *QJ R7.03-09*
5. The apex haunch drawing now includes a dimension for the haunch cutting length. *QJ R7.03-11*

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Quikjoint release 7.30

08-01-10

Quikjoint XP release 7.30 is supplied in a single self extracting file: QJ32-730.exe. This self extracting file will automatically guide you through program installation, upgrade, or removal.

Quikjoint XP release 7.30 reads data files created with release 7.00 onwards. It will **not** read files created with older versions. However it will be installed alongside the old Quikjoint giving you access to both versions for as long as is necessary.

The changes over release 7.10 are:-

1. All Quikjoint's connection types can now be designed to either BS5950-1 or EN 1993-1-8: 2005. Although Quikjoint's user interface has changed very little, the additional effort to accomplish this can not be understated. *QJ R7.10-01, QJ R7.10-06, QJ R7.10-09, QJ R7.20-02*
2. Quikjoint's Connection wizards now display an additional final form containing a message reminding the user that the calculations must be viewed to establish the suitability of the connection. *QJ R7.20-07*
3. A problem in the check for holo-bolt edge distance is fixed. The fault affected holo-bolts used with flexible end plates. *QJ R7.10-02*
4. Column splices bearing and non-bearing - Selecting an item on the screen using the mouse and editing displays a form where the item can be modified. Dragging the form or using the help system could cause Quikjoint to crash. Fixed. *QJ R7.10-03*
5. BS5950 - Beam splice. The calculation for 'y' used in the web plate bending check was wrong. Fixed. *QJ R7.10-04*
6. Very minor glitch - When the *File description* form is opened the description field is now made current. *QJ R7.10-05*
7. Quikjoint is modified so that 'left over data' in the Wizard forms is reset to default. *QJ R7.10-07*
8. A minor fault in the automatic sizing of welds was found in the apex haunch connection (BS5950). Fixed. *QJ R7.10-08*
9. A problem was found in some of the forms displayed when items in the drawing were clicked on. These forms could refuse to close when OK was clicked. Fixed. *QJ R7.20-01*
10. The wizard form for apex haunches contained notes on sign convention that were misleading. *QJ R7.20-03*
11. A problem with export from Quikbeam is fixed. *QJ R7.20-04*
12. When more than one window (connection) was open selecting the *Window|Close all* menu item would close all windows but fail to display the main windows tool or status bar. Fixed. *QJ R7.20-05*
13. Simple base. Improved input checking for axial load.
14. The check to establish if a computer is networked is improved. *QJ R7.20-06*
15. The On-line help and manual are improved and extended to cover design to EN 1993-1-8:2005 and the necessary changes to Quikjoint's user interface.

## Quikjoint release 7.31

28-01-10

Quikjoint XP release 7.31 is supplied in a single self extracting file: QJ32-731.exe. This self extracting file will automatically guide you through program installation, upgrade, or removal.

Quikjoint XP release 7.31 reads data files created with release 7.00 onwards. It will **not** read files created with older versions. However it will be installed alongside the old Quikjoint giving you access to both versions for as long as is necessary.

Release 7.30 was the first official release of Quikjoint to include design in accordance with EN 1993-1-8, this release includes important enhancements and fixes.

The changes in this release are:-

1. Eaves haunch - The haunch length and depth are now changed using a bespoke form displaying a diagram showing the required dimensions. *QJ R7.30-01*
2. Eaves haunch - For haunches cut from I sections the diagram includes a dimensioned drawing of the haunch cutting. *QJ R7.30-02*
3. Eaves haunch - The calculations for best haunch depth are modified slightly. The old calculations did not permit the cut to pass through the haunch cutting root radius. *QJ R7.30-02*
4. Eaves haunches and Moment connections - Under some circumstances backing plates in the 2d and 3d drawings could be shown as longer than required. *QJ R7.30-03*
5. Rigid moment connections - It is now possible to specify the number of shear rows separately for normal and reversal conditions, giving greater flexibility and economy in the connection design. *QJ R7.30-04*
6. Rigid moment connections - It is now possible to specify backing plates for normal condition (top), reversal (bottom) or both. *QJ R7.30-05*
7. All moment connections (EC3 design only) - Backing plate grade was always taken as S275 no matter which fitting grade was specified. Fixed. *QJ R7.30-05*
8. Rigid moment connections and eaves haunches. The prompt for out of balance moment connections is improved and associated help text extended. *QJ R7.30-06*
9. All connections - The program now displays two additional buttons on the toolbar: Sizes and Loads. These provide access to the corresponding Connection wizard forms without having to rerun the Wizard. *QJ R7.30-07*
10. The On-line help and manual are extended to cover these additions and changes.

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Quikjoint release 7.32

04-06-10

Quikjoint XP release 7.32 is supplied in a single self extracting file: QJ32-732.exe. This self extracting file will automatically guide you through program installation, upgrade, or removal.

Quikjoint XP release 7.32 reads data files created with release 7.00 onwards. It will **not** read files created with older versions. However it will be installed alongside the old Quikjoint giving you access to both versions for as long as is necessary.

The changes in this release are:-

1. Each Quiksoft program now shows the currently selected national annex in its title bar. e.g. 'Quikjoint - National annex: UK - [Eaves]'. *QS Cap-01*
2. The Results contents form now has an additional option to include the national annex settings in the printed results. *QJ Cap-02*
3. The PageUp/PageDown keys were not working for the results preview. Fixed. *QJ R7.31-01*
4. The explanation text displayed in the *Results contents* form for the *Reduce detail* check box was misleading. *QJ R7.31-02*
5. The program code that produces the results preview and printout is improved. *QJ R7.31-03*
6. On occasions Quiksoft programs have encountered errors reading sections files. These have been due to poor versioning or user error and usually take the form a message: '*Attempt to load unregistered ClassID=????*'. The programs are now modified so that the error message contains a path to the offending file. *QB R4.01-01*
7. The *Loads* form for moment connections contains a button '*Sign convention?*'. Clicking on this button displays help text containing a diagram. The diagram now provides extra clarification. *QJ R7.31-04*

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**Quikjoint release 7.33****01-11-10**

Quikjoint XP release 7.33 is supplied in a single self extracting file: QJ32-733.exe. This self extracting file will automatically guide you through program installation, upgrade, or removal.

Quikjoint XP release 7.33 reads data files created with release 7.00 onwards. It will **not** read files created with older versions.

The changes in this release are:-

1. Rigid moment connections designed to EC3 - The bolt shear check now utilises the residual shear capacity of the tension bolts rather than the shear bolts alone. *QJ R7.32-01*
2. Design of moment connections - The wizard could fail with the message: EC3 Helper.pas error=14. This was generally triggered by very small column sections. The fault was caused by modifications necessary for the inclusion of design to EC3. Fixed. *QJ R7.32-02*
3. The design of eaves haunch connections is modified as per rigid moment connections. See previous two descriptions. *QJ R7.32-03*
4. Alterations to fix slow operation on network clients. *QF R8.00-1 QF R8.00-2*
5. Simple connections, BS5950 and EC3. The warning issued when the plate/cleat length is less than  $0.6 \times$  beam depth was issued for fin plates but not for flexible end plates and web cleats. Fixed. *QJ R7.32-04*



## Quikjoint release 7.34

03-05-11

Quikjoint XP release 7.34 is supplied in a single self extracting file: QJ32-734.exe. This self extracting file will automatically guide you through program installation, upgrade, or removal.

Quikjoint XP release 7.34 reads data files created with release 7.00 onwards. It will **not** read files created with older versions.

The changes in this release are:-

1. The output of results to a PDF file could result in a program error '*UResults.pas=2*'. Fixed. *QJ R7.33-01*
2. Eaves haunch - BS5950 - An error was introduced along with the changes for Eurocode whereby the program could fail to report a bolt clash. Fixed. *QJ R7.33-02*
3. Bolt bearing checks - Eurocode - The formula showed  $f_u$  as subscript text rather than  $f$  normal and  $u$  as subscript. *QJ R7.33-03*
4. Beam web bearing/buckling check - Eurocode - For unstiffened webs the check is rewritten in line with the SCI publication P363 Steel Building Design Data. Note: Because checks to stiffened webs require the resistance in bearing alone, these have been left unchanged. *QJ R7.33-04*
5. Beam bearing and buckling general case - When using packs, viewing the calculations to Eurocode could corrupt the value of stiff bearing displayed in the diagram. Fixed. *QJ R7.33-05*
6. Beam bearing and buckling - Sizes form - The explanatory text for the beam overhang in the general case was misleading. *QJ R7.33-06*
7. Beam bearing and buckling - Sizes form - The maximum permitted value for the beam overhang was set unnecessarily low (1000mm.). It is now increased to 10,000mm. *QJ R7.33-07*
8. Beam bearing and buckling - BS5950 - Where the beam alone passed its bearing check, but stiffeners were included, the last line of the calculations for the beam bearing check was misleading. *QJ R7.33-08*
9. Simple connection - Flexible web cleats - Eurocode - The in-plane bending check for the cleat is improved. When  $h_p < 1.36p_3$ , Quikjoint used to produce a failure. Instead it now performs the same in-plane bending check as used for a flexible end plate. (See SN014a-EN-EU) *QJ R7.33-09*
10. Rigid base - Eurocode - This connection now provides an option to either use the HD bolt's bond resistance (as per SN043a-EN-EU), or to calculate a resistance based upon a conical surface area and the tensile strength of the concrete. (Steel Designers' manual Fifth edition page 795). *QJ R7.33-10*
11. The keyboard shortcut *Ctrl+W* now closes the current open window (connection). *QJ R7.33-11*
12. Moment connection - Beam splice - BS5950 - Check added for the tension capacity of the beam flange. *QJ R7.33-12*
13. Moment connection - Beam splice - Eurocode - Check added for the tension capacity of the beam flange. *QJ R7.33-13*

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Quikjoint release 7.40

07-07-11

Quikjoint XP release 7.40 is supplied in a single self extracting file: QJ32-740.exe. This self extracting file will automatically guide you through program installation, upgrade, or removal.

