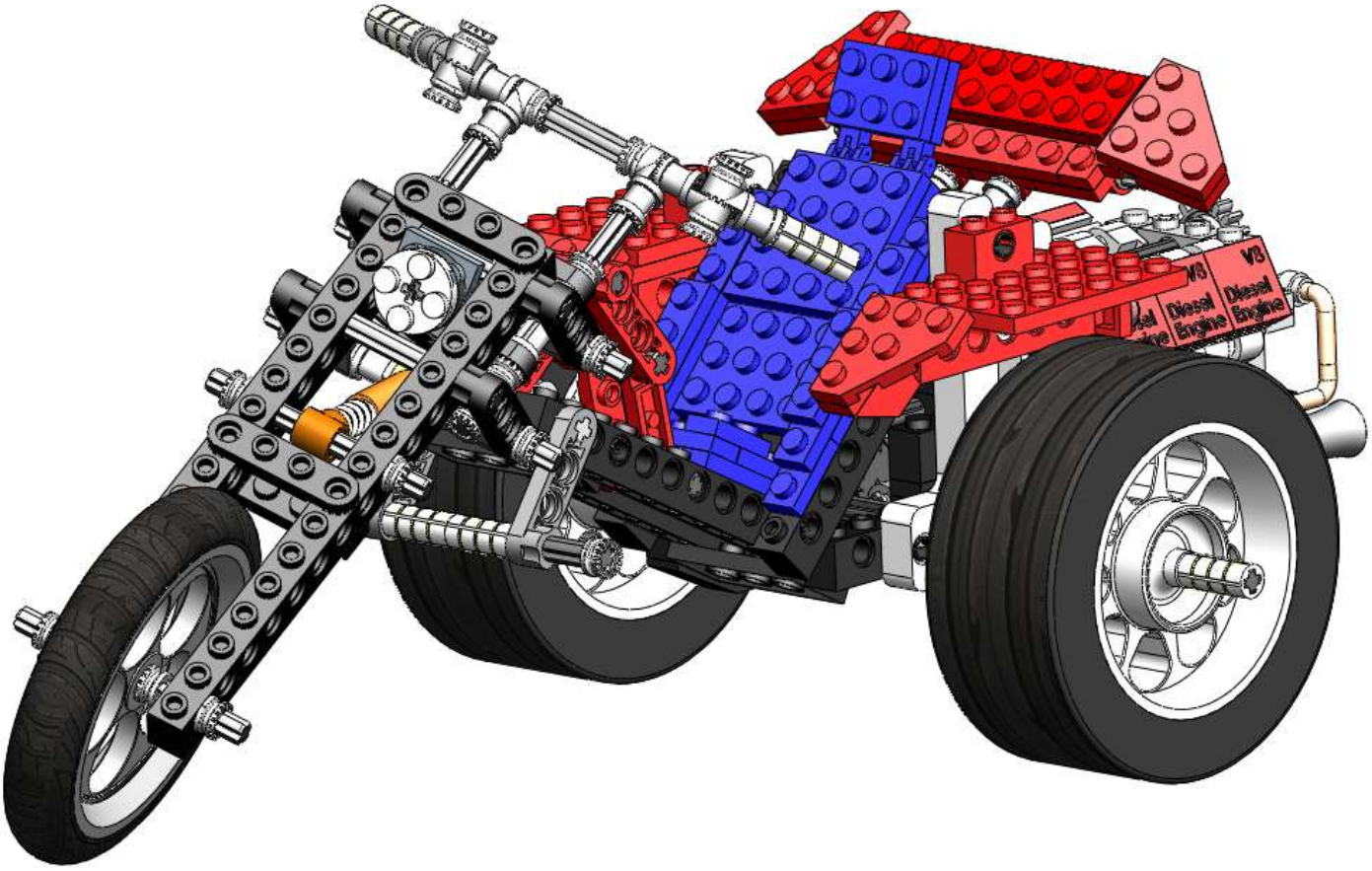
SolidWorks® Building Blocks
Tutorial Trike

From the age of 8

until the age of 80

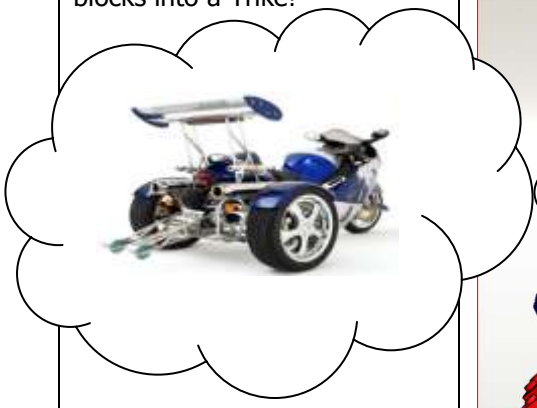
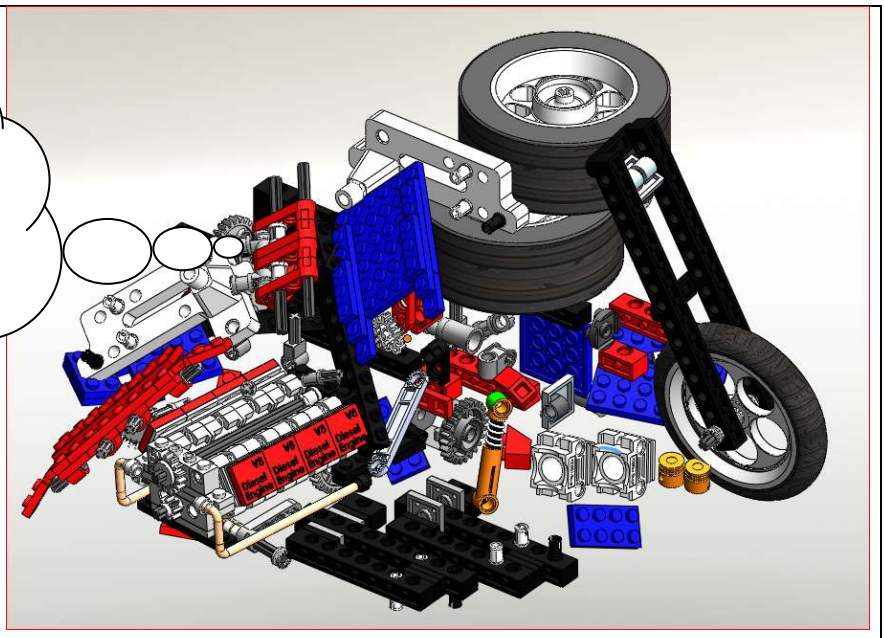


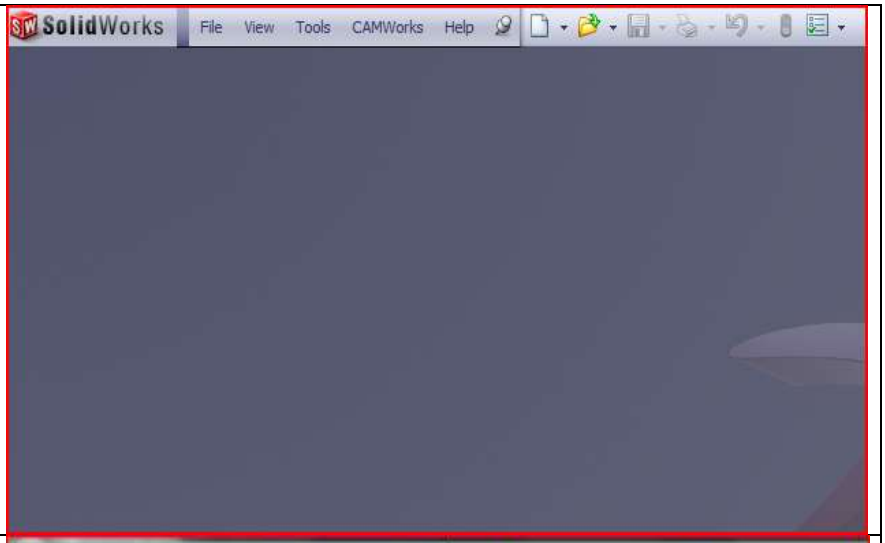
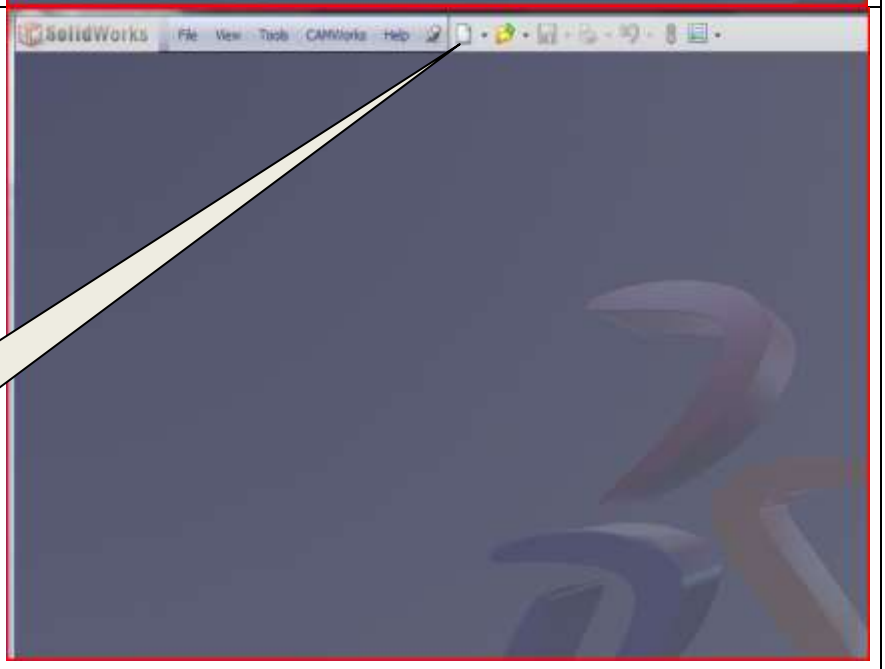
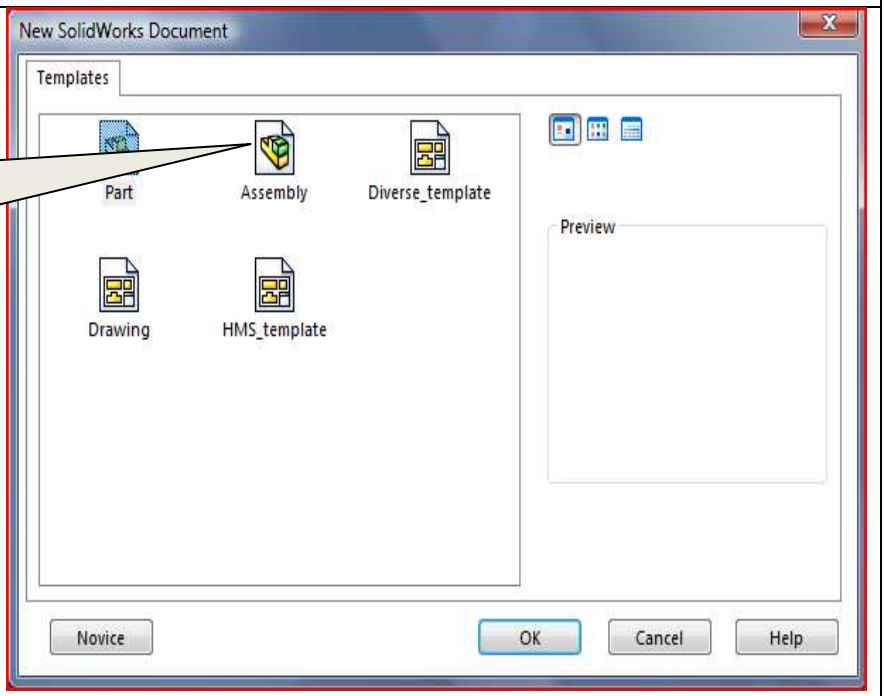
SOLIDWORKS

For use with SolidWorks® Educational Release 2011-2012

This tutorial was developed for SolidWorks Worldwide and may be used by anyone who needs to learn how to use the SolidWorks 3D CAD software. **Any other use of this tutorial or any portion there of is prohibited.**
For any questions on this matter, please contact Jack van den Broek.
Initiative: Jack van den Broek (Technical school "Vakcollege Helmond").
Adaptation to the educational level: Jack van den Broek.

Realized by: Jack van den Broek.

	We'll turn this pile of building blocks into a Trike!  You won't be alone; I'll help you by showing how to assemble the different pieces. **Have fun!**	
	 **Work plan:**	Follow the instructions on the left side of the tutorial and always check the examples on the right side. Read carefully, and nothing can go wrong. Good luck!
1	Start SolidWorks: To do so, double-click the icon  This icon is on your desktop.  If it's not on your desktop, ask your teacher for help!	

2	If all goes well, the model application will open. It will look this illustration.	
3	You are now going to open the assembly environment and will build your first model. **1.** To do so, click the first button on the toolbar: New. Double-click this item:	
4	**1.** When the menu is displayed, double-click: Double-click this item: Assembly is a synonym of "to build" or "to construct"	

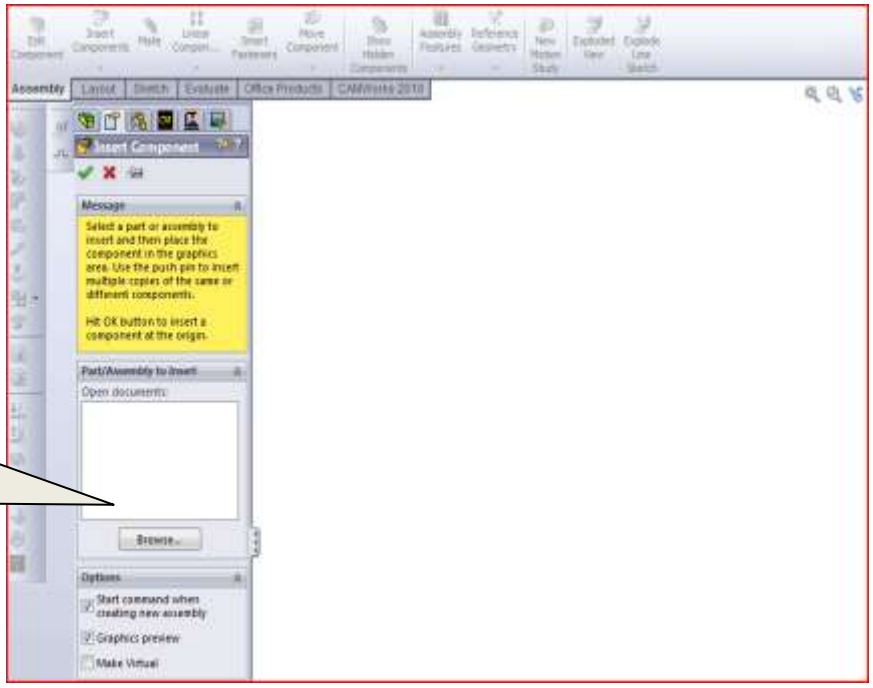
5

If all has gone well again, the screen will look as displayed.

That's where we will build our Trike.

We'll start with the chassis. It's already been built, but it is still in the warehouse.

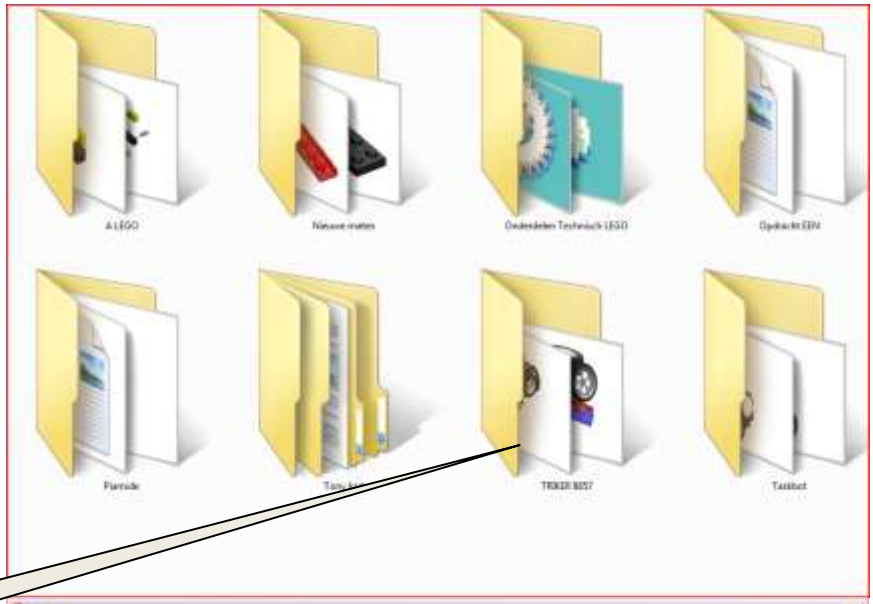
1. To have a look in the warehouse, we click:



6

Locate the file:

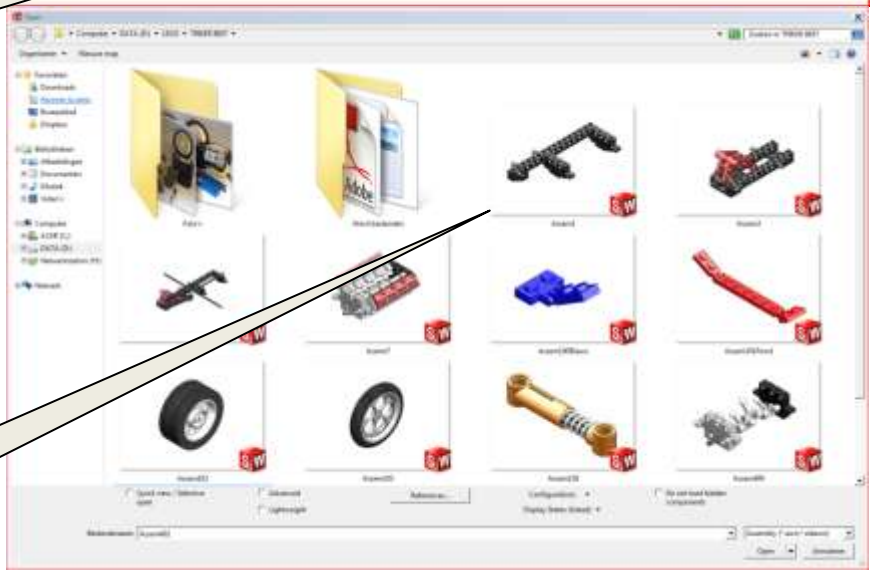
1. Double-click the icon!



