

SETTING UP A UNIVERSAL EASY TO USE PARTS LIST AND BOM FOR A TYPICAL FABRICATION / CARPENTRY / MACHINE SHOP

I am writing this document to help new users establish an easy to use parts list. I have seen hundreds of questions dealing with BOMs and parts lists on the forums and hope this will help some of you. I use frame generator parts, content centre parts, imported parts, and native parts and have found that this style of parts list works great for me when sending drawings to the various shops in the company I work for. I hope it will also help other users who are confused by stock number, CC structural steel parts, BOMs, part quantities, parts list editing, sheet metal parts lists etc. I hope to make this a dynamic document with updated information as time goes on. I plan to have the version number in the pdf filename.

I will be using a simple light board frame as my sample assembly. It makes use of frame generator, content centre, sheet metal, and native modelled objects as well as a filtered viewrep parts list.

PARTS LIST

PARTS LIST								
ITEM	QTY	PART #	DESCRIPTION	MATERIAL	LENGTH	WIDTH	ANGLE	ANGLE
1	2		POCKET BOTTOM SHEET	Steel, Mild, 1/4"	50	7		
2	2		POCKET UPPER SHEET	Steel, Mild, 1/4"	50	12 1/8		
3	4		RUBBER GASKET	Rubber	6	2		
4	1	3x1/4	Flat Bar Steel	Steel, Mild	30			
5	4	ANSI B18.22.1 - 1/2 - wide - Type A	Plain Washer (Inch)Type A and B	Steel, Mild				
6	4	ANSI/ASME B18.2.1 - 1/2-13 UNC - 1.5	Hex Bolt - UNC (Regular Thread - Inch)	Steel, Mild				
7	4	IFI 100/107 - 1/2 - 13 Metal Type	Prevailing Torque Type Hex Nut	Steel, Mild				
8	4	L 3 x 3 x 1/4	Angle Steel	Steel, Mild	6			
9	2	L 3 x 3 x 1/4	Angle Steel	Steel, Mild	111 15/16			
10	2	L 3 x 3 x 1/4	Angle Steel	Steel, Mild	61			
11	2	L 3 x 3 x 1/4	Angle Steel	Steel, Mild	36			
12	2	L 3 x 3 x 1/4	Angle Steel	Steel, Mild	100			

PARTS LIST PROPERTIES

Parts List: NTR-0006-001-031.iam

		ITEM	QTY	PART #	DESCRIPTION	MATERIAL	LENGTH	WIDTH	ANGLE	ANGLE
		1	2		POCKET BOTTOM SHEET	Steel, Mild, 1/4"	50	7		
		2	2		POCKET UPPER SHEET	Steel, Mild, 1/4"	50	12 1/8		
		3	4		RUBBER GASKET	Rubber	6	2		
		4	1	3x1/4	Flat Bar Steel	Steel, Mild	30			
		5	4	ANSI B18.22.1 - 1/2 - wide - Type A	Plain Washer (Inch)Type A and B	Steel, Mild				
		6	4	ANSI/ASME B18.2.1 - 1/2-13 UNC - 1.5	Hex Bolt - UNC (Regular Thread - Inch)	Steel, Mild				
		7	4	IFI 100/107 - 1/2 - 13 Metal Type	Prevailing Torque Type Hex Nut	Steel, Mild				
		8	4	L 3 x 3 x 1/4	Angle Steel	Steel, Mild	6			
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		11	2	L 3 x 3 x 1/4	Angle Steel	Steel, Mild	36			
		12	2	L 3 x 3 x 1/4	Angle Steel	Steel, Mild	100			