Quikjoint XP release 7.40 reads data files created with release 7.00 onwards. It will **not** read files created with older versions.

The changes in this release are:-

1. The following additional options are now added to the Help menu:
  - a) Visit the Quiksoft website: This option opens the Quiksoft home page on the web.
  - b) Check for latest updates: This option displays a 'Check for latest updates' form. The form will connect to the Quiksoft website and advise if program updates are available. *QS-WS-1*
2. The Quiksoft programs have encountered problems with compiled HTML help systems (.chm files) running over networks due to Microsoft enforced security issues. The recent release of *Internet Explorer 9* has made the situation even worse. Hence at start-up the program will now copy the entire help file from the server to a temporary folder on the client. The help system is then run locally. This should resolve all known HTML help issues. *QS-HLP-1*
3. Upgrading to a new release will now require a code when the digit immediately after the decimal changes e.g. Upgrading from 7.01 to 7.09 will not require an upgrade code. Upgrading from 7.09 to 7.10 will require a code. This does mean that release codes will be required more frequently, but better fits our release strategies since the effected releases often contain considerable enhancement. *QS-UPG-1*
4. After installation, unlocking Quikjoint with a demo code will now automatically unlock all design modules (Eurocode and BS5950). Design modules must still be unlocked in full purchased versions. *QJ R7.33-01*
5. Quikjoint's On-line help and manual are updated.

**Quikjoint release 8.00****01-03-12**

Quikjoint release 8.00 is supplied in a single self extracting file: QJ32-800.exe. This self extracting file will automatically guide you through program installation, upgrade, or removal.

Quikjoint release 8.00 reads data files created with release 7.00 onwards. It will **not** read files created with older versions.

Quikjoint now includes design of simple full depth end plates, a facility to add annotations to the diagram, full compliance with the new Eurocode green book (P358), minimum resistance checks for column splices and more...

In the following items 1 to 18 are general bug fixes and improvements. Items 19 onwards cover changes as a result of the final publication of BCSA/SCI: Joints in steel construction: Simple joints to Eurocode 3. Publication P358. These changes are relatively minor and not strictly necessary for the production of safe designs, but are necessary to claim accordance with P358.

1. Beam splice - With large numbers of bolts (20 rows). Quikjoint could miss calculate the number of bolt rows resulting in the Eurocode calculations reporting failures in bolt bearing. Fixed. *QJ R7.40-01*
2. Quikjoint's 3d view is now able to use graphics acceleration using OpenGL. *QJ R7.40-02*
3. Quikjoint's toolbar now contains an additional *Add Note* icon. Clicking the icon will add a text box to the diagram, the text note can be edited and moved by clicking on it and selecting an option on its popup menu. *QJ R7.40-03*
4. Tension splice rectangular hollow sections - Now permits selection of section orientation. i.e.. The line of bolts may be along either the depth or breadth of the RHS. *QJ R7.40-04*
5. Tension splice circular hollow sections - When viewing the diagram it was possible to change the number of equally spaced bolts to less than four. This data entry is now properly validated. *QJ R7.40-05*
6. Minor fault - Eaves haunches and Moment connections - When viewing the diagram with Eurocode design selected the end plate was drawn in the wrong colour. Fixed. *QJ R7.40-06*
7. BS5950 - Bearing strength of connecting parts and tension strength of bolts - The values for these changed slightly in BS5950-1:2000. These changes were not carried through into Quikjoint XP. Fixed. *QJ R7.40-07*
8. Eurocode moment connections - Column web shear considerations - EN 1993-1-8 uses the term Transformation factor (beta) to deal with the affects of shear in the column web. Quikjoint previously used approximate values of beta taken from Table 5.4. However these approximate Betas gave a worse result than BS5950 green book. For the case of two sided out of balance connections Quikjoint now calculates the value of beta from equations (5.4a) or (5.4b) of the standard. Note that this value of beta is exactly the same as the 'Ratio of out of balance moment over moment' entered by the designer in the connection's loads form. *QJ R7.40-08*
9. Eaves haunch. When haunches fabricated from plate were selected it was not possible to change the plate grade either in the Sizes form, or by clicking in the diagram. Fixed. *QJ R7.40-09*
10. Eaves haunch - Green book BS5950. When calculating the bearing capacity 'Pb' of the haunch Quikjoint used the steel grade for the rafter rather than the haunch material. Fixed. *QJ R7.40-10*
11. Eaves haunch - EC3. When calculating the bearing capacity of the rafter haunch, Quikjoint now uses the lesser of the two values of fy for the rafter and haunch. *QJ R7.40-11*
12. Eaves haunch - EC3 and BS5950 - Quikjoint now checks that the flange and web sizes for the haunch are at least as big as the rafter. Similar for haunch material grade. *QJ R7.40-12*
13. Eaves haunch - EC3 - Quikjoint now checks the rafter web in transverse compression at the sharp end of the haunch. Web bearing/buckling stiffeners may also be specified. *QJ R7.40-13*
14. Eaves haunch - BS5950 - Quikjoint now checks the rafter web in transverse compression at the sharp end of the haunch. Web bearing/buckling stiffeners may also be specified. *QJ R7.40-14*

15. Moment base - BS5950 - Where  $f_{cu}$  is greater than  $25\text{N/mm}^2$  Quikjoint now issues a warning. *QJ R7.40-15*
16. Moment base and Simple base - BS5950 - Where shear is transferred via the holding down bolts Quikjoint now issues a warning that reinforcement may be required. *QJ R7.40-16*
17. Simple connections - If a user clicked on the drawing and changed a notch depth to zero, then viewing calculations could result in an error: 'Quikport SimTools.pas error=1'. Fixed. *QJ R7.40-17*
18. Simple connections - Notches - Checks on the sizes of notches input by the user are re-coded and improved. Although Quikjoint can still produce a user input error for badly dimensioned notches, more normal discrepancies are covered by a warning. Note that the warnings/error messages also state a recommended value for notch length/depth. *QJ R7.40-18*
19. Simple connections - Flexible end plate - Changes to weld check. Now full strength, but incorporating factor of 0.8. See P358 Annex C. Note there is some confusion in P358 regarding mixed grades of steel e.g. S355 beam with S275 plate. Quikjoint assumes worst case as per EN 1993-1-8. *QJ R7.40-19*
20. Simple connections - Beam web shear. Factor 0.9 is introduced for the shear area of double notched beams. For single notched and plane beams the more complicated method of calculating shear area in P358 is introduced. *QJ R7.40-20*
21. Simple connections - Beam to SHS column - Flexible end plates and double cleats. Warning if gauge was less than 0.3 times the connected face width is removed in line with P358. *QJ R7.40-21*
22. Simple connections - Structural integrity check, flexible end plate, web cleats and column flange - Dimension  $e_w$  is now the bolt across corner dimension rather than the washer diameter. *QJ R7.40-22*
23. Simple connections - Structural integrity - Flexible end plate capacity P358 Check 11 (page 26). Additional limits on the effective length of equivalent T stub taken into account. *QJ R7.40-23*
24. Simple connections - Structural integrity - Double web cleats tension capacity. As previous item. *QJ R7.40-24*
25. Simple connections - Structural integrity - Column flange capacity. As previous item. *QJ R7.40-25*
26. Simple connections - HoloBolts. P358 publishes enhanced values for holo bolts. These have been incorporated along with other slight dimensional updates. See Tables G60 G69 of P358. *QJ R7.40-26*
27. Simple connections - FlowDrill. Again slightly enhanced values. *QJ R7.40-27*
28. Simple connections - Double web cleats and Fin plate structural integrity check. The check for capacity of the web bolts acting in shear could pick up the wrong bolt type. Fixed. *QJ R7.40-28*
29. Simple connections - Fin plate and double web cleat P358 Check 3 (continued) uses a formula for  $\Lambda_{LT}$  unfortunately the formula only covers S275 fin plates. Quikjoint calculates  $\Lambda_{LT}$  using the general method in EN 1993-1-1. We have bench marked this against the P358 formula and get very similar results. *QJ R7.40-29*
30. Simple connections - Fin plate and double web cleat. Quikjoint produces warning where the maximum thickness of beam web or fin plate is less than a factor of the bolt diameter for various grades of steel. Unfortunately it was using the diameter of the bolts in the cleat outstand rather than the web. Fixed. *QJ R7.40-30*
31. Simple connections - Fin plates - welds. Welds remain full strength, but calculations are modified in line with P358 check 8 and Appendix C to give better results. *QJ R7.40-31*
32. Simple connections - Fin plates with notched beams. Also applies to double web cleats. P358 Check 4(continued) and Check 5 when checking shear Quikjoint used the maximum of gross, net and block shear. It now uses the maximum of gross and net. *QJ R7.40-32*
33. Simple connections - Fin plate support shear - Check 10 in P358. Quikjoint applied a factor of 0.9 on the shear area. Now removed. *QJ R7.40-33*
34. Simple connections - Fin plate punching shear - Check 10 in P358. The formula in P358 for punching (rigorous) shear seems to us confusing since  $t_p$  is on both sides of the equation. However it rearranges very easily to the formula used by Quikjoint. We have however added a  $\Gamma_{M2}$  factor. *QJ R7.40-34*

