

ShipConstructor 2012 Update: Important Information

In order to prevent an error when updating your project to ShipConstructor 2012, manual steps are required prior to updating a project in order to check for, and potentially correct erroneous data.

Prior to ShipConstructor 2012 it was possible through a [specific workflow](#) to nest multiple nests on the same remnant plate. Having multiple nests on the same remnant plate is technically invalid data and can cause undesired behaviour in ShipConstructor.

ShipConstructor 2012 introduces new behaviour to prevent this scenario from occurring. Any existing erroneous data *must* be corrected prior to updating the project otherwise the update will fail.

To detect the presence of multiple part nests nested on the same remnant perform the following steps:

1. Start Administrator and connect to your project server
2. Select the project database to be checked
3. In the *Database* menu, choose *Execute SQL*
4. Use the file selector dialog to select the script
12.100.2.0_PreUpdate_CheckForNonUpdatableNests.sql (available via our [Knowledge Base](#), in the *Tools and Utilities* directory found in the ShipConstructor installation directory, or from [ShipConstructor Support](#))
5. Click *Open*
6. Examine the *Query Results* window for the nest name and nest drawing of plate nests nested on the same remnant

If the results of the check operation have one or more lines *as illustrated in the example following this procedure*, then the command SCNESTEDIT must be used to change the stock of all but one of the nests nested on the same remnant (Remnant GUID is listed in the first column) to another unique stock plate.

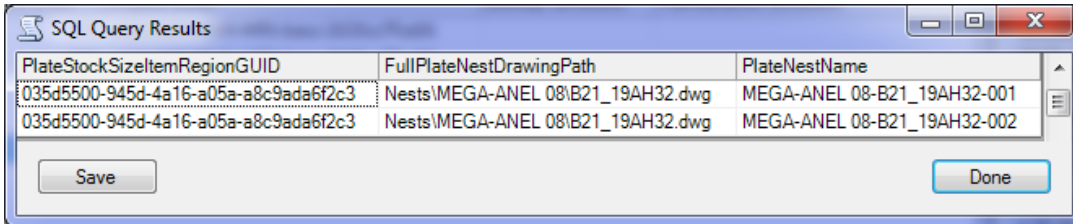
To resolve multiple nests on the same remnant:

1. Using the information in the *Query Results* window open each drawing containing a multiple nest on a single remnant and perform the following;
2. Locate the incorrect nest, select it, and run the *Edit Stock Part* command (*_SCNESTEDIT*), select a new stock, and then apply the changes;
3. Save the drawing.

Once the nesting conflicts have been resolved, the script from the first part of this document should be run again in order to make sure that there are no other remnants which are nested incorrectly. If the query returns zero results, then please proceed with updating your project to ShipConstructor 2012R1.

Example

The screenshot below shows two nests, 'MEGA-ANEL 08-B21_19AH32-001' and 'MEGA-ANEL 08-B21_19AH32-002' nested on the same remnant identified by the remnant GUID '035d5500-945d-4a16-a05a-a8c9ada6f2c3'. The `_SCEDITSTOCK` command should be used in the drawing 'Nests\MEGA-ANEL 08\B21_19AH32.dwg' to change the stock plate of either 'MEGA-ANEL 08-B21_19AH32-001' or 'MEGA-ANEL 08-B21_19AH32-002'. When this action is completed and the drawing saved the check script may be rerun in Administrator to see that the conflict no longer exists.



| PlateStockSizeItemRegionGUID | FullPlateNestDrawingPath | PlateNestName |
|--------------------------------------|-----------------------------------|-----------------------------|
| 035d5500-945d-4a16-a05a-a8c9ada6f2c3 | Nests\MEGA-ANEL 08\B21_19AH32.dwg | MEGA-ANEL 08-B21_19AH32-001 |
| 035d5500-945d-4a16-a05a-a8c9ada6f2c3 | Nests\MEGA-ANEL 08\B21_19AH32.dwg | MEGA-ANEL 08-B21_19AH32-002 |

Screenshot showing the Remnant GUID, The drawing name and path, and the plate nest names which are both using the remnant.

New Features

ShipConstructor 2012

Total: 18

| ShipConstructor | | Subtotal: 18 |
|---------------------|--|--------------|
| Issue ID: | 7055 | |
| Title: | <u>Structure - Modeling - Provide various options for combining profile endcuts with trims</u> | |
| Description: | Various options should be provided for combining trims with profile endcuts in Structure model drawings. Currently, if a trim shortens the profile part, the trim may cut from the endcut. | |
| Issue ID: | 13921 | |
| Title: | <u>Reports - Introduce a report that shows available inventory of plate stock, plate remnants, profile stocks, and profile remnants</u> | |
| Description: | Introduce a report that shows available inventory of plate stock, plate remnants, profile stocks, and profile remnants. | |
| | <p>Currently, ShipConstructor reports can provide information on parts and stocks that have been used. This functionality, however, does only a half of the job. A new type of report that provides information on the unused available inventory should be introduced. The new report should collect data on all unused:</p> <ol style="list-style-type: none"> 1. Plate Stocks; 2. Plate Remnants; 3. Profile Stocks; 4. Profile Remnants; | |
| Issue ID: | 15971 | |
| Title: | <u>Structure - Modeling - Provide the ability to trim, break, shorten, and lengthen offset construction lines independently from the original line</u> | |
| Description: | In Structure model drawings, provide the ability to trim, break, shorten, and lengthen offset construction lines independently from the original line. Regardless of any modifications done to the offset line, the line or its remaining segments should keep the original shape and the offset distance. | |
| | <p>Currently, it's not possible to modify offset construction lines without changing the original line. Providing this ability will make the modeling process more flexible and efficient. In particular, it will become much easier to model inner plate cutouts that are calculated by offsetting outer edges inside the plate part.</p> | |
| Issue ID: | 16119 | |
| Title: | <u>Hull - Forming Templates - Bow Fashion and Auto-Level forming templates should have label numbers that start from one rather than zero</u> | |
| Description: | Bow Fashion and Auto-Level forming templates should have label numbers that start from one rather than zero. Currently, these label numbers begin from zero, which is not desired by many users. | |
| Issue ID: | 16127 | |
| Title: | <u>ShipConstructor - Provide the ability to filter rows of data in the "Export to Navisworks" and "Update System and Model Drawings" dialogs</u> | |
| Description: | Provide the ability to filter rows of data in the "Export to Navisworks" and "Update System and Model Drawings" dialogs. The filters should work similarly to how they work in the Pipe Stock catalog. | |
| | <p>Currently, this ability is missing from the dialog, which is inconvenient when the number of drawings are high.</p> | |
| Issue ID: | 16772 | |
| Title: | <u>Structure - Display user defined attributes of parts in AutoCAD OPM and the Navisworks selection tree</u> | |
| Description: | Display user defined attributes of Structure parts in AutoCAD OPM and the Navisworks selection tree. | |
| Issue ID: | 16841 | |
| Title: | <u>Structure - Display non-primary product hierarchy assignments in AutoCAD OPM</u> | |
| Description: | Display non-primary product hierarchy assignments of Structure parts in AutoCAD OPM (Object Properties Manager). | |
| Issue ID: | 16856 | |

Title: Project Split & Merge - The ownership of "Location Groups" should be permanently assigned to the Master project

Description: The ownership of "Location Groups" should be permanently assigned to the Master project. To ensure that Project Split & Merge works reliably, only the Master project should be able to Create, Edit and Delete project locations.

This is a temporary restriction that will be lifted in the future. Project splits will be allowed to have control over location groups in the ShipConstructor project.

Issue ID: 17046

Title: Structure - Profile and Plate Part Cutouts - Improve the way the cutout rotation angle is acquired from the user

Description: Improve the way the cutout rotation angle is acquired from the user. The potential improvements are:

1. If the user enters (types) "0" for the rotation angle, the cutout is currently rotated by 90 degrees. This should be changed so that the cutout is applied with a 0 rotation.
2. Allow the user to hit <enter> when asked for the cutout rotation angle during cutout insertion. This would apply a rotation of 0 to the cutout shape. The command line option should be updated to show the user they can hit enter to get a 0 rotation.

This change affects Cutouts in Stiffeners, Faceplates, Twisted Stiffeners, Plates, Corrugations Curved Plates (expanded) and Planks.

