

What Ties to What?

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Garrett is an experienced consultant with a demonstrated history of working in the computer software industry. Skilled in CNC, Computer-Aided Design (CAD), Estimation, and Sheet Metal Fabrication. He has spent the last 10 years training, supporting and consulting the Autodesk Fabrication products (CADmep, ESTmep, CAMduct) in the US, Australia and Canada.

Moving Around the Database



Navigating the Database

The Fabrication Database is the storage bin for all things related to your companies workflow. From Layering information such as color per system to manufacturing information such as notching, it's all stored in the database.

For most, once you change a setting inside of the database you don't have to return to redo or undo said setting.

Remembering the setting you unchecked 2 years ago can be tough! Remembering which area of the database might help narrow your search

Navigating the Database – Configuration Tab

CONFIGURATION

The “Configuration” Tab of the database houses information related to your config such as colors, decimal places, your contacts/addresses, costing information, display settings.

How I try to summarize the configuration tab is the following..... This portion houses more preference settings within the software that can be specific to a given computer/user rather than settings effecting your estimating, drafting or fabrication process.

Navigating the Database – Manufacturing Tab

MANUFACTURING

This is the most straight forward portion of the database. For CAD and EST users, if you aren't fabricating ductwork then you won't visit here! Inside CAD and EST the only available options are "Oversize Options" (Well EST has Cut out but oh well). If you enter this tab within CAMduct, you will see several additional fields. This is because the manufacturing tab houses information regarding the manufacturing/fabrication of the pieces, such as nesting settings, leads, overall preferences that are only applicable during the manufacturing of ductwork.

Navigating the Database – Fittings Tab

FITTINGS

The fittings tab of the database houses everything that you can apply to an item/fitting, from materials to stiffeners. The only options inside of this portion of the database that can't be APPLIED to an item, are pattern switches, and options. Both sections house settings that effect your items during takeoff, however.

Additionally this portion of the database houses breakout settings for each product.

Example here would be that the shop doesn't care how the connector draws/displays visually, their only concern is how it fabs.

Seams, Connectors, Stiffeners, Airtorns, Supports, Splitters all have drawing settings, manufacturing settings, and costing settings.

Navigating the Database – Takeoff Tab

TAKEOFF

The takeoff portion of the database houses information in regards to how you add your items to a job, rather than be through a service (quick takeoff) or item folders (piece by piece). Ultimately, settings within this portion will effect your experience while taking items off.

Navigating the Database – Costing Tab

COSTING

The costing portion of the database houses information surrounding the estimating side of the BIM process.

Note that EST itself will have additional fields here such as Overheads and fixed costs, which are only applicable while bidding a job.

The costing portion of the database, if I could summarize it, would be “THE MONEY”. This tab houses everything that effects the total cost of a job from material pricing to labor for shop and field. If a fab time is off, it is in this tab.

Navigating the Database – ITEMS???

ITEMS

Notice that there is no ITEMS portion of the database. No tab to see all of your pieces or add new ones. This is because your items are not a part of your “Database”. They are a separate entity that simply utilize/call upon your database and the settings/info you the user have populated it with. If you don't have a Stainless material, you can't apply it to a piece.

You could have all of the items in the world within your items folders/library, but if your database isn't populated with the correct criteria, the end result can be ugly.

What does Apply do?

IN WHAT SCENARIO DO I NEED TO SELECT APPLY?

Let me eliminate some confusion and state that selecting “OK” out of your database applies the changes made before exiting.

A scenario when you might want to use “APPLY”

You just created a new ancillary, and need to call it out within your connector. After creating the ancillary, if you don't “Apply” that newly created ancillary to your database, it will not be visible in the dropdown list when you go to call it out within the connector. Apply will make the addition/removal you have performed permanent.

What Ties to What?



The Pyramid Scheme

- Seams, Connectors, Stiffeners, Airturns, Supports, Splitters.
 - Once Expanded in the database, everything listed can be applied the top of the pyramid!
 - Depending upon what is listed, the additional breakouts inside of these categories is where you will go to apply said criteria to each category. (IE A notch can be applied to a connector through manufacturing, while a corner can be applied to that same connector through costing)

Database Settings



Settings or..... Checkboxes?