All the parts we need will now be displayed onscreen.

Locate the (chassis): **Assem1**

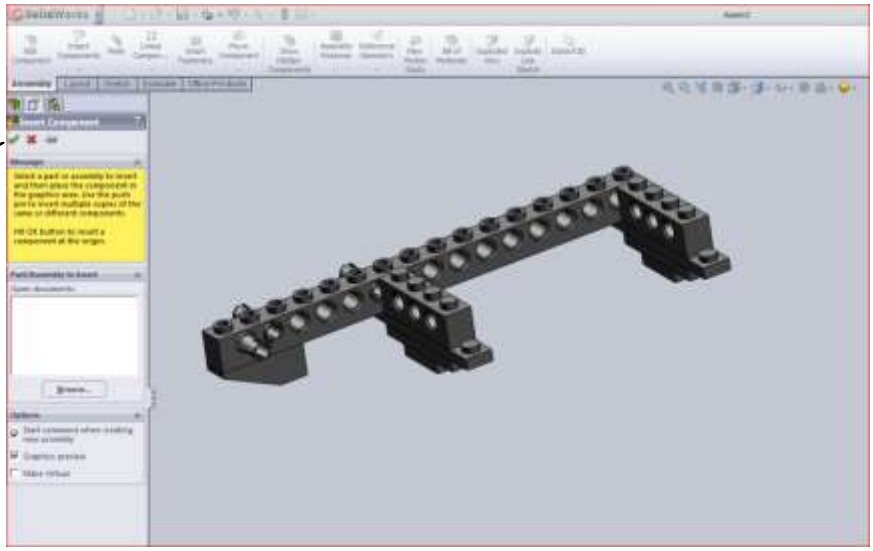
1. Double-click the icon!



7

The chassis will now be displayed onscreen, but it still sticks to your mouse!
So you'll have to release it!

1. Therefore, click OK.



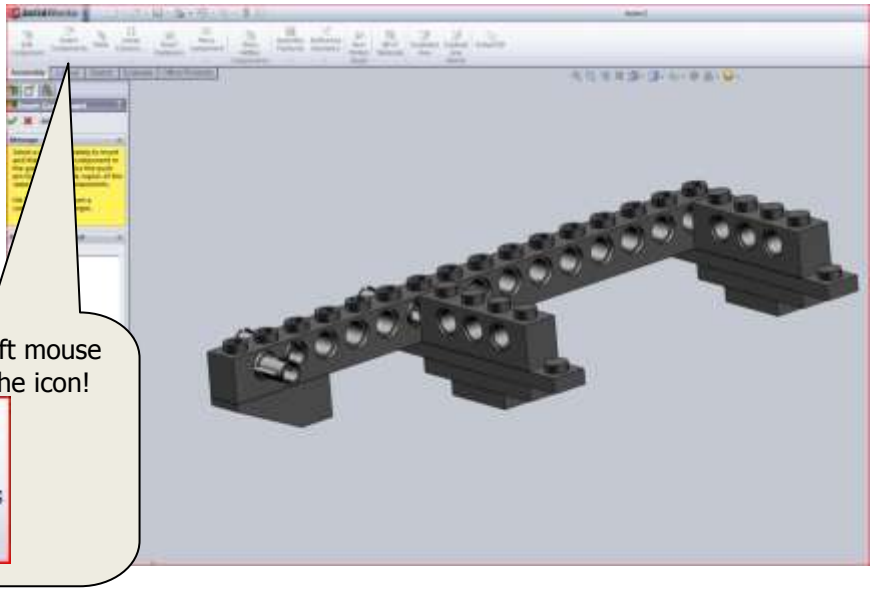
8

Once you've done that, the chassis is positioned exactly in the middle of the screen.

We can now continue our construction (assembly).

We're going back to the warehouse to retrieve the new parts.

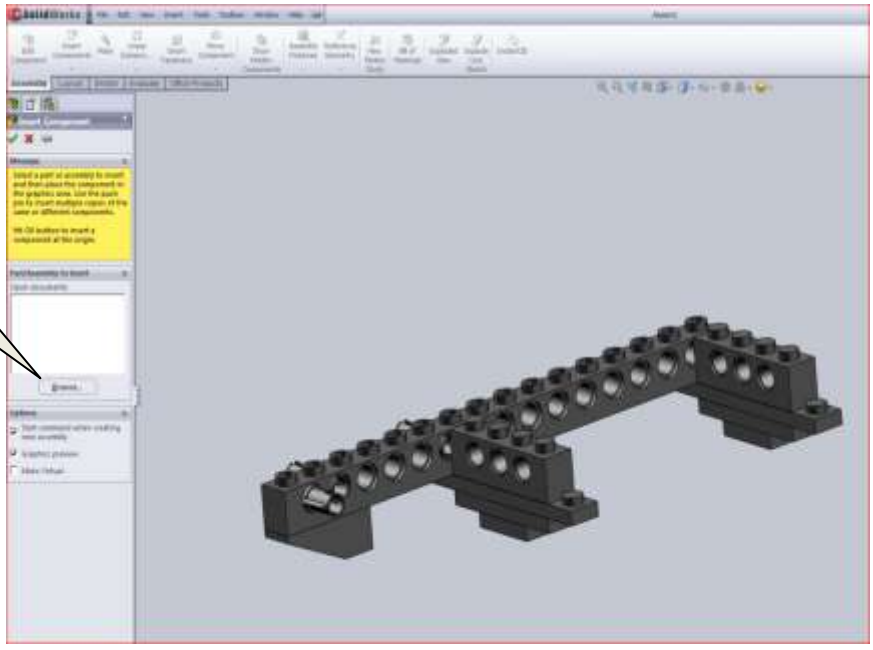
1. Press the left mouse Button on the icon!



9

1. To have a look in the warehouse, we click:

We are now return to the warehouse, for new parts.



10

We're looking for:

Assem3

Locate the file: **Assem3**

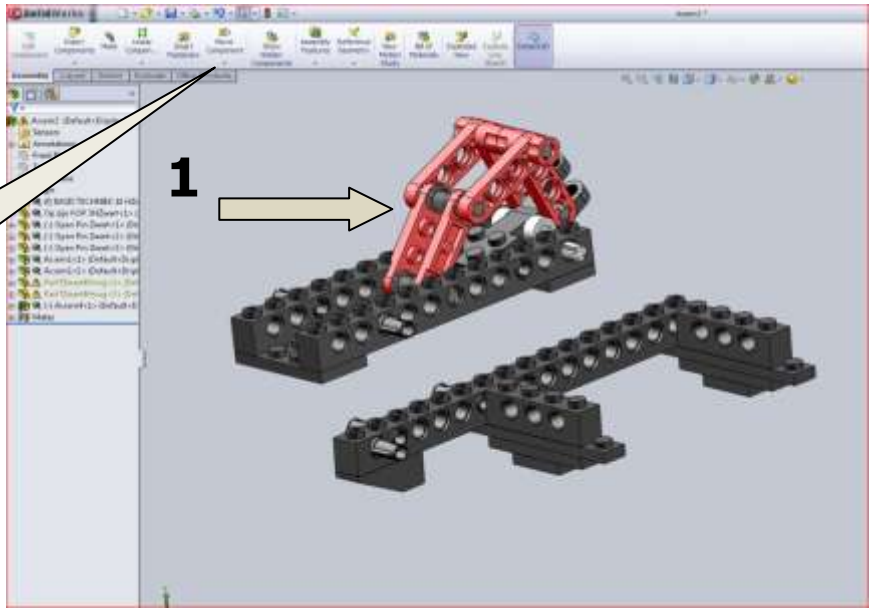
1. Double-click the icon!

11

1. Position the part as illustrated opposite and click the left mouse button.

2. (If the part stand's wrong) We'll rotate the part almost into position.

1. Click the arrow below:

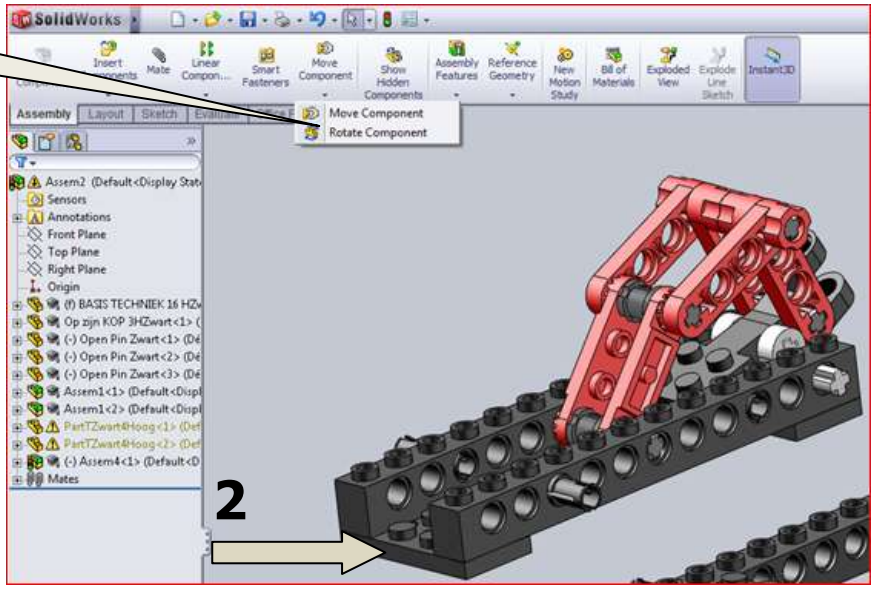


12

1. Click: Rotate Component

This command allows us to rotate the part!

2. Click some place on the nose to make it blue!

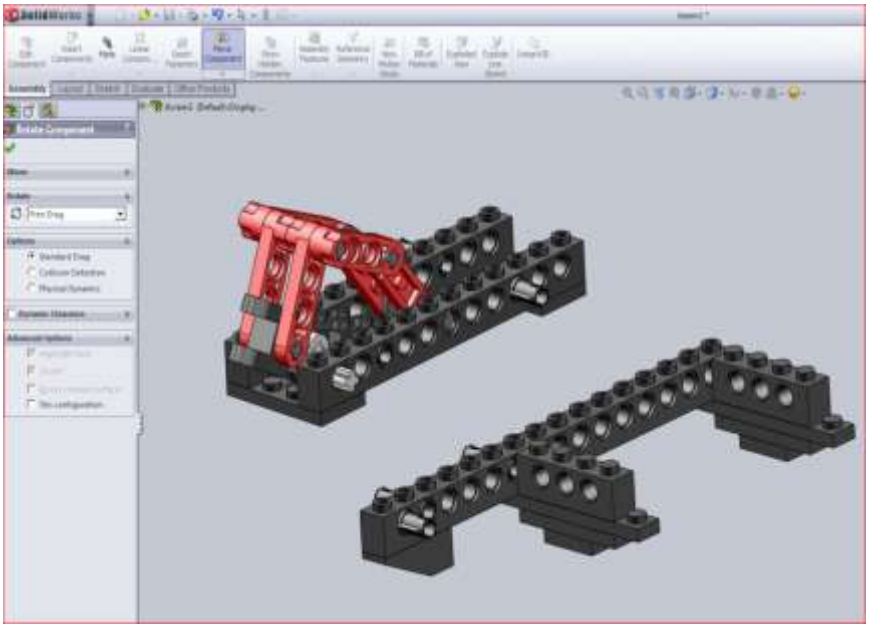


13

Press and hold the left mouse button.

You can now rotate the part.

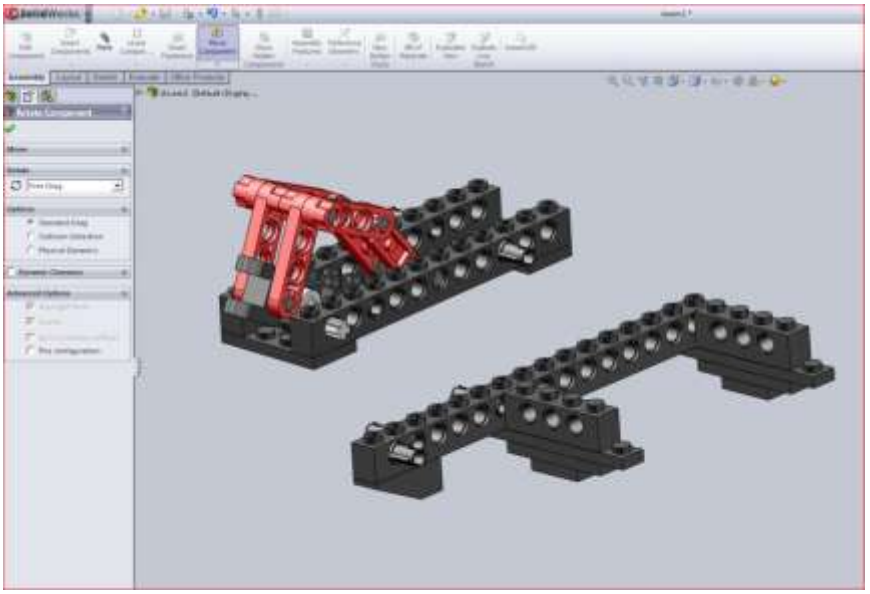
Rotate and move the mouse until the part is positioned as illustrated.



14

1. Once you're finished, click OK.
That's the green check mark

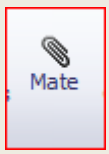
1. Click the green check mark:



15

We will now build the two Parts together!

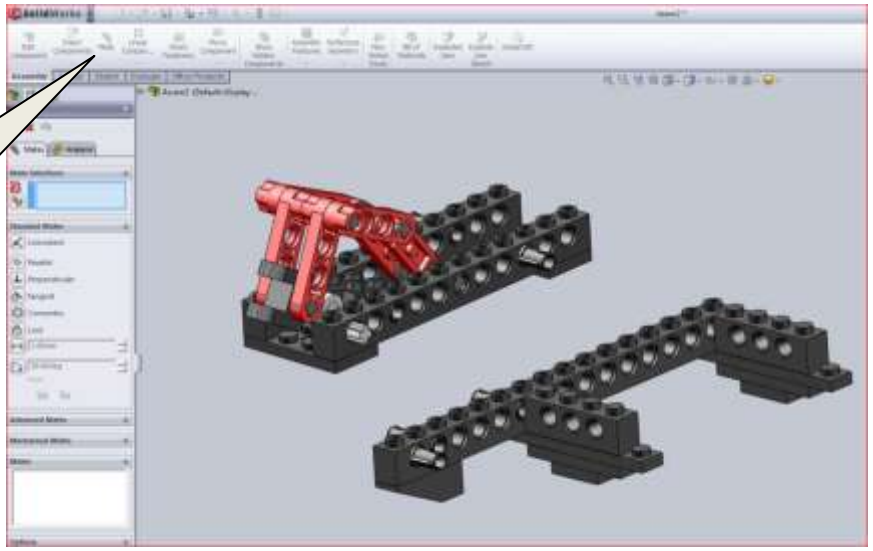
1. Click Mate:



This looks like a paperclip.

This command allows you to put building blocks onto each other.

(mounting) (constructing).

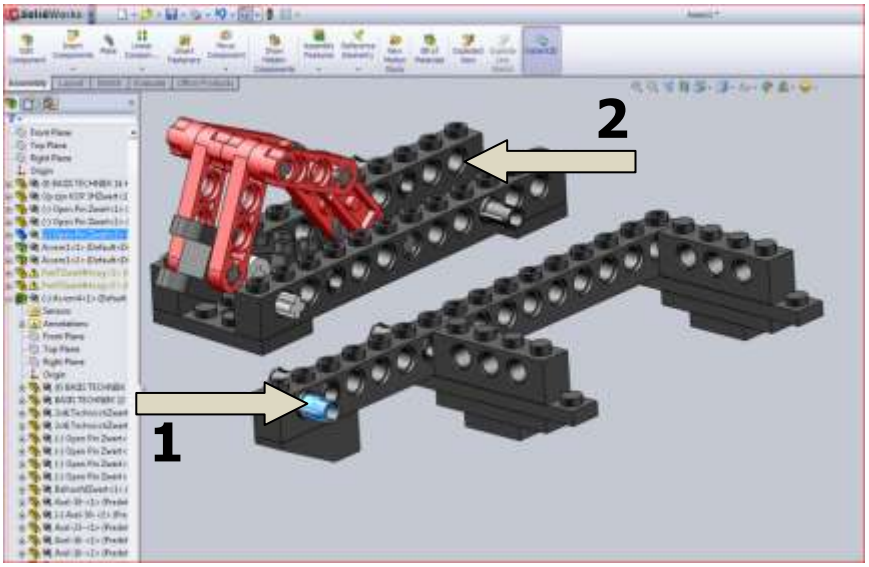


16

1. Click the outside of the cylinder, and it will turn blue.

You don't see things well? Use the scroll wheel to zoom in or out.

2: Click the inside of the hole, it will turn blue again.



17

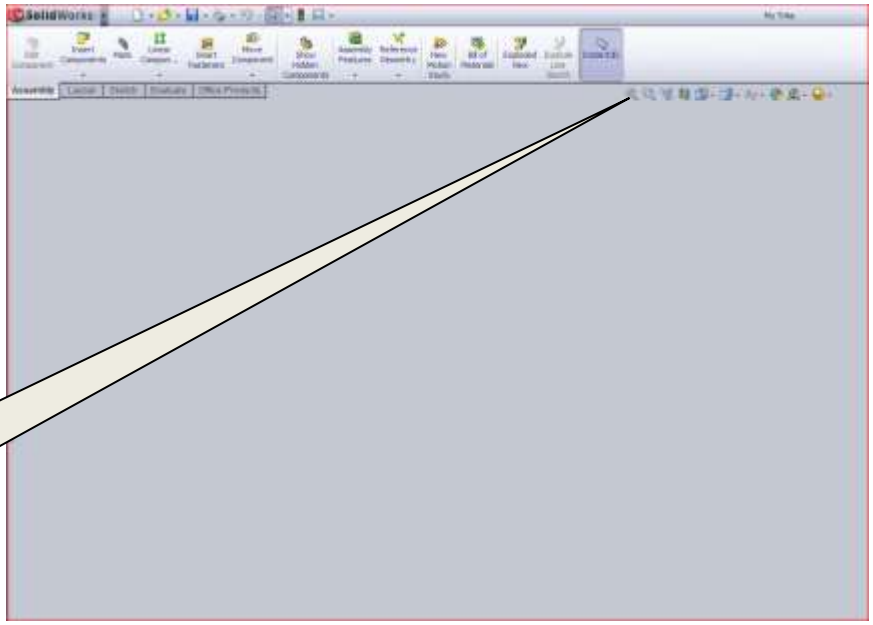
You may incidentally turn the scroll wheel too much and possibly loose everything.