Issue ID: 17193

Title: Project Split & Merge - If the project contains errors detectable by "Check Project," a warning message should appear before starting Merge or Refresh operations

Description: In the Split & Merge scenario, if the project contains errors detectable by "Check Project," a warning message should appear before a Merge or Refresh operation begins. The warning message should inform users of the errors and ask if the users would like to run a ShipConstructor command to automatically fix the errors.

Issue ID: 17306

Title: Administrator - An attempts to deploy a project on an SQL server which version is newer than the version supported by ShipConstructor should generate a warning message

Description: An attempt to deploy a project on an SQL server which version is newer than the version supported by ShipConstructor should generate a warning message.

For example, the warning message should appear when deploying a ShipConstructor 2009 project on the 2008 version of the SQL server.

Issue ID: 17874

Title: Production - Introduce a set of general production drawing commands that are available in any production drawing type

Description: Introduce a set of general production drawing commands that are available in any production drawing type.

For example, keywords can be inserted in almost all production drawings. Even though each type of production drawings may have their unique keywords, it should still be the same command that is responsible for inserting a keyword into the drawing. Instead of supporting several different commands such as SCInsertNestKeyword, SCInsertAssemblyKeyword, etc, a single command such as SCInsertKeyword that internally identifies the type of the drawing and displays the list of relevant keywords should be supported.

The new standardized commands should be:

1. SCInsertKeyword
2. SCInsertBOM
3. SCInsertCG
4. SCUUpdateDwg
5. SCUUpdateBOM
6. SCUUpdateKeywords
7. SCReDim

User interface, command menus, and the ribbon should be updated to correctly present the new set of standardized commands.

Issue ID: 18009
Title: Distributed Systems - Modeling - Convert the "Break Object at Point" (SCBAP) command from a LISP routine into a regular ShipConstructor command

Description: Convert the "Break Object at Point" (SCBAP) command from a LISP routine into a ShipConstructor command called in the same manner as other commands. Currently, the SCBAP command is implemented as a LISP routine, which negatively affects the way the command works and makes debugging the command complicated.

Issue ID: 18036
Title: Structure - Modeling - For Structure parts, display the Stock Material name in the AutoCAD OPM

Description: For Structure parts, display the Stock Material name in the AutoCAD OPM.

Issue ID: 18269
Title: ShipConstructor - For all types of drawings, introduce a single command that opens the "Display Drawing Options" dialog (SCDwgOptions)

Description: For all types of drawings, introduce a single command that opens the "Display Drawing Options" dialog. The command should be called "SCDwgOptions." The command should automatically recognize the type of the drawing the user is currently in and, then, open a customized display drawing options dialog.

Issue ID: 18307
Title: Distributed Systems - Modelling - Improve general ShipConstructor performance when working in Distributed Systems model drawings

Description: Improve general ShipConstructor performance when working in Distributed Systems model drawings.

Currently, users who work in Distributed Systems model drawings may experience occasional delays while selecting parts in the drawing. The delays become especially noticeable when multiple parts are selected at a time. For example, pressing CTRL + A in a drawing with many parts can cause ShipConstructor to freeze for awhile. The root of slow performance is the mechanism that collects properties of individual parts. Rationalizing this mechanism should significantly improve performance of Distributed Systems model drawings.

Issue ID: 18363
Title: ShipConstructor - Diagnostics - Provide an option to report the total count for each function run

Description: For the ShipConstructor Diagnostics tool, provide an option to report the total count for each function run. The option should be available as a command line command (SCDiagnosticReport), and it should be represented with a button in the "ShipConstructor Diagnostics" dialog.

Issue ID: 19578
Title: Project Split & Merge - Prior to creating a new split, ShipConstructor should confirm that no plate remnants are going to be owned by the split

Description:

To avoid future merge issues, ShipConstructor should confirm that no plate remnants are going to be owned by the split prior to creating a new split in the Split & Merge manager. If there are remnants that are owned by the split, the user should be informed of the drawings that contain the remnants, and the user should be asked to reassign plate nest drawings so that no remnants are owned by the project split before continuing the operation.

Issue Fixes

ShipConstructor 2012

Total: 81

| ShipConstructor | | Subtotal: 81 |
|---------------------|--|--------------|
| Issue ID: | 2931 | |
| Title: | <u>ShipConstructor - Right-clicking the "SCON OSNAP" button and choosing the "Settings" option in the context menu doesn't open the "ShipCon Snap" tab in the "Drafting Settings" dialog</u> | |
| Description: | Right-clicking the "SCON OSNAP" button and choosing the "Settings" option in the context menu doesn't open the "ShipCon Snap" tab in the "Drafting Settings" dialog. Instead, the tab that is opened by default can be "Dynamic Input" or "Quick Properties" depended on the AutoCAD version. In the correct scenario, if the user right-click the "SCON OSNAP" button and chooses "Settings," the "ShipCon Snap" tab should open by default in the "Drafting Settings" dialog. | |
| Issue ID: | 5935 | |
| Title: | <u>Structure - Modeling - Trims are not applied correctly when additional length is assigned to the same end of the extrusion</u> | |
| Description: | Trims are not applied correctly when additional length is assigned to the same end of the extrusion. For example, consider the following scenario: <ol style="list-style-type: none"> 1. A stiffener or a twisted stiffener has been modeled in a Structure model drawing; 2. A trim was added to the Start end of the profile at the location close to the beginning of the part; 3. After adding the trim, the part was extended up to the trim; 4. The Start end of the stiffener has been lengthened. <p>After the profile is lengthened, the trim will fail to be appear or will appear incorrectly.</p> | |
| Issue ID: | 6516 | |
| Title: | <u>Structure - Modeling - When "Add Objects to Part" is used to add multiple marklines to a plate part, maklines appear with different throw directions</u> | |
| Description: | When "Add Objects to Part" is used to add multiple marklines to a plate part, maklines appear with different throw directions. The throw direction of a markline depends on the Start and the End point orientation of the construction line. These points are automatically defined when the construction line is drawn. <p>When two or more construction lines are simultaneously added to the plate part as marklines, the markline throw direction specified in the Markline Styles dialog will only apply to the first construction line in the selection. Other marklines will have their throw directions according to the Start and End point locations.</p> | |
| Issue ID: | 7770 | |
| Title: | <u>Structure - Plate Part Cutouts - When cutouts are added to plate parts, part relationships can be broken without reporting the fact to the user</u> | |
| Description: | When cutouts are added to plate parts, part relationships can be broken without reporting the fact to the user. This is limited to a few specific cases. <p>Consider the following scenario:</p> <ol style="list-style-type: none"> 1. Create a plate part and replicate in to a number (N) of drawings. 2. Create a stiffener that intersects all the plates but does so at slightly different positions. For example, if the plates are in frames then create the stiffener in a longitudinal bulkhead with it sloping up at a slight angle. Additionally, you could create a twisted stiffener with just a little twist in the section intersecting the plate parts. 3. Add the cutout for the stiffener to one of the plate parts. Select to update all the identical plates <p>A message will be displayed N-1 times saying "Could not add cutouts to plate part XXXX". If the plate parts are in different drawings it does not indicate this in the above message. Continuing to add the cutouts removes the identical relationships between the selected plate and the other replicated plates without a warning. At completion the selected plate will have a cutout however no other originally related plates will and the relationships will have been removed.</p> | |

Issue ID: 9448
Title: Structure - Modeling - An attempt to a create profile part that has the stock type such as "Structural Pipe" or "Rect Tube" may produce an error message for certain shapes of moldlines
Description: An attempt to a create profile part that has the stock type such as "Structural Pipe" or "Rect Tube" may produce an error message for certain shapes of moldlines. For example, consider the following scenario:

1. The user has modeled a curved line (polyline) to create a profile part on it;
2. The user has run the SCSTIFF command to create a new profile part;
3. For the new part, the user has selected a profile stock that has a hole in the middle of the part. The profile stock can be "Structural Pipe" or "Rect Tube."

After the user selects the original curved line to model the profile part on it, the following error message may be thrown, "Unable to add the stiffener to the ShipConstructor database." If the error happens, the part won't appear in the drawing.

In general, the error doesn't happen all of the time. The behaviour depends on the particular shape of the profile moldline. Straight shapes usually work flawlessly, but bent lines may generate errors. We should make the behaviour more stable so that profile parts consistently appear in the drawing when the user models them.

