Cadify tutorials
Adding formulas in Excel

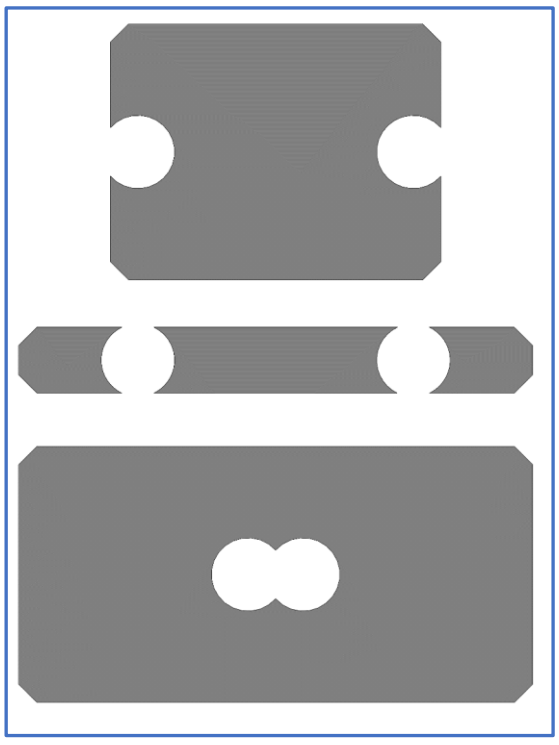
GOAL OF THIS TUTORIAL

Add formulas in Excel to create rules for the 3D models.

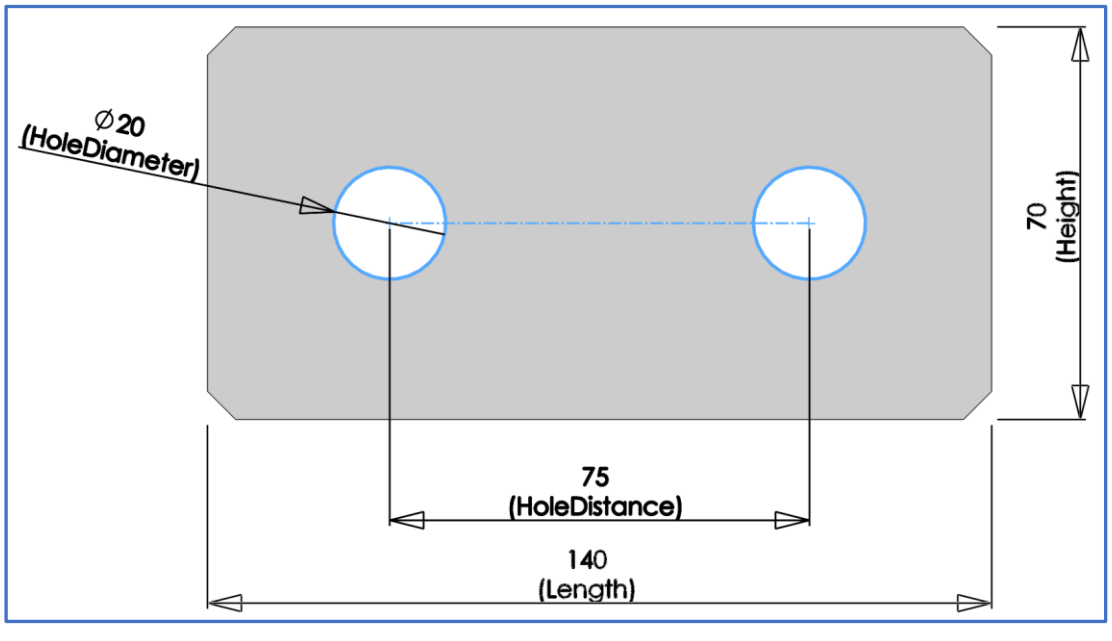
This tutorial uses the same document used in the previous tutorial. Examples of 3D model and excel file can be found in this links: Excel file *;* SW zip folder

EXAMPLES OF UNDESIRED GEOMETRY IN A PART

The user may select combinations of dimensions that can lead to undesired geometry of the part. Images below are examples of this situation.