BILL OF MATERIALS

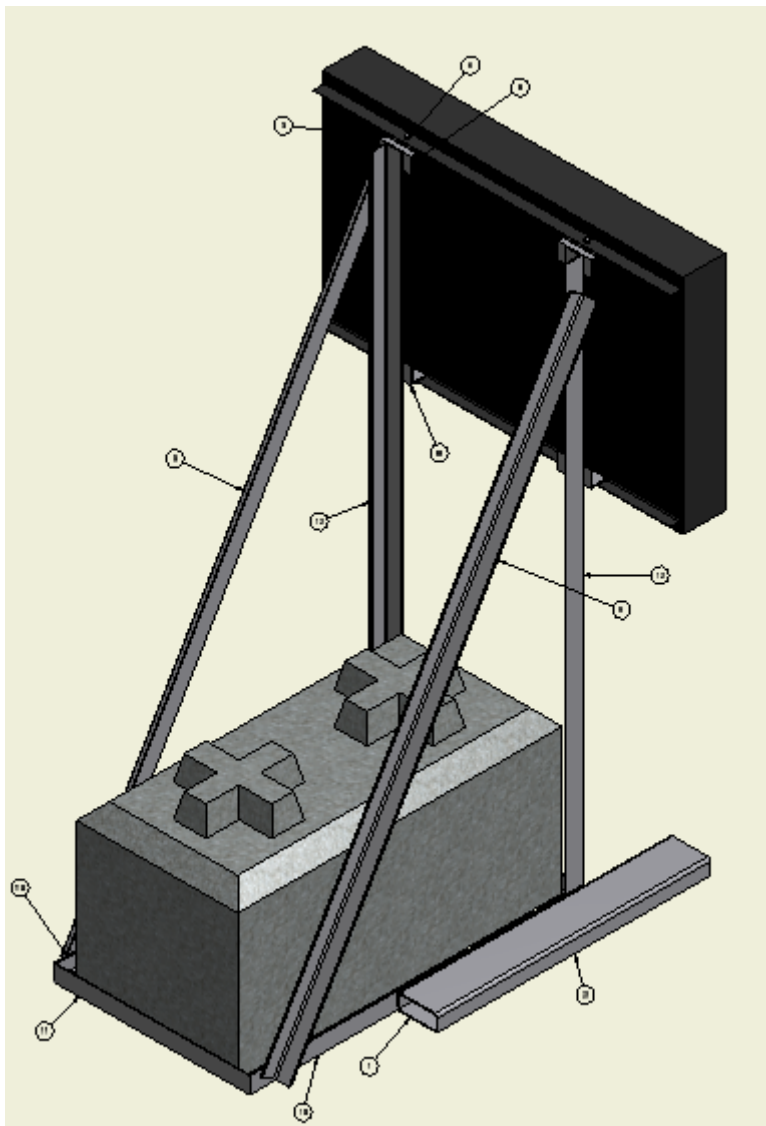
Bill of Materials [NTR-0006-001-031.iam]