Issue ID: 10338
Title: Project Split & Merge - In project splits, allow renaming matching Product Hierarchy groups that arrive with the Refresh procedure from the master project
Description: In project splits, allow renaming matching Product Hierarchy groups that arrive with the Refresh procedure from the master project.

Currently, in a partitioned project, only the Master project is allowed to rename matching Product Hierarchy groups when the update is done. The rename operation must be propagated to project split. In project splits, renaming product hierachy groups should happen when the Refresh operation is running.

Issue ID: 12165
Title: Production - Labelling - Changing the label color in the AutoCAD OPM doesn't have any affect on the label color in the drawing
Description: Changing the label colour in the AutoCAD OMP doesn't have any affect on the label color in the drawing: text, bubble contour, and leader line stay black.

Issue ID: 12540
Title: Structure - Modeling - Editing of identical profile parts attached to identical plates may break the relationship between plates
Description: Editing of identical profile parts attached to identical plates may break the relationship between plates. For example, consider the following scenario:

1. The user has modeled a plate part;
2. The user has modeled several identical stiffeners that are attached to the plate part;
3. The user has copied the plate part and all of the attached stiffeners creating another group of identical parts;
4. The user has selected one of the stiffeners and modified it;
5. The user has applied the modification to some of the identical profiles that belong to the second plate.

If the user checks the identical relationship between plates, the user will see that the relationship is gone. This is incorrect behaviour. In the correct situation, the relationship between plates should be unaffected by changing attached profile parts.

Issue ID: 12978
Title: Production - Plate Nesting - Fabricated profile components may be missing from the "Select Parts for Nesting" dialog if the part is created by changing the stock of an existing stiffener

Description: Fabricated profile components may be missing from the "Select Parts for Nesting" dialog if the part is created by changing the stock of an existing stiffener. For example, consider the following scenario:

1. The user has modeled a new stiffener part of a non-fabricated stock;
2. The user has assigned the stiffener to a specific product hierarchy level;
3. The user has selected the part, right-clicked it with the mouse, and chosen "Edit Properties";
4. In the "Edit Properties" dialog, the user has changed the stock to a fabricated profile stock;
5. The user has saved the model drawing;
6. The user has started a new plate nest drawing.

If the user attempts to plate-nest the stiffener, he or she won't see the part in the list in the "Select Parts for Nesting" dialog. On the other hand, if the stiffener is initially created using a fabricated profile stock, individual components of the fabricated part will be available in the "Select Parts for Nesting" dialog.

This behaviour is incorrect. In the correct situation, components of fabricated stiffeners should be available for nesting regardless of the way how the part is created.

Issue ID: 13563
Title: Pipe - Modeling - A crash will be caused if _SCPipeFindAndReplace command is used on a header pipe part with saddle connections
Description: ShipConstructor will crash if _SCPipeFindAndReplace command is used on a header pipe part with saddle connections. The crash doesn't happen immediately, before it the user sees the 'Replace Part' dialog that works fine until the 'Ok' button is pressed.

Issue ID: 13856
Title: Pipe - Menu - The "Route on Polyline" (SCPipePolyRoute) command is not represented in the command menu
Description: The "Route on Polyline" (SCPipePolyRoute) command is not represented in the command menu. The command should be represented in the following menu: SC Pipe\Utilities\Route on Polyline.

Issue ID: 13924
Title: ShipConstructor - Pipe Catalog.xls lose data when importing from an XML file
Description: Pipe Catalog.xls lose data when importing from an XML file. For example, consider the following scenario:

1. The user has assigned several user-defined attributes to a pipe stock
2. The user has filled user-defined attribute fields with some values
3. The user has exported the pipe stock into XML file
4. The user has opened the file .\ShipConstructor2008\Excel\Pipe Catalog.xls
5. The user has imported the XML file into MS Excel using the 'Import from XML' button in the Pipe Catalog.xls

Not all of the user-defined attributes will be imported into MS Excel from the XML file. Some of the attributes will be missing after import although they are present in the source XML file.

Issue ID: 14519
Title: Project Split & Merge - When the merge process encounters users connected to the database, the process completely aborts discarding all of the settings
Description: When the merge process encounters users connected to the database, the process completely aborts discarding all of the settings. To make the process more convenient, a quick way to resume merge after users disconnect from the database must be provided.

Issue ID: 14561
Title: Hull - Import/Export - Importing Surfaces from Inventor or AutoCAD Mechanical and converting them to ShipConstructor surfaces results in incorrect inner trim shapes

Description: Importing Surfaces from Inventor or AutoCAD Mechanical and converting them to ShipConstructor surfaces results in incorrect inner trim shapes. For example, consider the following scenario:

1. An original surface has been modeled in AutoCAD Mechanical or Inventor;
2. The surface has internal trims in it;
3. The surface has been imported into a Hull model drawing;
4. The surface has been converted into a ShipConstructor surface using a specific Hull module command;

After the conversion is finished, the ShipConstructor surface will have inner trims that look differently from the trims in the original surface.

Issue ID: 16002
Title: ShipConstructor - Copy Project - An "Invalid Login!" message may appear upon copying a project even when the current user has the "Database Administrator" permission

Description: An "Invalid Login!" message may appear upon copying a project even when the current user has the "Database Administrator" permission. For example, consider the following scenario:

1. The user has run the "ShipConstructor\Project\Copy Project" procedure from the command menu;
2. The user has specified the name and the password of a ShipConstructor user who has DB admin permissions in the project;
3. The user has left the "Use Windows Authentication" checkbox unchecked;

If the user clicks OK, the project may not be copied; instead, the user will see the message telling, "Invalid Login! The ShipConstructor user you specified must have administrator privileges on the server." The issue prevents users from copying projects even when they access the server as a ShipConstructor user who has all of the required administrator permissions.

Issue ID: 16025
Title: Manager - Naming Conventions Dialog - An unhandled exception will occur if the "Usage Log" button is clicked with no Naming Convention being currently selected

Description: An unhandled exception will occur if the "Usage Log" button is clicked with no Naming Convention being currently selected in the tree in the Naming Conventions dialog.

The "Usage Log" button is meant to work with a Naming Convention that is currently selected in the Naming Conventions tree. If no Naming Convention is selected in the tree, the "Usage Log" button should be disabled; however, when the Naming Conventions dialog is first opened, the button is always enabled while it shouldn't, If the user switches between tree elements, the button will take a proper state after the first switching,

The error is consistently reproducible but not critical. It can be skipped without any consequences to ShipConstructor functioning.

Issue ID: 16026
Title: Manager - Bevel Standards dialog - "New", "Delete", and "Usage Log" buttons are incorrectly grouped in the dialog UI, which causes confusion

Description: "New", "Delete", and "Usage Log" buttons are incorrectly grouped in the Bevel Standards dialog's user interface, which causes confusion.

Currently, these buttons are all placed inside one group box although they are related to different controls. "New" and "Delete" buttons refer to the list box on the left hand side, while the "Usage Log" refers to the list on the right hand side.

In the correct situation, these buttons should be separated from each other and drawn within the same group box that encloses relevant controls. "New" and "Delete" buttons should be placed inside the "Bevels" group-box, while the "Usage Log" button should be placed inside the "Assign to Stock" group-box. After the buttons are relocated, the "Bevel Codes" group should be removed from the dialog,

Issue ID: 16086
Title: Pipe - Modeling - A fatal error and a crash will occur if a pipe with the zero minimum length in the pipe stock catalog is assigned with the zero length in the model drawing

Description: A fatal error and a crash will occur if a pipe with the zero minimum length in the pipe stock catalog is assigned with the zero length in the model drawing. For example, consider the following scenario:

1. A pipe stock has a zero minimum length in the pipe stock catalog
2. A pipe part that uses that stock has been modeled in the model drawing

If the user clicks a grip point on one of the pipe ends and tries to snap it onto the other end of the pipe so that the pipe length is zero, a fatal error and a crash will follow.

Issue ID: 16087
Title: Pipe - Modeling - A fatal and a crash may occur if, in the wireframe view, the user moves the mouse after clicking a pipe grip point while holding the Shift key

Description: A fatal and a crash may occur if, in the wireframe view, the user moves the mouse after clicking a pipe grip point while holding the Shift key. For example, consider the following scenario:

1. The user has modeled a straight pipe part in the model space
2. The pipe part is shown in the wireframe view
3. The user has clicked one of the pipe grip points
4. The user has pressed the Shift key on the keyboard

If the user moves the mouse while holding the Shift key, a fatal error and a crash may occur.