LOCAL SETTINGS

Auto Oversize, Automatically Backup the Job at Key Points, Carry Over Duct Sizes, Carry Over Duct Sizes-First End Only, Enter Imperial Dims in (ft), Estimated Dimensions, Multiple Item Properties, Takeoff Product Lists by Dimension, Use Automatic Drawing Numbers

Auto Oversize: DB/Manufacturing/Oversize Options

Automatically Backup the Job.....: DB/Configuration/Configuration

Carry Over Duct Sizes, Carry Over Duct Sizes – First end only : DB/Fittings/Pattern Switches/Takeoff

Enter Imperial Dims in (FT) : DB/Fittings/Pattern Switches/Takeoff

Estimated Dimensions : DB/Fittings/Pattern Switches/Takeoff

Multiple Item Properties, if ticked you control your own DB/Takeoff/Item Entry/Multiple Item Properties window.

Unticked = Global

Takeoff Product Lists by Dimension DB/Configuration/Configuration

Use Automatic Drawing Numbers DB/Takeoff/Item Entry

WHERE IS THE GLOBAL SETTING

Every local setting will have a global setting, however they are not all housed in one pretty screen as the local settings are.

3 times (x)2 = 6.....
But so does 3 plus (+) 3

Duplicates – We Don't Like

Over time the software has enhanced and created more efficient ways to achieve certain things. Although these enhancements may be a better way of doing things, older users might have implemented the OLD way, which is why some features were never pulled. This allows for users to achieve the same thing, just utilizing different routes.

- Insulation Cutbacks
 - Stiffener Offsets
 - Diameter Adjustments/Effective Diameters

Materials
 Facings
 Specifications
 + Seams
 + Connectors
 + Stiffeners
 + Splitters
 + Airturns
 + Supports
 Dampers
 Ancillaries
 Insulation Specifications

Main | Insulation

Material Wrap

Machine Thickness Wire Gauge Cost \$/(sq ft) Default Size Weig

Machine	Thickness	Wire Gauge	Cost \$/(sq ft)	Default Size	Weig
Any	6.000	0	0.00	120.000 x 60.000	0.37
Any	4.000	0	0.00	120.000 x 60.000	0.25
Any	1.000	0	0.00	120.000 x 60.000	0.06
Any	1.250	0	0.00	120.000 x 60.000	0.07

Adjustment

Seams

Inside

Male 0.000

Female 0.000

Outside

Male 0.000

Female 0.000

Adjust Applies to Wraps

Length

Develop for Longest Lengths

Calculation Air Side

Connector Adjust 0.000

Connector Straight Adjust Apply Both

2 Part Wrappers (or Angle > Value)

Throat Never

Heel Never

Fold Lines No

OK Cancel

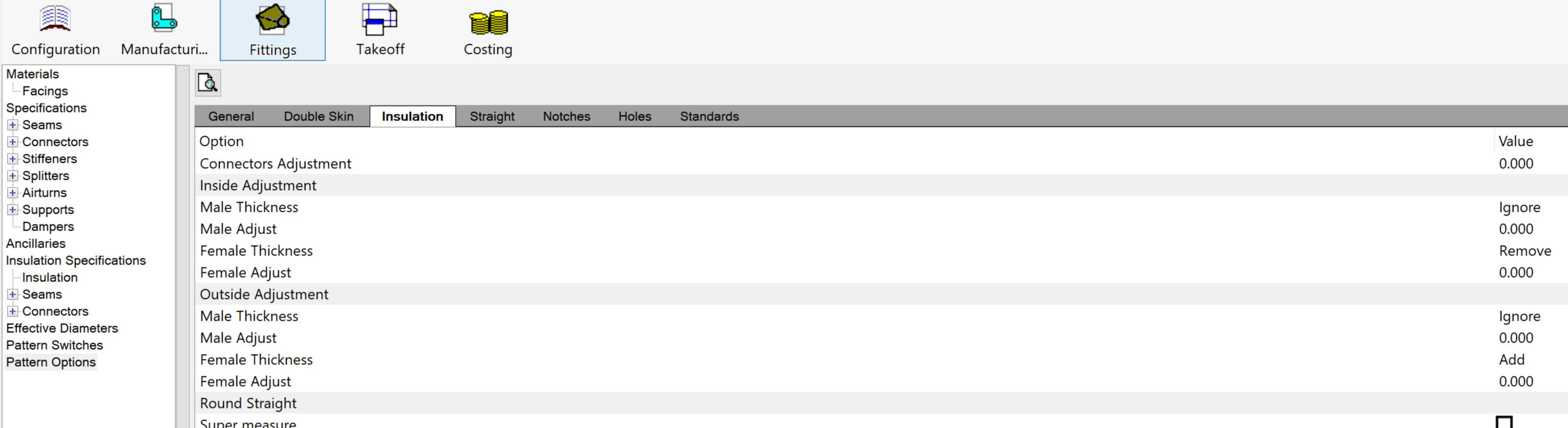
Insulation Adjust – Old Way

Database/Fittings/Materials/Insulation/Insulation developments

This is the old way of adjusting/controlling your insulation cutbacks, however not all patterns/cids can utilize this window.

