

# Revit Tips and Tricks for Fabrication Parts

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Supervisor – BIM Technology & Support

**CONNECT & CONSTRUCT SUMMIT**





## Greg Murphy

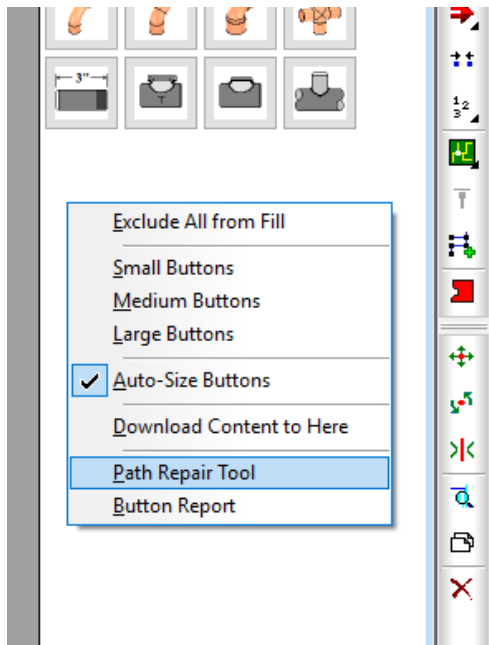
### Little Info about me.

This is my Baby Miranda the last to Graduate from Missouri State with a degree in Early Child hood Teaching. Some of my favorite things are Vacationing with my Family, Boating at Table Rock Lake which is just south of Springfield, MO & Golfing.

# Revit Fabrication Parts - Outline

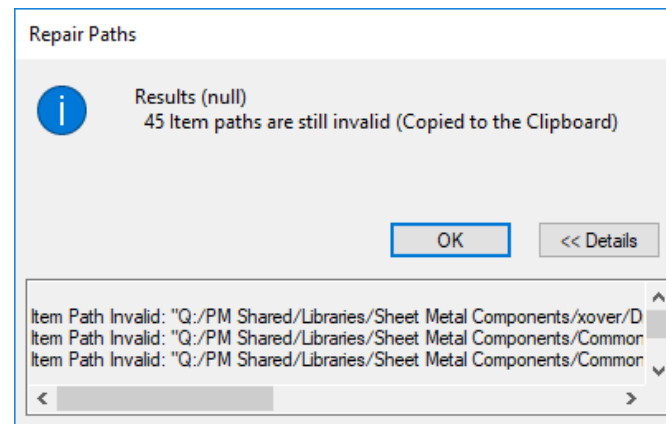
- Do you use your Database for Costing/Labor?
- Is your Database ready to load into Revit?
- Loading Fabrication Parts
  - Global Database
  - Profile Database
- Placing Ductwork/Piping
- Route and Fill Tools
- Multi-Point Routing
- Tools to use with Fabrication parts under Modify
- Smart Snapping
- Color of Drag Node
- Connecting as a Tap
- Change Service
- Change Size

# Is your database ready to load into Revit?



Right Click below the buttons to get this dialog

Select the Path Repair Tool you will be asked to open the file just say cancel. If you get results than you have some cleanup to do. If you get no results than your DB is clean and good to go.



# Is your database ready to load into Revit?

- Next you will need to copy the clipboard data and paste into excel.
- Once it is in Excel copy column A to column B.

A	B
Piping Components/Piping-Fittings (DWV)/CPVC/Solvent Weld/Spells/CPVC Sanitary Tee Reducing 401 BH.ITM	Piping Components/Piping-Fittings (DWV)/CPVC/Solvent Weld/Spells/CPVC Sanitary Tee Reducing 401 BH.ITM
Piping Components/Piping-Fittings (Pressure)/Copper/Press Fittings/Viega/Elbow 90 CxC close Rough.ITM	Piping Components/Piping-Fittings (Pressure)/Copper/Press Fittings/Viega/Elbow 90 CxC close Rough.ITM
Piping Components/Piping-Fittings (Pressure)/Copper/Press Fittings/Viega/Elbow 90 CxC close Rough.ITM	Piping Components/Piping-Fittings (Pressure)/Copper/Press Fittings/Viega/Elbow 90 CxC close Rough.ITM
Piping Components/Piping-Fittings (Pressure)/Copper/Press Fittings/Viega/Elbow 45 CxC.ITM	Piping Components/Piping-Fittings (Pressure)/Copper/Press Fittings/Viega/Elbow 45 CxC.ITM

- Now just edit the column B on the right be the updated path and/or ITM name then do a Save as and save the file as a .CSV file.