Issue ID: 16261
Title: Structure - Structure - Twisted Stiffener - Some Endcuts on the Flange are not modeled parallel to the parts extrusion direction

Description: Some Endcuts on the Flange are not modeled parallel to the parts extrusion direction.

Issue ID: 16374
Title: Pipe - Naming Conventions - Pipe part auto number may not switch to its start value after the seeded naming convention component changes

Description: Pipe part auto number (auto number) may not switch to its start value after the seeded naming convention component changes. For example, consider the following scenario:

1. The user has created a naming convention that consists of the stock name and the auto number
2. The stock name component has its "Use as Name Seed" attribute set to "Yes"
3. The user has modeled a part of some stock that hasn't been used previously. In this case, the auto number will be equal to its start value, which is correct.
4. The user has changed the stock to another stock that hasn't been used before either.

If the user models a part of the new stock, the auto number will be equal to "start value" + 1, which is incorrect because, after the user has changed the stock, the seed in the part's name has also changed. As a result, the auto number should start from the "start value."

If the user continues modeling pipe parts and switching stocks the user, will see that, sometimes, auto numbers appear correctly, but, sometimes, they don't.

Issue ID: 16449
Title: Project Split & Merge - Plate nest remnants created in project splits don't merge into the Master projects

Description: Plate nest remnants created in project splits don't merge into the Master projects. For example, consider the following scenario:

1. The user is working in the Project Split & Merge environment;
2. The user has created a plate remnant in a plate nest drawing in the split;
3. The user has merged the split into master;

If the user opens the nest drawing in the master project, the user will get the following message, "The following objects were found in the drawing which were not found in the Database. Would you like to Continue? 1 SConNestRemnant."

This is incorrect behaviour. In the correct situation, plate nest remnants should merge into the master project without an issue.

Issue ID: 16538

Title: Structure - Manager - An unhandled exception and fatal error may occur if the user switches to the Manager while having a Structure dialog that contains a preview window opened in the Manager

Description: An unhandled exception and fatal error may occur if the user switches to the Manager while having a Structure dialog that contains a preview window opened in the Manager. The issue has been first spotted in SC2008, and it has been confirmed recently in SC2009 R1.1.

To understand how the error may happen, consider the following, 100% reproducible, scenario:

1. The user has registered into a drawing and loaded a Structure drawing;
2. The user has opened the Manager;
3. In the Manager, the user has opened a Structure dialog that has a preview window inside it. The dialog can be the Standard Parts catalog or the Profile Endcut catalog;
4. The user has minimized the Manager while having a Structure dialog that contains a preview window opened inside the Manager;
5. The user has returned to ShipConstructor and loaded a different Structure drawing.

If the user switches to the Manager dialog again, an unhandled exception will occur. If the user skips the error and makes an attempt to switch back to the ShipConstructor window, a fatal error will occur, and the application will crash.

Sometimes, after switching into the Manager dialog, the Manager dialog may be resized in a way where the preview window is not visible because it's in the invisible area beyond the dialog borders. In this case, the unhandled exception won't appear immediately; however, if the user starts stretching the Manager dialog's borders, the error will occur as soon as a piece of a preview window area becomes visible.

The observed behavior implies that the error happens at the moment when the preview window in the dialog in the Manager receives a system message to redraw itself. The error may lead to users' losing all of their unsaved work because of a sudden application crash.

Issue ID: **16592**

Title: ShipConstructor - The "Transparency" property introduced in AutoCAD 2010 doesn't appear for ShipConstructor objects in AutoCAD OPM

Description: The "Transparency" property introduced in AutoCAD 2010 doesn't appear for ShipConstructor objects in AutoCAD OPM.

Issue ID: **16666**

Title: Project Split & Merge - User Defined Attributes added to plank parts fail to migrate between the master and splits in Merge and Refresh operations

Description: User Defined Attributes added to plank parts fail to migrate between the master and splits in Merge and Refresh operations.

This is incorrect behaviour. Project Split & Merge should correctly transfer plank UDAs from one part of the project into another.

Issue ID: **16829**

Title: Manager - Naming Conventions - The usage log file for the Standard Assembly Instance naming convention doesn't contain drawing path data

Description: The usage log file for the Standard Assembly Instance naming convention doesn't contain drawing path data. For example, consider the following scenario:

1. The user has opened the "Naming Conventions" dialog in Manager;
2. The user has selected a naming convention for standard assembly instances;
3. The user has clicked the "Usage Log" button;

The log file won't show data on file paths. This is incorrect behaviour. The drawing path information should be included into the log file. In comparison, the usage log for Standard Assembly parts will show the matching drawing name for each part listed.

Issue ID: **16847**

Title: Production - Validate file name lengths during production drawing creation

Description: Validate file name lengths during production drawing creation. The requirements are:

1. The full path with the file name and extension should not exceed 260 characters.
2. The folder path without the file name but with the last "\" should not exceed 248 characters.

ShipConstructor should issue warning messages and refuse to accept the drawing path if the path doesn't meet the requirements.

Issue ID: 16908

Title: Structure - Modeling - Creating a new planar group in a structure drawing that has a specific MxN support m-linked into it with a pipe drawing causes a fatal error crash

Description: Creating a new planar group in a structure drawing that has a specific MxN support m-linked into it with a pipe drawing causes a fatal error crash. For example, consider the following scenario:

1. In a pipe model drawing, the user has selected two pipes and inserted an MxN auto support with U-bolt hangers to strap pipes to the support. Presumably, to reproduce the issue the support and hangers parameters should be specific.
2. The user has saved the pipe drawing.
3. The user has opened a structure model drawing and m-linked the pipe drawing into it.
4. The user has drawn an arbitrary reference geometry that is used to create a new planar group.

If the user runs the create new planar group command, a fatal error crash will occur upon clicking the reference geometry. The user won't be able to see the dialog where he or she enters the name for the new planar group. The crash will happen prior to this point.

Issue ID: 16920

Title: Pipe - Modeling- A fatal error and a crash will occur if the "End" end of the pipe is snapped to the "Start" end of the pipe when the minimum part length is set to zero in Pipe Stock Catalog

Description: A fatal error and a crash will occur if the "End" end of the pipe is snapped to the "Start" end of the pipe when the minimum part length is set to zero in Pipe Stock Catalog. For example, consider the following scenario:

1. In Manager, the user has created a new pipe stock definition where he or she specified the "minimum length" as zero;
2. In the pipe model drawing the user has modeled the pipe part using the pipe stock.

If the user selects the modeled pipe parts and tries to snap its "End" end to the "Start" end, ShipConstructor will crash with a fatal error. If the user selects the pipe part in the model space and changes its properties in the OPM so that X, Y, and Z coordinates of the Start end equal to X, Y, and Z coordinates of the "End" end, the crash won't happen, and the zero-length part will successfully appear in the model space.

In the correct situation, having zero-length pipes should not be allowed in ShipConstructor. To prevent users from creating such parts, there should be an additional constraint introduced in the Manager that prohibits minimum stock lengths that are equal or below zero.

Issue ID: 16947

Title: Manager - Pipe Stock Catalog - Deleting an "in use" end treatment property causes a database error upon saving the pipe stock catalog

Description: Deleting an "in use" end treatment property causes a database error upon saving the pipe stock catalog.

For example, consider the following scenario:

1. The user has opened the "End Treatments" tab in the Pipe Stock catalog in Manager.
2. The user has clicked the "Edit Properties" button to open the "End Treatment Properties" dialog.
3. The user has deleted any "in use" property from any list: General Properties, Desc. Properties, Facing Properties.
4. The user has clicked the "Ok" button to close the "End Treatment Properties" dialog.

If the user tries to apply changes in the Pipe Stock catalog a database error will occur. The error will look like an unhandled exception. Because of the error the user won't be able to save the catalog. The only possible action will be dismissing the catalog without saving it.

In the correct scenario, ShipConstructor should catch the user action that leads to the error at an earlier stage. For example, on the attempt to delete an "in use" end treatment property, the user should be notified that the operation is impossible. Then, ShipConstructor should abort the illegal action.