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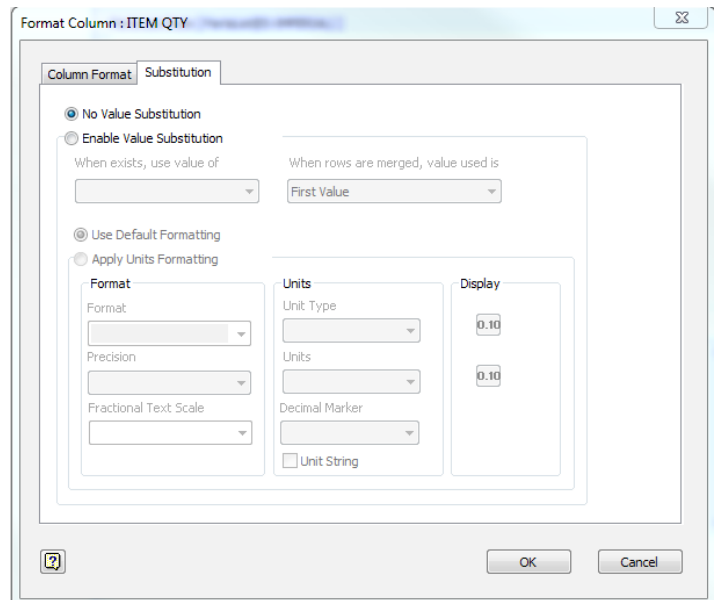
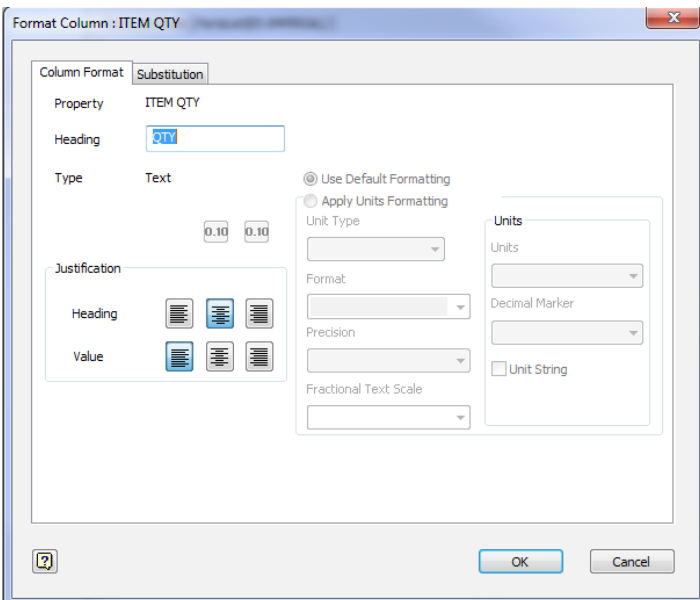
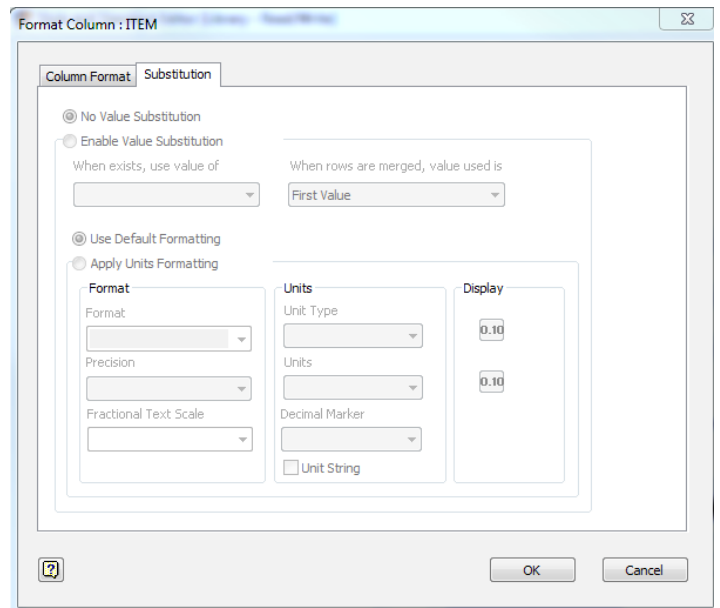
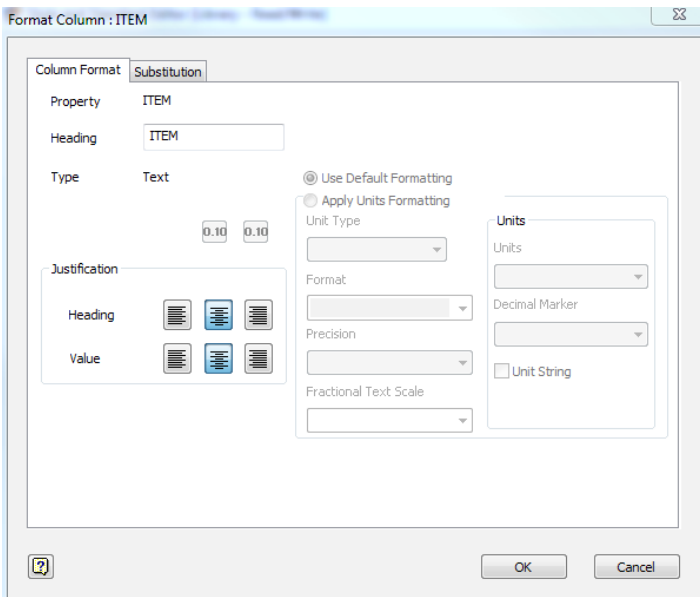
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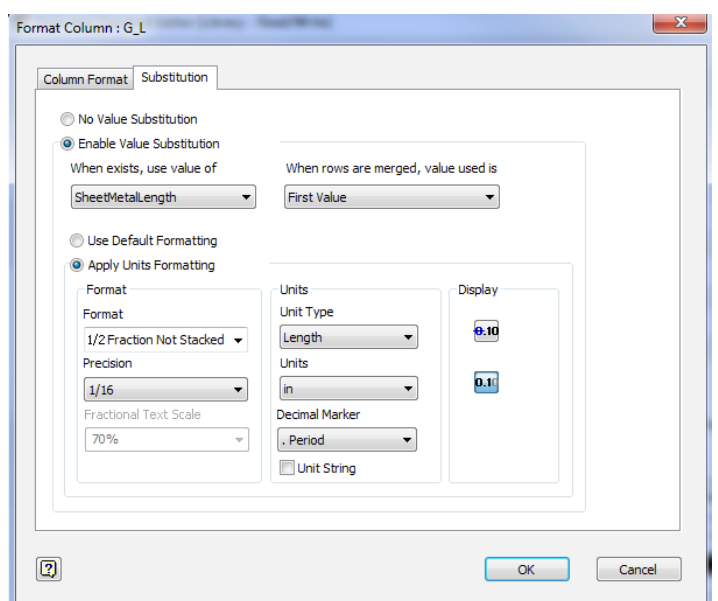
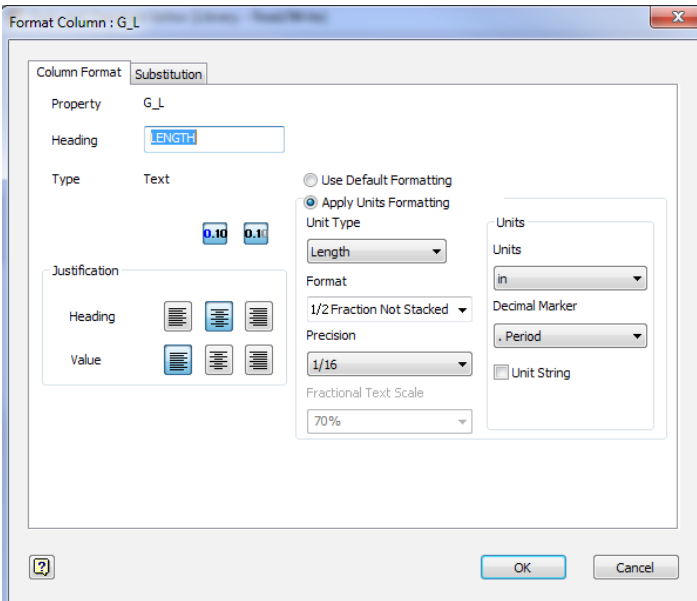
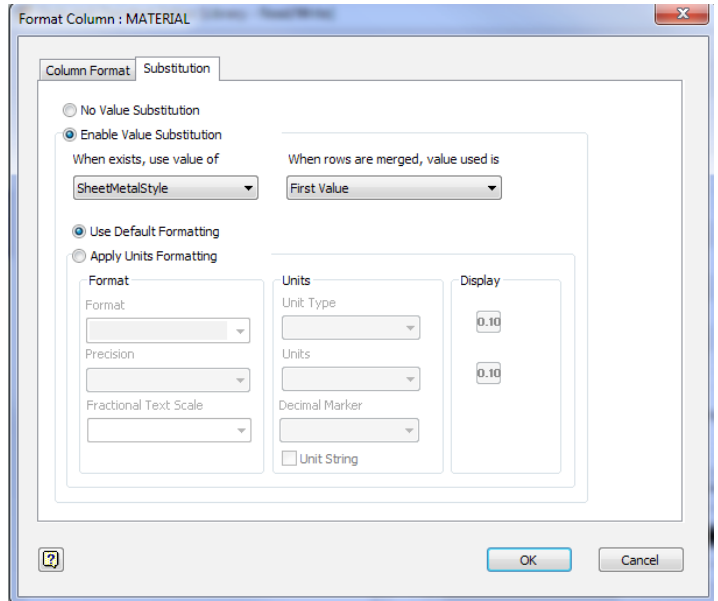
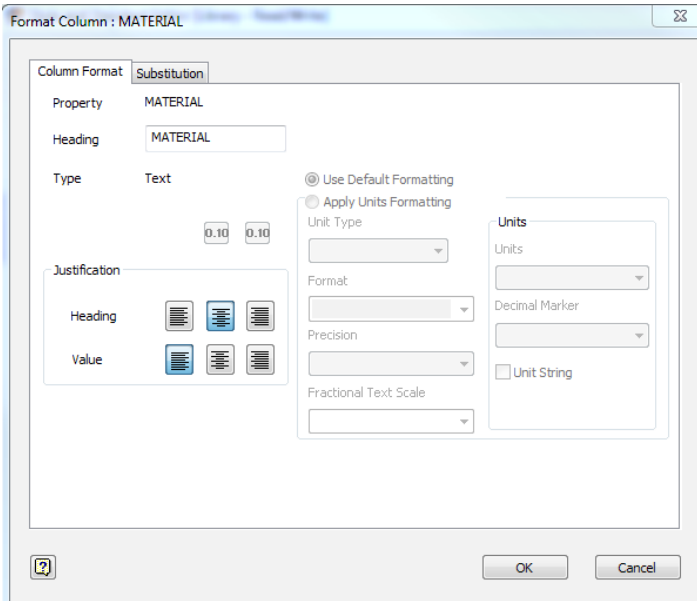
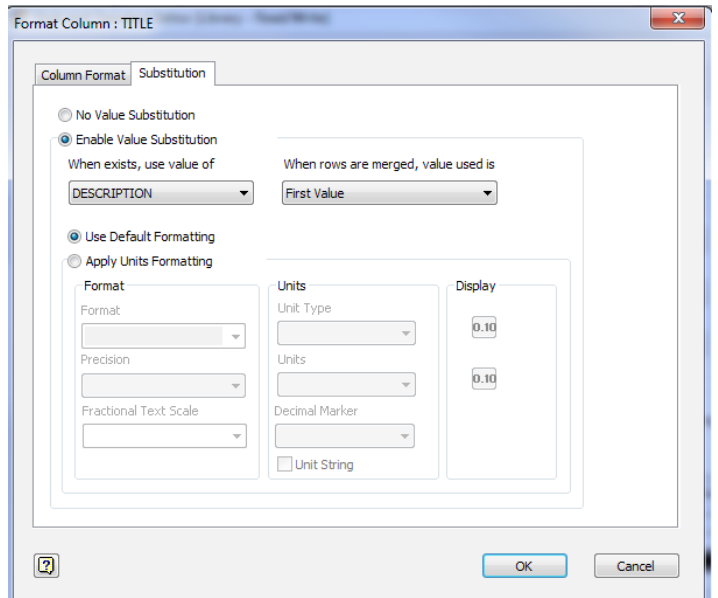
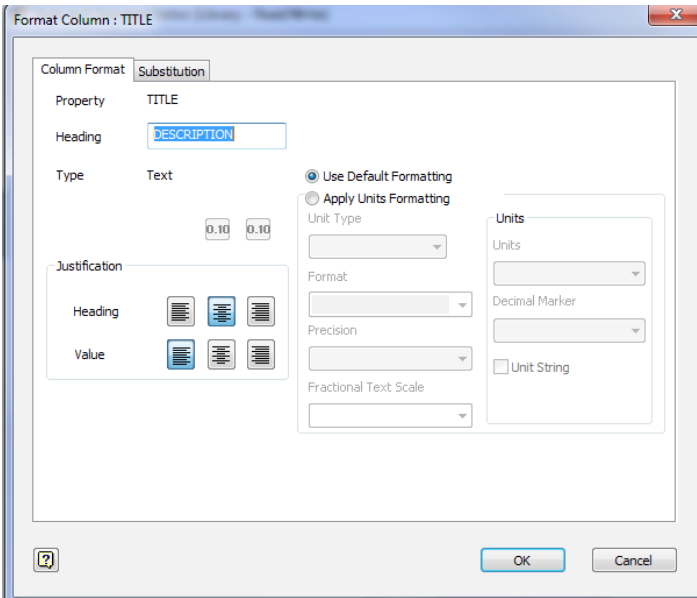