DEFAULT DIMENSIONS OF THE PART – CORRECT MORPHOLOGY OF THE PART



APPLYING FORMULAS IN EXCEL

Formulas in Excel

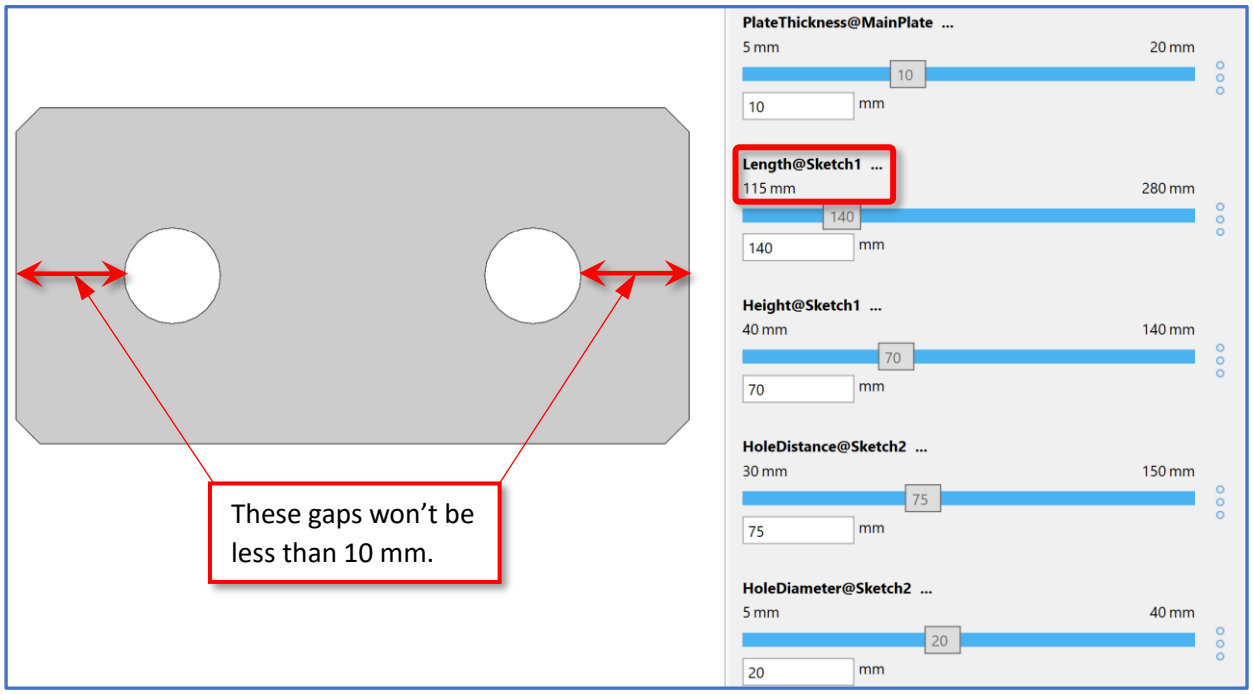
Marked cells have formulas. Cell R15 has an auxiliary parameter for the part: the minimum allowable gap between holes; and between hole and sides.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
12	Advanced Parameter Settings				Basic Parameter Settings												Extra calculations	
13																		
14	Display Name ; Description	List values	CT Settings	Condition	Control Type	Name	Value	Unit	Min	Min message	Max	Max message	Decimal	Increment	Type	References		
15	PlateThickness@MainPlate;	5;Min. is 5 mm;20;Max. is 20 mm;1	On;10;Optional;EDT;first		Spinbox Slider	PlateThickness@MainPlate	10	mm	5	Min. is 5 mm	20	Max. is 20 mm	0	1	Input		Min.HoleGap	10
16	Length@Sketch1;	135;Min. is 135 mm;280;Max. is 280 mm;1	On;20;Optional;EDT;first		Spinbox Slider	Length@Sketch1	140	mm	135	Min. is 135 mm	280	Max. is 280 mm	0	1	Input			
17	Heigth@Sketch1;	40;Min. is 40 mm;140;Max. is 140 mm;1	On;30;Optional;EDT;first		Spinbox Slider	Heigth@Sketch1	70	mm	40	Min. is 40 mm	140	Max. is 140 mm	0	1	Input			
18	HoleDistance@Sketch2;	30;Min. is 30 mm;150;Max. is 150 mm;1	On;40;Optional;EDT;first		Spinbox Slider	HoleDistance@Sketch2	75	mm	30	Min. is 30 mm	150	Max. is 150 mm	0	1	Input			
19	HoleDiameter@Sketch2;	5;Min. is 5 mm;40;Max. is 40 mm;1	On;50;Optional;EDT;first		Spinbox Slider	HoleDiameter@Sketch2	20	mm	5	Min. is 5 mm	40	Max. is 40 mm	0	1	Input			