Issue ID: 16949

Title: Production - Arrangement and Assembly Drawings - Pipe parts and hangers that are not on the layer "0" become invisible when the visibility of the layer "0" is switched off

Description: Pipe parts and hangers that are not on the layer "0" become invisible in arrangement and assembly drawings when the visibility of the layer "0" is switched off in the drawing.

For example, consider the following scenario:

1. An assembly or arrangement drawing that contains some pipe parts and hangers has been generated.
2. By default, all of the parts in the drawing are placed on the layer that is named after the data source that was used when the drawing was being created. The layer where the parts are in a production drawing is not the layer "0."

If the user turns off the visibility of the layer "0" in the production drawing, the parts such as pipe parts and hangers will disappear from the drawing. In the layout view, all of the parts will disappear. In the model view in the production drawing, only hangers will disappear. After the visibility of the layer "0" is switched on again, the hidden parts will appear. If ShipConstructor parts are moved to a different layer in the production drawing, the situation after switching off the visibility of the layer "0" won't change. The plain AutoCAD geometry is unaffected by this behaviour.

Issue ID: 16992

Title: Manager - Naming Conventions - The "Generate Names" dialog doesn't include Equipment parts

Description: The "Generate Names" dialog doesn't include Equipment parts making it impossible to regenerate names of Equipment parts. This is incorrect behaviour. In the correct situation, the "Generate Names" dialog should have a checkbox associated with Equipment parts.

Issue ID: 17013

Title: Manager - Support Settings Dialog - In imperial projects, vertical and horizontal dimension offset settings contain "(mm)" in their names

Description: In the "Support Settings" dialog in Manager (Manager\Piping\Support Construction Drawing Options), Vertical and Horizontal Dimension Offset settings contain "(mm)" in their names when the project is an imperial project. In the correct situation, units should be indicated as inches for imperial projects.

Issue ID: 17061

Title: Project Split & Merge - Refresh - In a specific project, executing the Refresh operation causes a cast object type error

Description: In a specific project in a Project Split & Merge environment, executing the Refresh operation on the split causes a cast object type error: unable to cast object of type 'System.DBNull' to type 'System.String'.

This is incorrect behaviour that should be fixed.

Issue ID: 17242

Title: Installer - Running "Repair" or "Remove" procedures in the SC2011 R1 64-bit installer may fail with an error message in the middle of execution

Description: Running "Repair" or "Remove" procedures in the SC2011 R1 64-bit installer may fail with an error message in the middle of execution. For example, consider the following scenario:

1. The user has installed ShipConstructor 2011 R1 on a 64-bit machine.
2. The user has launched ShipConstructor Installer after the application has been installed on the computer.

Because the application has already been installed, the Installer will offer to Change, Repair, or Remove installation. If the user chooses Remove or Repair, the operation may fail in the middle of its execution with an error message. The error message may tell about some problems with accessing specific Windows registry keys or inability to find specific AutoCAD files. The behaviour is not consistent and may depend on the specific Windows version under which ShipConstructor has been installed. Sometimes, both operations work fine.

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| Issue ID: | 17250 |
| Title: | <u>Weld Management - Welds are not generated between purchased and non-purchased assemblies</u> |
| Description: | Welds are currently not generated between parts in a purchased assembly and parts in a non-purchased assembly; or between parts that are in different purchased assemblies when the closest common parent assembly is not purchased. |

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| Issue ID: | 17252 |
| Title: | <u>Manager - Weld Standards - Clicking the "Edit Symbol" button throws an argument out of range exception</u> |
| Description: | In Weld Standards catalog in Manager, clicking the "Edit Symbol" button throws an argument out of range exception. |

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| Issue ID: | 17265 |
| Title: | <u>Space Allocations - Modeling - Creating a bent space allocation with two consecutive straight segments makes the drawing unstable and prone to crashes</u> |
| Description: | Creating a bent space allocation with two consecutive straight segments makes the drawing unstable and prone to crashes. The reason for why it happens is automatic creation of the zero length arc segment in between the two straight segments. The presence of zero length arc segments make the drawing unstable. |

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| Issue ID: | 17299 |
| Title: | <u>Structure - Bevels - Adding bevels to closed polylines may overwrite existing bevel data even when the users tells the command not to overwrite existing bevels</u> |
| Description: | Adding bevels to closed polylines may overwrite existing bevel data even when the users tells the command not to overwrite existing bevels. The SCCLADDBEVEL command includes an option to "Remove existing angles?" Sometimes, angles may be overwritten even when the "no" option is selected. This is incorrect behaviour. |

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| Issue ID: | 17342 |
| Title: | <u>Server Setup - If the ShipConPSM folder is created in the root directory of a drive, the folder will fail to be granted with shared access</u> |
| Description: | If the ShipConPSM folder is created in the root directory of a drive, the folder will fail to be granted with shared access, which is incorrect. If the ShipConPSM folder is created not in the root directory of a drive, it will be granted with shared access, which is correct. The ability to create a folder with shared access shouldn't depend on the folder location on the disk. |

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| Issue ID: | 17416 |
| Title: | <u>Manager - An attempt to import Structure stocks from a *.PRO file may result in an unhandled exception</u> |
| Description: | An attempt to import Structure stocks from a *.PRO file may result in an unhandled exception. For example, consider the following scenario: <ol style="list-style-type: none">1. The user has opened Manager;2. The user has run the "File\Import\Structure" command;3. The user has selected a *.PRO file to import stock definitions from. In the middle of the import process, an unhandled exception may happen causing the operation to halt. The error prevents Structure stock definitions from being imported into the project. |

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| Issue ID: | 17429 |
| Title: | <u>Administrator - Reporting results in Administrator dialog could use some improvement</u> |
| Description: | Reporting results in Administrator dialog could use some improvement. Various types of operations should output their results in a convenient manner. 1. Execute SQL If there is a result returned by the SQL script, the result should be shown to the user even if its empty. 2. Check Project Non empty results should be shown to the user. If the results are empty, a generic message should pop up saying that the "Check Project" operation didn't find any incorrect data. Currently, the show results window appears every time. 3. Project Update This operation will be modified so that it doesn't output results in the same manner as Execute SQL or Check Project do. The show results window should never appear for the Project Update operation. |
| Issue ID: | 17434 |
| Title: | <u>Structure - Modeling - Changing "Bevel Solid" to "Hide" in the "Structure Display Options" dialog does not take effect until SCRefresh is done</u> |
| Description: | Changing "Bevel Solid" to "Hide" in the "Structure Display Options" dialog does not take effect until SCRefresh is done. The incorrect behaviour can be seen in Structure model drawings and, presumably, in production drawings. |
| Issue ID: | 17450 |
| Title: | <u>Production - Arrangement Drawings - If a pipe drawing with a single pipe inside is the only source for a new arrangement drawing, an error may occur when creating the new production drawing</u> |
| Description: | If a pipe drawing with a single pipe inside is the only source for a new arrangement drawing, an error may occur when creating the new production drawing. For example, consider the following scenario: 1. The user is creating a new arrangement drawing. 2. In the drawing creation wizard dialog, the user has selected a single pipe drawing as a source for the arrangement drawing. The pipe drawing has the only pipe part inside it. After the user closes the wizard dialog, a non-informative error will be thrown during the production drawing generation. The error can be skipped, and it doesn't seem to affect anything in the production drawing that gets created. |
| Issue ID: | 17455 |
| Title: | <u>Penetrations - Modeling - Using the "Recalculate" option while revising penetrations recreates penetration components, which causes production drawings display the components as "new parts"</u> |
| Description: | Using the "Recalculate" option while revising penetrations (SCPENREVISE) recreates penetration components from scratch, which causes production drawings display the components as "new parts" rather than "modified" parts. In the correct, situation recalculated revised penetration components should be displayed as "modified." |
| Issue ID: | 17461 |
| Title: | <u>Manager - "XML Validation Error" prevents Structure stock definitions from being imported to their native project</u> |

Description: "XML Validation Error" prevents Structure stock definitions from being imported to their native project. For example, consider the following scenario:

1. The user is working in SC2011 R1.
2. The user has exported Structure stock definitions from a project into an XML file (Manager\File\Export\Structure).
3. The user has done some minor changes to Structure stock definitions; for example, it can be deleting a plate bevel standard.