Item	Part Number	BOM Structure	Ite...	Stock Number	Title	Description	Mass	Material	SheetMetalStyle	SheetMetal...	SheetMetal...	File Path	Filename
1		Normal	2		POCKET BOTTOM SHEET		24.847 lbmass	Steel, Mild	Steel, Mild, 1/4"	50.000 in	7.000 in	C:\VaultedDesig...	POCKET BO...
2		Normal	2		POCKET UPPER SHEET		43.226 lbmass	Steel, Mild	Steel, Mild, 1/4"	50.000 in	12.131 in	C:\VaultedDesig...	POCKET UP...
3		Normal	4		RUBBER GASKET		0.049 lbmass	Rubber				C:\VaultedDesig...	RUBBER GA...
4	3x1/4-30.000 in	Normal	1	3x1/4		Flat Bar Steel	6.389 lbmass	Steel, Mild				C:\VaultedDesig...	ANSI 3x1_...
5	ANSI B18.22.1 - 1/2 - ...	Normal	4			Plain Washer (Inch) Type A and B	0.038 lbmass	Steel, Mild				C:\VaultedDesig...	ANSI B18.2...
6	ANSI/ASME B18.2.1 - 1...	Purchased	4			Hex Bolt - UNC (Regular Thread - Inch)	0.134 lbmass	Steel, Mild				C:\VaultedDesig...	ANSI_ASM...
7	IFI 100/107 - 1/2 - 13 ...	Normal	4			Prevailing Torque Type Hex Nut	0.048 lbmass	Steel, Mild				C:\VaultedDesig...	IFI 100_10...
8	L 3 x 3 x 1/4-6.000 in	Normal	4	L 3 x 3 x 1/4		Angle Steel	*Varies*	Steel, Mild				*Varies*	*Varies*
9	L 3 x 3 x 1/4-111.908 in	Normal	2	L 3 x 3 x 1/4		Angle Steel	46.029 lbmass	Steel, Mild				*Varies*	*Varies*
9		Normal	1				0.000 lbmass	Default				C:\VaultedDesig...	MOCK LOC...
10	L 3 x 3 x 1/4-61.000 in	Normal	2	L 3 x 3 x 1/4		Angle Steel	24.407 lbmass	Steel, Mild				*Varies*	*Varies*
11	L 3 x 3 x 1/4-36.000 in	Normal	2	L 3 x 3 x 1/4		Angle Steel	14.124 lbmass	Steel, Mild				*Varies*	*Varies*
12	L 3 x 3 x 1/4-100.000 in	Normal	2	L 3 x 3 x 1/4		Angle Steel	41.131 lbmass	Steel, Mild				*Varies*	*Varies*
20	LED SIGN BOARD	Normal	1				758.401 lbmass	Default				C:\VaultedDesig...	LED SIGN B...