YOU DON'T SEE ANYTHING ANYMORE!!

No worry!

1. Click: Zoom to Fit.

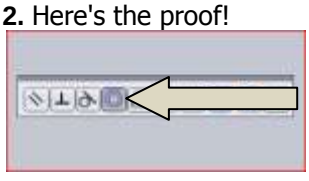
The parts will be back again



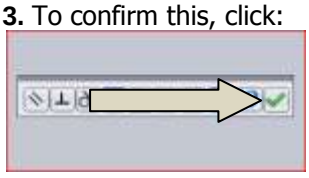
18

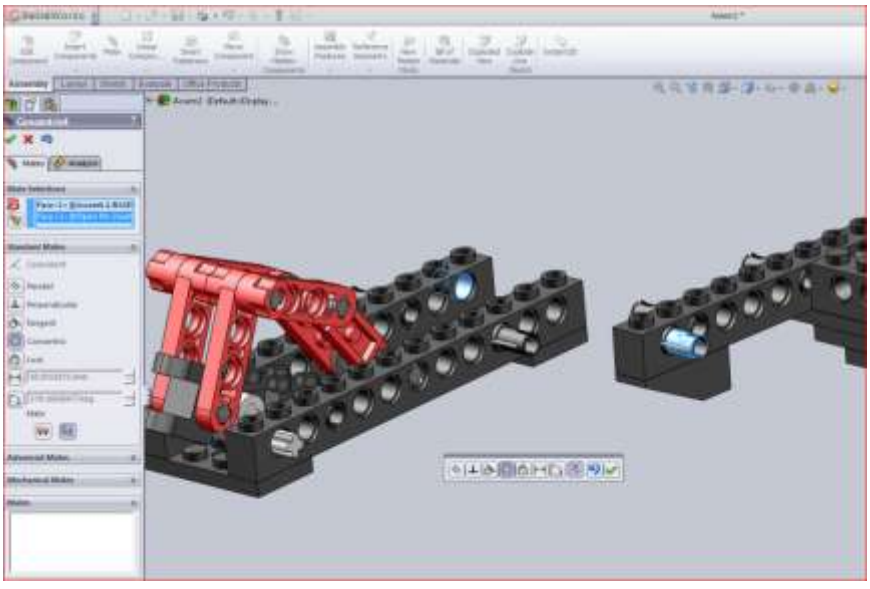
You'll now see that both parts lie flush.

2. Here's the proof!



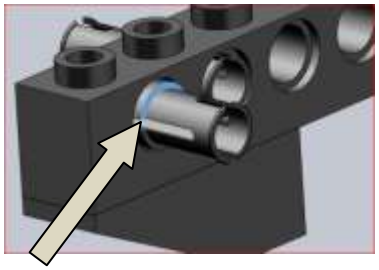
3. To confirm this, click:





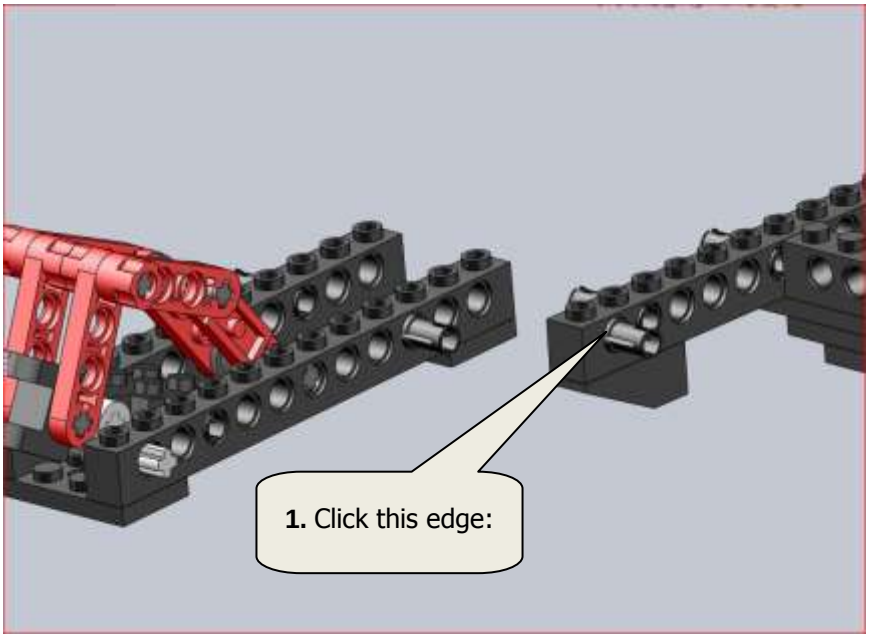
19

We're still in the **MATE** environment, so we'll simply continue!



1. Click this edge:

You don't see things well? Use the scroll Wheel to zoom in or out.

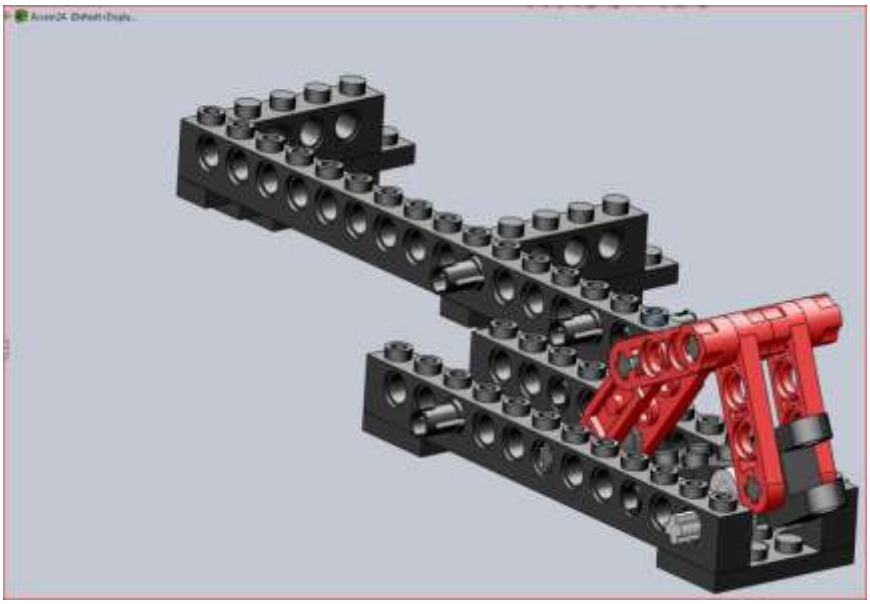


20

1. Press and hold the mouse's scroll wheel, Rotate and move the mouse,

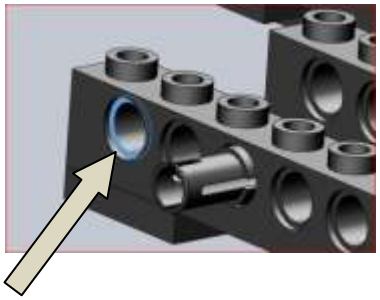
until the part is positioned as illustrated.

You don't see things well? Use the scroll Wheel to zoom in or out.

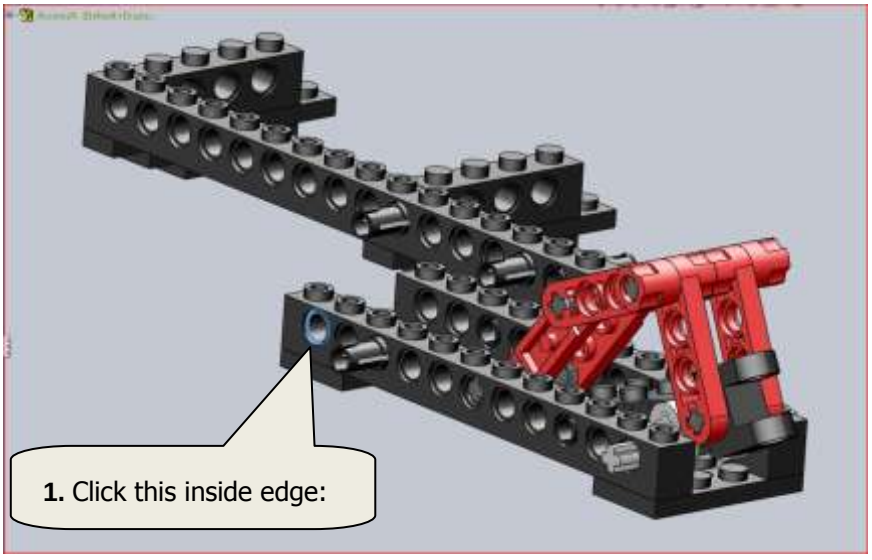


21

1. Click the inside edge with the left mouse button. It will turn blue again and both parts will connect together.

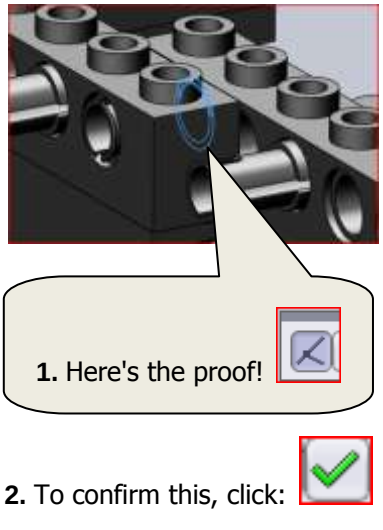


1. Click this inside edge:

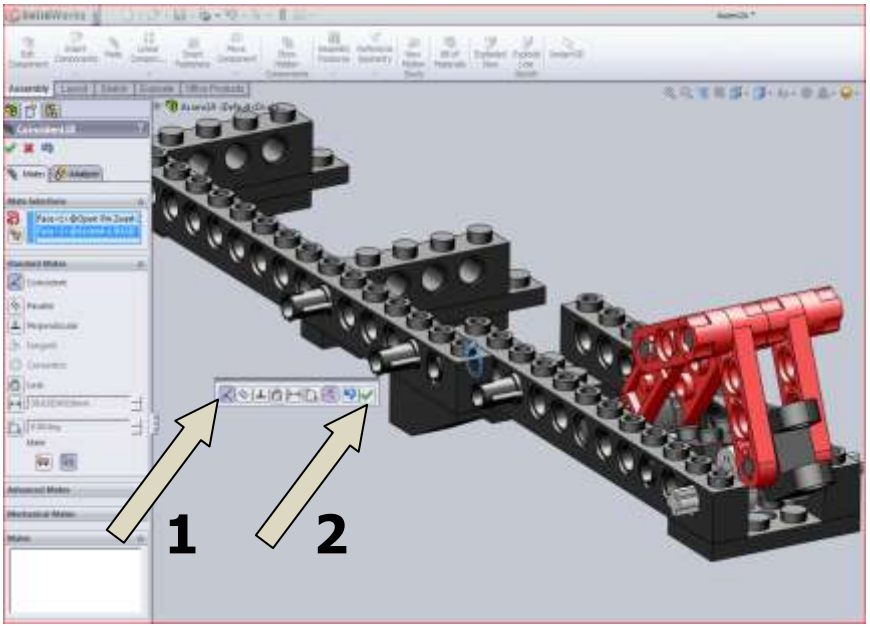


22

As you can see, the two part`s are properly positioned.



2. To confirm this, click:

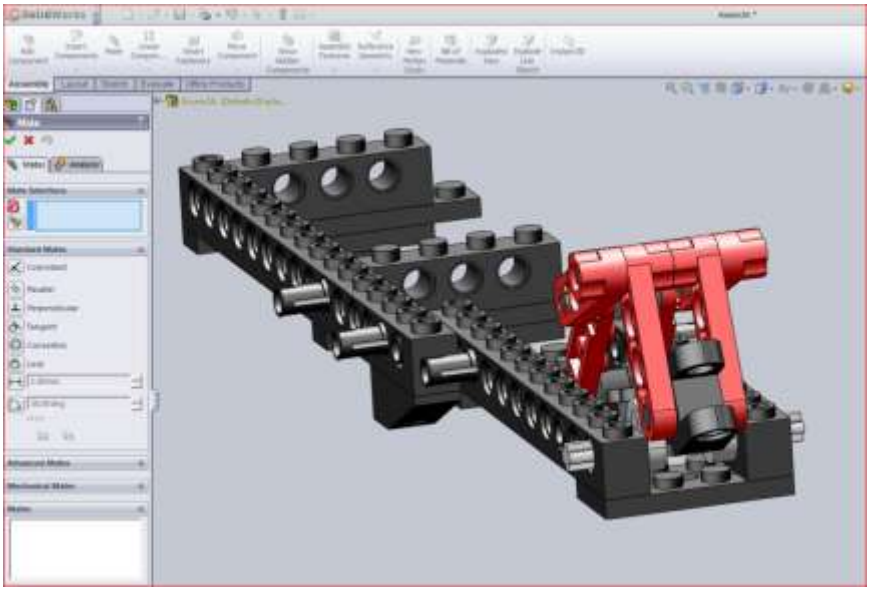


23

Close the **MATE** function.

1

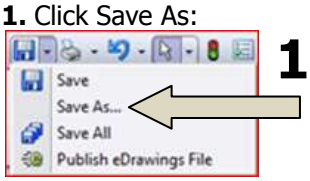
1.Click OK:



24

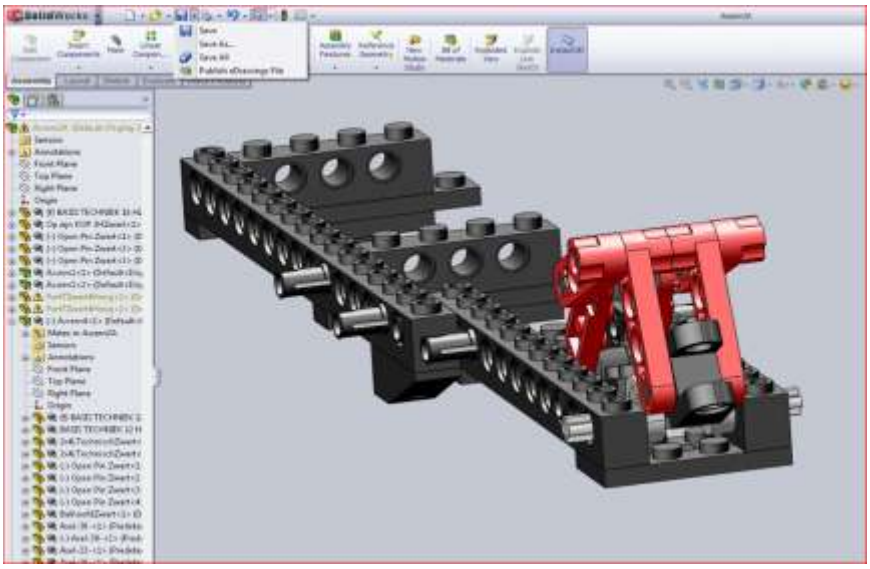
Let's save our data safety!

1. Click Save As:



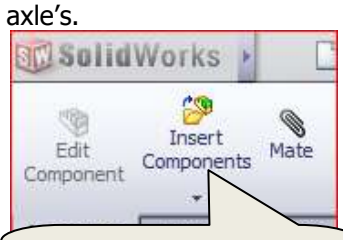
And name the File:

Assem1000 My Trike



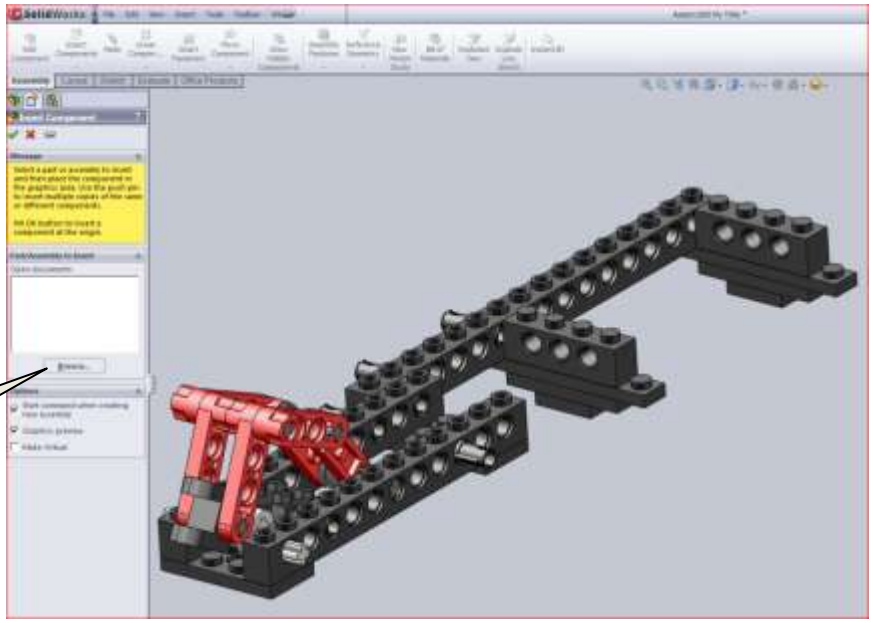
25

We'll go back again to the warehouse, to see if we can find some Gearwheels, and axle's.



1.Press the left mouse Button on the icon!

2.Press the left mouse Button on the icon!