35. Simple connections - Structural integrity - Fin plate and beam web block tearing. P358 Check 11 gives two cases, previously Quikjoint checked only case 1, it should be noted however that net tension will always govern unless the end distances in the fin plate are very unequal. Similar change for double web cleats. *QJ R7.40-35*
36. Simple connections - TC10 and SN017a-EN-EU describe checks for connection ductility and rotation. These are not included in P358, but are included in Quikjoint and provide an insight into connection behaviour. By default Quikjoint carries out these checks, but they can be turned off by visiting the Options|Results contents menu option and in the form under the Simple tab, deselecting the 'Include checks for ductility and rotation' check box. *QJ R7.40-36*
37. Simple connections - Warning for maximum bolt centres referred to Table 3.5, it should have been Table 3.3 of EN 1993-1-8. *QJ R7.40-37*
38. Simple column splices bearing and non-bearing - These connections now default to grade 8.8 bolts rather than 4.6. *QJ R7.40-38*
39. Simple column splices bearing and non-bearing - The 3d visualisation did not display internal flange plates properly. Fixed. *QJ R7.40-39*
40. Simple column splices bearing and non-bearing - The check as to whether the splice has significant tension is modified very slightly. No effect in practice. *QJ R7.40-40*
41. Simple column splices bearing and non-bearing - Warning messages now refer to P358. *QJ R7.40-41*
42. Splices - Simple column, bearing and non-bearing and beam. The block tearing check (3.10) in EN 1993-1-8 is replaced with (3.9). i.e. The 0.5 factor is removed. Quikjoint was 'safe'. *QJ R7.40-42*
43. Preloaded bolts. Following clarification in P358 the factor BetaP that accounts for large grip connections is removed. Note Quikjoint designs all preloaded bolts as Category C being non-slip at ultimate limit state. *QJ R7.40-43*
44. Column splice bearing type - Eurocode. Minimum resistance check added P358 Check 5. *QJ R7.40-44*
45. Column splice bearing type - Eurocode. Tying resistance added. P358 Check 6. *QJ R7.40-45*
46. Column splice non bearing type. Eurocode. The messages covering user errors in the dimensions of the web cover plate were missing. Fixed. *QJ R7.40-46*
47. Column splice non bearing type. P358 Check 6 minimum resistance major axis check added. See EN 1993-1-8 clause 6.2.7.1(13). *QJ R7.40-47*
48. Column splice non bearing type. P358 Check 7 minimum resistance minor axis check added. See EN 1993-1-8 clause 6.2.7.1(13). *QJ R7.40-48*
49. Column splice non bearing type. P358 Check 8 Tying resistance added. *QJ R7.40-49*
50. Column splice bearing type. This connection type used to only deal with compression due to factored permanent (dead) load alone (NEd,G). However check 5 in P358 (Minimum resistance page 171) uses factored permanent and variable load (NEd). The loads input is therefore modified and error checking up-rated. *QJ R7.40-50*
51. Column splice bearing type. Very slight change in the numerical rounding for the calculation of the thickness of the division plate. *QJ R7.40-51*
52. RHS Tension splice. P358 check 5 - Welds. The factor 1.225 in used in P358 to increase the weld strength is now also incorporated into Quikjoint. The factor accounts for the more exact weld checks used in P358. These were not originally incorporated into Quikjoint due to lack of confirming literature. *QJ R7.40-52*
53. Value of Alphacc for the UK national annex for EN 1992-1-1 was taken as 1.00 but should have been 0.85. Also typo in National Annex change form corrected. Note that this value is not used by any program other than Quikjoint. *QS-14-12-01-1 QJ R7.40-53*
54. The view calculations window has a caption that includes the connection type. However for simple connections it always said 'Web cleats'. Fixed. *QJ R7.40-54*
55. Simple Web cleats and flexible end plates - Eurocode - Check 10 in P358. Given the new complexities of the Eurocode bearing check and its built in checks for shear at ends and between bolt holes we felt that this check was no longer necessary. It is also excluded from TC10 and the Access Steel NCCI's. However

we were unable to mathematically prove that the check would never be critical. The check is therefore reintroduced. *QJ R7.40-55*

- 56. Very small glitch in the structural integrity checks for simple connections to Eurocode. Quikjoint appends an index to each value of NRdu. Under some circumstances index values could be skipped. Cosmetic only. Fixed. *QJ R7.40-56*
- 57. Full depth end plates added as per P358. Wizard now includes a useful diagram. *QJ R7.40-57*
- 58. Eurocode connections Use of p1/p2 when checking minimum cross centres is reviewed. Where in doubt QJ now uses p2 (worst case). Changes affect column splice web plates, bases and fin plates only. *QJ R7.40-58*
- 59. Quikjoint's Help and Manual are updated. *QJ R7.40-59*

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**Quikjoint release 8.01****17-05-12**

Quikjoint release 8.01 is supplied in a single self extracting file: QJ32-801.exe. This self extracting file will automatically guide you through program installation, upgrade, or removal.

This release fixes a single fault in 8.00, however it also includes changes for code signing and a modified Setup program.

1. The changes documented under item 58 of release 8.00 caused the hollow section tension splice's Wizard to produced an access violation. *QJ R8.01-01*
2. All Quiksoft executable downloads and applications are now digitally signed using Microsoft Authenticode. For additional security the Quiksoft applications now check that the signature is intact and that the executables have not been altered or corrupted. *QS-11-04-12-1*
3. Quikjoint's Help>About form now displays the file signature status. *QS-11-04-12-1*
4. All Quiksoft executable files now have extended manifest files. The WinZipSE program used to produce the self extracting installation file is updated to release 4.0. These changes should avoid the message: 'This program might not have installed correctly' after installation. *QS-23-04-12-1 QS-23-04-12-2*
5. Changes to network licensing to simplify deletion of logged on users. On start up, networked copies of the Quiksoft programs count the number of copies already in use (logged on users). If these exceed the number of concurrent licences a warning is produced, however from time to time because of system crashes users could remain logged on. This can be repaired by rerunning the Setup program and selecting Network server tools and Log off users.  
  
However, now the problem can be fixed more directly from within each application by selecting a new 'Log off users' button displayed within the Licence error form. 'Log off users' now produces a report showing each file deletion. *QS-25-04-12-3*
6. The default name and address for new users used to be loaded from Quiksoft.ini in the user's Windows folder. Quiksoft.ini is a legacy 16bit windows file and will no longer be used. The default user name and address is now obtained from the program source code. *QS-27-04-12-4*
7. The Quiksoft Setup program no longer copies Quiksoft.ini into the user's Windows folder. This file was used by the old 16bit Quiksoft programs, which are no longer supported. *QS-27-04-12-5*
8. The Quiksoft logo displayed by the Setup program is modernised. *QS-27-04-12-6 QS-02-05-12-8*
9. The Quiksoft logo displayed in Quikjoint's introduction form is modernised. *QS-27-04-12-7 QS-02-05-12-8*
10. When first run, before the user's project folder was set, the Quiksoft programs sometimes created an empty folder: c:\quiksoft data\quikjoint. Fixed. *QS-08-05-12-9*

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**Quikjoint release 8.02**

**27-06-12**

Quikjoint release 8.02 runs under all versions of Windows from XP onwards and is supplied in a single self extracting file: QJ32-802.exe. This self extracting file contains a Setup program that will automatically guide you through program installation, upgrade, removal, and registration.