Formula in cell I16: minimum length of the part. This formula ensures that the total length of the part always will have a minimum gap of 10mm between the holes and the sides.

SUM =G19+G18+2*R15

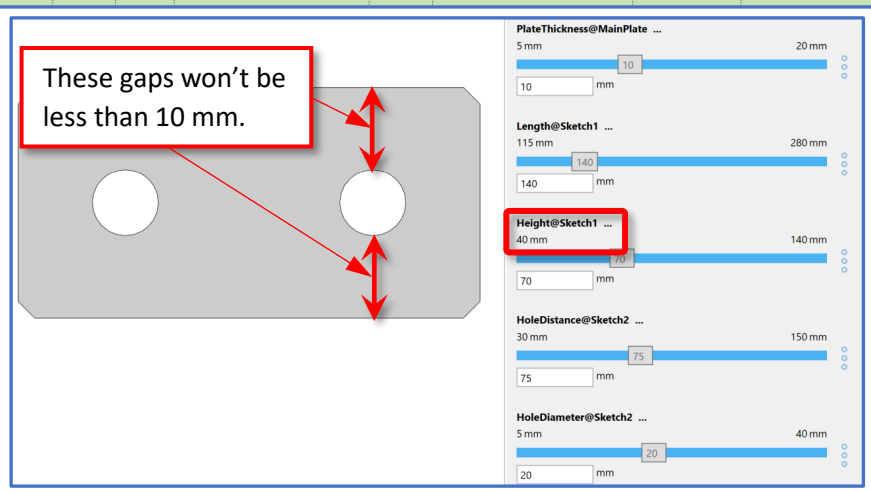
	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
12	Basic Parameter Settings												Extra calculations	
13														
14	Control Type	Name	Value	Unit	Min	Min message	Max	Max message	Decimal	Increment	Type	References		
15	Spinbox Slider	PlateThickness@MainPlate	10	mm	5	Min. is 5 mm	20	Max. is 20 mm	0	1	Input		Min.HoleGap	10
16	Spinbox Slider	Length@Sketch1	=G19+G18+2*R15			mm	280	Max. is 280 mm	0	1	Input			
17	Spinbox Slider	Heigth@Sketch1	70	mm	40	Min. is 40 mm	140	Max. is 140 mm	0	1	Input			
18	Spinbox Slider	HoleDistance@Sketch2	75	mm	30	Min. is 30 mm	150	Max. is 150 mm	0	1	Input			
19	Spinbox Slider	HoleDiameter@Sketch2	20	mm	5	Min. is 5 mm	40	Max. is 40 mm	0	1	Input			



Formula in cell I17: minimum height of the part. This formula ensures that the heigth of the part always will have a minimum gap of 10mm between the holes and the sides.