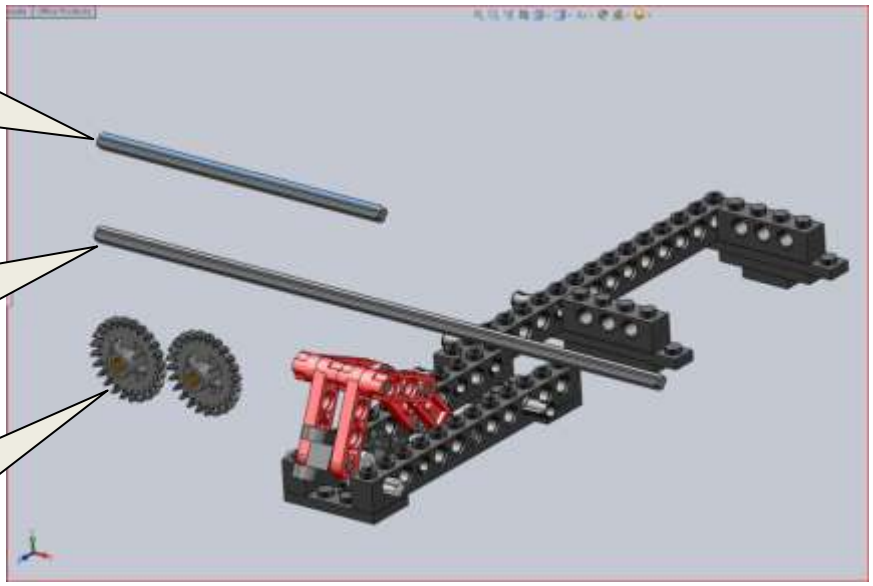
26

1. We're looking for:

1x  Axle-100-

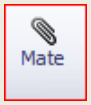
1x  Axle-200-

2x  Tandwiel A

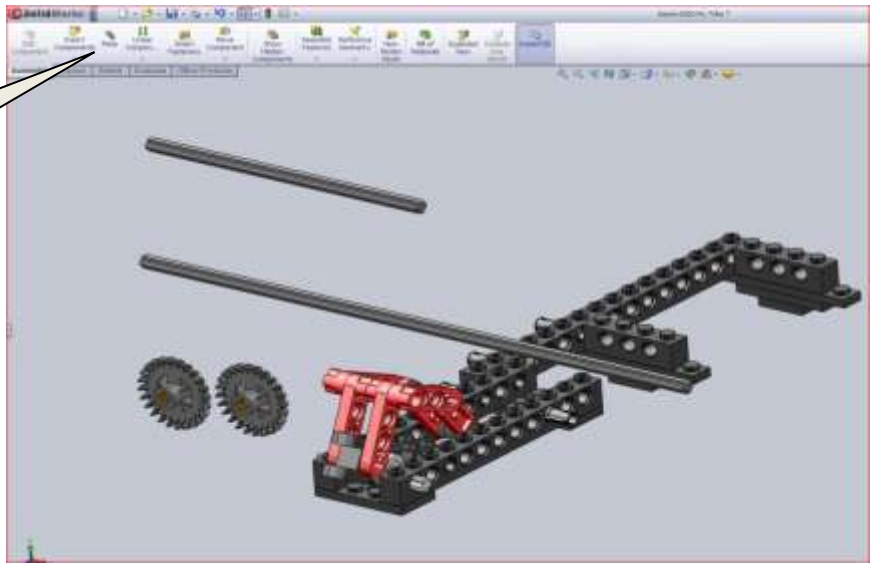


27

We're going to build again!

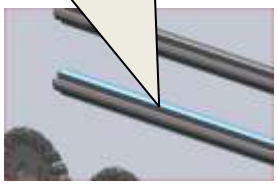
1. Click Mate. 

 Zoom in if necessary!

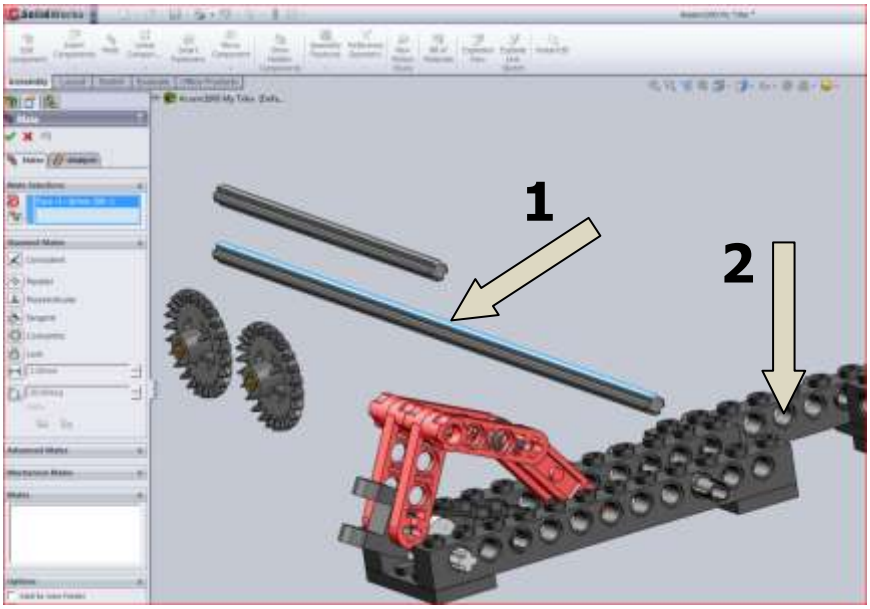


28

1.Click: on the outside off the Axle-200-



2. Click on the inside of the hole, it will turn blue again.

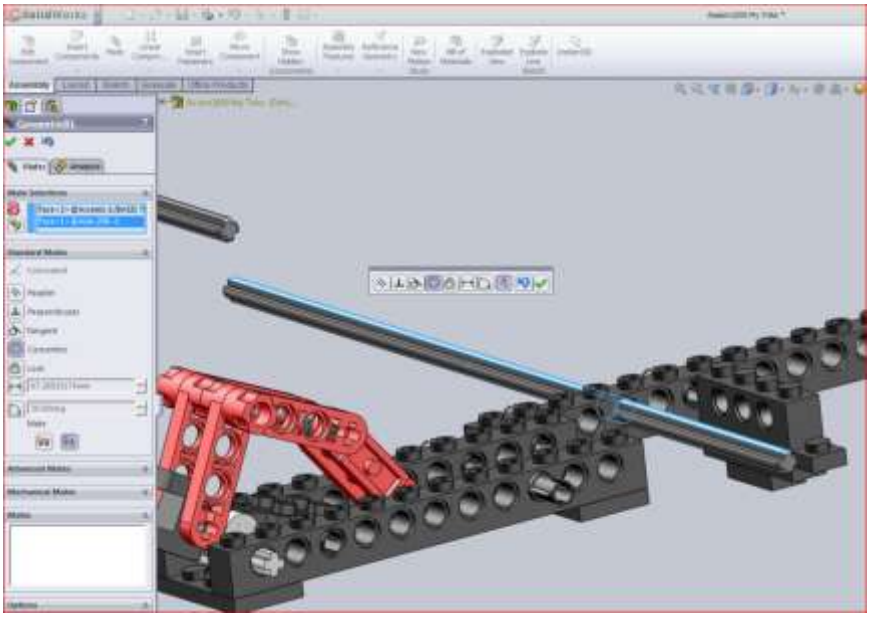


29

The axle will fit into the hole !

All went well 

1. Click OK: 

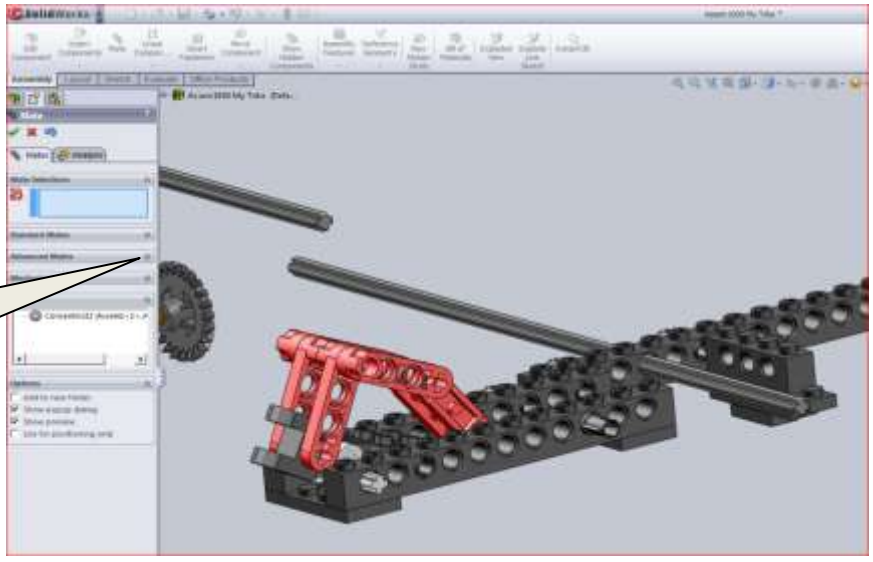


30

We'll now put the Axle in the middle of the chassis. Therefore we need a different type off mate function.

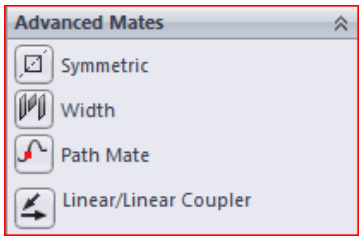
Open: Advanced Mates

Click : 



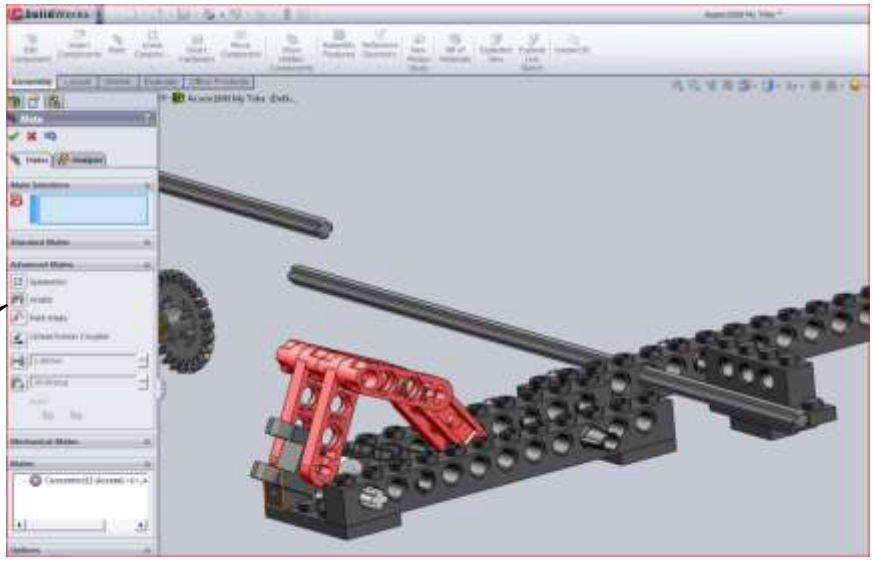
31

This is the new **Mate** list!



Use the function Width !

Click :

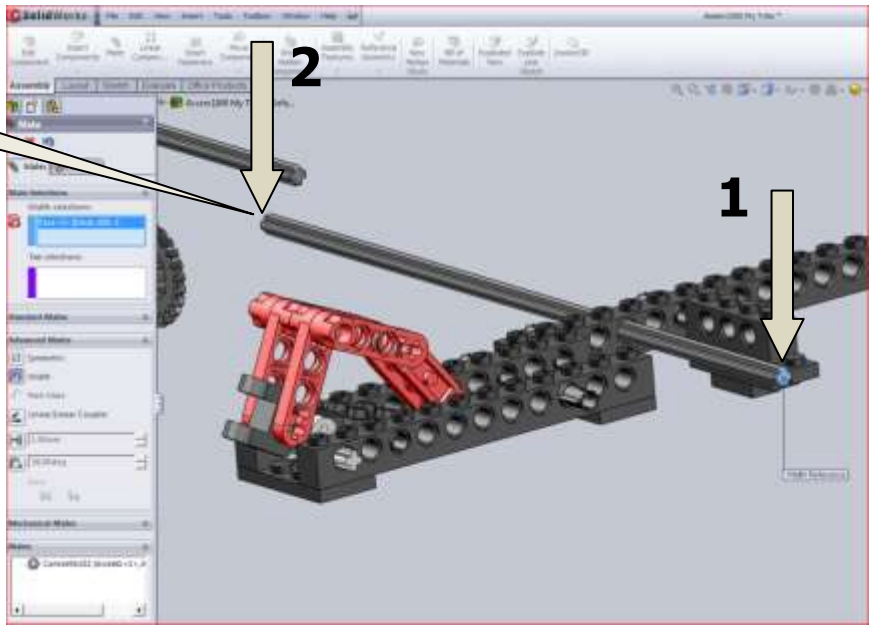


32

1.Click: both sides off the axle.

For the second side!
Press the scroll wheel and rotate the model!!

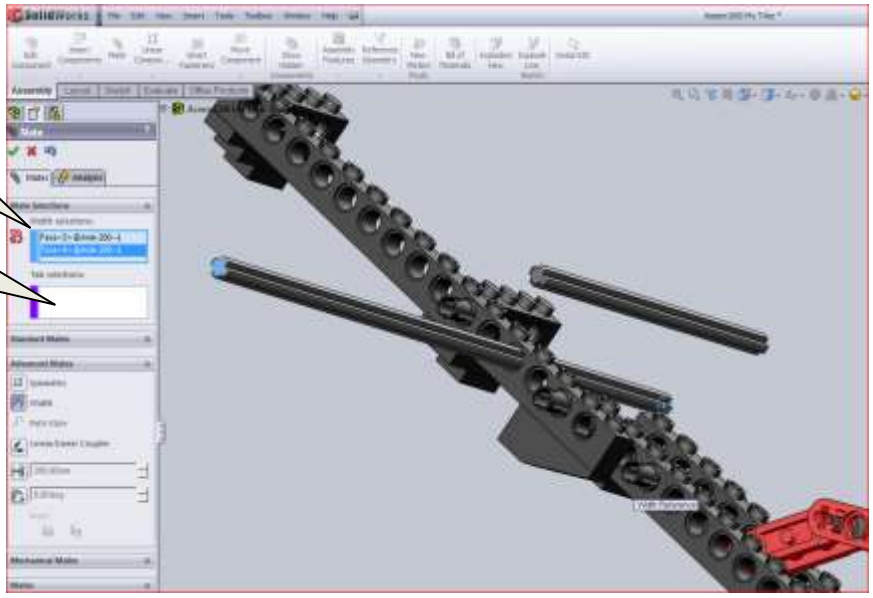
Move the Mouse!
To rotate the assembly.



33

If all went well, this screen now displays the two selections.

1.Click on this field, it will turn blue.



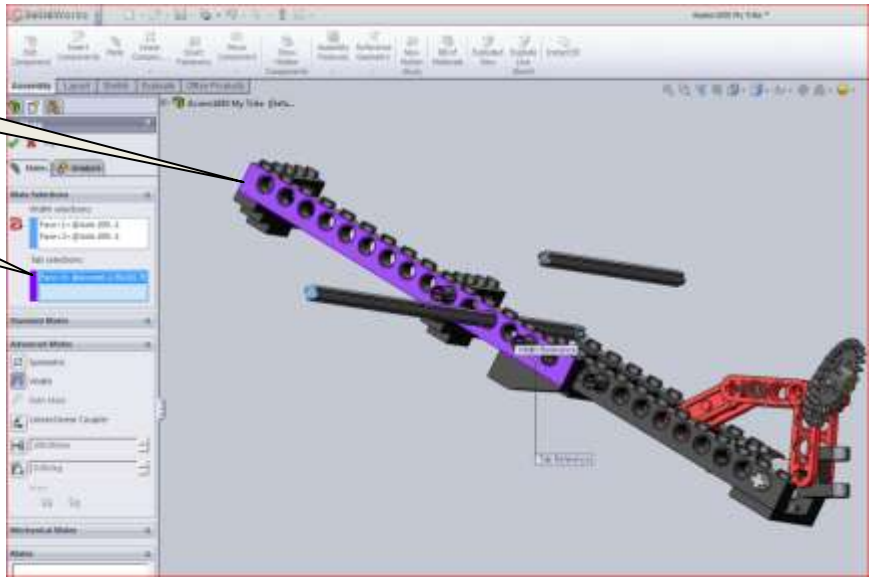
34

1.Click on this side , it will turn purple.

2. Here's the proof! The side is selected.

For side two!
Press the scroll wheel and rotate the model!!

Move the Mouse!
To rotate the assembly.



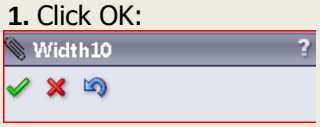
35

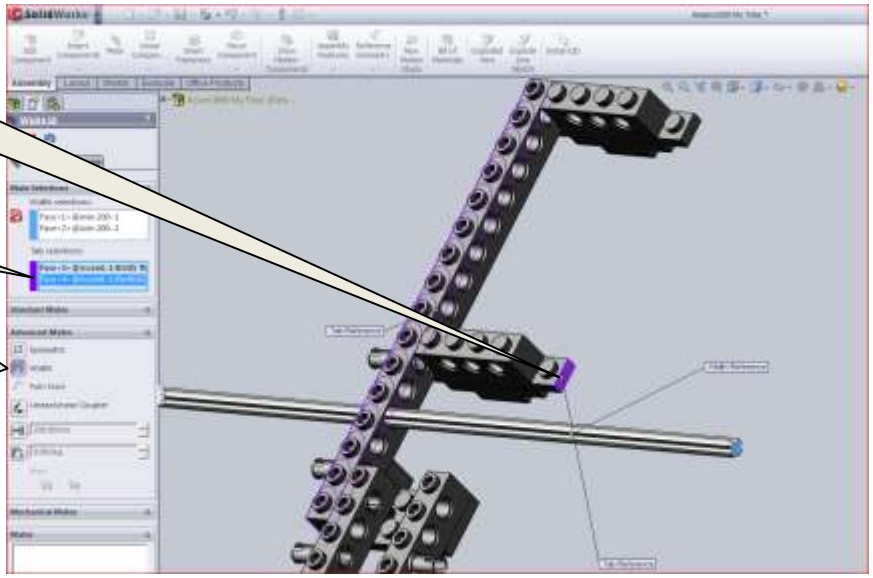
1.Click on this side, it will turn purple again.

2. Here's the proof! The Second side is selected.

3.The axle now is set at a fixed size in the middle of the chassis!

1. Click OK:





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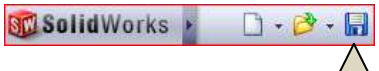
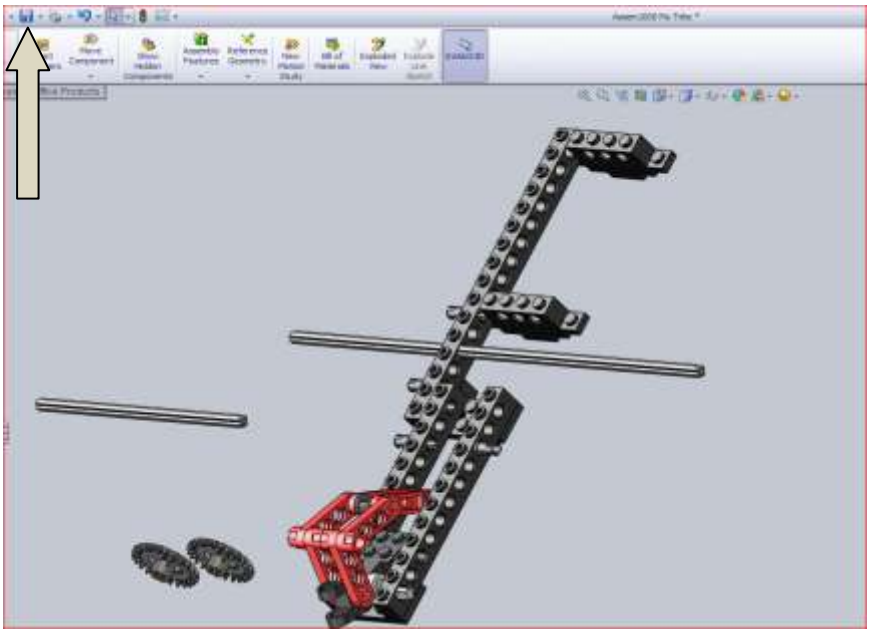
Let's save our data once again for the sake of safety!