File name:	Path Repair-AU2.csv
Save as type:	CSV (Comma delimited) (*.csv)

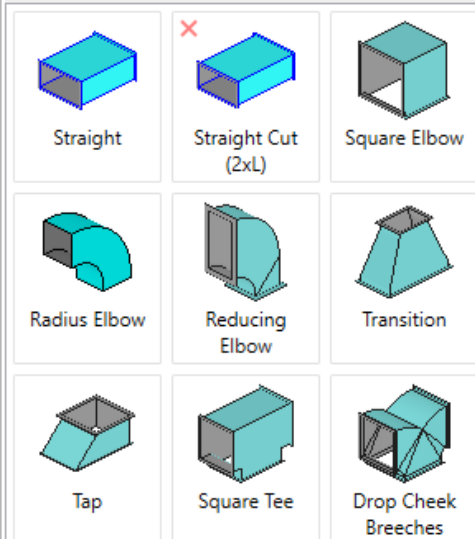
- Do this until you don't get anymore results or errors.

MEP Fabrication Parts

Service: Ductwork: +2in WG

Group: Rect

Services Parts



### Fabrication Settings

Fabrication configuration Connection Indicators

#### Colors

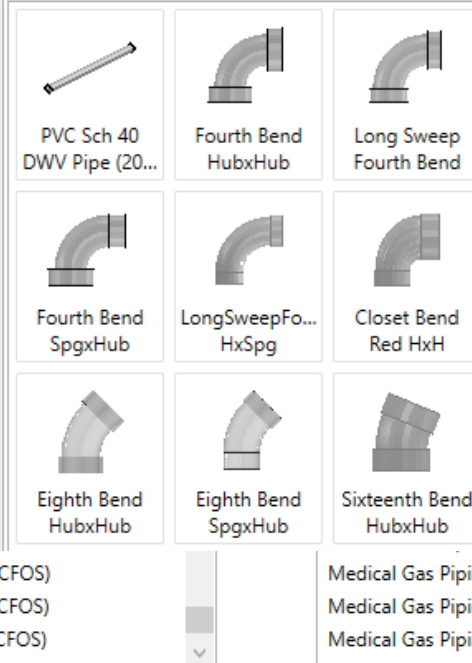
Plan		RGB 255-000-000
Towards		RGB 000-000-255
Away		RGB 000-255-000

MEP Fabrication Parts

Service: Piping: DWV PVC 40

Group: Fittings

Services Parts

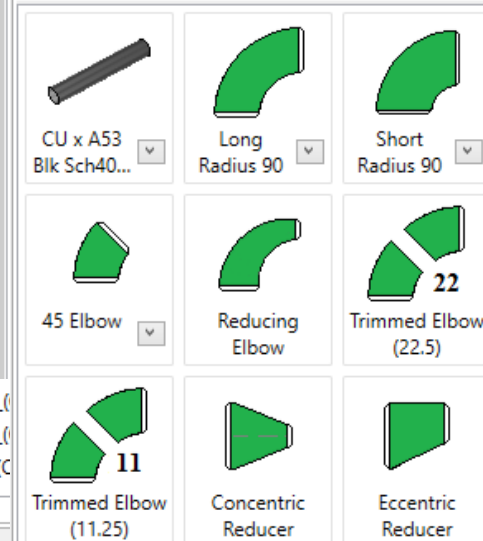


MEP Fabrication Parts

Service: Piping: WeldedXSoldered

Group: Fittings

Services Parts



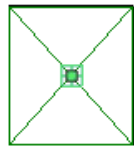
OK Cancel

[Learn how to set fabrication](#)

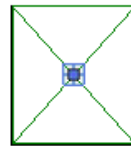
[Learn how to set fabrication configuration, services, and additional parts](#)