Instructions for program installation, upgrade and removal are available on the Quiksoft web site:  
[www.quiksoft.co.uk/quiksoftdownloads](http://www.quiksoft.co.uk/quiksoftdownloads)

The changes to Quikjoint are as follows:

1. Support for operating systems older than Windows XP is now withdrawn.
2. The Quiksoft Setup program is extensively modified to automate network installations. *QS-18-06-12-01*
3. On startup, if the licence folder is missing the Quiksoft programs now issue an error: *License folder: <Path> is missing*'. Prior to this they would report: *'There is a copy of Quik??? already running'*.  
*QS-18-06-12-02*
4. The section in the manual and on-line help covering program installation is removed and replaced with a link to the Quiksoft web site *QS-18-06-12-03*
5. Changes in release 8.00 caused a fault that affected simple web cleats and fin plate connections designed to BS5950. Eurocode design was not affected. When the size of the web bolts was changed by clicking in the drawing it was possible that some checks to the web would use the wrong hole size. Fixed.  
*QJR8.02-01*



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**Quikjoint release 8.03**

**18-06-13**

Quikjoint release 8.03 runs under all versions of Windows from XP onwards and is supplied in a single self extracting file: QJ32-803.exe. This self extracting file contains a Setup program that will automatically guide you through program installation, upgrade, removal, and registration.

Instructions for program installation, upgrade and removal are available on the Quiksoft web site:  
[www.quiksoft.co.uk/quiksoftdownloads](http://www.quiksoft.co.uk/quiksoftdownloads)

The changes to Quikjoint are as follows:

1. The *Help|About* form is modified with more detailed text, plus a link to the Quiksoft web site.  
*QS-08-11-12-01*
2. The Quiksoft programs have an option to list the values of the selected National annex. Unfortunately, the values for the 'Box' national annex were displayed incorrectly. Note this affected the display of the Box national annex values only, all calculations were correct. *QS-05-06-13-01*
3. Moment connections - BS5950 and Eurocode. When calculating the length of equivalent tee stub, moment connections using cap plates assumed a weld size based upon the cap plate thickness. Quikjoint now assumes a six millimetre fillet weld. Checks for weld sizes for stiffeners and cap plate (BS5950) now report a minimum of 6FW. *QJ R8.03-01*

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**Quikjoint release 8.10****05-12-13**

Quikjoint release 8.10 runs under all versions of Windows from XP onwards and is supplied in a single self extracting file: QJ32-810.exe. This self extracting file contains a Setup program that will automatically guide you through program installation, upgrade, removal, and registration.

Instructions for program installation, upgrade and removal are available on the Quiksoft web site:  
[www.quiksoft.co.uk/quiksoftdownloads](http://www.quiksoft.co.uk/quiksoftdownloads)

The changes to Quikjoint are as follows:

1. Quikjoint's handling of projects is modernised. Quikjoint now includes the option for existing users to switch to a new method of handling project folders. Existing users should select the menu option: *File|Project manager|Adopt new file handling*. New users will automatically be given the new file handling. See Quikjoint's Help system. *QS-09-10-13-02 QS-09-10-13-04*
2. When New file handling is selected, the headings for the printed output are modified:-
  - a) The current project is removed.
  - b) The box for the file name permits a longer file name. *QS-09-10-13-03*
3. The printed output for the Quiksoft programs now includes the full path to the data file printed just outside the margin. *QS-12-08-13-01*
4. The *Help|Purchase design modules* option no longer requires restarting Quikjoint using 'Run as Administrator...' *QS-25-10-13-01 QS-30-10-13-02*
5. The *Help|Purchase design modules* form is updated and improved. *QS-30-10-13-05*
6. The Quiksoft programs no longer require to be unlocked by the Setup program. Instead unlock codes are requested at program start-up. *QS-29-10-13-01 QS-21-11-13-03*
7. The program's introduction form displayed for demonstration copies is generally improved and now includes number of days remaining. *QS-25-11-13-05*
8. All options to do with registration including major releases are removed from the Setup program. These are now performed at program start-up. *QS-30-10-13-01 QS-05-11-13-02*
9. For network copies Quikjoint's Help menu now includes a 'Network licence settings' option. The new option covers administration options for concurrent network copies. *QS-30-10-13-03 QS-30-10-13-04*
10. The Quiksoft installation copied Setup.exe into each applications program folder. On network server installations this could be started to quickly perform a setup on a client computer. Unfortunately many users were confusing it with the full Setup program. It is now more correctly named 'ClientSetup.exe'. *QS-05-11-13-01 QS-05-11-13-03 QS-08-11-13-04*
11. The Quiksoft program's *Browse For Folder* form was found to be unreliable when browsing deep directory structures on a network server. It is replaced with the standard windows form. *QS-08-11-13-05*
12. The Quiksoft setup program's network client setup is improved. It now includes a Search button to find the Quiksoft program on the server. *QS-19-11-13-01*
13. The project manager options under the old file handling has a Backup, Restore and Copy option. The progress bar is improved cosmetically. *QS-02-12-13-02*
14. Edits and updates for Quikjoint's help content. *QS-21-11-13-02 QS-21-11-13-04*

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**Quikjoint release 8.11**

**16-06-14**

Quikjoint release 8.11 runs under all versions of Windows from XP onwards and is supplied in a single self extracting file: QJ32-811.exe. This self extracting file contains a Setup program that will automatically guide you through program installation, upgrade, removal, and registration.

Instructions for program installation, upgrade and removal are available on the Quiksoft web site:  
[www.quiksoft.co.uk/quiksoftdownloads](http://www.quiksoft.co.uk/quiksoftdownloads)

The changes to Quikjoint are as follows:

1. The new project handling contained a fault. The project title was not always updated properly. Fixed. *QS-20-12-13-03*
2. For demonstration copies the days remaining in the program's introduction form could be displayed incorrectly. Fixed. *QS-08-01-14-04*
3. The Quiksoft Help|About form now displays the Quiksoft logo. *QS-12-05-14-01*
4. The Quiksoft Introduction form for unregistered and demonstration copies now displays the latest Quiksoft banner logo. *QS-21-05-14-04 QS-12-05-14-02*
5. The Quiksoft Setup program now uses the new quiksoft banner logo. *QS-21-05-14-04*
6. Quikjoint's manual is updated.

**Quikjoint release 8.50**

**16-01-15**

Quikjoint release 8.50 runs under all versions of Windows from XP onwards and is supplied in a single self extracting file: QJ32-850.exe. This self extracting file contains a Setup program that will automatically guide you through program installation, upgrade, removal, and registration.

Instructions for program installation, upgrade and removal are available on the Quiksoft web site: [www.quiksoft.co.uk/quiksoftdownloads](http://www.quiksoft.co.uk/quiksoftdownloads)

Most of the work in this release is due to the publication of P398 - BCSA/SCI: Joints in steel construction: Moment-Resisting Joints to Eurocode 3. P398 offers some clarification enabling us to push economy further, but in some cases its methods differed slightly from those adopted in Quikjoint. Each difference has been carefully considered. In some instances (beam splices) new options have been added so that Quikjoint can perform a strict P398 approach or its original (traditional) approach. Quikjoint now has a new menu option to cover these features. See: *Options|Calculation options*.

Moment connections now include weld checks for their stiffeners, the beam splice will now operate with category A, B and C types of connections and optionally includes minimum resistance checks.

The moment base now offers considerably more flexibility and has a new method for assessing the tension resistance of the holding down bolts based upon: DD CEN/TS 1992-4-2:2009

The detailed changes to Quikjoint are as follows:

1. Quikjoint now uses the formula for Alpha from page 163 of P398. *QJR8.11-01*
2. A warning for narrow stiffeners is implemented. See Step 1 P398. *QJR8.11-02*
3. 'e<sub>w</sub>' added to connection geometry output. *QJR8.11-03*
4. EN 1993-1-8 Table 6.2 - Quikjoint used Method 1 for F<sub>T,1,Rd</sub>. Method 2 (alternative method) is now adopted. Also changes to separate circular and non-circular equivalent tee stub patterns. *QJR8.11-04 QJR8.11-05 QJR8.11-06 QJR8.11-08 QJR8.11-09*
5. 'XP' is now removed from Quikjoint's title. *QJR8.11-07*
6. P398 - Step 1B - 0.87w rule added. *QJR8.11-10*
7. P398 - Example C.1 shows b<sub>eff,t,wc</sub> used for web tension as being l<sub>eff,1</sub> or l<sub>eff,2</sub> depending on bolt failure mode. Quikjoint is modified to suite. *QJR8.11-11*
8. Moment connections - Quikjoint's Loads forms set a maximum value of 1.0 for the ratio of out of balance moment. This is now raised to 2.0. Note: EN 1993-1-8 5.3(9) and Table 5.4 refer to this value as the transformation factor (Beta). See EN 1993-1-8 5.3(9) and Table 5.4. *QJR8.11-12*
9. Moment connections - Column web tension. The reduction factor for shear interaction is now taken into account. See Table 6.3 *QJR8.11-13*
10. Moment connections - Column web transverse compression. P398 uses the f<sub>y</sub> for the section, Quikjoint used f<sub>y</sub> for the web which can be slightly higher. This behaviour is now an option in Quikjoint's *Options|Calculation options* form. *QJR8.11-14 QJR8.11-15 QJR8.11-16*
11. Moment connections to Eurocode - Additional checks for flange, tension stiffeners and cap plate added. Including weld checks. See P398 - Step 6A. *QJR8.11-18*
12. Moment connections - The default length for flange and end plate stiffeners is increased from 1.8 to 1.9 x Stiffener width to suit new rules in P398. *QJR8.11-19*
13. Moment connections to Eurocode - Checks added for column/rafter/beam web shear for flange, tension stiffeners and cap plates. *QJR8.11-21*
14. Moment connections to Eurocode - Additional check added as described in P398-Step 6A and Figure 2.17. *QJR8.11-22*
15. Moment connections to Eurocode - Where the tension weld in the rafter/beam web falls short of 'full strength' Quikjoint now checks the weld resistance against the resistance of the Tee stubs.  
See P398 Step 4. This usually results in a smaller weld. *QJR8.11-24*