1. Click Save:



1

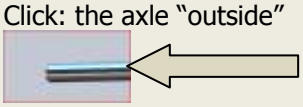


37

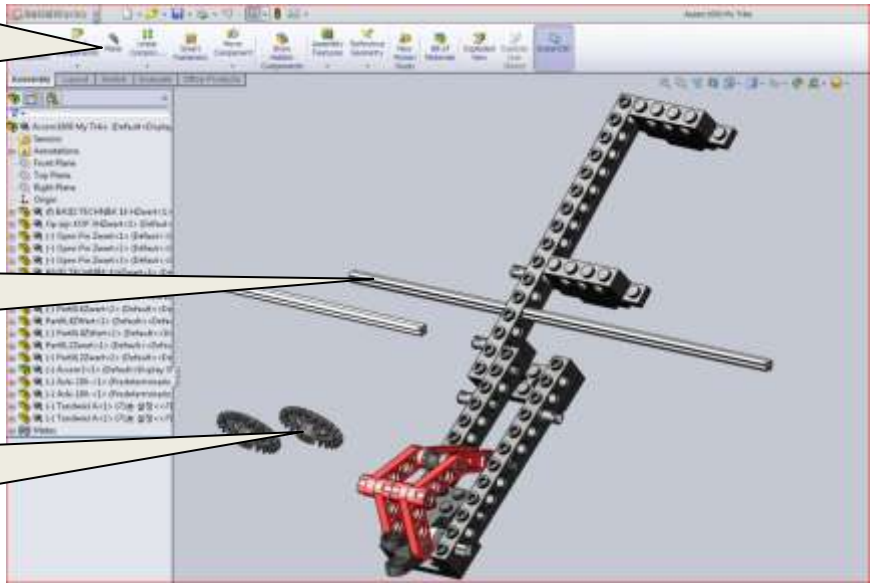
We're going to build again!

1. Click Mate. 

We'll mount the gearwheel!

1. Click: the axle "outside" 

1. Click: the gear outside! 



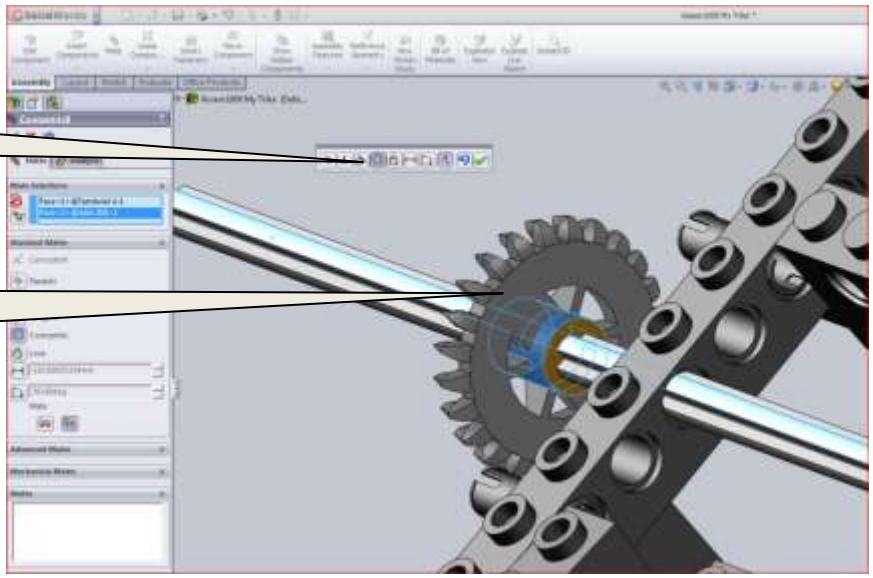
38


As a result, the Gear and the axle will be aligned.

1. Here's the proof! 

2. There's a fair chance the part is not correctly positioned!!

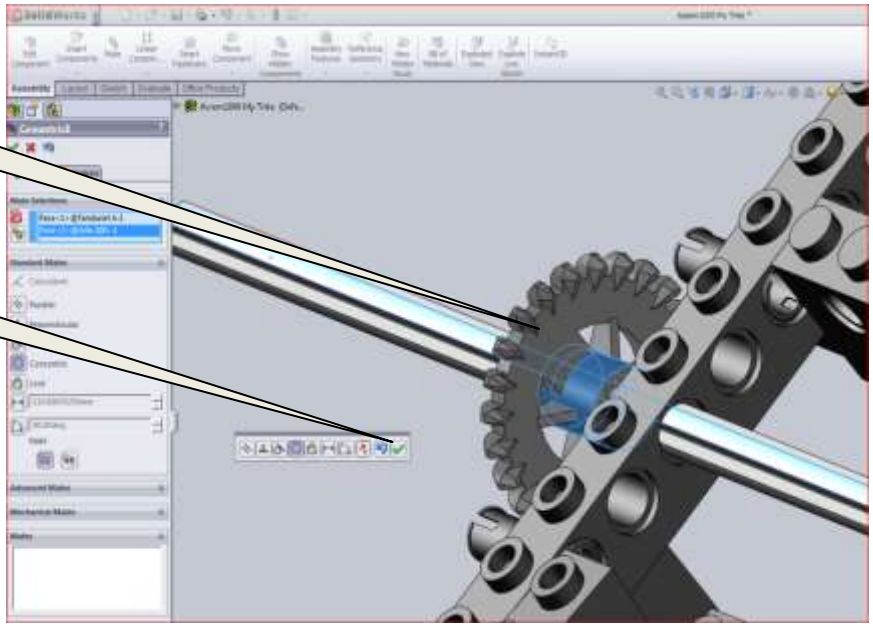
3. Therefore, click: 



39

1. You can see opposite, the part is now correctly positioned!

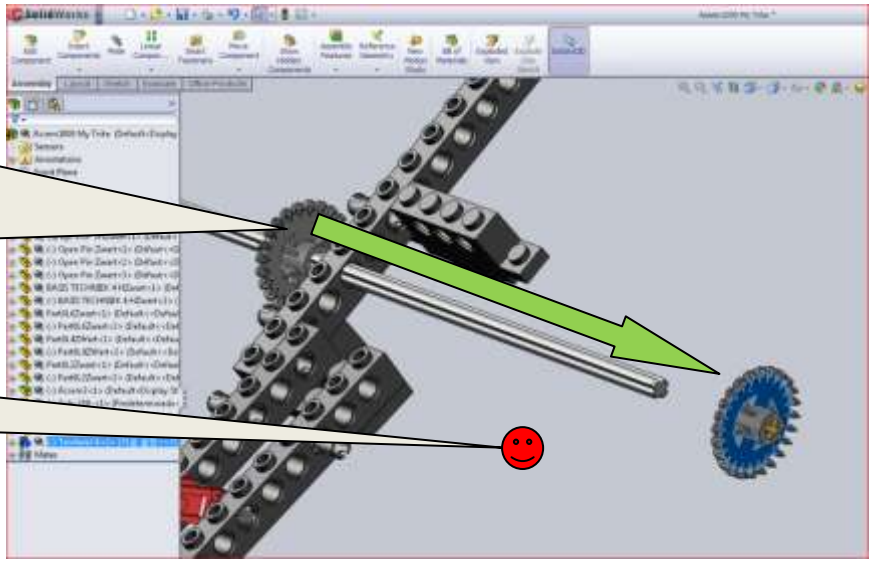
1. Click OK: 



40

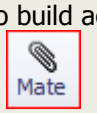
1. Pick up the gear with the left mouse button and shift it approximately to the end of the axle.

2.Click with the left mouse Button! Somewhere on the screen.



41

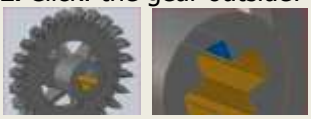
We're going to build again!

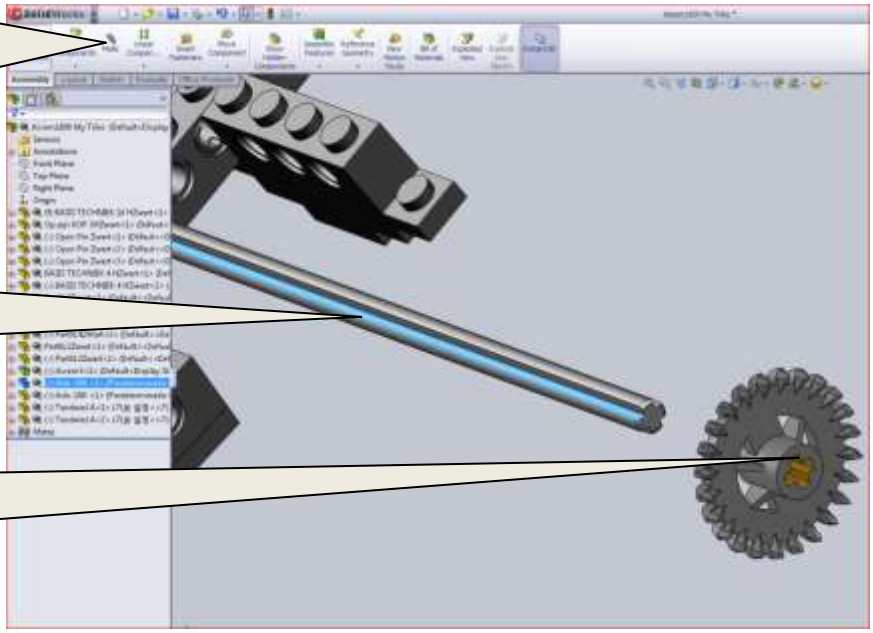
1. Click Mate. 

We'll now mount the gear on the axle.

1. Click: the axle "outside"

1. Click: the gear outside!





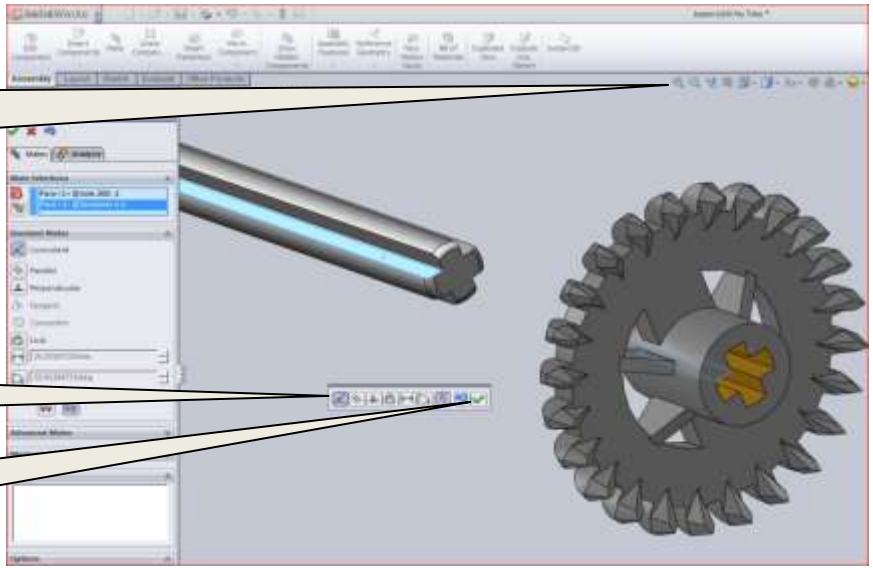
42

1. Click: Zoom to Fit.

The gear and the axle are now well aligned with respect to each other.

1. Here's the proof! 

1. Click OK: 

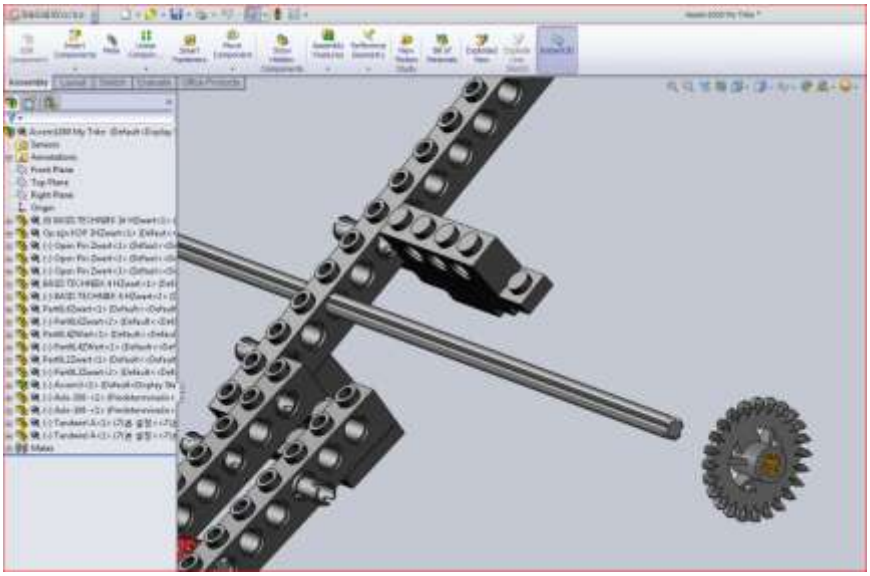


43

We're still working within the environment of the **mate** function, so we simply continue.

To better see everything! Use the scroll wheel.

Zoom in ⇦ ⇨Zoom out



44

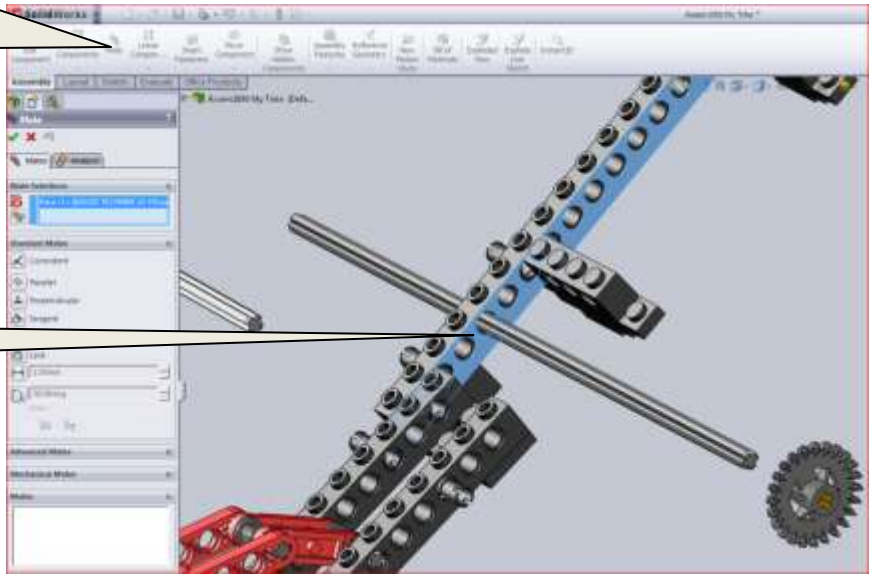
We're going to build again!

1. Click Mate. 

We'll now put the Gear on his place. Therefore we need the Standard type off mates.

1. Click:

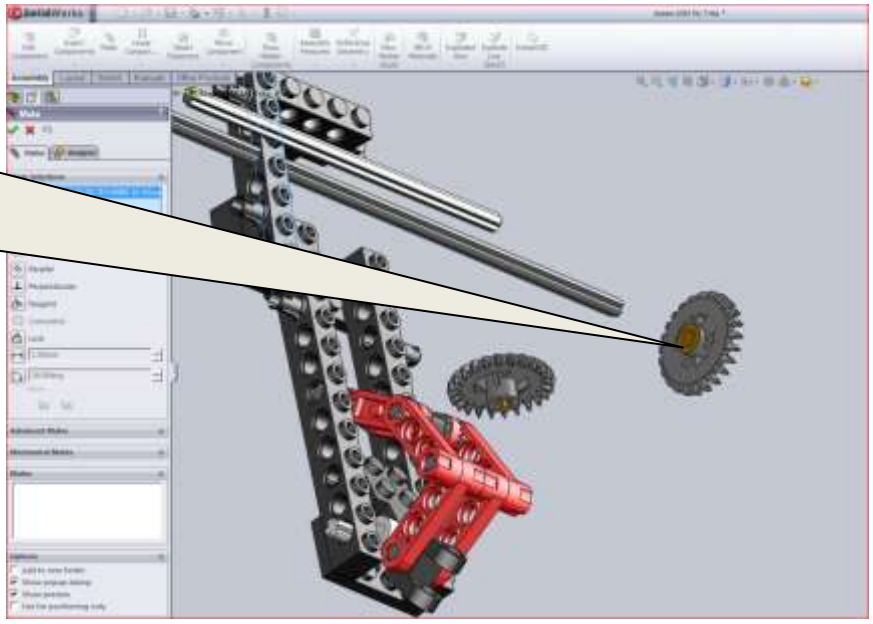
Press and hold the Mouse`s scroll wheel, Rotate and move the Mouse until the Assembly is positioned as illustrated (see step 45).



45

Now click the side of the Gearwheel. It will turn blue again and both selected parts will connect together immediately.

Press and hold the Mouse's scroll wheel, Rotate and move the Mouse until the Assembly is positioned as illustrated (see step 46).