## Placing ductwork / piping

- Place first piece of ductwork
  - Add elevation, size ect.....
  - Rotate as needed
    - Space bar rotates counter clockwise
    - Shift-Space bar rotates clockwise
    - Ctrl-Space bar rotates in the Z axis
  - Note colors of the Nodes indicates direction the item is going (up or down). Important because of View Reference

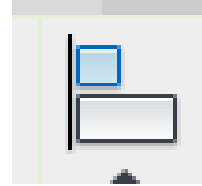


Green (Grass)  
going down



Blue (Sky)  
going up

## Aline tool (AL)



- The Aline tool will be your most used tool. Learn how to use it.
  - Pick reference of Alignment
    - Can be a Node, Face, Middle, edge ect.....
  - Next select the entity to align with
    - Note it will move into alignment with the reference you picked

**You can Aline (AL) to anything!**



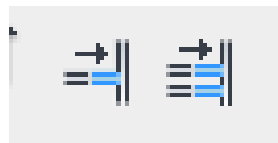
## Trim/Extend tools

- Trim/Extend to Corner (TR)

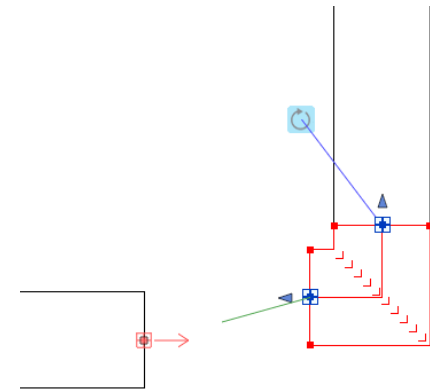


- Select two pieces you want to connect.
  - Works for other angles also so not just 90 deg

- Trim/Extend Single Elements



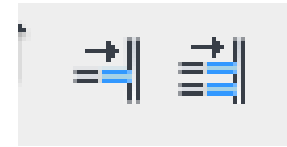
- Select what piece you want to extend to then select the parts you want to extend.
  - This also works for multiples



- Hidden Extend Trim/Extend

- If you have connectors facing each other and one is a fitting then you can connect them by selecting the node of one and drag to the other. This will act like you just did a Trim/Extend to Corner.

## Trim/Extend tools (Cont')

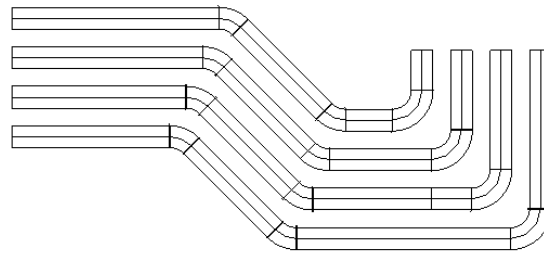


- Trim/Extend Multiple Elements
  - Note also if there are different elevations on each piece than only the first routing will be used.
    - If you want to route a connection to the bottom on one of them then you will need the Route and Fill. Because the Trim/Extend uses the first selection.
  - Note if you have Ductwork placed piece by piece than you probably will not get to using multiples due to piece length.

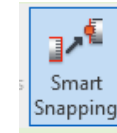
## Offset modify tool



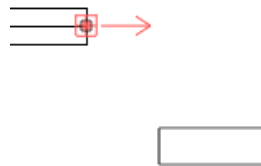
- Offset (OF)
  - Offset can be used to copy a run of Duct or pipe with a specific distance apart.
    - This also works for a run with 45's and/or 90's in the run.
    - This is great for when systems are routed together.



# Smart snapping



- When Smart Snapping is on it will allow for a larger snap point so don't have to get very close to the connector before it snaps to it.
- Turn Smart Snapping off when your in a congested area, this will allow you to get closer and select the connector you are wanting.