16. Moment connections - Rigid moment beam to column - BS5950 and Eurocode. when the pitch of the beam was not zero, certain bad connection layouts could cause Quikjoint to stop with either of the following messages: EC3MConnect.pas error=10; MConnect.pas error=10. Fixed. QJ R8.11-25
17. The Sizes form for Eaves/Valley haunches now includes a 'Same as rafter' button next to the haunch size. *QJ R8.11-26*
18. The Sizes form for Eaves/Valley haunches has additional validation to ensure that the haunch length and depth has been set correctly. *QJ R8.11-27*
19. The form that controls the flange stiffeners/backing plates contained a slight fault in its interaction. Fixed. *QJ R8.11-28*
20. Beam splices - Eurocode. When preloaded bolts are used Quikjoint now states that these are designed as Category A, B or C. *QJ R8.11-29 QJ R8.11-31*
21. Beam splices - Eurocode - Category B connection checks added for bolt slip at serviceability limit state. *QJ R8.11-36*
22. Beam splices - Eurocode - Category C connection - Tension check on net area added. EN 1993-1-1 6.2.3(4). *QJ R8.11-36*
23. Beam splices - Eurocode - The wizard form now includes a field for the slip factor. *QJ R8.11-30*
24. Beam splices - Eurocode - Changes to diagram and loads form which now displays the connection category and if necessary the serviceability loadings. *QJ R8.11-32 QJ R8.11-32*
25. Beam splices - Eurocode - Check added prior to the calculations to ensure that the bolt type is suitable for the bolted connection category. *QJ R8.11-33 QJ R8.11-34*
26. Beam splice - Eurocode - There were instances where the maximum force in the bolts could be calculated wrongly. Fixed. *QJ R8.11-35*
27. Beam splice - Eurocode - Diagram now shows sense of axial load (Compression/Tension). *QJ R8.11-37*
28. Beam splice - Eurocode - Beam flange tension - The block tearing check now uses equation (3.9) rather than (3.10). *QJ R8.11-39*
29. Beam splice - In preparation for P398's different distribution of forces through the connection the web plate is modified for additional columns of bolts. *QJ R8.11-40*
30. Moment connections - Eurocode - Where because of high tensile force a connection does not have a compression zone, Quikjoint issues a message. Unfortunately the details of the message were incorrect. Fixed. *QJ R8.11-41*
31. Beam splice connection - Eurocode - P398 explicitly shows the distribution of internal forces through the splice based upon the stiffness of the beam flange and web elements, referring to clause 6.2.7.1(16). Quikjoint's traditional approach was that the flange plates carried moment and axial and that the web plate carried just shear. This resulted in relatively small manageable web plates. Quikjoint now defaults to using the P398 method, but it's possible to select the traditional method using Quikjoint's new Options|Calculation options form. *QJ R8.11-43 QJ R8.11-45*
32. All Friction grip connections (Pre loaded bolts). Slip factor now defaults to 0.40 (was 0.45). *QJ R8.11-44*
33. Splice connection - Eurocode - P398 - New code added to cover checks to the web plate which can now have more than a single column of bolts. *QJ R8.11-46*
34. Splice connection - Eurocode - P398 - Minimum resistance checks added and wizard form modified with a new option to include/exclude the new checks. *QJ R8.11-47 QJ R8.11-48*
35. Splice connection - Eurocode - The Sizes form now includes a 'Same' button to quickly duplicate the section size. *QJ R8.11-48*
36. Non bearing column splice - Minimum resistance checks - Where there was more than one bolt row in each column Quikjoint could underestimate the capacity of the web bolts in shear. Fixed. *QJ R8.11-49 QJ R8.11-50*
37. Simple bases - Eurocode - Where the resistance to shear using base plate friction fails, Quikjoint now goes on to utilise the design shear resistance of anchor bolt. See EN 1993-1-8 6.2.2(5) and 6.2.2(7) (Same approach as moment base.). *QJ R8.11-51*

38. Simple and moment bases - Eurocode - The default values for the following variables may now be overridden:
  - a) Alpha - a coefficient which accounts for the concrete bearing strength enhancement due to the diffusion of the concentrated force within the foundation. See SN0037a-EN-EU - Annex A.
  - b) Cf,d - the coefficient of friction for the underside of the base plate. *QJ R8.11-52*
39. After running the Wizard, Quikjoint now automatically performs a Zoom fit to place the drawing neatly on the screen. *QJ R8.11-52*
40. Moment bases - Eurocode - These are now more flexible. The wizard includes a drop down list box where the new bolt patterns can be selected. *QJ R8.11-53 QJ R8.11-54*
41. Moment bases - Eurocode - Modifications to calculations to cover the new bolt layouts. *QJ R8.11-55*
42. Moment bases - Eurocode - The bolt anchorage using the cone of resistance is modified to use vmin. *QJ R8.11-55*
43. Moment bases - Eurocode - P398 suggests that for eight bolt bases the tension loads in the bolts should be limited to a triangular distribution. This is not in Eurocode itself or the NCCI. Quikjoint now defaults to a triangular limit, but this can be turned off in the Calculations Options form. The wizard has a new button to provide easy access. *QJ R8.11-56*
44. Moment bases - Eurocode. There was a glitch in the Wizard. When optimising the connection layout the bolt grade was never increased to 8.8. The result was an incomplete connection design. Fixed. *QJ R8.11-57*
45. Moment bases - Eurocode - Quikjoint has an additional option to check the design anchorage resistance (concrete cone failure) for the holding down bolts in accordance with 'DD CEN/TS 1992-4-2:2009 - Design of fastenings for use in concrete - Part 4-2: Headed Fasteners'. Quikjoint will now use this method by default. *QJ R8.11-58*
46. Moment bases - Eurocode - The design wizard is generally improved. *QJ R8.11-59*
47. Moment bases - Eurocode - Where external bolts lay outside the tips of the flanges Quikjoint now produces a warning. *QJ R8.11-60*
48. Moment bases - Eurocode - For uplift on the base the total tension resistance was calculated as 2x the force on the left hand bolts. However when using concrete cone of resistance checks this could be un-conservative since the cones on left and right hand bolts could interfere. For uplift Quikjoint now uses the left hand bolts only. *QJ R8.11-61*
49. Moment bases - Eurocode - Minor cosmetic improvement in output (representation of the sign for the axial load when tension at base). *QJ R8.11-62*
50. There was a problem in the handling of the Eurocode national annexes. The programs stored the currently selected national annex in the registry in a location used by all of the programs. However the actual data files were stored in a separate location for each member of the Quiksoft family. e.g. '...\Quiksoft\Quikframe\UK.na3'. This was illogical. Each program now stores its current national annex separately. This makes it possible to be working in QuikEC3 using say BOX values and at the same time having Quikjoint open using 'UK' values. The default national annex is now 'UK'. *QS-16-01-15-01*
51. Apex haunch - BS5950 design. An error is fixed. In the reversal case. The checks for shear in the bolts used the applied 'normal' shear rather than the 'reversal' shear. This also affected the Eurocode shear check for the welds (apex haunch only). *QJ R8.11-17*
52. Moment connections - BS5950 - The warning 'Stiffener width is less than 75% of available flange width' could wrongly be triggered for a fitted stiffener. *QJ R8.11-23*
53. Eaves haunch - BS5950 - The detailed calculations for transverse compression in the rafter showed the result as 'Pw > C1' and 'Pw < C1' the wrong way around. The calculations were however correct. Fixed. *QJ R8.11-38*
54. Beam splice - BS5950. Additional check to ensure that no more than two bolt rows are present in the web plate. *QJ R8.11-42*

**55.** Quikjoint's On-line help and manual are updated.

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**Quikjoint release 8.51**

**06-02-15**

Quikjoint release 8.51 runs under all versions of Windows from XP onwards and is supplied in a single self extracting file: QJ32-851.exe. This self extracting file contains a Setup program that will automatically guide you through program installation, upgrade, removal, and registration.