If the user wants to restore the original state of Structure stock definitions, he or she might want to import data from the XML file into the project (Manager\File\Import\Structure). If the user attempts to do so, an "XML Validation Error" will prevent the user from accomplishing his or her task.

In the correct situation, Importing/Exporting Structure stocks via XML files should not produce such errors.

Issue ID: 17468
Title: Project Split & Merge - An "Unable to add equipment model drawings to split project" error may happen when creating a new split
Description: An "Unable to add equipment model drawings to split project" error may happen when creating a new split. The error prevents the split from being created.

Issue ID: 17522
Title: Manager - Pipe Stock Catalog - An unhandled exception will be thrown upon saving the catalog if duplicate size standards are defined on the "Size Definitions" tab
Description: In Manager, an unhandled exception will be thrown upon saving the Pipe Stock catalog if duplicate size standards are defined on the "Size Definitions" tab. To be duplicate the sizes should have the same nominal size, geometrical standard, and pressure rating.

Issue ID: 17616
Title: Distributed Systems - Spool Manager - After ShipConstructor fails to spool or set to "no spool" a locked part, no warning message appears
Description: In distributed systems drawings, after ShipConstructor fails to spool or set to "no spool" a locked part, no warning message appears. For example, consider the following scenario:

1. The user has modeled a pipe or an HVAC part;
2. The user has locked the part;
3. The user has opened Spool Manager.

If an to spool the part or define it as "no spool," is made, the operation will be prevented because the part is locked; however, no warning message will be issued to inform the user. This is incorrect behavior that can potentially lead to modeling mistakes. In the correct scenario, ShipConstructor should issue a warning message to inform the user that spooling operations are not available for locked parts.

Issue ID: 17667
Title: Penetrations - Modeling - Bent pipes that penetrate the same Structure plate multiple times may produce incorrect cutout shapes for watertight penetrations
Description: Bent pipes that penetrate the same Structure plate multiple times may produce incorrect cutout shapes for watertight penetrations. For example, two remote penetration locations can be connected with a single big hole in the plate part.

This behaviour is incorrect. Each penetration location should be accompanied with a legitimate cutout that doesn't spread to other locations.

Issue ID: 17702
Title: Project Split & Merge - Distinct pipe stocks may not branch on merge because some of their attributes fall outside of the comparison operation scope

Description: In a Split & Merge scenario, distinct pipe stocks may not branch on merge because some of their attributes fall outside of the comparison operation scope. For example, consider the following scenario:

1. The user has created a pipe stock definition in a non split project;
2. The user has split the project;
3. The user has modified the wall thickness in the project split;
4. No other changes have been applied to the stock definition in the project split;
5. The user has merged the split back into the master project.

Instead of creating a separate stock definition to preserve changes made in the project split, ShipConstructor will incorrectly assume that both stock definitions are equal. The stock definition from the master project will be preserved, and the stock definition from the project split will be forgotten.

The issue happens because the comparison tool that identifies differences in stock definitions between the master project and project splits fails to compare some of the attributes. The attributes that are not compared are:

1. Additional Wall Thickness;
2. Is Trimmable (for elbows);
3. Connector Type (for pipe connectors).

In the correct situation, all stock attributes should be comparable.

Issue ID: 17750

Title: Pipe - Modeling - An attempt to stretch a bent pipe may result in a fatal error and a crash

Description: An attempt to stretch a bent pipe may result in a fatal error and a crash. For example, consider the following scenario:

1. A bent pipe that is a combination of straight and bent segments has been modeled in a pipe model drawing;
2. At least, one of the terminating ends of the pipe is a bent segment;
3. The pipe segment before the terminating bent segment is straight.

If the user attempts to use a grip point to put the terminating bent segment of the pipe onto a straight line projected from the previous straight segment, a fatal error and a crash may occur.

Issue ID: 17903

Title: Pipe - Modeling - Using the "Merge to Bend" command on a specific dataset produces incorrect output

Description: Using the "Merge to Bend" command on a specific dataset produces incorrect output. For example, consider the following scenario:

1. The user has modeled a pair of connected bent pipes in a pipe model drawing;
2. The user has selected the pipes and run the "Merge to Bend" command on them.

After the command is executed, the resulting pipe may not correspond to the original dataset. Instead of being a simple merge of two pipes, the resulting pipe can hectically travel in 3D space between the beginning and the end. The behaviour is consistently reproducible on a specific dataset.

Issue ID: 17931

Title: Pipe - Modeling - Reconnecting bent pipes or moving their end grip points causes pipes to change their shapes in some specific scenarios

Description: Reconnecting bent pipes or moving their end grip points causes pipes to change their shapes in some specific scenarios. For example, consider the following situation:

1. A bent pipe is connected to a coupling;
2. The user has moved the coupling causing the bent pipe's end grip point to move along;

After the grip point moves, the bent pipe may change its shape. Sometimes, similar incorrect behavior happens when a bent pipe is simply connected to another pipe.

Issue ID: 17949

Title: NC-Pyros - "Check Lead Collisions" doesn't detect when NC-Pyros leads go beyond internal plate cuts and interfere with the plate surface

Description: "Check Lead Collisions" doesn't detect when NC-Pyros leads go beyond internal plate cuts and interfere with the plate surface. For example, consider the following situation:

1. The user has modeled a plate part that has small hole cuts inside it;
2. The user has nested the plate part and exported the nest to NC-Pyros to generate the cutting code;
3. In the Preferences dialog in the NC-Pyros module, the user has set up non-zero lead-in and lead-out lengths by assigning values that are comparable or larger with radiuses of arc elements that are used in small cuts in the steel plates.

If the user generates the complete NC-Pyros path, he or she may see that some of the lead lines go beyond the internal cuts' boundaries and interfere with the part. Usually, it happens because the lead line has the length that is larger than the maximum length that can fit inside the cut at the point where the leads are created.

Generally, ShipConstructor does not guarantee that all leads always fit inside internal cuts. Theoretically, there may be situations where it's physically impossible to meet this requirement. ShipConstructor can only monitor the validity of the lead placement, but it cannot restrict the lead placement. To monitor the validity, the software offers a special tool that is called "Check Lead Collision." The incorrect behaviour is that, if the user runs the "Check Lead Collision" command, the interferences around small holes won't be detected. The behavior doesn't seem to affect lead collisions in other places though. In the correct situation, all of the lead collisions should be reported by the check procedure.

Issue ID: 17979

Title: Manager - Structure - Exporting multiple stiffener stocks from the catalog to an XML file produces incorrect XML output where similar GUIDs are assigned to different UDAs

Description: Exporting multiple stiffener stocks from the catalog to an XML file produces incorrect XML output where similar GUIDs are assigned to different UDAs. For example, consider the following scenario:

1. In the Structure stock catalog, stiffener stocks have several UDAs assigned to them;
2. The user has selected several stock definitions and exported them to an XML file.

If the user opens the XML file with any XML reader, he or she will see that, inside the XML file, only the first stiffener stock definition has different GUIDs for its UDAs. All of the subsequent stock definition records will have repeating GUIDs for different UDAs. The issue was reproduced with flatbars but potentially can happen to other types of stiffeners. This is an incorrect behaviour. In the correct situation, different UDAs should have different GUIDs by definition.

As a result of the issue, "Export XML" produces incorrect output that may cause further problems if the XML file is used by an unconcerned user to import data from the file into a ShipConstructor project.

Issue ID: 18174

Title: Pipe - Modeling - An attempt to stretch a bent pipe with hangers may result in a fatal error and a crash

Description: An attempt to stretch a bent pipe may result in a fatal error and a crash. For example, consider the following scenario:

1. A bent pipe that is a combination of straight and bent segments has been modeled in a pipe model drawing;
2. At least, one of the terminating segments of the pipe is an arc segment.
3. The segment before the terminating arc segment is straight.

If the user attempts to use a grip point to put the terminating bent segment of the pipe onto a straight line projected from the previous straight segment, a fatal error and a crash may occur.

Issue ID: 18185

Title: Structure - Modeling - Trimming a fabricated W stiffener using the Both Flanges component only trims the top flange on the solid

Description: When trimming a fabricated W stiffener using the Both Flanges option only the top flange is trimmed. For example, consider the following situation:

1. Create a fabricated W type stiffener;
2. Create a trim line crossing the stiffener;
3. Create a trim which uses the "Both Flanges" option;
4. Only the top flange is trimmed.