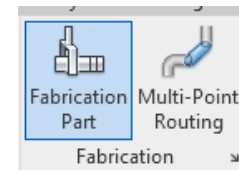
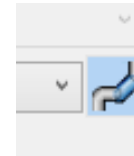
# Route and Fill Tools



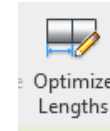
- Route and Fill can be used for multiple configurations.
  - When the Trim/Extend does not work then use the Route & Fill to control how things connect.
  - Multiple solutions can be found, pick the option you want and select it.
  - When on same elevation more solutions will be found.
  - When connections are at different elevations you may have to add a fitting first to get the result your looking for. Demo Examples

# Multi-Point Routing

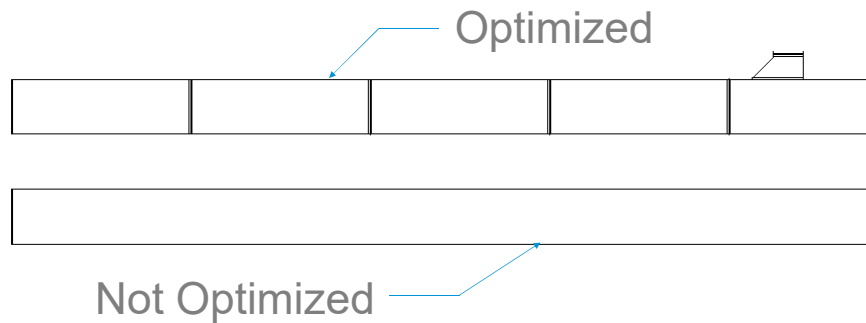
- Multi-Point Routing
  - When you want to start a run of duct or pipe and just route.
  - Change Elevations, change size while routing.
  - CADmep Users understand this type if routing since its very similar.

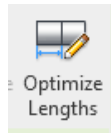


# Optimize Lengths



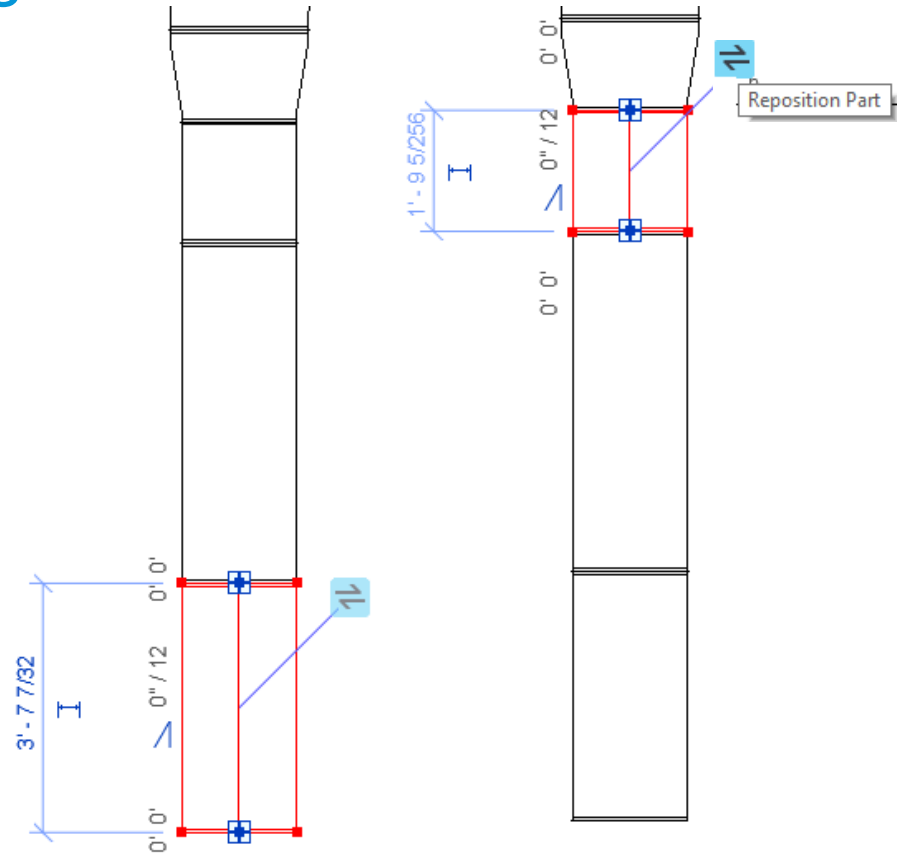
- Optimize Lengths changes the lengths to shop specific or purchased lengths for straights.
  - Ductwork – Sections to full length pieces.
  - Piping – Add couplings or welds between pipes.
  - Plumbing – Same as piping.