Instructions for program installation, upgrade and removal are available on the Quiksoft web site:  
[www.quiksoft.co.uk/quiksoftdownloads](http://www.quiksoft.co.uk/quiksoftdownloads)

This release fixes a single small error introduced in release 8.50.

The changes to Quikjoint in this release are as follows:

1. Moment connections - Eurocode - P398 introduced a new rule. Step 1 in P398 states that if  $b > 1.33w$  then the stiffener element has no affect on the yield line pattern and should be ignored. Unfortunately when we implemented this rule we missed the case of an extended end plate. Connections with extended end plates, and bolt cross centres  $> b/1.33$  could stop with the message: Quikjoint EC3MConnect.pas error=10.  
Fixed. QJ R8.50-01



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**Quikjoint release 8.52****24-06-15**

Quikjoint release 8.52 runs under all versions of Windows from XP onwards and is supplied in a single self extracting file: QJ32-852.exe. This self extracting file contains a Setup program that will automatically guide you through program installation, upgrade, removal, and registration.

Instructions for program installation, upgrade and removal are available on the Quiksoft web site:  
[www.quiksoft.co.uk/installation-upgrade-and-removal](http://www.quiksoft.co.uk/installation-upgrade-and-removal)

The changes to Quikjoint in this release are as follows:

1. Moment connections - Eurocode - Following changes in release 8.50 (item 15) above, there could be a glitch in the recommended minimum weld size for the web in the tension zone. Quikjoint only reported the required weld size based on the 'Tee' resistance and ignored the case where a full strength weld could be smaller. Fixed. *QJ R8.51-01*
2. Moment connections - Eurocode - Again following changes in release 8.50 (item 15) above, the wizard could under some circumstances, under size the weld to web tension zone. The summary of results and detailed calculations were correct. Fixed. *QJ R8.51-03*
3. Moment connections - Eurocode - Stiffener checks. The checks on the cap plate and partial depth stiffeners are reworked for additional clarity. As well as the column/rafter web shear, Quikjoint now checks both the stiffener shear and web welds for both cap plates and partial depth stiffeners (See P398 Fig 2.18). This negates the necessity for the ' $L_s < 1.9bs_n$ ' warning which is no longer displayed. *QJ R8.51-02*
4. Moment connections - Eurocode - The Web tension additional check described in P398 Step 6A and illustrated in Figure 2.17 is refined slightly. Quikjoint now checks the length of stiffeners and will treat sufficiently long stiffeners as full depth. *QJ R8.51-04*
5. The form displayed when the 'Help|Check for latest updates' menu option is selected is modified. The form now directs the user to upgrade instructions on the revised Quiksoft web site. *QS-19-03-15-01*
6. A minor change to the way the tutorial videos are displayed. *QS-30-03-15-01*
7. This release includes a National Annex for Singapore (SS). *QS-23-04-15-01*
8. Quikjoint's help and manual are updated.

## Quikjoint release 8.90

01-12-15

Quikjoint release 8.90 runs under all versions of Windows from XP onwards and is supplied in a single self extracting file: QJ32-890.exe. This self extracting file contains a Setup program that will automatically guide you through program installation, upgrade, removal, and registration.

Instructions for program installation, upgrade and removal are available on the Quiksoft web site: [www.quiksoft.co.uk/installation-upgrade-and-removal](http://www.quiksoft.co.uk/installation-upgrade-and-removal)

The changes to Quikjoint in this release are as follows:

1. Quikjoint now produces a schedule of connections listing design method, sections, fittings, bolts, welds and status (passed, warnings etc.) See *File|Project manager|Connections schedule* and the new speedbar button on the opening screen.  
The schedule is also available along with the calculations for each connection. See *Options|Results contents*.  
The connection schedule can also be exported in CSV format for use in all popular spreadsheet programs. *QJ R8.52-02 through QJ R8.52-11*
2. Quikjoint has a new option *File|Project manager|Print project*. This like the schedule can also be accessed via a new toolbar button on the opening screen. The new option displays the *Print project* form where all selected connections for the current project can be printed on mass with an optional page index. *QJ R8.52-13*
3. Improved custom section support - All Quikjoint 'Sizes' forms in the wizard also available from the 'Sizes' button on the toolbar now include a small button next to the grade selection. This button displays the same form as that displayed when sections are changed by clicking in the diagram. This form now includes a check box 'Use custom section' where the dimensions of a custom section size may be directly entered. Custom section dimensions are now listed at the head of the calculations output. *QJ R8.52-15, QJ R8.52-28, QJ R8.52-29, QJ R8.52-31*
4. There is a new *Options|Defaults* option. This can also be accessed from the forms where sections and bolts are changed. The new option displays a form where the range of section grades, bolt diameters and grades can be restricted. In this way UK customers can restrict the available grades to S275, S355 and bolts to just Grade 8.8. This should make repetitive input faster and more accurate. *QJ R8.52-16, QJ R8.52-17*
5. A new feature is added when Quikjoint displays it's 2d connection drawing. Now hovering the mouse over the section or bolt size will display a hint panel. The hint panel shows useful information including section dimensions, section capacities, bolt details and bolt capacities. *QJ R8.52-30*
6. When viewing the 2d diagram, clicking the weld size now displays a modified form. The form now uses a drop down list box where the weld size can either be directly typed in or selected from a list. The form now also includes a button that displays a new form where the 'Nominal' weld size can be changed. The new 'Nominal weld size' form contains explanatory text. *QJ R8.52-32*
7. Eaves haunch and rigid moment connections - Slight changes to the representation of the plug welds for supplementary web plates. *QJ R8.52-01*
8. The Hollow section tension splice and simple base connections did not introduce their detailed checks with a statement of the design method used. Fixed. *QJ R8.52-12*
9. BS5950 - Moment base - under rare circumstances Quikjoint could stop and issue the error 'RichTemplate.pas Template id=81 CurField>FieldList.Count'. - Fixed. *QJ R8.52-14*
10. Eurocode - Simple column bearing splice - When using internal flange plates the minimum resistance check (P358 check 5) accounted for 2 rather than 4 plates. Fixed. *QJ R8.52-33*

11. Eurocode - Eaves haunch - Haunch compression flange weld - Where the haunch is fabricated from plate and a nominal weld with bearing fit is assumed, Quikjoint now produces a warning with reference to P398 Step 8. *QJ R8.52-34*
12. Quikjoint's help and manual are updated.

**Quikjoint release 8.95****02-08-18**

Quikjoint release 8.95 runs under all versions of Windows from XP onwards and is supplied in a single self-extracting file: QF32-895.exe. This self-extracting file contains a Setup program that will automatically guide you through program installation, upgrade, removal, and registration.

Instructions for program installation, upgrade and removal are available on the Quiksoft web site:

[www.quiksoft.co.uk/installation-upgrade-and-removal](http://www.quiksoft.co.uk/installation-upgrade-and-removal)

The changes to Quikjoint are as follows:

1. Moment connections - Welds to tension flange and web in the tension zone now make use of a  $K$  factor. See P398 Step 7. This can result in slightly smaller weld sizes. When Quikjoint's Eurocode was first written P398 did not exist, the available literature at that time did not make use of this factor. It's easily missed in P398. *QJ R8.91-02*
2. If a custom bolt was selected in the fourth (Design) form of the wizard, Quikjoint could issue an access violation. Fixed. *QJ R8.91-03*
3. Column splice - Bearing type - If the column splice was subject to external tension rather than compression Quikjoint could miscalculate the flange plate force. This affected both BS5950 and Eurocode. Fixed. There was a similar fault in the check for shear that utilises friction. Fixed. *QJ R8.91-04*
4. Quikjoint's 'Print project' option introduced in release 8.90 now displays the 'Headers details' form prior to printing. It can be suppressed by removing the check mark under 'Ask me before printing'. *QJ R8.91-05*
5. Beam splice connection - BS5950 - In the net tension check for the beam flange Quikjoint was using the wrong value of  $K_e$  for grades of steel other than S275. *QJ R8.91-06*
6. Beam splice connection - BS5950 - The calculation for the force in the flange plates, bolts and flange is modified slightly to conform to P207/95. *QJ R8.91-07*
7. Beam splice connection - Eurocode - When using the 'traditional' method the calculation for the force in the flange plates, bolts and flange is modified to match the item above. *QJ R8.91-08*
8. Moment bases - Moment bases now include the option for Quikjoint to ignore bolt pull-out to cover specialist situations supported by separate manual calculations.  
Bases with very high or pure tension are improved. *QJ R8.91-09*
9. Moment base BS5950 - Where the base plate dimensions were varied after running the connection wizard, the schedule could show the wrong size. Fixed. *QJ R8.91-10*
10. Quikjoint adds a note in the calculations with the details of any custom sections or bolts. These are now tidied so that they are displayed together at the head of the detailed calculations. *QJ R8.91-11*
11. When only the diagram was selected for print out for either an individual connection, or the project, Quikjoint would throw a blank page. The blank page is now suppressed. *QJ R8.91-11*
12. Simple connections - A slight problem with custom bolts - This affected simple double web cleat connections only. It was not possible to select a different type of custom bolt in the beam web and cleat outstand. Fixed. *QJ R8.91-12*
13. As the mouse was moved over the diagram text, the hint panels introduced in release 8.90 could spoil the drawing of the 'red box' around the selected item. Fixed. *QJ R8.91-13*
14. Column splices - Bearing type - BS5950 and Eurocode. Where the connection is not able to resist the shear using friction, Quikjoint not issues a warning. *QJ R8.91-14*
15. Moment connections - BS5950 - The weld sizes for the stiffeners were not picked up in the schedule and showed as 0FW. Fixed. *QJ R8.91-15*
16. Moment connections - Eurocode and BS5950 - If the end plate does not extend above or below the top/bottom flange sufficient for the weld Quikjoint now issues a warning. *QJ R8.91-16*