This behaviour is incorrect. Both flanges should be trimmed.

Issue ID: 18272

Title: Pipe - Opening Drawings - A fatal error may occur if the user attempts to open a pipe drawing after recreating it from the database

Description: A fatal error may occur if the user attempts to open a pipe drawing after recreating it from the database. For example, consider the following scenario:

1. The user has renamed an existing pipe drawing in Windows;
2. The user has started ShipConstructor;
3. The user has clicked the drawing in the Navigator to recreate it from the database.

A fatal error may prevent the pipe drawing to be successfully recreated from the database.

Issue ID: 18413

Title: Structure - Modeling - Trimming to construction lines that are offset from other construction lines doesn't work properly

Description: Trimming to construction lines that are offset from other construction lines doesn't work properly. For example, consider the following scenario:

1. The user has offset a construction line in a Structure model drawing;
2. The user has modeled a simple AutoCAD line that intersects the offset line;

If the user selects the offset construction line as a trimming curve and trims the AutoCAD line to the selected construction line, the AutoCAD line won't be trimmed properly. The trimming either won't happen at all, or the line will be trimmed to the nearest not-offset construction line that may be located in the vicinity of the trimming area. Trimming to independent construction lines that are not offset from other lines works correctly.

Issue ID: 18420

Title: Manager - Project Settings - In SC2011, importing project settings from an XML file older than SC2011 will produce an error

Description: In SC2011, importing project settings from an XML file older than SC2011 will produce an error. For example, consider the following scenario:

1. The user has exported project settings from a project that has a version older version than SC2011R1.0 into an XML file.
2. The user has created a new project under SC2011R1.0 or later version.

If the user attempts to import project settings from the XML file into the new project the user will encounter a "Stock Library XML Validation Error." In the correct situation, importing project settings data from XML files should not generate errors.

Issue ID: 18440

Title: Production - Pipe Supports - Saving a drawing containing Pipe Supports tags those supports as 'modified'

Description: Saving a drawing containing Pipe Supports tags those supports as 'modified'. For example, consider the following situation:

1. Create a pipe drawing. Place a bare MxN pipe support into that drawing;
2. Create a Support Construction production drawing for that pipe support created in Step 1;
3. Reopen the pipe drawing from Step 1. Make no changes. Save the drawing;
4. Reopen the Support Construction drawing. Run SCUPDATEDWG;
5. The structure parts comprising the support will be set to modified.

This behaviour is incorrect. The structure parts comprising the support should not be set to modified if no changes were made in the model drawing.

Issue ID: 18455

Title: Supports - Modeling - Using PG Drawing File Name in names of plates and stiffeners that are constituents of pipe supports generates an error

Description: Using PG Drawing File Name in names of plates and stiffeners that are constituents of pipe supports generates an error. For example, consider the following scenario:

1. The user has created a naming convention that is used to name stiffeners or plates;
2. The user has added the current planar group drawing file name as a component to the naming conventions;
3. The user has defined a pipe support that consists of stiffeners and plate parts.

If the user attempts to place a pipe support in a model drawing, an unhandled exception will pop up. If the user clicks OK and skips the error, the support won't appear in the drawing as it should; instead, some fragmented geometry may show up after the support is placed. If the user attempts to save the drawings, the saving error will occur and the drawing will remain unsaved.

Issue ID: 18492

Title: ShipConstructor - An unhandled exception may be thrown when generating a part name if the project is restored on an SQL server with a different collation setting

Description: An unhandled exception may be thrown upon an attempt to generate a part name if the project is restored on an SQL server with a collation setting different from the original one. For example, consider the following scenario:

1. The project has been originally created on one SQL server;
2. The project has been backed up;
3. The project has been restored from the backup file on another SQL server that has a different collation setting compared to the original SQL server;
4. The user has launched ShipConstructor and opened the model drawing;
5. The user has attempted to create a new part in the model space.

As soon as ShipConstructor attempts to generate a name for the new part, an unhandled exception may be thrown.

Issue ID: 18554

Title: NC-Pyros - In specific cases, circular penetration cutouts may be converted into incorrect cutting paths

Description: In specific cases, circular penetration cutouts may be converted into incorrect cutting paths. An incorrect path may look like a circle approximated with short line segments. The radius of the circle is much larger than the radius of the original penetration cutout, and the center location doesn't match with the center point of the penetration cutout.

Issue ID: 18564

Title: Weld Management - Improve weld generation performance for Twisted Stiffeners and Curved Plate parts

Description: Improve weld generation performance for Twisted Stiffeners and Curved Plate parts.

Currently, weld generation for Twisted Stiffeners and Curved Plates can be extremely slow. For other parts, welds are generated in a reasonable amount of time.

Issue ID: 18749

Title: ShipConstructor - Presence of a specific planar group construction line triggers an error upon an attempt to delete a specific model drawing

Description: Presence of a specific planar group construction line triggers an error upon an attempt to delete a specific model drawing. For example, consider the following scenario:

1. The user has opened the Navigator dialog;
2. The user has selected a specific structure model drawing.

If the user attempts to delete the drawing, a database error will happen. After the user dismisses the error message dialog, the drawing won't be deleted. The database error is triggered by the presence of a specific planar group construction line in another drawing. The construction line is used by a plate part that exists in the same drawing. If the user disassociates the construction line from the plate part and removes the line, he or she will be able to return to Navigator and delete the drawing that, previously, created the error.

We should investigate this behaviour to make sure that deleting structure model drawings is handled appropriately.

Issue ID: 18775

Title: ShipConstructor - Create Arrangement Drawing Wizard - Non-primary product hierarchies display the top group only when assemblies serve as a source of information

Description: In the "Create Arrangement Drawing Wizard" dialog, non-primary product hierarchies display the top group only when assemblies serve as a source of information for an arrangement drawing. For example, consider the following scenario:

1. The user is working in a project that has secondary product hierarchies;
2. From the Navigator dialog, the user has begun to create a new arrangement drawing;
3. At the Step 3 in the "Create Arrangement Drawing Wizard" dialog, the user has selected "Assemblies" to be the source of information for the production drawing;
4. The user has changed the primary product, which is the default choice, into a non-primary product hierarchy.

The list of assemblies and sub-assemblies in the non-primary product hierarchy will be empty. Only the top level of the hierarchy will be visible in the selection field. This is incorrect behaviour. In the correct situation, the entire tree of the secondary product hierarchy should be visible when the user select the hierarchy as a source of information for the arrangement drawing. The primary product hierarchy is displayed correctly.

Issue ID: 18788

Title: Navigator - Pipe Spool Drawings - Reattaching a drawing doesn't populate the list of Spool Styles on the second page of the Wizard dialog

Description: Reattaching a pipe spool drawing to the project in Navigator doesn't populate the list of Spool Styles on the second page of the Wizard dialog that appears during the re-attach operation. For example, consider the following scenario:

1. There is a pipe spool drawing that is unattached to the project;
2. In the Navigator dialog, the user has right-clicked the unattached image and selected the "Reattach Drawing" option;

On the second page of the "Reattach Spool Drawing" dialog, the user won't be able to select any spool styles because the list of spool styles won't populate with available choices. The user won't be able to Continue in the dialog, so reattaching the drawing won't be successful.

Issue ID: 18792

Title: DB - Reports - The "Assembly" field doesn't get populated with data for "Equipment Part" sections of the "Build Strategy" type of report

Description: In reports, the "Assembly" field doesn't get populated with data for "Equipment Part" sections of the "Build Strategy" type of report. For example, consider the following scenario:

1. In the primary Product Hierarchy tree, an assembly contains a few equipment parts;
2. The user has created a new Build Strategy report that includes the following sections: "Equipment Parts - Unassigned" and "Equipment Parts - No Spool."
3. Each of the equipment sections contains a field named "Assembly."

If the user builds an actual report, the "Assembly" field that refers to both Equipment sections will be blank in the report. Other assembly related fields such as the "Parent Assembly" field will be filled correctly.

The "Assembly" field's being blank is incorrect. In the correct situation, the field should be populated with names of direct assemblies from the primary product hierarchy tree to which equipment parts belong.