## Optimize Lengths

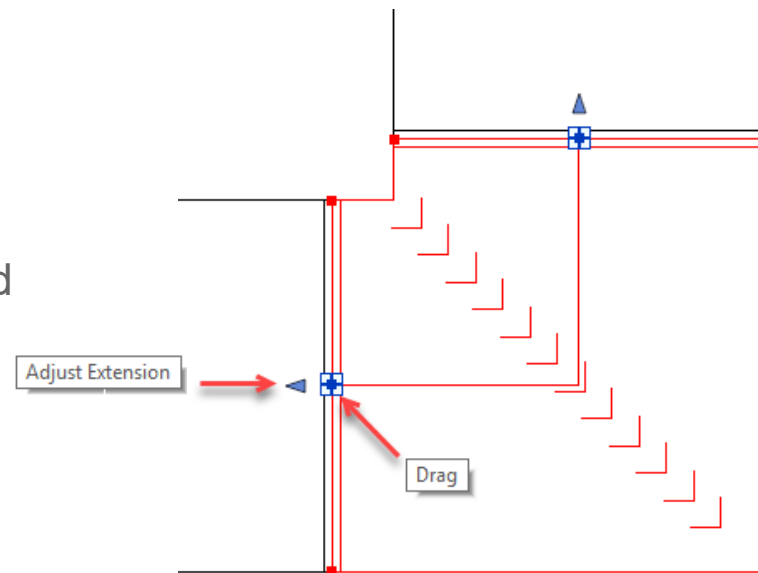
- Optimizing Lengths will leave some short joints to deal with. They can be handled in several ways.
  - Reposition Parts allows you to switch the full joint with the short joint.





# Optimize Lengths

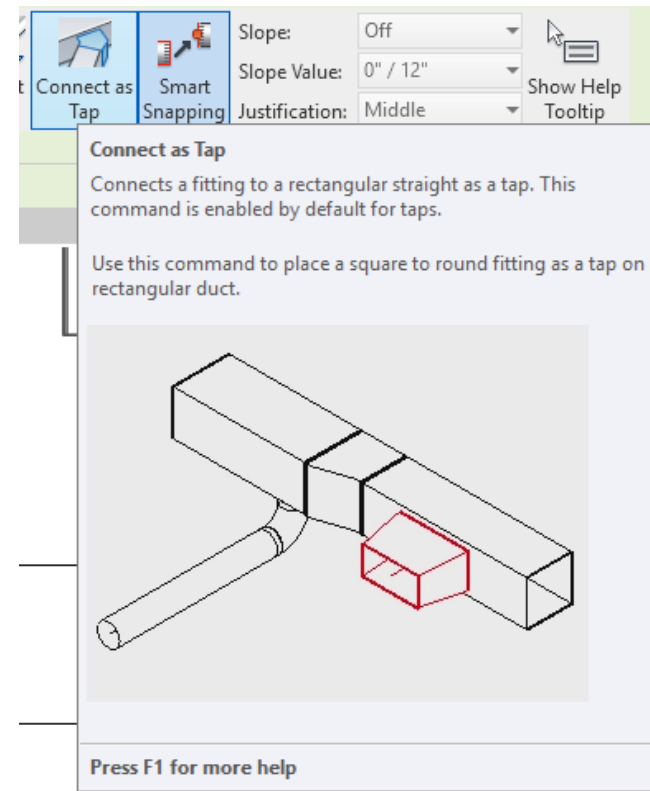
- Optimizing Lengths will leave some short joints to deal with. They can be handles in several ways.
  - Elbows can have the throat stretched used the Adjust Extension arrow.
    - Be cautious here because there isn't a stop. It will let you stretch that as far as you want and does not use the max stretch set on the elbow. This may come in the future.