17. Moment connections - The methods used in the design of moment connections assumes tension in the bolts and a compression zone in the column. Occasionally, and usually because of large axial force, Quikjoint will display a fail for moment capacity with a unity factor of 99.99. The summary table has always shown an explanation, but now above the summary table, Quikjoint will display a note explaining why this has happened and more importantly how to proceed with the connection design. *QJ R8.91-17*
18. The 'Defaults' form, displayed from the 'Options|Defaults' menu item now contains a new 'Welds' tab. This tab is used to set the size of the nominal welds used in the weld schedule. The required stiffener weld sizes for moment connections are usually small and therefore reported in the schedule as the nominal weld size. The way Quikjoint handles this is improved. *QJ R8.91-17*
19. Moment connections - Loads form. When the mouse is hovered over the axial load or moment fields, Quikjoint now displays a hint confirming the direction of the force. *QJ R8.91-18*
20. RHS Tension splice connection - The connection now produces a warning if the plate thickness is outside of the limits specified in Check 1 Note 2 of P212 (BS59505) or P258 (EC3). Note the checks can still give a pass with stupidly thin plates. It comes down I think to the value of Alpha. Alpha is the ratio  $M_{hog}/M_{sag}$  see 'CIDECT document 3 Design Guide for rectangular sections (RHS) Joint under predominantly static loading. Page 85'. If it were me I would constrain Alpha to:  $0 < \text{Alpha} < 1$ . When Alpha is greater than one it means that the moment at the bolt line is greater than the moment adjacent to the wall. *QJ R8.91-19*
21. Moment bases - Eurocode - Pull-out using DD CEN/TS 1992-4-2 - Quikjoint raises a warning regarding the edge distance in the concrete for the holding down bolt. The warning is now enhanced to include a reference. *QJ R8.91-20*
22. Moment connections – Eurocode - In the 'Loads' form for the Eaves haunch and rigid moment connections, there are 'kwc' buttons. These set the value of 'kwc' used in the column web bearing and buckling checks. The upper most (in the form) 'kwc' button now sets the value for 'kwc' at the bottom of the connection (Normal condition) and the lower the top of the connection (Reversal condition). *QJ R8.91-21*
23. Moment connections – Eurocode - When moment connections fail, Quikjoint offers advice as to why and suggests a course of action. These are output immediately after the summary table. Where a connection fails due to column web bearing/buckling Quikjoint now advises that a possible solution is to modify 'kwc'. *QJ R8.91-22*
24. Simple connections - Beam to beam web - Where the notch was long compared to the section depth, the diagram could show the notch incorrectly - Fixed. *QJ R8.91-23*
25. Moment bases - BS5950 - Improved method used to check the web weld. *QJ R8.91-24*
26. Apex haunches - The haunch length can now be changed by clicking in the diagram. A small glitch in the 3d view is also repaired (cosmetic - when the end plate was narrower than the beam flange). *QJ R8.91-25*
27. BS5950 - Beam and column splices - Support for grade 10.9 preloaded bolts added. *QJ R8.91-26*
28. Eurocode and BS5950 - Direct support for tension control bolts added (TCB Grade S10T). *QJ R8.91-26*
29. Further improvement in the presentation of custom bolts in results - Proof Load is not used on the Eurocode side and is therefore suppressed when displaying custom bolt details. Also note added in form for custom bolt input. *QJ R8.91-26*
30. Bearing general check, has been overhauled to permit the input of larger loadings. *QJ R8.91-27*
31. Apex haunch - The drawing for the eaves haunch now includes the text 'Haunched'. This can be clicked on to remove the haunch. Unhaunched apex connections may have a single line of bolts above and/or below the rafter flange. *QJ R8.91-29*
32. All connections - It's now possible to set a default fitting grade other than S275. See the new 'Fitting grade' tab in the 'Defaults' form available on the 'Options' menu. *QJ R8.91-30*
33. The fittings schedule now always specifies the fitting grade. *QJ R8.91-30*
34. All bases now default to a coefficient of friction of  $C_f, d = 0.30$ . This is in line with Green Books. *QJ R8.91-31*

35. As of April 18, 2012, all Quiksoft executable downloads have been digitally signed using Microsoft Authenticode. This ensures that the downloaded files originate from us and have not been altered; reducing operating system and browser warnings associated with downloads.

As of May 27, 2016, new software releases will be signed using a more advanced system. The name on the certificate is now 'Quiksoft Limited'. Downloads should have immediate good reputation using Microsoft's Explorer and Edge browser, but others may take a little time before downloads are easily accepted without warnings. *QS-27-05-16-03*

36. Modern project handling - When selecting a project folder, if the folder does not exist, Quikframe now asks the engineer if he wants to create it. *QS-15-02-17-01*
37. Quikframe's 'Headers details' form used to select among other things the first sheet number for the printed output now performs additional data validation. *QS-17-02-17-02*
38. The form that controls the contents of the headers in the printed output ('Options|Results headers') now includes a new check box 'Show file path in margin'. *QS-04-04-17-03*
39. New project handling - The form where the project folder and program data folder are selected now validates that the folders have write and create file permissions. *QS-20-09-17-01*
40. Project handling - On rare occasions users were experiencing problems when their selected project folder became invalid. It can become invalid after changes using Windows file explorer (renaming, moving, or changes to folder access permissions). The project folder and program data folder are now checked just after program start-up. If the Quiksoft programs detect a problem, they display a warning with a 'Help' button that will give information and a remedy. *QS-10-10-17-01*
41. Prior to registering as a fully licenced copy the Quiksoft programs display an introduction form. The forms main function is to accept codes to unlock the software. This form now displays the program release number. *QS-26-01-18-01*
42. The customer name and address default is now Quiksoft Limited with contact details. *QS-19-07-18-01*
43. The On-line help and manual are updated.

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**Quikjoint release 8.96**

**09-08-18**

Quikjoint release 8.96 runs under all versions of Windows from XP onwards and is supplied in a single self-extracting file: QF32-896.exe. This self-extracting file contains a Setup program that will automatically guide you through program installation, upgrade, removal, and registration.

Instructions for program installation, upgrade and removal are available on the Quiksoft web site:

[www.quiksoft.co.uk/installation-upgrade-and-removal](http://www.quiksoft.co.uk/installation-upgrade-and-removal)

The changes to Quikjoint are as follows:

1. Apex haunch - Following changes for variable haunch lengths in release 8.95, it was possible for Quikjoint's wizard to stop and issue the message: *'Quikjoint EC3MConnect.pas error=10'*. Fixed.  
*QJ R8.95-01*

**Quikjoint release 9.00**

**06-01-2020**

Quikjoint release 9.00 runs under all versions of Windows from XP onwards and is supplied in a single self-extracting file: QF32-900.exe. This self-extracting file contains a Setup program that will automatically guide you through program installation, upgrade, removal, and registration.