The pattern must have the supported “Insulation Parts” option in order to receive cut backs from this window.

If a pattern’s insulation parts option is set to same, it will then look to the new way to control insulation cutbacks.



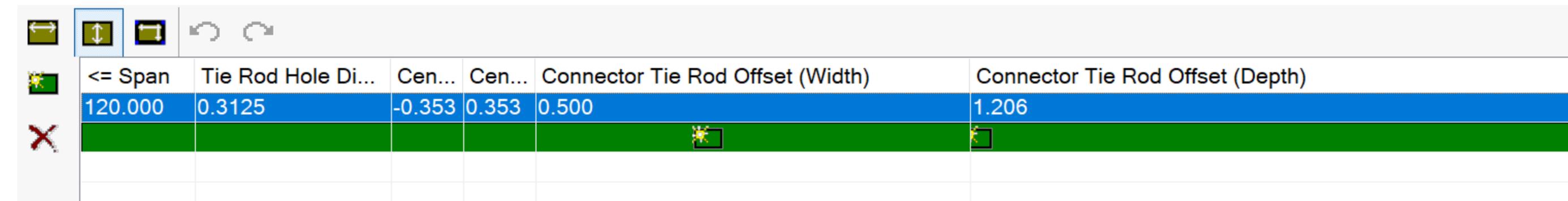
Insulation Cutbacks – New Way

Database/Fittings/Pattern Options/Insulation

This section of the database gives you the ability to grow/shrink your insulation based off of placement and thickness.

This newer window gives you some additional flexibility that the old way doesn't, but is missing one feature I like from the old way and that is 2 part wrappers. This window will not achieve 2 part wrappers

As well you have the ability to override an insulations cutback per connector. (Setting Override Insulation adjust within the connector on the manufacturing settings.



<= Span	Tie Rod Hole Di...	Cen...	Cen...	Connector Tie Rod Offset (Width)	Connector Tie Rod Offset (Depth)
120.000	0.3125	-0.353	0.353	0.500	1.206
					