# Connecting as a tap

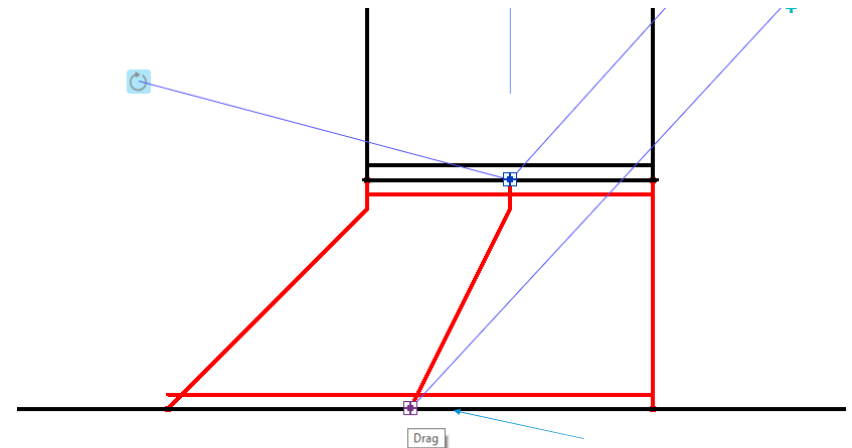
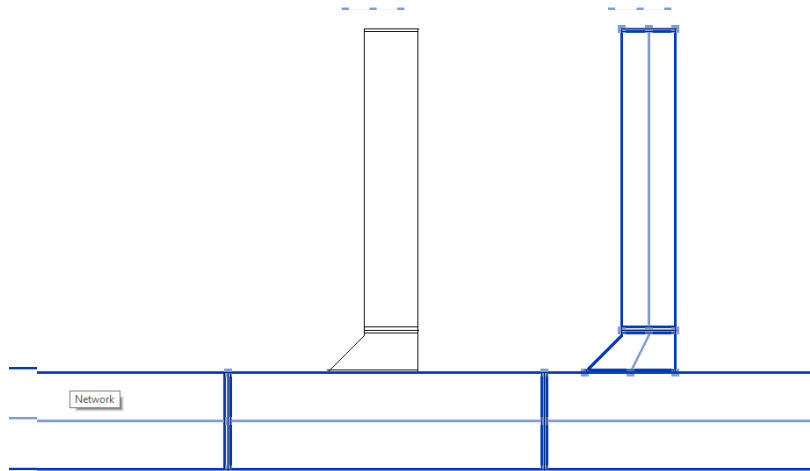


- This allows you to connect any fitting to the side of Rectangular duct. So Square to Rounds, Transitions or more can now be a tap.

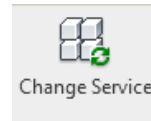


# Copying a tap and reconnecting it

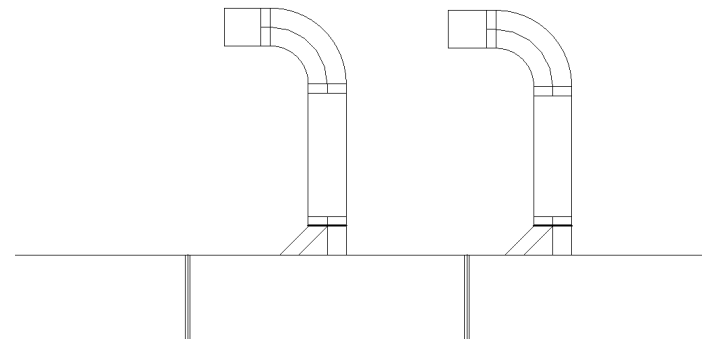
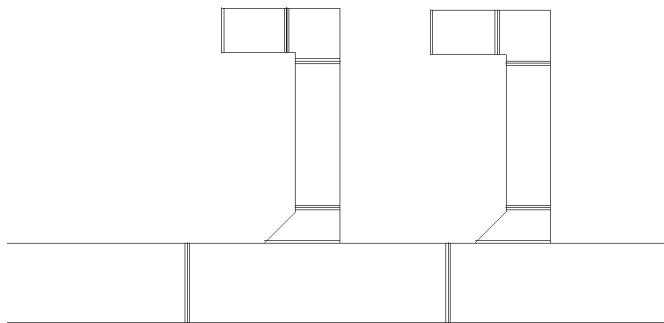
- If you have Optimized Lengths and copy a runout off your main you will find that the tap is not connected the run. Select the tap only and use the drag node to re-connect it to the main run.



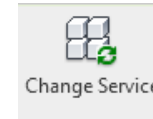
# Change service



- Change Service has a couple different functions.
  1. All selected items can be changed to the same service.
  2. You can change size on all selected items of the same service.
  3. You can now also change shape of selected items. Select runouts to change then check box for Enable Group and change the group to Round.