Instructions for program installation, upgrade and removal are available on the Quiksoft web site:

[www.quiksoft.co.uk/installation-upgrade-and-removal](http://www.quiksoft.co.uk/installation-upgrade-and-removal)

The changes to Quikjoint are as follows:

1. The connection schedule and print project options could crash when using custom bolts. Fixed.  
*QJ R8.96-01*
2. A problem with custom sections that could permit selection of inappropriate section shapes is fixed.  
*QJ R8.96-02*
3. Quikjoint's moment connections now include annotations in the diagrams where stiffener weld sizes can be specified. Because of assumptions made during the end plate cross bending checks, stiffener welds must be a minimum of 6FW. The default is also 6FW. General improvement of stiffener weld checks.  
*QJ R8.96-03*
4. Apex haunch - Running the connection wizard on an un-haunched apex connection could result in the error message 'Quikjoint EC3MConnect.pas error=10'. Fixed. *QJ R8.96-04*
5. Moment connections - Eurocode - When a connection fails, just below the Summary of results, Quikjoint lists the critical check and suggests a remedy. Two improvements have been made:
  - There was a glitch with apex haunches, this is corrected.
  - With all moment connections, where the failure is due to beam flange crushing, Quikjoint now also refers to 'Calculation options' on the 'Options' menu. *QJ R8.96-05*
6. Connection schedule - When viewing the 'Connection schedule' form, clicking on connections displays their 3d view. Unfortunately, if the 'Calculations' button was clicked, and then a connection that used custom bolts selected, its bolts would not be displayed in its 3d view. There was a similar, but even more minor fault in the 'Project print' form. Fixed. *QJ R8.96-06*
7. Simple connections - Hollow sections - Blind bolts. Quikjoint now offers Blind Bolts for design to both BS5950 and Eurocode. See SCI guide and [www.blindbolt.co.uk](http://www.blindbolt.co.uk). *QJ R8.96-07*
8. Moment connections - BS5950 - The tension check is modified slightly to cover the case where the top bolt is within  $1.73g/2$  of the top of the column. *QJ R8.96-08*
9. Simple connections - BS5950 and Eurocode - P358 Amended Table 4.1 (Page 11). These slightly thicker plates are now selected as default in Quikjoint's wizard. *QJ R8.96-09*
10. The introduction form displayed for trial copies now includes a link to the 'Buy now' page of the Quiksoft website. The link is displayed when the remaining free trial days falls below seven. The same form now includes better advice (hint text) on how to copy and paste the serial number to email. The popup menu is also improved. *QS-19-11-18-01*
11. Prior to registering as a fully licenced copy the Quiksoft programs display an introduction form. The forms main function is to accept codes to unlock the software. The program details now include the program release number. *QS-12-12-18-01*
12. Quikjoint now automatically checks the Quiksoft website to see if updates are available at start-up. The check is made every other time the software is started. If updates are available a form is displayed with access to a direct download link and full instructions. There is also a Snooze option. *QS-07-03-19-01*
13. The existing form 'Check for latest updates', available from the 'Help' menu, is uprated to give access to the same direct download link and instructions. The form also provides an option to turn the automatic check off. *QS-07-03-19-01*



14. Dual monitor systems - When running on the second monitor Quikjoint could display some forms on the primary monitor. Fixed. *QS-05-04-19-01, QS-08-04-19-01*
15. Additional code is added to detect when a form is displayed 'off screen' and move it back to a visible area. Because the Quiksoft programs 'remember' some window and form positions, they could have previously been displayed on a second monitor that has been disconnected. This caused the form to be displayed 'off screen' leading customers (and us) to believe the program had become unresponsive. On the occasions this was reported it involved the scrolling calculations form in Quikjoint. Fixed. *QS-08-04-19-01*
16. When a file is opened that is not in the current project, a new form is displayed asking if the user wants to change the current project folder. The new form is displayed when the Quikjoint data file is opened in any of these ways:
  - a) From 'File|Open' on the main form's menu.
  - b) From the 'File Open' icon on the main form.
  - c) From the 'File|Reopen' option on the main form.
  - d) When a Quikjoint frame file is opened with a double click from file explorer.

Note that the new form will not be displayed in any of these circumstances:

- a) When the program is still using 'old style' file handling.
- b) When there is already a Quikjoint file open.
- c) When the file to be opened is on the desktop.
- d) When the file does not have a containing folder.
- e) When the containing folder can't be written to.

Online Help is updated. *QS-23-04-19-01*

17. DXF Output - The form that requested a file name is replaced with the standard Windows 'File save' form. The file can now be saved in any location with any name. *QS-05-06-19-01*
18. File handling routines are modified to handle file names containing '!'. Over the years file naming convention has changed. It was originally assumed that file names would only contain a single '.' and that all characters after would be the file extension. However, this seems no longer to be the case. That said we would still advise that as far as possible this be avoided. It's likely that it could cause problems when transferring files to other programs and operating systems. We have found here that servers that use Unix derivatives (NAS drives, Android, Apache etc.) have differing standards. We have also tested using a folder path containing '.' mimicking an IP address with no problems detected. *QS-05-06-19-02*
19. It's possible to use the scroll wheel to zoom in and out. The convention now seems to be that if the wheel is rotated forward the diagram gets bigger. The Quiksoft programs are modified to conform. *QS-05-06-19-03*
20. Quikjoint now includes the option to use your company logo in place of your address text on the printed output. See the 'Addresses' option available on the 'File' menu, and via right clicking on the results preview page and selecting 'Results headers' on the popup menu. The help is also updated. *QS-27-07-19-01*

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**Quikjoint release 10.02**

**18-03-2022**

Quikjoint release 10.02 runs under all versions of Windows from XP onwards including Windows 10 and 11 and is supplied in a single self-extracting file: QF32-1002.exe. This self-extracting file contains a Setup program that will automatically guide you through program installation, upgrade, removal, and registration.

Instructions for program installation, upgrade and removal are available on the Quiksoft web site:

[www.quiksoft.co.uk/installation-upgrade-and-removal](http://www.quiksoft.co.uk/installation-upgrade-and-removal)

The changes to Quikjoint are as follows:

1. Quikjoint now includes mass concrete pad foundation design. Three types are covered: plain, hair pin and tied. *QJ R9.00-01*
2. The bearing connection type contained a small error. Loads entered to two decimal places by clicking on the drawing were displayed to the nearest one decimal place. Fixed. *QJ R9.00-02*
3. Quikjoint's help and manual are extensively updated to cover the new pad base design.
4. Changes required for new code signing certificate. *QS-16-03-22-01*

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**Quikjoint release 10.03**

**28-07-2022**

Quikjoint release 10.03 runs under all versions of Windows from XP onwards including Windows 10 and 11 and is supplied in a single self-extracting file: QF32-1003.exe. This self-extracting file contains a Setup program that will automatically guide you through program installation, upgrade, removal, and registration.

Instructions for program installation, upgrade and removal are available on the Quiksoft web site:

[www.quiksoft.co.uk/installation-upgrade-and-removal](http://www.quiksoft.co.uk/installation-upgrade-and-removal)

The changes to Quikjoint are as follows:

1. There was an error in release 10.02 that caused all connections to re-set the top right flag icon to Euro-code; this is fixed. Additional code is added so that new connections where BS5950 is only available default to BS5950. *QJ R10.02-01*
2. The Eurocode design for a moment base has been extended to include box section columns. *QJ R10.02-02*
3. The BS5950 design for a moment base has been extended to include box section columns. *QJ R10.02-03*
4. A minor fault is fixed. Changing the section size or using the wizard whilst the 3d view was displayed did not update the 3d image. Fixed. *QJ R10.02-04*

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**Quikjoint release 10.10****18-01-2023**

Quikjoint release 10.10 runs under all versions of Windows from XP onwards including Windows 10 and 11 and is supplied in a single self-extracting file: QF32-1010.exe. This self-extracting file contains a Setup program that will automatically guide you through program installation, upgrade, removal, and registration.

Instructions for program installation, upgrade and removal are available on the Quiksoft web site:

[www.quiksoft.co.uk/installation-upgrade-and-removal](http://www.quiksoft.co.uk/installation-upgrade-and-removal)

The changes to Quikjoint are as follows:

1. Quikjoint is now supplied with an updated 'Advance.sec' sections file with additional sections from British Steel. *QS-08-11-22-02*
2. Quikjoint contacts the Quiksoft website to check for new releases and provides links and help text to facilitate easy upgrades. The text now advises contacting [support@sigma-x.net](mailto:support@sigma-x.net). *QS-08-11-22-03*
3. Quikjoint will now print in colour. The default remains as black and white, but this can be changed using the 'Paper setup' option on the 'File' menu. Note that the option is not available until a file is open. *QS-29-11-22-04*
4. Quikjoint's default colours are changed. We have added colour printing and some colours, namely yellow, are too light on a white paper background. If you are choosing to print in colour, visit the 'Colour and styles' menu item on the 'Options' menu and select 'Return to defaults'. This will select the new default Quiksoft colour scheme. *QJ R10.03-01*
5. Quikframe, Quikport and Quikjoint have tutorial videos available on their 'Help' menu. These have been in the programs since 2004, but for some reason they stopped working under Windows 11. The videos have been re-compressed in a newer format. *QS-18-01-23-05*
6. Modifications to the 'Setup' program to fix a Windows 10/11 fault in the operation of 'Add or Remove programs'. *QS-18-01-23-06*
7. Corresponding modifications to the Quiksoft 'Uninstall' program. The 'Uninstall' program now simply shows a message advising that program removal be carried out via the original setup program. *QS-18-01-23-07*
8. The form displayed when 'About' is selected on the 'Help' menu is improved (cosmetic). *QS-20-01-23-08*
9. Quikjoint's help system and manual are updated to cover colour printing.