Issue ID: 18976

Title: Report - Build Strategy - Equipment fields not populating in reports and BOMs

Description: In Build Strategy reports which contain fields from Equipment categories, the fields may not display values. For example consider the following scenario:

1. Equipment part(s) have been created in the model space;
2. The equipment part(s) have been correctly assigned to the Product Hierarchy;
3. A report is defined which contains fields from either of the categories 'Equipment Parts - Unassigned' or 'Equipment Parts - No Spool';
4. The defined report is run against the Product Hierarchy level (or higher level) which contains the equipment parts.

The generated report will not contain values in equipment fields. In fact, entire columns, including headers, may be missing from the generated report. This is an incorrect behaviour. Equipment fields should be populated with data in reports.

Issue ID: 18982

Title: Project Split & Merge - When the pipe part involved in a penetration belongs to the master project, and the plate part belongs to the split, refresh causes an unhandled exception

Description: When the pipe part involved in a penetration belongs to the master project, and the plate part belongs to the split, Project Split & Merge refresh causes an unhandled exception. For example, consider the following scenario:

1. In a pipe model drawing, a pipe penetration of a steel plate has been created;
2. The project has been split so that the pipe part belongs to the master, and the plate part belongs to the split.

If the user sends a refresh file to the split, an unhandled exception will happen upon an attempt to apply the refresh file to the split.

Issue ID: 18989

Title: Report - Build Strategy - Corrugated plates won't be shown in Build Strategy reports until the plates are nested

Description: Corrugated plates won't be shown in Build Strategy reports until the plates are nested. For example, consider the following scenario:

1. A corrugated plate has been created in the model space;
2. The plate has been assigned to a Product Hierarchy group;
3. A new Build Strategy report has been created in the report definitions dialog;
4. The "Name" and "Stock" fields from the "All Parts" section have been added to the report;
5. The user has saved the report definition and run the report against the Product Hierarchy group that contains the corrugated plate.

If the corrugated plate hasn't been nested before the report is run, the plate will not be included into the report. As soon as the user nests the part, the missing record will appear in the report. This is an incorrect behaviour. Corrugated plates should be retrievable by the "All Parts" section of Build Strategy reports regardless of their nested status.

Issue ID: 19170
Title: ShipConstructor - Create New Project - An attempt to generate a new project from either Metric or Imperial template XML file throws an unhandled exception
Description: An attempt to generate a new project from the Imperial template XML file throws an unhandled exception. For example, consider the following scenario:

1. The user has launched ShipConstructor;
2. The user has run the New Project command (ShipConstructor -> Project -> New Project);
3. The user has created a folder on a hard drive for the new project;
4. The user has selected the template XML file;
5. The user has clicked OK.

Somewhere in the middle of the new project creation process, an unhandled exception will pop up. If the user ignores the error and waits until the new project creation process finishes, the project will be created, but ShipConstructor will end up being in the suspended state. If the user kills the acad.exe process from Windows Task Manager and restarts the application, the user will be able to open the newly created project without any visible errors.

WORK AROUND

- Run in MDI Mode and you shouldn't get the problem.
- If you've run and it completed but hung at the end you can use the SCUPDATEPROJECTID to update the project id for all the new project files that might have gotten missed.

Issue ID: 19347
Title: Project Split & Merge - Split update may fail if an arrangement drawing is deleted from the master project before sending the update to the split
Description: Split update may fail if an arrangement drawing is deleted from the master project before sending the update to the split. For example, consider the following scenario:

1. In a split and merge scenario, the master project owns an arrangement drawings, but the split project owns pipe spools that are shown in the arrangement drawing;
2. The user has deleted the arrangement drawing from the master project;
3. The user has sent the update file to the split.

Upon processing the update file, an error will happen. The update operation will be cancelled.

Issue ID: 19415
Title: Project Split & Merge - If a spool drawing file needs to be renamed when merging projects, an unhandled exception may be provoked by the missing target directory
Description: If a spool drawing file needs to be renamed when merging projects, an unhandled exception may be provoked by the missing target directory. For example, consider the following scenario:

1. The user is working in a split and merge project;
2. Spool drawings are controlled by the project split;
3. The user has renamed one of the spool files in the project split;
4. The user is merging the project split back into the master project.

If the target directory for spool drawings is missing from the master project, an unhandled exception will be thrown. This is incorrect behaviour. In the correct situation, the missing directory should be recreated automatically so that the drawing path is valid.

Issue ID: 19501
Title: Project Split & Merge - Prevent situations where plate remnants are contentiously owned by the master project and project splits at the same time

Description: In Project Split & Merge environment, prevent situations where plate remnants are contentiously owned by the master project and project splits at the same time.

Currently, it is possible to create a situation where ownership of plate nest remnants is ambiguous. For example, consider the following scenario:

1. In a non split project, the user has created a plate nest drawing (Drawing A);
2. Drawing A contains a plate remnant that is used in another nest drawing (Drawing B);
3. The project has been split;
4. Ownership of Drawing A was given to the master project;
5. Ownership of Drawing B was given to one of the project splits.

With such a setup, it's unclear which part of the project owns the plate remnant. Project Split & Merge should prevent situations with contentious ownership of plate remnants. Splitting projects should be prohibited if the operation leads to ambiguous plate nest remnant ownership. The user should be given a clear explanation when splitting is not allowed because of a conflict with plate nest remnant ownership.

Issue ID: 19613

Title: ShipConstructor - When updating a project to SC2012 R1 or later version, an error may occur if the project has a plate remnant that is incorrectly shared by multiple plate nests

Description: When updating a project to SC2012 R1 or a later version, an error may occur if the project has a plate remnant that is incorrectly shared by multiple plate nests. In the correct situation, the same remnant may not be used in more than one nest.

To create a situation where the same remnant is used by multiple plate nests, the following rare scenario should take place:

1. Two or more users are currently connected to the same project;
2. Two or more users open different plate nest drawings;
3. Inside plate nest drawings, the users create new nests;
4. As a stock plate for the new nest, the users select the same remnant in each of the plate nest drawings. Because none of the users has saved his or her drawing they will be able to do so;
5. The users nest ShipConstructor parts;
6. The users save the drawings.

Due to an oversight, ShipConstructor database will allow saving both drawings without reporting an error to the users. As a result, the database will contain erroneous information about plate remnant usage in the project.

In ShipConstructor 2012 R1, an additional check procedure was added to the database. This will prevent the issue from happening in the future. However, if the user updates his or her project from a previous ShipConstructor version to ShipConstructor 2012 R1 or any later version and the project database already contains incorrect information on remnant usage, an error will occur during the update.

Issue ID: 19754

Title: ShipConstructor - Product Hierarchy - Newly defined pipe spools are not visible in non-primary product hierarchies

Description: Newly defined pipe spools are not visible in non-primary product hierarchies. For example, consider the following scenario:

1. The project has several non-primary product hierarchies;
2. In a pipe model drawing the user has modeled a few pipe parts and defined some spools;
3. The user has saved and reloaded the drawing.

If the user opens the Product Hierarchy dialog and attempts to search for newly defined spools or individual parts inside those spools, neither will be found. Spools and individual parts that belong to spools and constituent parts will be completely missing from non-primary product hierarchies.

The issue only happens to newly defined pipe spools. If a pipe spool is defined prior to a new non-primary product hierarchy is created, the pipe spool and enclosed pipe parts will be visible in the product hierarchy.

Similar issue is likely to happen with HVAC spools.

Issue ID: 19784

Title: ShipConstructor - Navigator - If there are no HVAC or Pipe Spools defined right clicking in Navigator causes a fatal error

Description: If there are no HVAC or Pipe Spools defined right clicking in Navigator causes a fatal error. For example, consider the following situation:

1. Open a ShipConstructor project which has no HVAC or Pipe Spools in it;
2. Open Navigator;
3. Right click in the space where the HVAC or Pipe Spools would appear for selection in Navigator.

Notice that a Fatal Exception occurs. This behaviour is incorrect. No fatal error should be thrown when a user right clicks in any area.

Issue ID: 20129

Title: ShipConstructor - Shared - The command SCADDTOPPLANARGROUP is missing from the Ribbon in all versions of 2011

Description: The command SCADDTOPPLANARGROUP is missing from the ribbon. This is incorrect. This command should exist in the ribbon and be labelled "Transfer Objects to Groups".