SUM =G19+2*R15

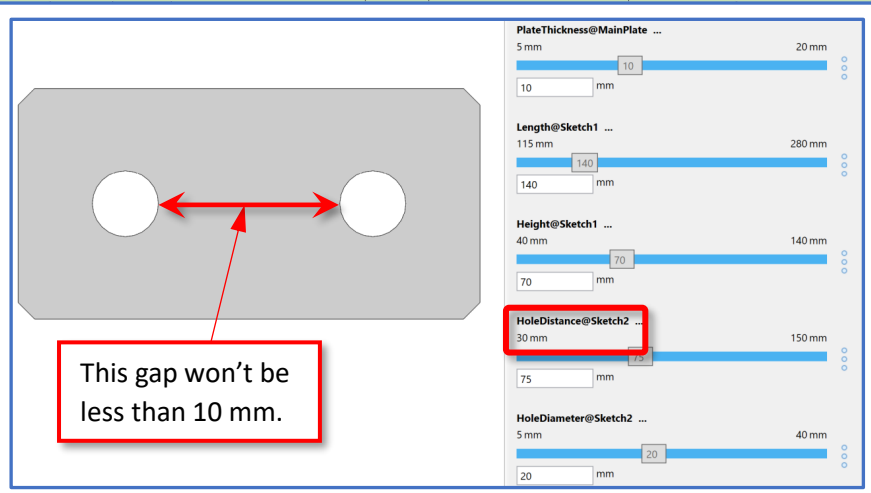
	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
12	Basic Parameter Settings												Extra calculations	
13														
14	Control Type	Name	Value	Unit	Min	Min message	Max	Max message	Decimal	Increment	Type	References		
15	Spinbox Slider	PlateThickness@MainPlate	10	mm	5	Min. is 5 mm	20	Max. is 20 mm	0	1	Input		Min.HoleGap	10
16	Spinbox Slider	Length@Sketch1	140	mm	115	Min. is 115 mm	280	Max. is 280 mm	0	1	Input			
17	Spinbox Slider	Heigth@Sketch1	70	=G19+2*R15		. is 40 mm	140	Max. is 140 mm	0	1	Input			
18	Spinbox Slider	HoleDistance@Sketch2	75	mm	30	Min. is 30 mm	150	Max. is 150 mm	0	1	Input			
19	Spinbox Slider	HoleDiameter@Sketch2	20	mm	5	Min. is 5 mm	40	Max. is 40 mm	0	1	Input			



Formula in cell I18: minimum distance between holes of the part. This formula ensures that the distance between of the part always will have a minimum gap of 10mm between both holes.