# Change service

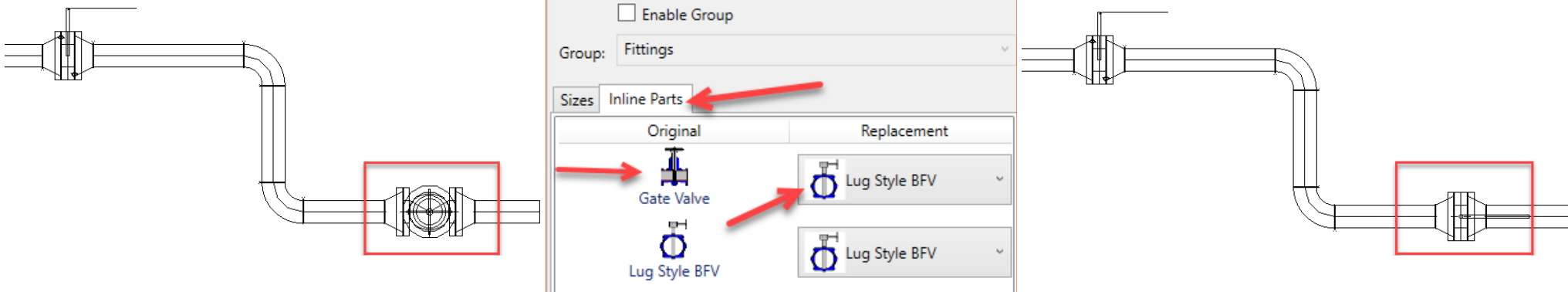


- Change Service has a couple different functions.

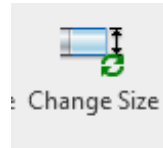
4. If you make changes to fittings being used.

1. Example: Change the Service to use a difference Manufacture then reload the configuration and change service and all fittings reloaded will get changed out.

2. If you have inline valve also be prompted to map valve changes if you want



# Change size



- Allows you to change size of selected items of same shape.
- It will allow changes of multiple services as long as they are of the same shape.
- Also shows the services for what sizes are listed.

MEP Fabrication Parts

Original Size	New Size
Piping: DWV PVC 40	
Round	Diameter
4"	4
3"	3
Piping: WeldedXSoldered	
Round	Diameter
6"	6
3"	3
2"	2
1"	1

MEP Fabrication Parts

Original Size	New Size	
Ductwork: +2in WG		
Rectangular	Width	Depth
18"x16"	18.00"	16.00"
Round	Diameter	
8"ø	8.00"	



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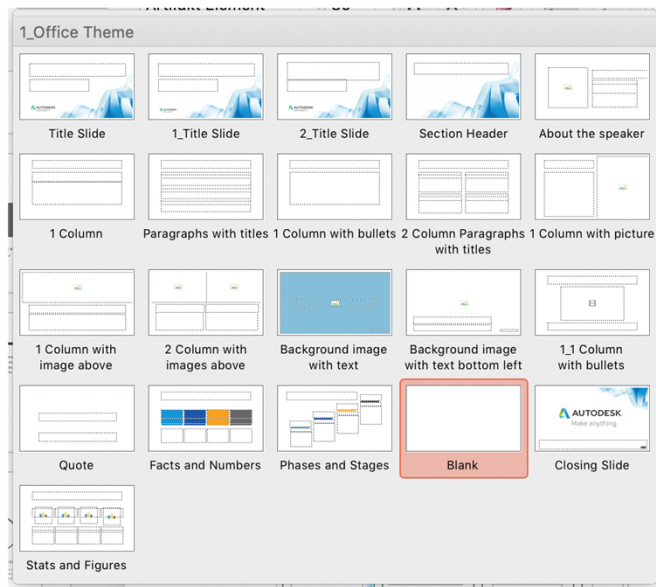
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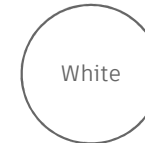
- AU 2019 Colors



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HEX: 1858A8



R 250 G 162 B 27  
HEX: FAA21B

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# Section Break



# Main title – video page



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This is where a  
keyword or important  
quote could go

ATTRIBUTION