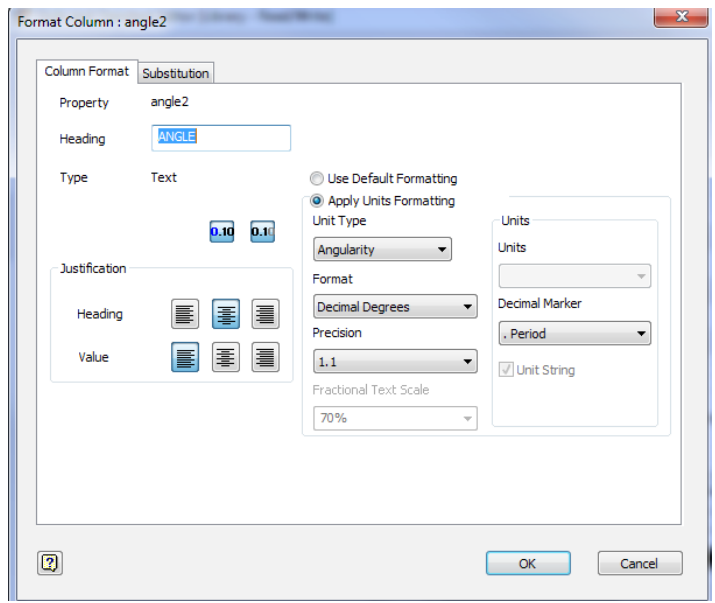
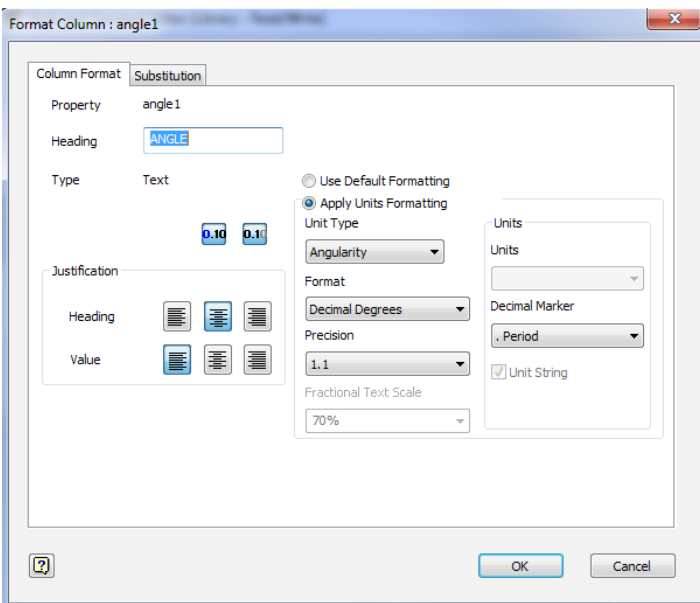
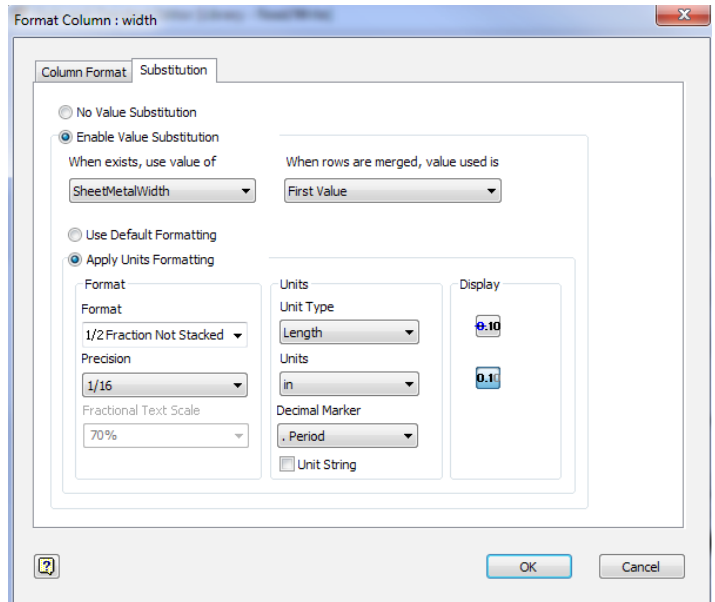
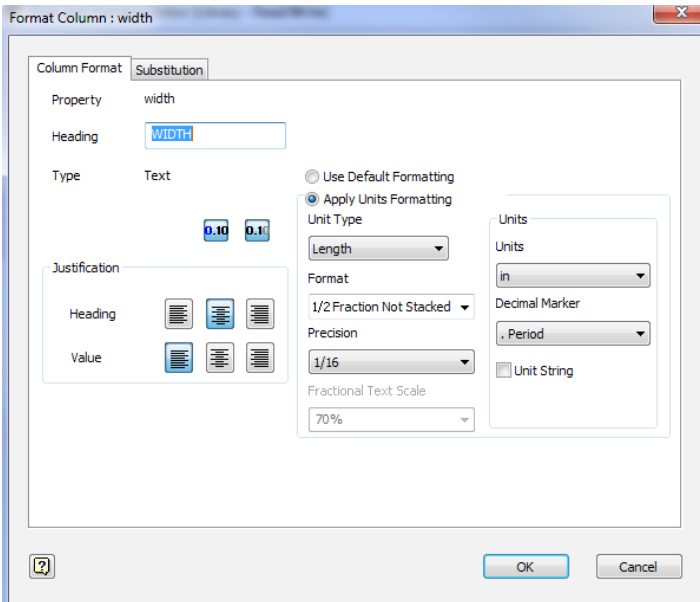
DRAWING VIEW