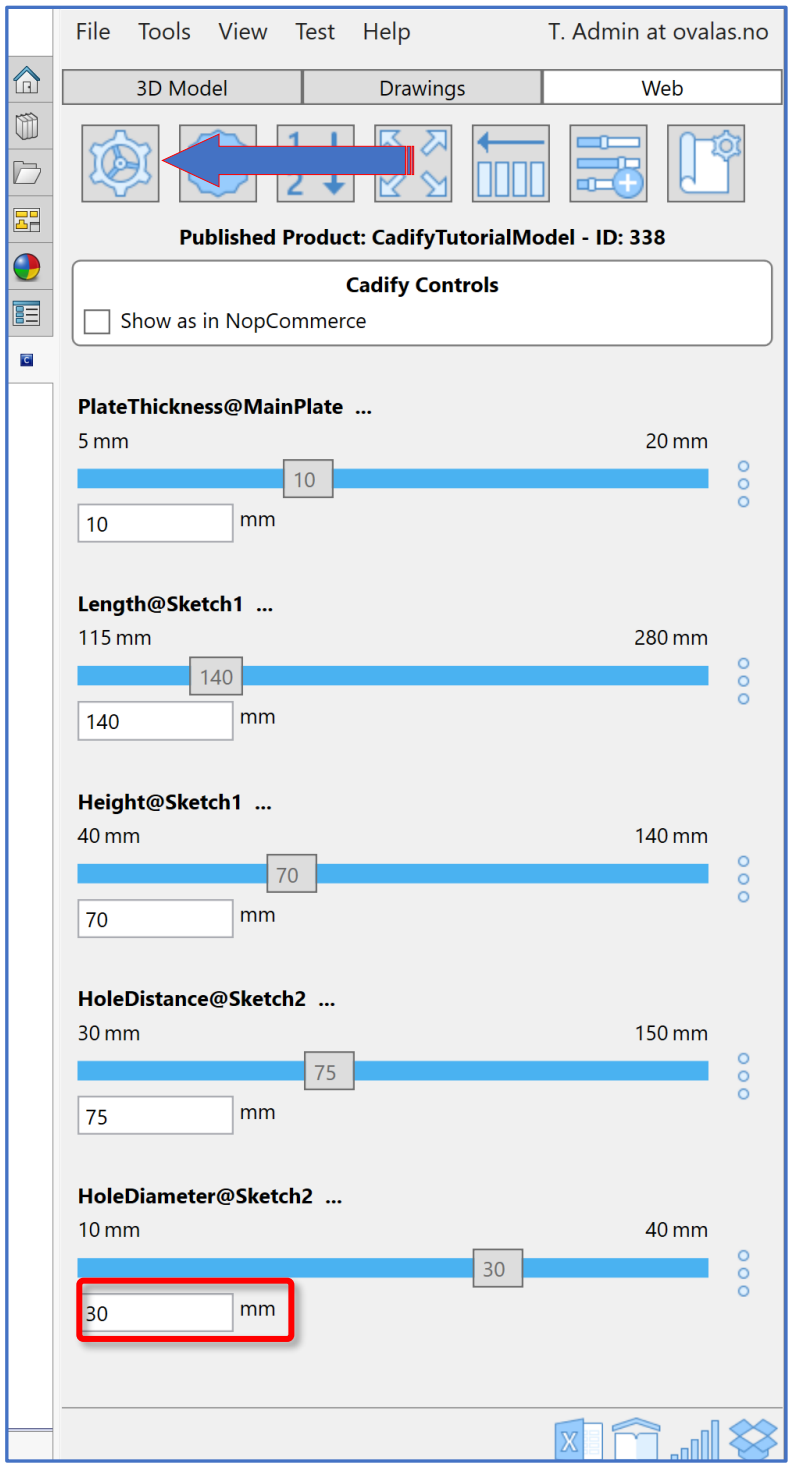
SUM =G19+R15

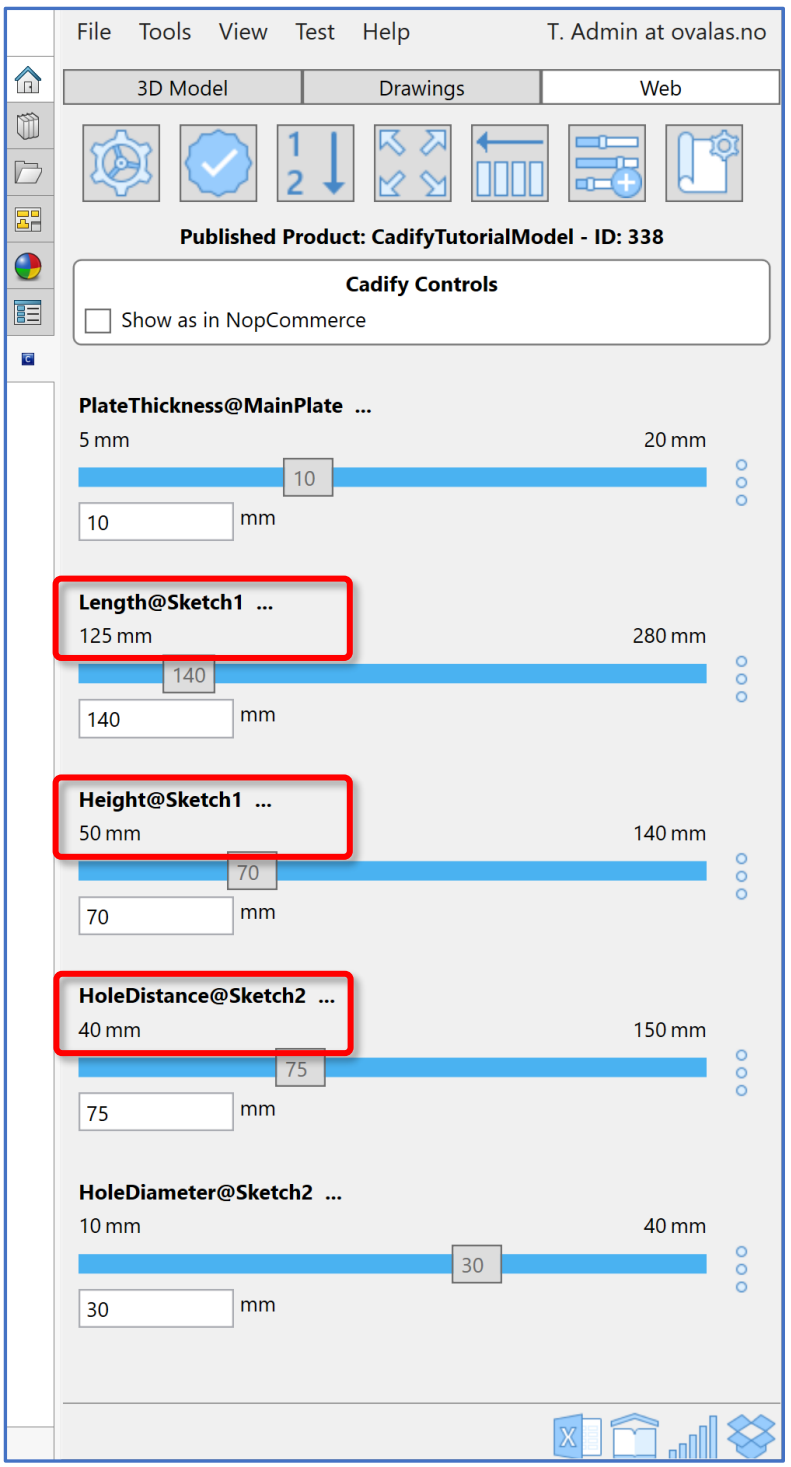
	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
12	Basic Parameter Settings												Extra calculations	
13														
14	Control Type	Name	Value	Unit	Min	Min message	Max	Max message	Decimal	Increment	Type	References		
15	Spinbox Slider	PlateThickness@MainPlate	10	mm	5	Min. is 5 mm	20	Max. is 20 mm	0	1	Input		Min.HoleGap	10
16	Spinbox Slider	Length@Sketch1	140	mm	115	Min. is 115 mm	280	Max. is 280 mm	0	1	Input			
17	Spinbox Slider	Heigth@Sketch1	70	mm	40	Min. is 40 mm	140	Max. is 140 mm	0	1	Input			
18	Spinbox Slider	HoleDistance@Sketch2	75	=G19+R15		. is 30 mm	150	Max. is 150 mm	0	1	Input			
19	Spinbox Slider	HoleDiameter@Sketch2	20	mm	5	Min. is 5 mm	40	Max. is 40 mm	0	1	Input			



TEST APPLIED RULES

Change *HoleDiameter (from 20 mm to 30 mm)* and click on *Update* button. Check that minimum values for *Length*, *Height* and *HoleDistance* are automatically modified.





REPUBLISH

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TEST APPLIED RULES IN THE WEB BROWSER

Change *HoleDiameter (from 20 mm to 30 mm)* and click on *Calculate* button. Check that minimum values for *Length*, *Height* and *HoleDistance* are automatically modified.