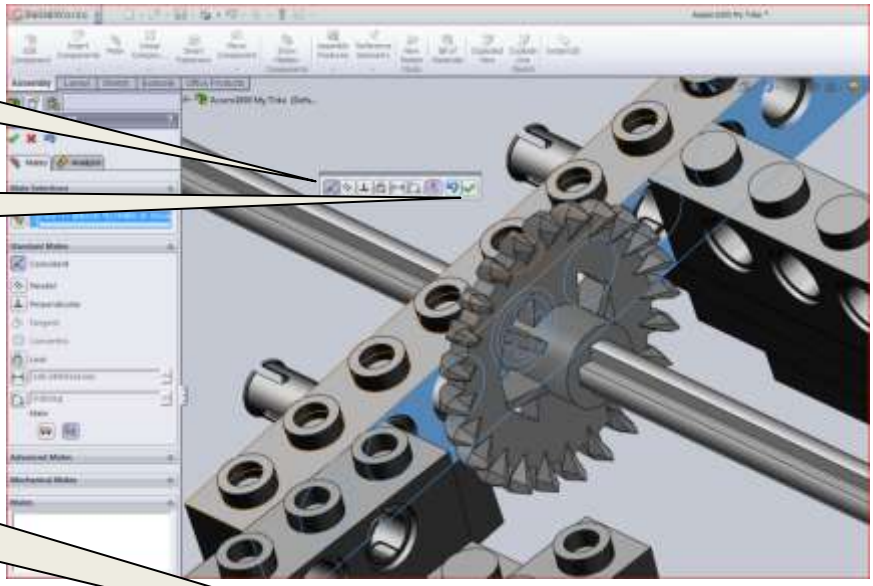


46

1. Here's the proof!

1. Click OK:

1. Click: Zoom to Fit.



47

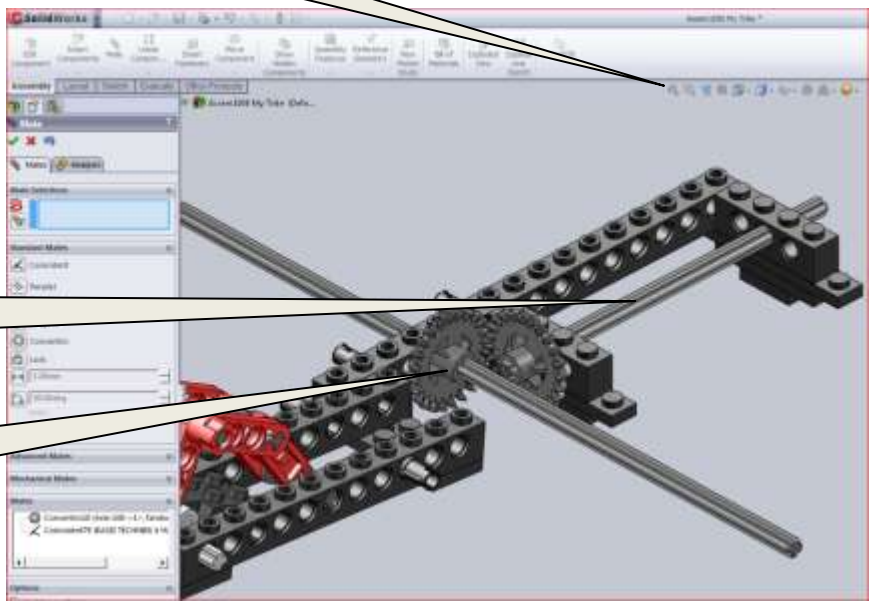
Make sure the model is positioned on screen as illustrated.

If not!
Press and hold the Mouse's scroll wheel, and move the mouse.

Do the same with the second Axle, and second Gearwheel.

Make sure it's the same like the last one!

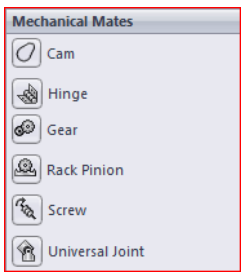
You don't remember how? Repeat steps 27 through 46.

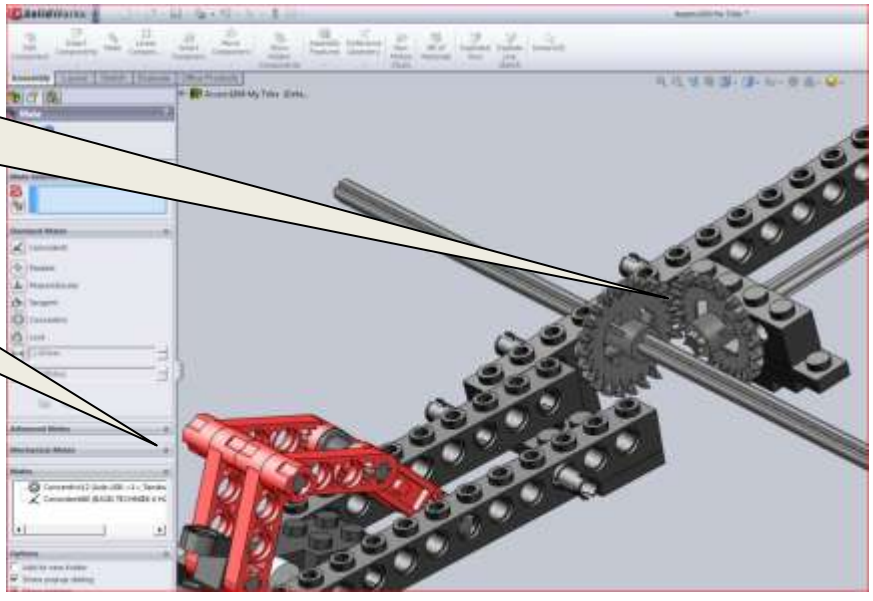


48

We going now make the connection between the two gearwheels, there-fore we use the mate function Mechanical

Click: Mechanical Mates



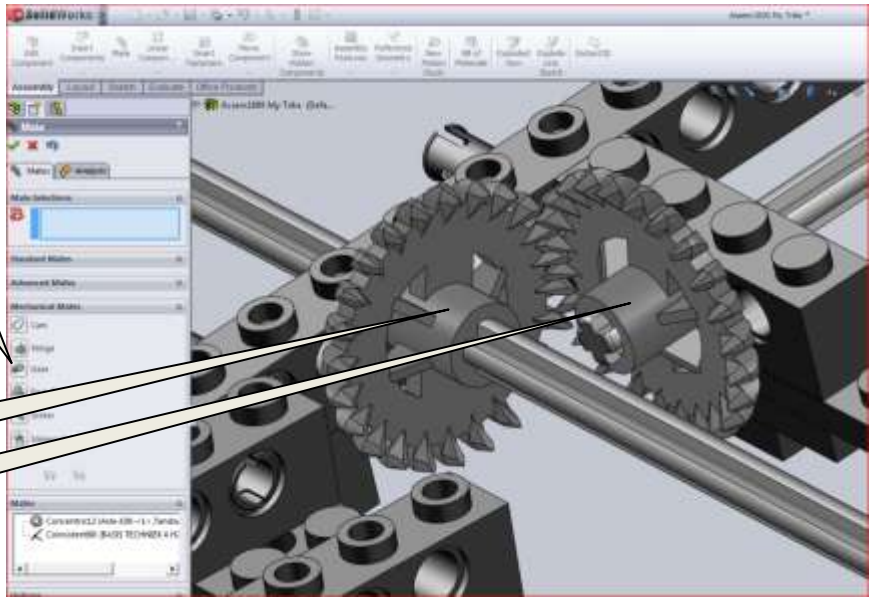


49

Click: Gear

Click: Cylinder Gear 1

Click: Cylinder Gear 2

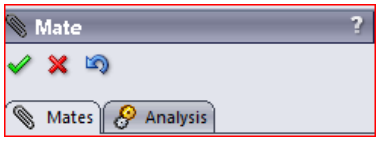


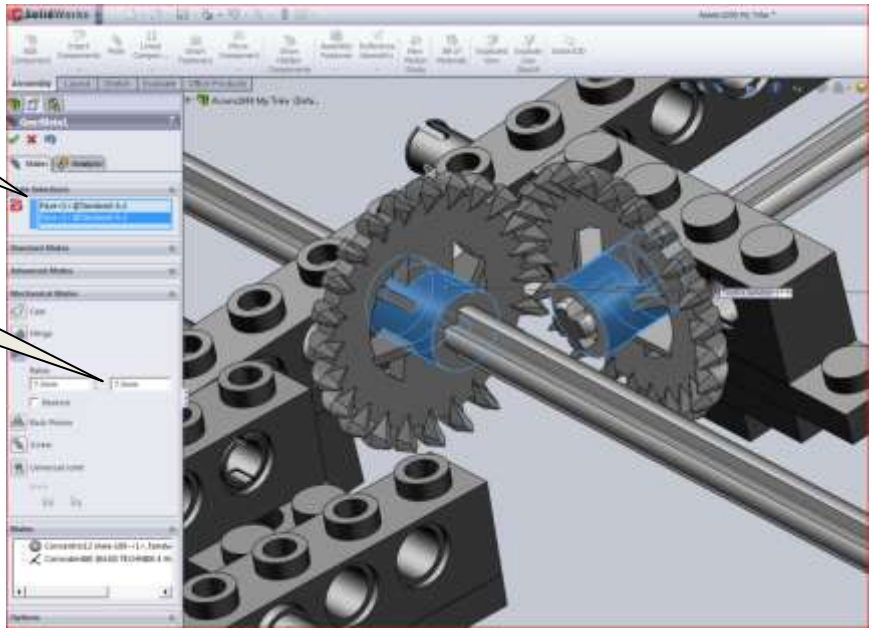
50

Here's the proof!
They are selected

The selected ratio is for booth gearwheel's OK!

Click OK:



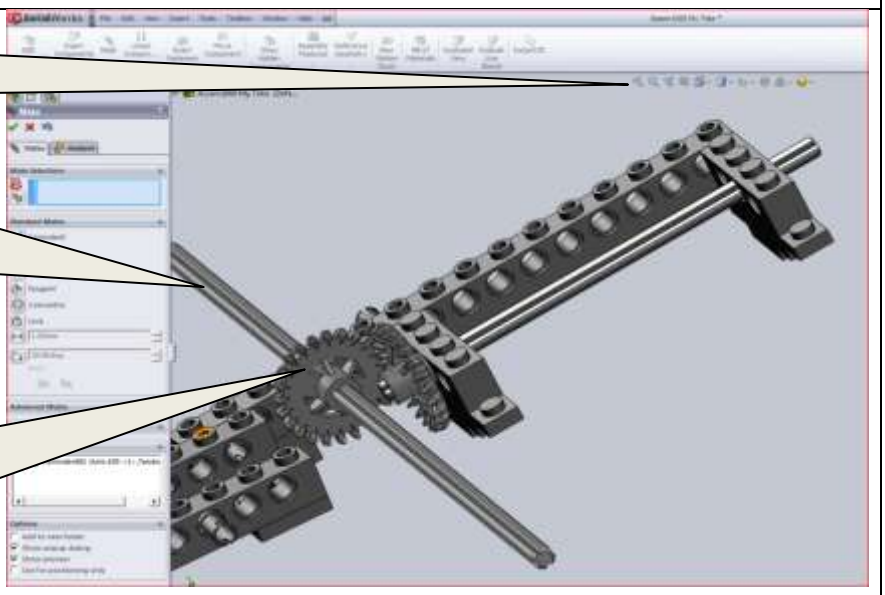


51

1. Click: Zoom to Fit.

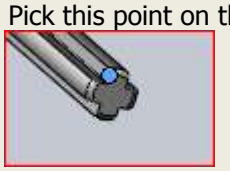
Press and hold the Mouse's scroll wheel, Rotate and move the Mouse until the Assembly is positioned.

We will now testing if one Gearwheel make's a turn, what does the second Gearwheel do?



52

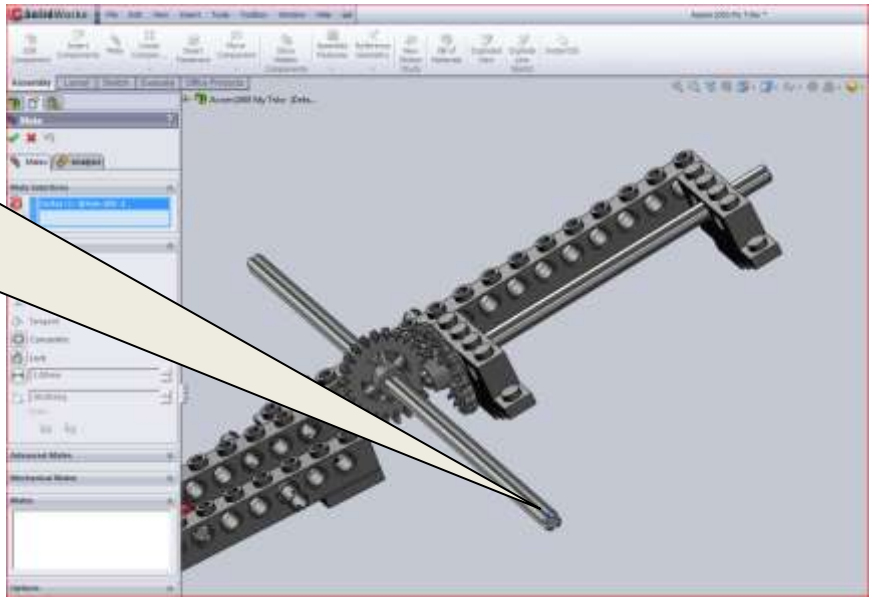
Pick this point on the Axle



Use your left Mouse button, hold the button down, and make a turn "clockwise"

If the second Axle turns, it will be the proof!

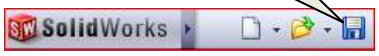
Click OK:



53

Let's save our data once again for safety!

Click Save:



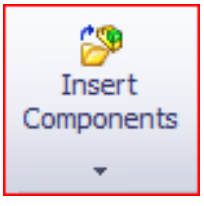
Fantastic!

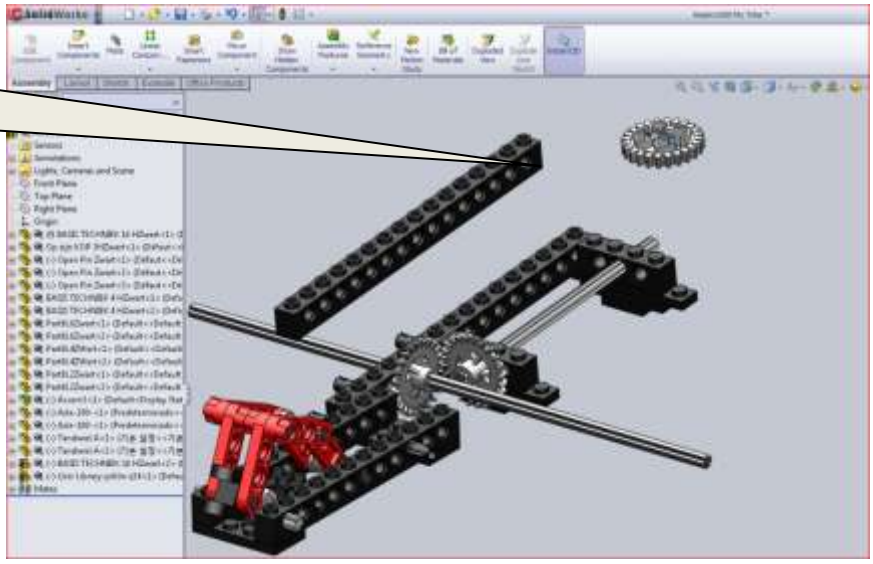
You have successfully completed your first building blocks assembly, using three different Mate's.

54

We'll go back again to the warehouse, to see if we can find one long black brick and one Gearwheel (z24).

1.Press the Insert Components icon with the left mouse Button





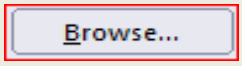
55

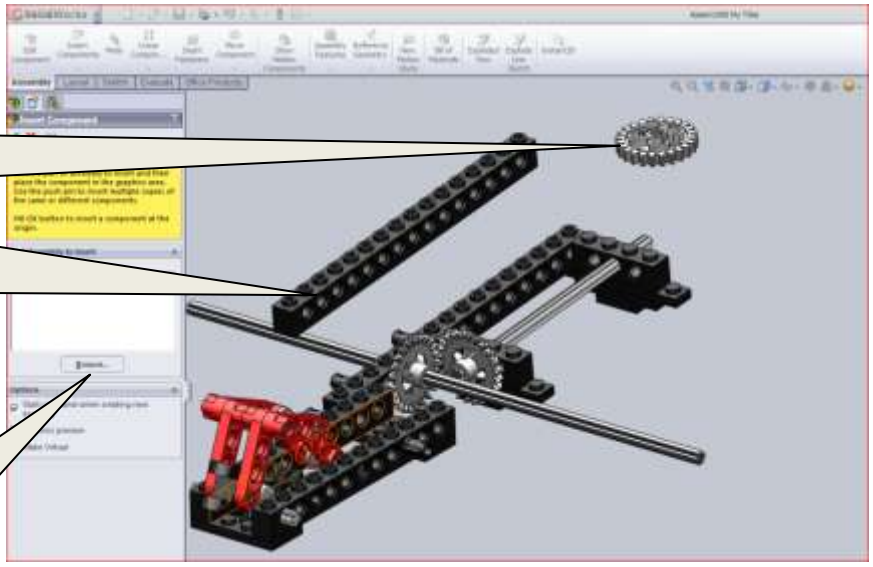
1. We're looking for:

1x Gearwheel z24

1x BASIS TECHNIEK 16H Zwart

1.Press the left mouse button on the icon!



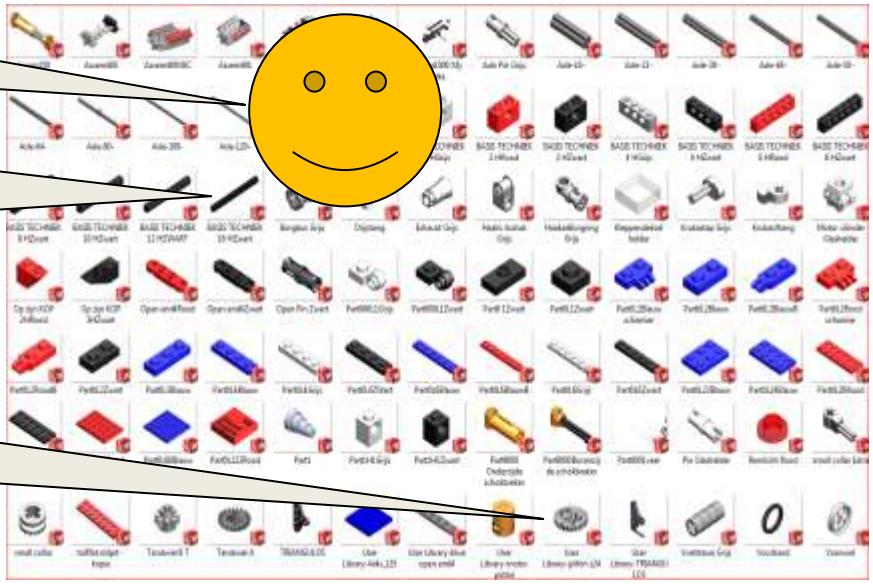


56

The warehouse:

BASIS TECHNIEK 16H Zwart
Double-click the icon!