I will now show you how to set up your parts list to allow for minimal work later. My partslists are almost always “Parts Only” parts lists. I have set up my parts list based on the fact that I use Brian Ekins sheet metal extents add in which is found here: <http://forums.autodesk.com/t5/Autodesk-Inventor-Customization/Sheet-Metal-Extents/td-p/1885434>





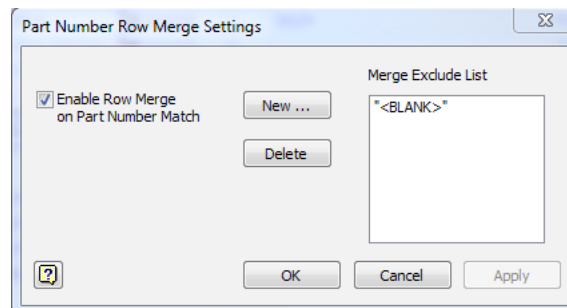


I don't use any substitution for my Cut angles, Item or Item Qty. I could even take angles right out of my parts list and make a separate cut list with them in as I rarely use them. (I typically dimension the cut angle on the drawing.)

As a new user, you could also choose to not use "Title" and simply use "Description". I have done it this way to work with my legacy content centre data that did not allow the editing of "Description" many releases ago.

The content centre data (and frame generator data) and sheet metal data will self populate the BOM and parts list. (The sheet metal data will self populate as soon as you create a flat pattern.) The stock number is substituted into the part number to avoid weird lengthy names in the part number column. This stock number can also be your company part number for the various stock steel, aluminum, wood etc. In my case my parts list is not directly tied in to our part numbering system and it makes no sense to use all of our company part numbers for everything in my drawings. I am quite content using the stock numbers as they come from content centre. You will also notice that I have some blanks in my part number column. I could easily put in the stock number for 1/4" steel and it will then populate the part number column.

In the Bill of Materials, I typically use expressions for all my structural steel. This ensures that all my FG parts and other steel/aluminum/etc. parts are all rolled up correctly without resorting to any special merge settings etc. The expression I use is: “=<Stock Number>-<G_L> “ You could also include “-<Mass>” in there too but I choose not to. This allows all parts with slightly different drilled holes sizes to be still rolled up together. I then simply copy and paste for all the steel part numbers in the BOM (a very easy step). Notice the expression in the image below:



Bill of Materials [NTR-0006-001-031.iam]

Model Data | Structured (Disabled) | Parts Only

Expression: =<Stock Number>-<G_L>

Item	Part Number	BOM Structure	It...	Stock Number	Title	Description	Mass	Material	SheetMetalStyl...	SheetMetal...	SheetMetal...	File Path	Filename
1		Normal	2		POCKET BOTTOM SHEET		24.847 lbmass	Steel, Mild	Steel, Mild, 1/4"	50.000 in	7.000 in	C:\VaultedDesign...	POCKET BO...
2		Normal	2		POCKET UPPER SHEET		43.226 lbmass	Steel, Mild	Steel, Mild, 1/4"	50.000 in	12.131 in	C:\VaultedDesign...	POCKET UP...
3		Normal	4		RUBBER GASKET		0.049 lbmass	Rubber				C:\VaultedDesign...	RUBBER GA...
4	3x1/4-30.000 in	Normal	1	3x1/4	Flat Bar Steel		6.389 lbmass	Steel, Mild				C:\VaultedDesign...	ANSI 3x1_4...
5	ANSI B18.22.1 - 1/2 - w...	Normal	4		Plain Washer (Inch) Type A and B		0.038 lbmass	Steel, Mild				C:\VaultedDesign...	ANSI B18.2...
6	ANSI/ASME B18.2.1 - 1/...	Purchased	4		Hex Bolt - UNC (Regular Thread - Inch)		0.134 lbmass	Steel, Mild				C:\VaultedDesign...	ANSI_ASME...
7	JFI 100/107 - 1/2 - 13 M...	Normal	4		Prevailing Torque Type Hex Nut		0.048 lbmass	Steel, Mild				C:\VaultedDesign...	JFI 100_107...
8	L 3 x 3 x 1/4-6.000 in	Normal	4	L 3 x 3 x 1/4	Angle Steel		"Varies"	Steel, Mild				"Varies"	"Varies"
9	L 3 x 3 x 1/4-111.908 in	Normal	2	L 3 x 3 x 1/4	Angle Steel		46.029 lbmass	Steel, Mild				"Varies"	"Varies"
9		Normal	1				0.000 lbmass	Default				C:\VaultedDesign...	MOCK LOCK...
10	L 3 x 3 x 1/4-61.000 in	Normal	2	L 3 x 3 x 1/4	Angle Steel		24.407 lbmass	Steel, Mild				"Varies"	"Varies"
11	L 3 x 3 x 1/4-36.000 in	Normal	2	L 3 x 3 x 1/4	Angle Steel		14.124 lbmass	Steel, Mild				"Varies"	"Varies"
12	L 3 x 3 x 1/4-100.000 in	Normal	2	L 3 x 3 x 1/4	Angle Steel		41.131 lbmass	Steel, Mild				"Varies"	"Varies"
20	LED SIGN BOARD	Normal	1				758.401 lbmass	Default				C:\VaultedDesign...	LED SIGN B...

If you were inserting this entire light board frame assembly into a parent assembly and wanted it to appear as a single item in the parent, simply make this assembly inseparable in the parent assembly and it will appear as a single line in that drawing parts list. (There is one caveat with this though - purchased items will propagate up. That is typically why I change most of my CC hardware to “Normal”. In this case, the hex bolt will also show up in that new parent assembly.)

I hope this helps some of you in setting up a parts list and using stock number correctly. There are reasons for some of the other things I have done but did not want to bore everybody with the details. If you have questions, please ask in the forum and I will be happy to answer.