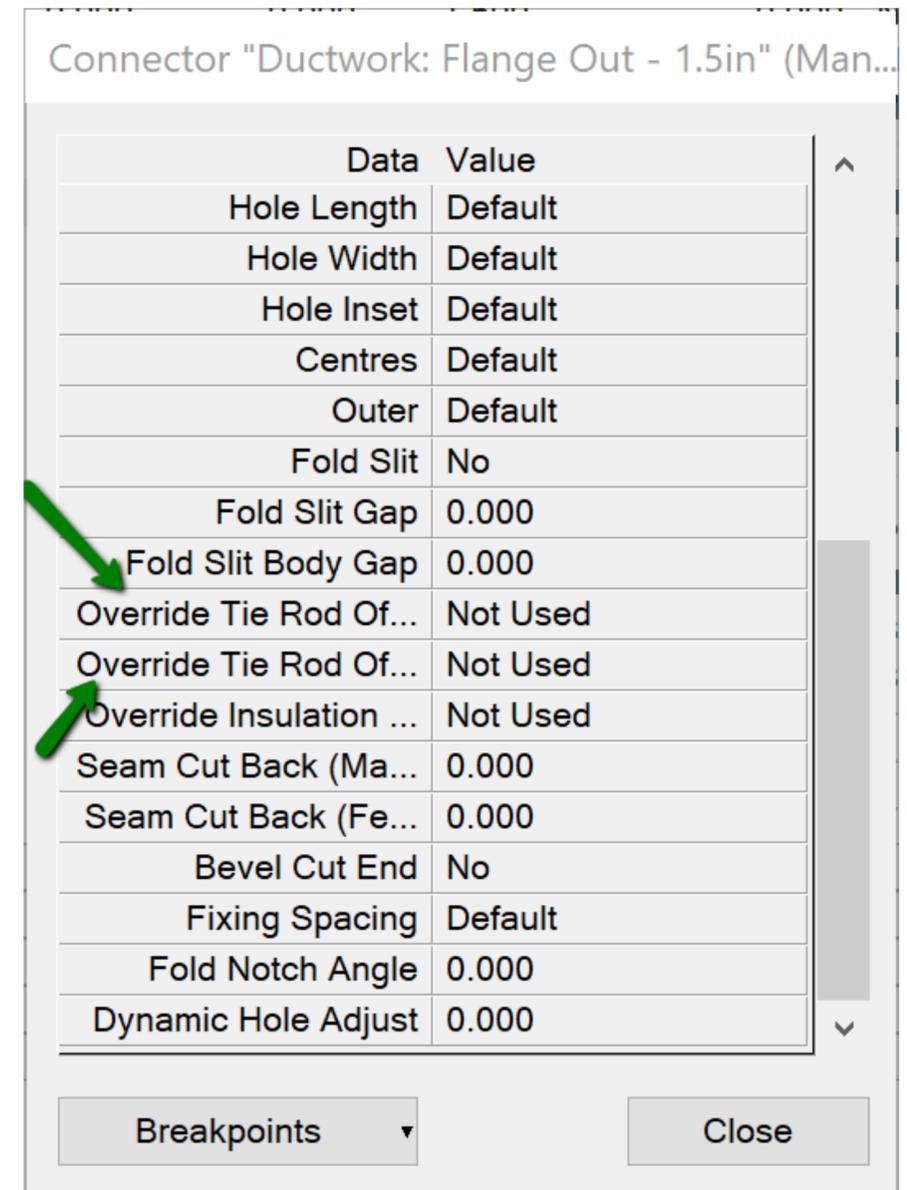
Stiffener Offsets – Old Way

Database/Fittings/Stiffeners

Select Stiffener → Right Click → Breakpoints → Show Span Breakpoints tab

The only place stiffener offsets were housed in the past was within the stiffener breakpoints itself. This was a very hard thing to do as certain connectors require a separate amount of turnover, therefore making a global offset hard to achieve!

Stiffener Offsets – New Way



Database/Fittings/Connectors

Ensure you are on the manufacturing settings for a given connector and right click →Edit

Because this is an override, the value placed in Override Tie Rod Offset (Width) and Override Tie Rod Offset (Depth) will take precedence over the stiffener breakpoint offset settings.

Database

Configuration Manufacturing... **Fittings** Takeoff Costing

Materials
 Facings
 Specifications
 Seams
 Connectors
 Stiffeners
 Splitters
 Airturns
 Supports
 Dampers
 Ancillaries
 Insulation Specifications
 Insulation
 Seams
 Connectors
Effective Diameters
 Pattern Switches
 Pattern Options

Use Connector Dependant Effective Diameters Round Flat Oval

Round - Connector Dependent Set Fitting Size

Diameter	Straight Diameter	Large End Diameter	Small End Diameter
4.000	4.000	4.000	3.875
6.000	6.000	6.000	5.875
8.000	8.000	8.000	7.875
10.000	10.000	10.000	9.875
12.000	12.000	12.000	11.500
14.000	14.000	14.000	13.875
16.000	16.000	16.000	15.875
18.000	18.000	18.000	17.875
20.000	20.000	20.000	19.800
22.000	22.000	22.000	21.800
24.000	24.000	24.000	23.800
26.000	26.000	26.000	25.800
28.000	28.000	28.000	27.800
30.000	30.000	30.000	29.800

Diameter Adjustments – Old Way – Effective Diameters

Database/Fittings/Effective Diameters

This section of the database gives you the ability to adjust the diameter of your round/oval pipe and fittings.

Essentially add all of your diameters, set your LE and SE values, and then call that effective diameter set out within the connectors “Effective Diameter Set” value.

Diameter Adjustments – Easy Way

Database/Fittings/Connectors/Round

Ensure you are on the manufacturing settings for a given connector and right click →Edit

Diameter Adjust : You can apply both positive and negative numbers to this field. This will effect your value entered for diameter by the value called out here.

This adjustment will only effect pieces with that particular connector applied

Connector ".Threaded: NPT - Body - f {v2}" (M...

Data	Value
Name	NPT - Body - f
Type	Pipework
Body Allowance	0.000
Collar Allowance	0.000
Roller Allowance	0.000
Type	Whole
Profile	No
Diameter Adjust	0.000
Diameter Adjust Set	
Effective Diameter Set	
Override Insulation A...	Not Used
Hole Spacing (Should...	Default
Dynamic Hole Adjust	0.000

Breakpoints ▼ Close



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