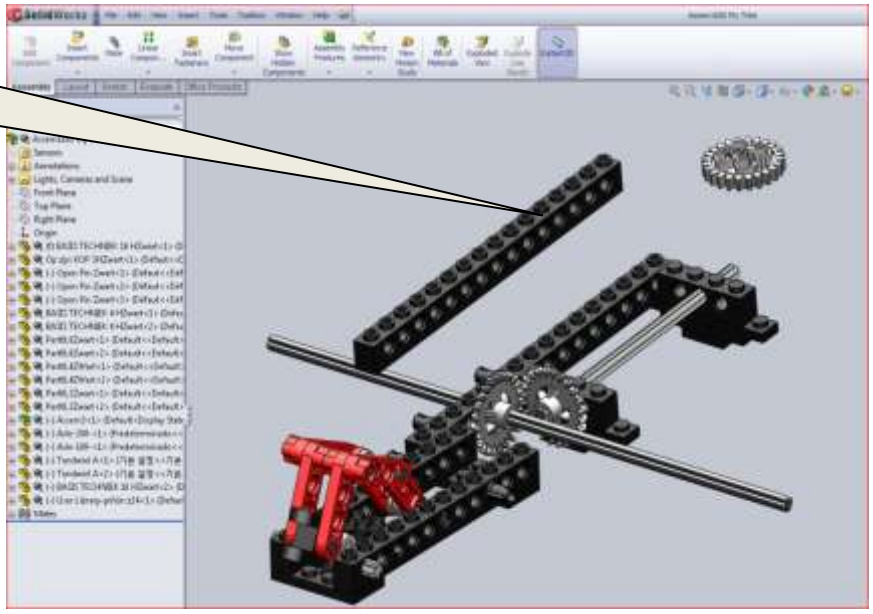
Gearwheel z24
Double-click the icon!



57

1. Position the part's as illustrated and click the left mouse button.

If all went well, your screen now displays the brick and the gearwheel, as illustrated.



58

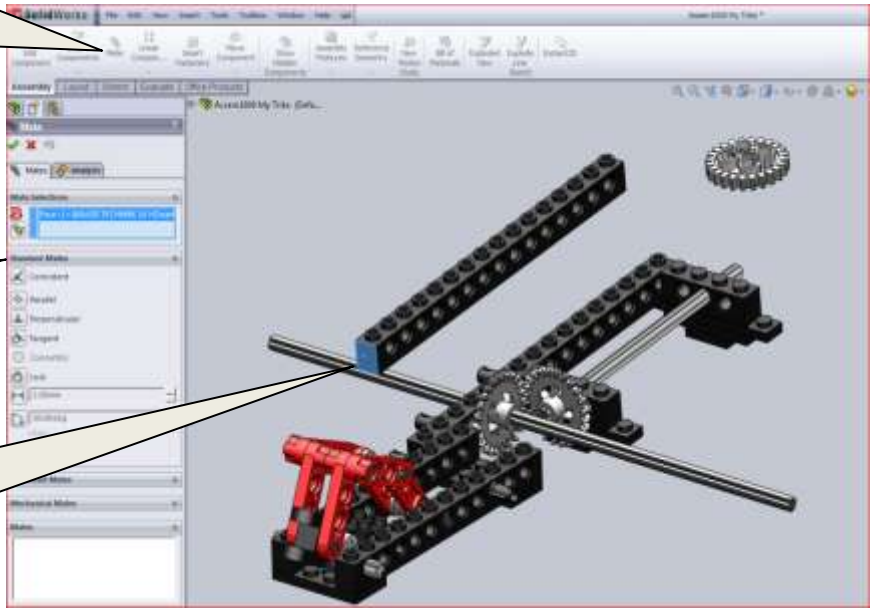
Were going to build again!

1. Click Mate. 

We'll now put the brick on his place. Therefore we need the Standard type off mates.

Be sure you working with Standard Mates !

2. Click the front side of the brick, and it will turn blue.



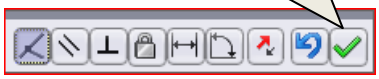
59

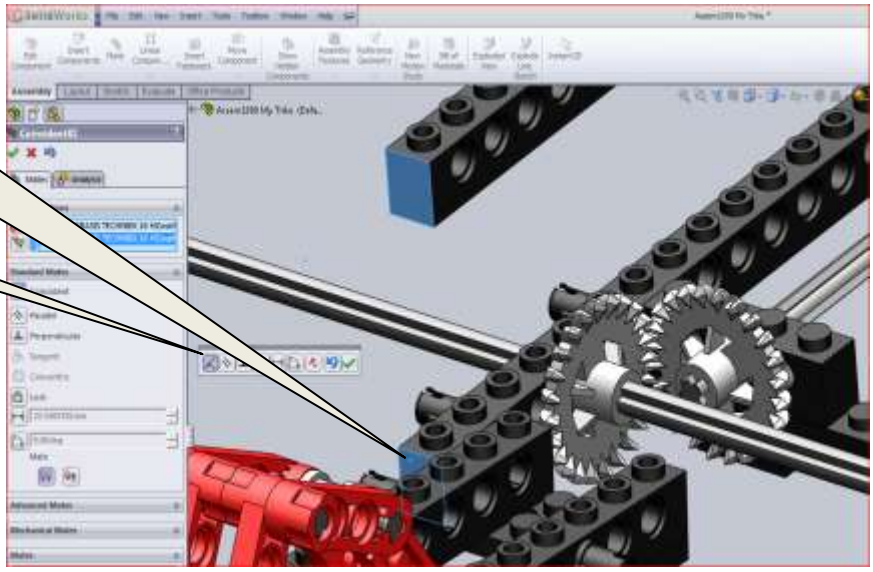
2. Click the front side of the chassis and it will turn blue as well.

These front faces now must lie flush.

The proof:

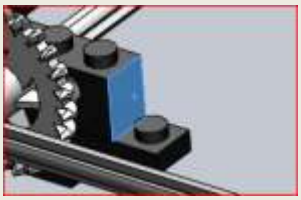
3. To confirm this, click:

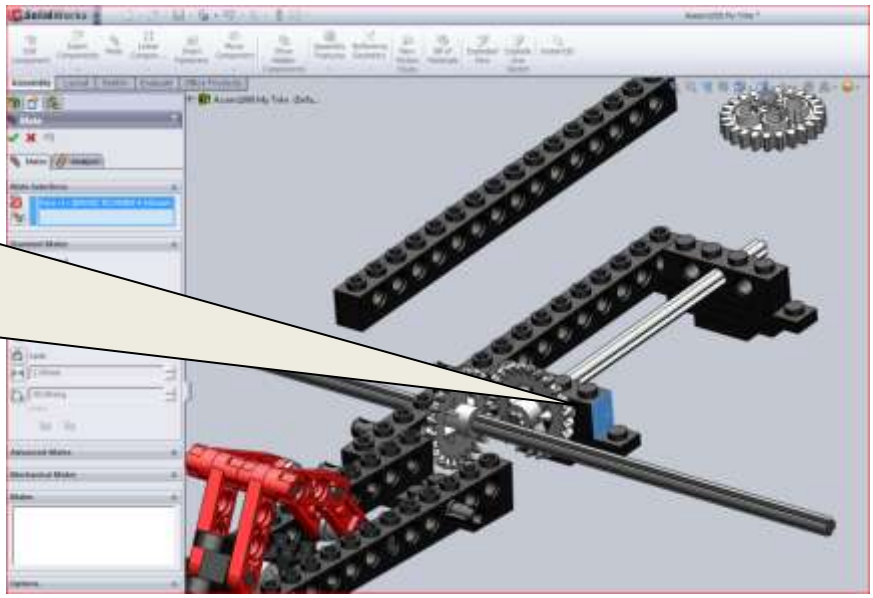




60

1. Click the front side of this brick, and it will turn blue.





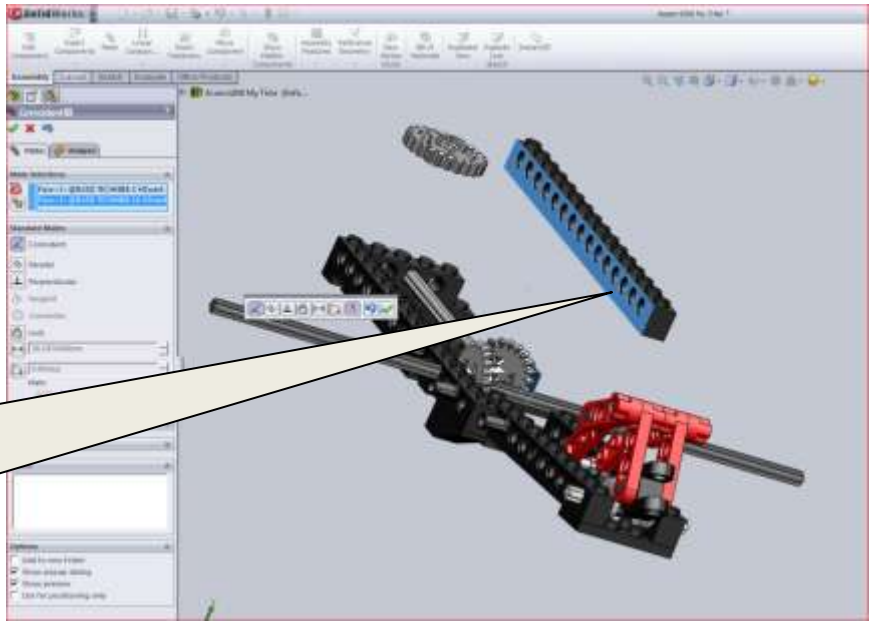
61

Press the scroll Wheel down! Rotate and move the mouse until the part is positioned as illustrated.

Click the side of this brick, and it will turn blue as well

These front face's now must lie flush.

To confirm this, click: 

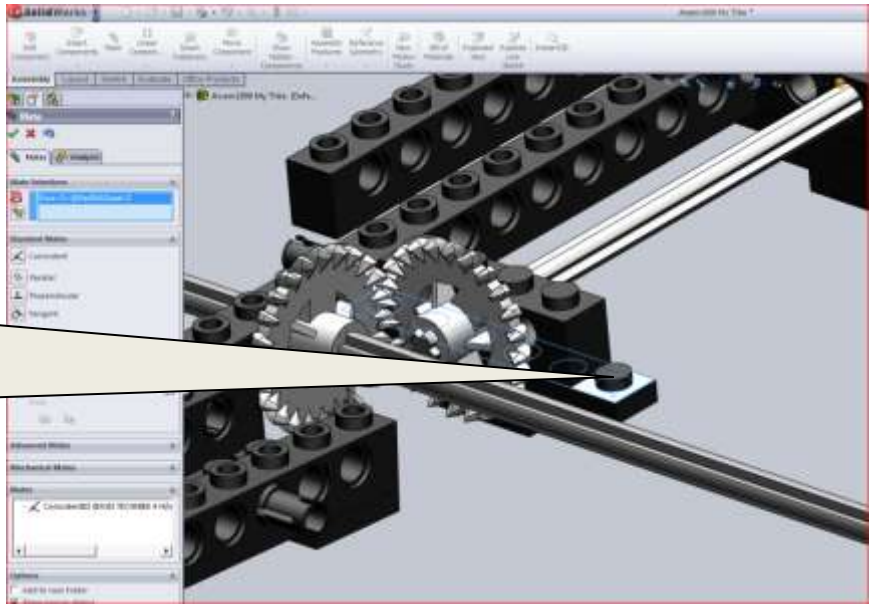


62

Press the scroll Wheel down! Rotate and move the mouse until the part is positioned as illustrated.

Click on the top of the lower part, it will turn blue again.

Press and hold the Mouse's scroll wheel, and move the mouse.

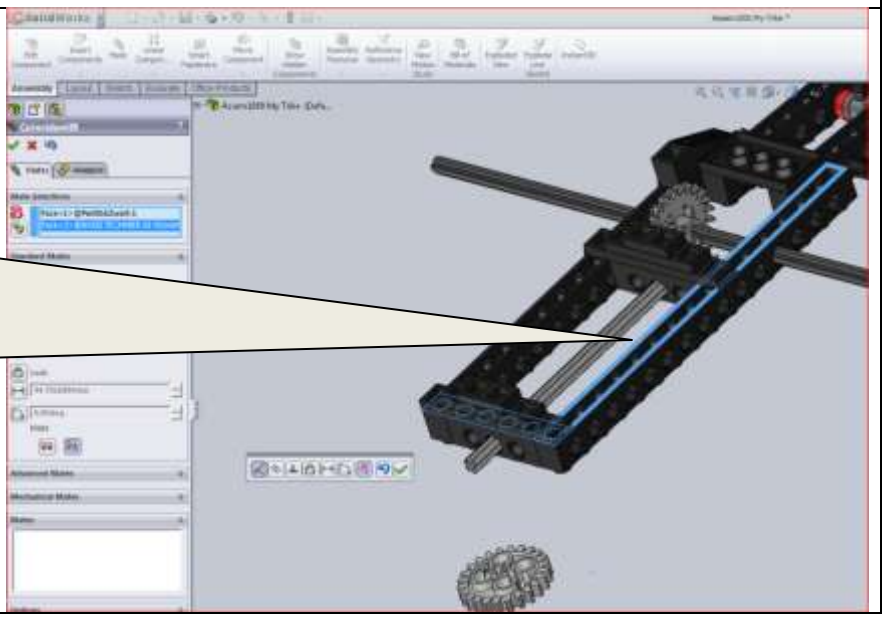


63

Try to put everything upside down! until the Assembly is positioned as illustrated.

Now click the bottom of the lower part. It will turn blue again and both parts will connect together.

To confirm this, click: 



64

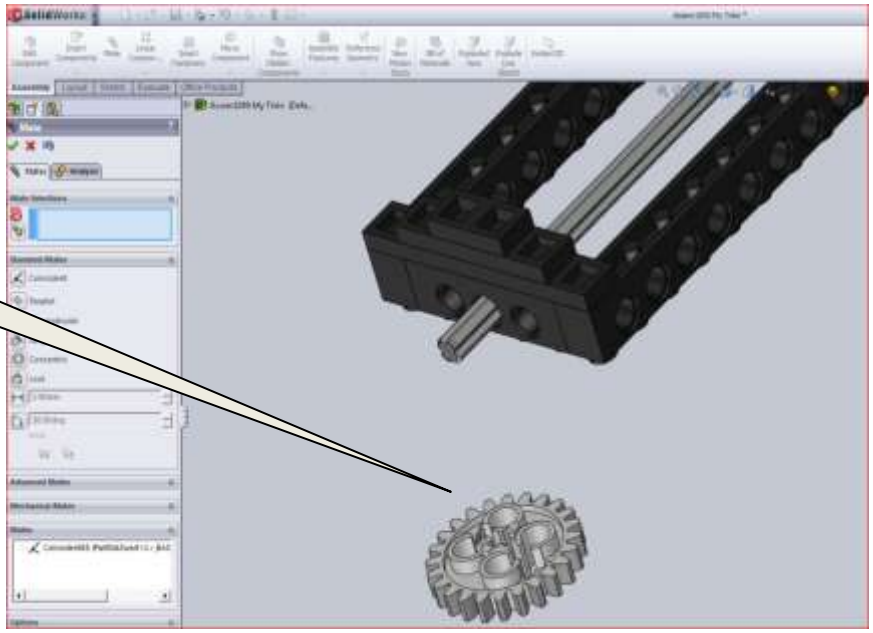
Use your scroll Wheel and zoom in!
Until the Assembly is positioned as illustrated.

Now we will build the gearwheel on the axle.

Try it your self!
Use the skills that you have learned!

You don't remember how? Repeat steps 41 through46.

If done, Click: 



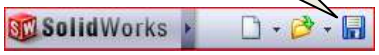
65

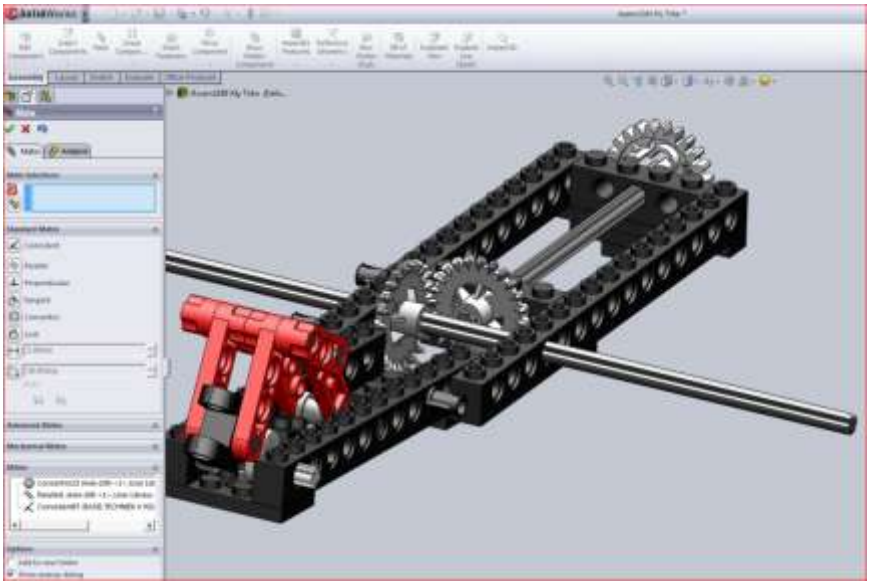
Press the scroll Wheel down!
Rotate and move the mouse until the part is positioned as illustrated.

If all went well, your screen now displays the frame and the two axle's, and the three gearwheels as illustrated opposite.

Let's save our data once again for safety!

Click Save:





66

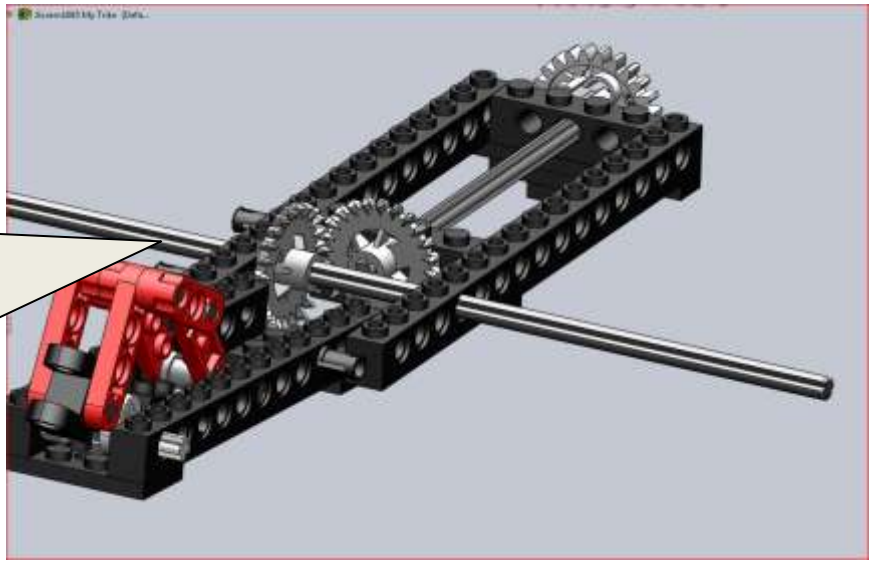
We will test the Assembly!

Pick this point on the Axle

Use your left Mouse button, hold the button down, and turn "clockwise"

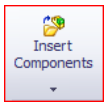
If the second Axle turns, and the two gearwheels it will be the proof!

If done and OK. Click: 

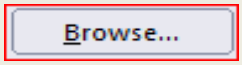


67

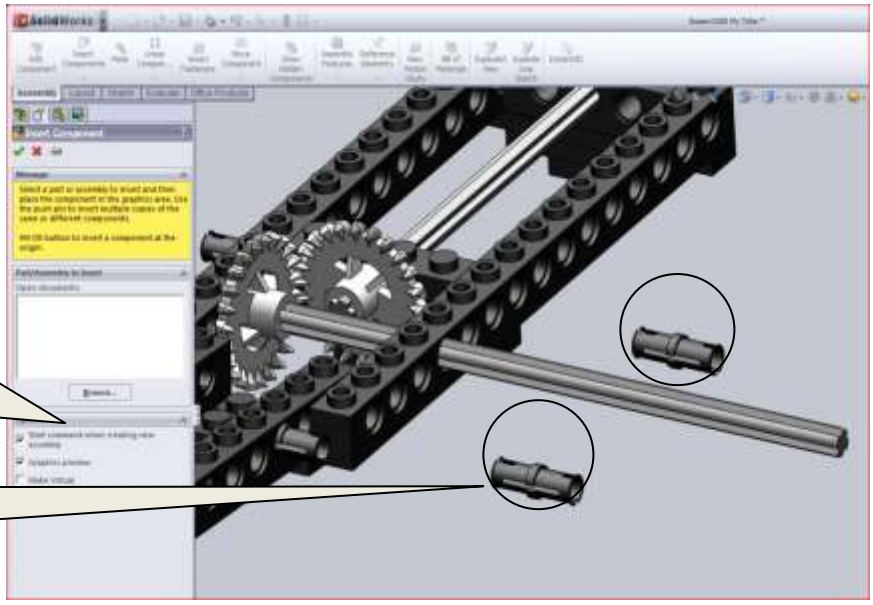
1. We'll go back again to the Warehouse, Press the Insert Components icon with the left mouse button.



1.Press the left mouse button on the icon!



We'll go back again to the warehouse, to see if we can find two black connectors.



68

1. We're looking for:

2x  Open Pin Zwart

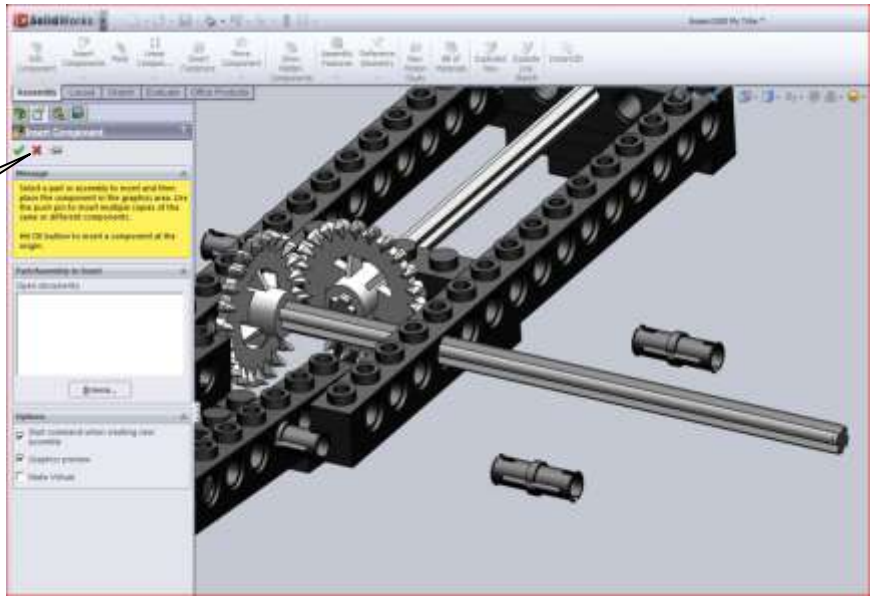
Position the part's as illustrated by step 69 and click the left mouse button.

69

If all went well, your screen now displays the chassis and two connectors, as illustrated.

1.If everything OK.

Click: Close 



70

We're going to build again!

1. Click Mate. 

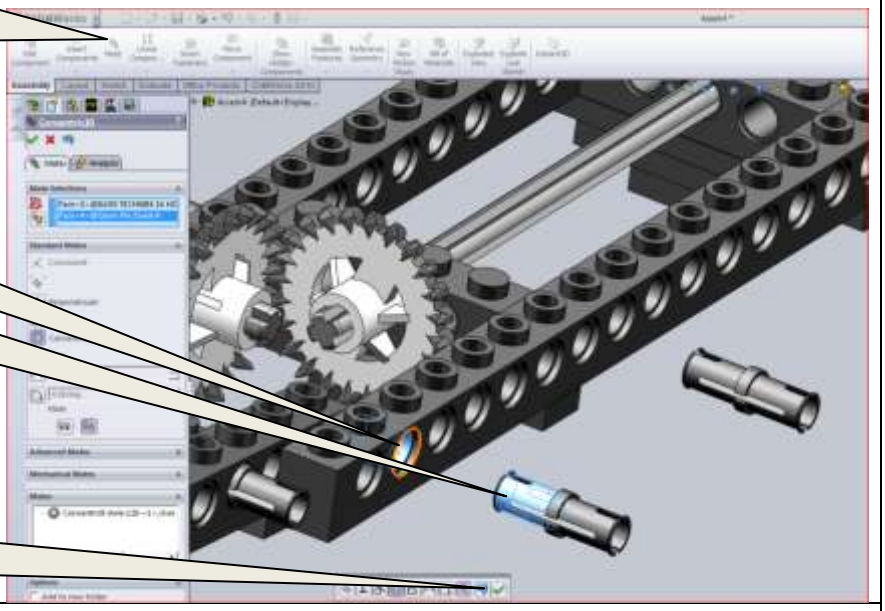
2. Click the inside of the second hole in the lower brick, it will turn blue.

3. Click the outside from the connector and it will turn blue again.

You'll now see that both parts lie flush.

4. Here's the proof!

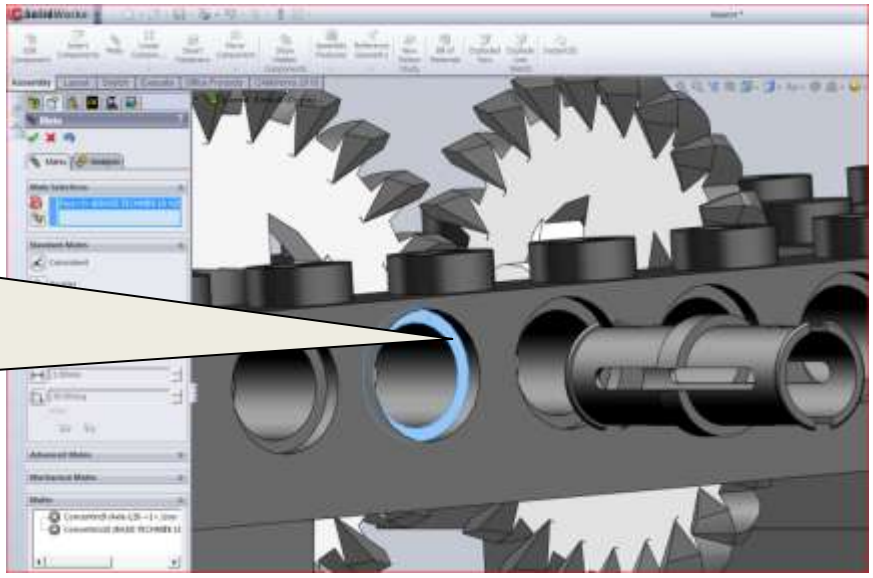
5. Click: 



71

Press the scroll Wheel down! Rotate and move the mouse until the part is positioned as illustrated.

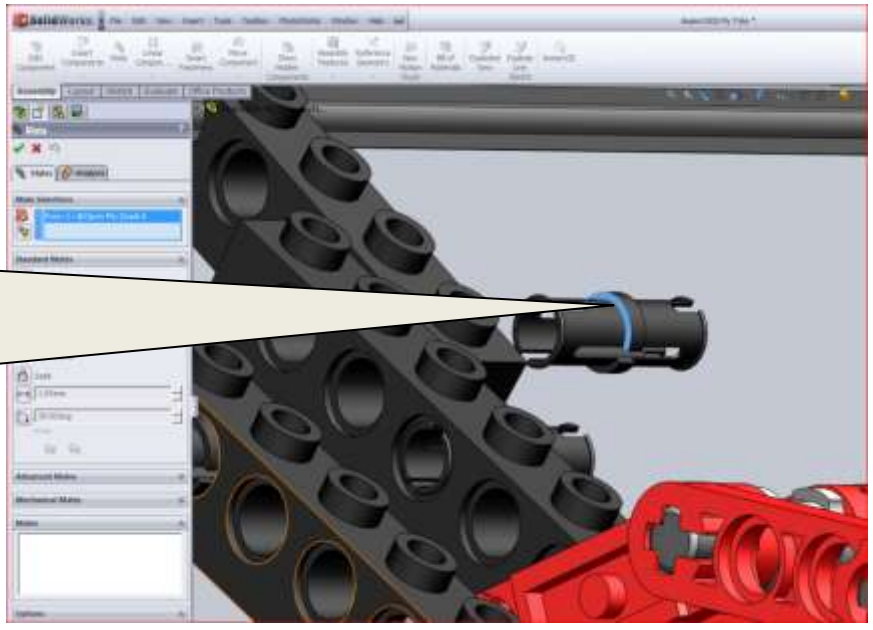
1. Click the inside flange of the hole in the lower brick, it will turn blue.



72

Press the scroll Wheel down! Rotate and move the mouse until the part is positioned as illustrated.

1. Click the outside flange of the connector, it will turn blue again.

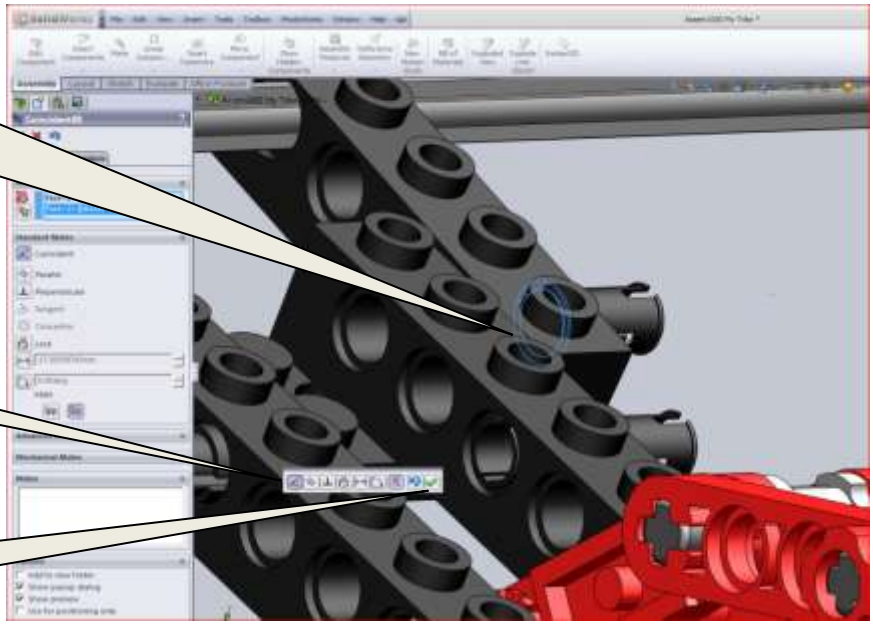


73

As you can see, the part's are properly positioned.

4. Here's the proof!

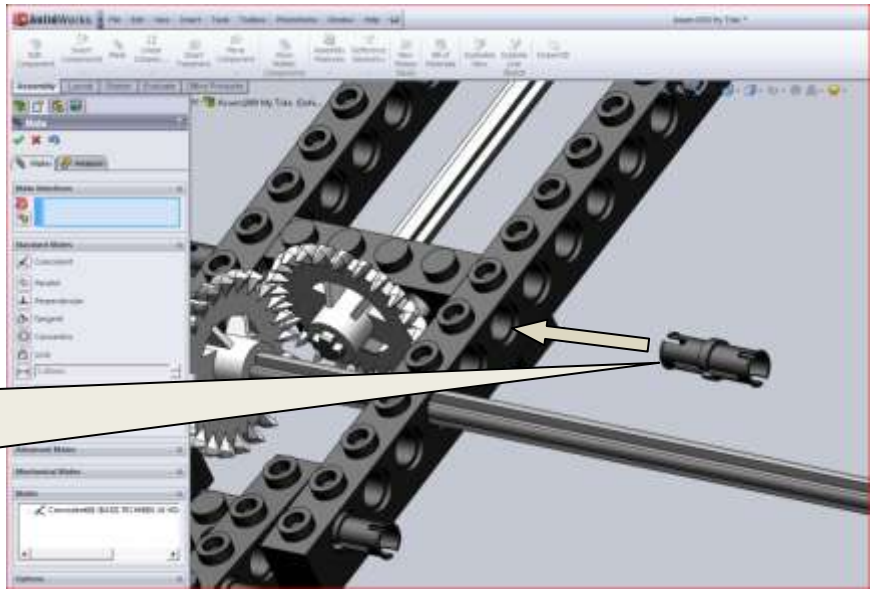
5. Click:



74

Press the scroll Wheel down! Rotate and move the mouse until the part is positioned as illustrated.

Do the same by yourself with the next connector part.
Refer to the example and use your knowledge from steps: 70 through 73



75

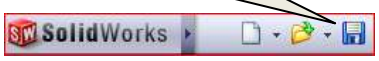
? It worked.

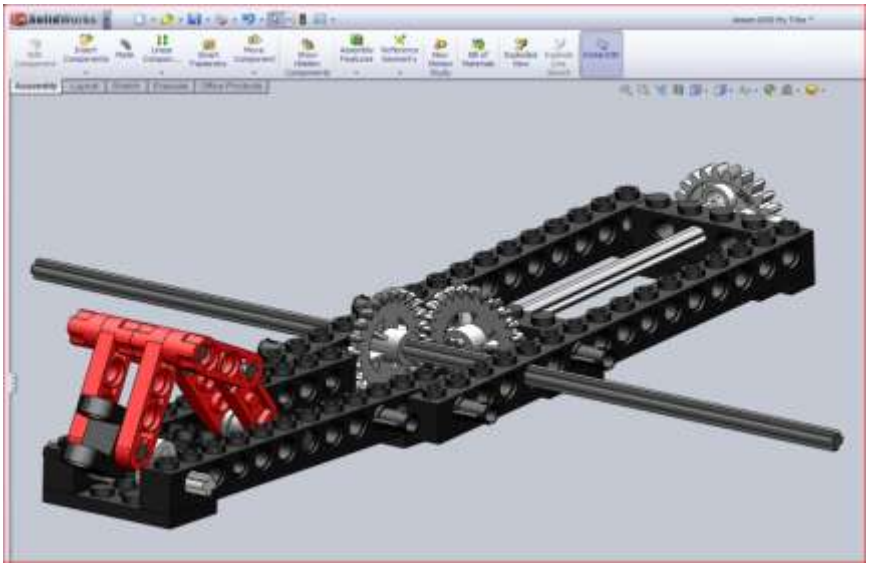
Next, we'll continue the assembly process.

Press the scroll Wheel down! Rotate and move the mouse until the part is positioned as illustrated.

Let's save our data once again for safety!

Click Save:





76

Let's move on!

We now return to the warehouse, for new parts.

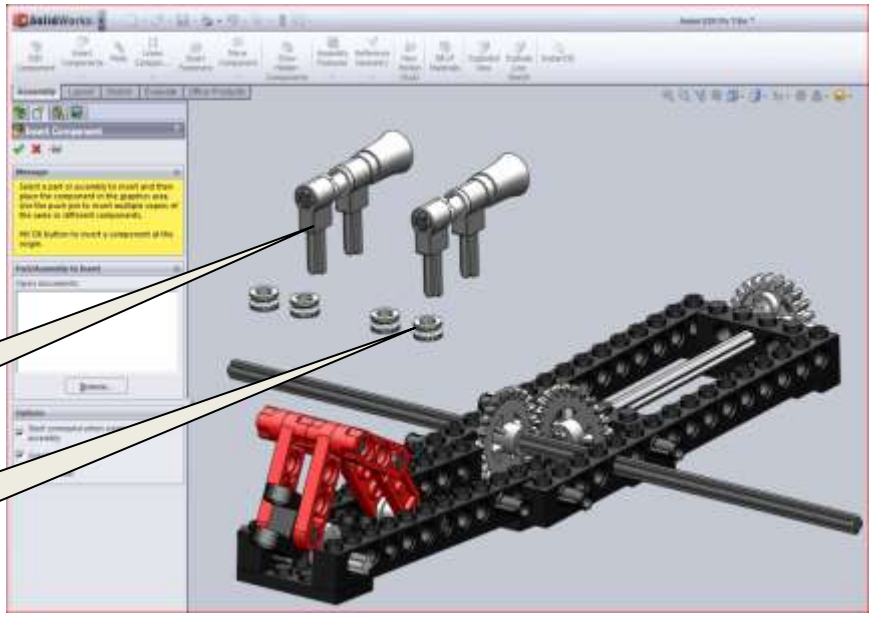
1. Click: 

2. Click: 

3. We're looking for:

2x  Assembly 6

4x  Borgbus Grijs

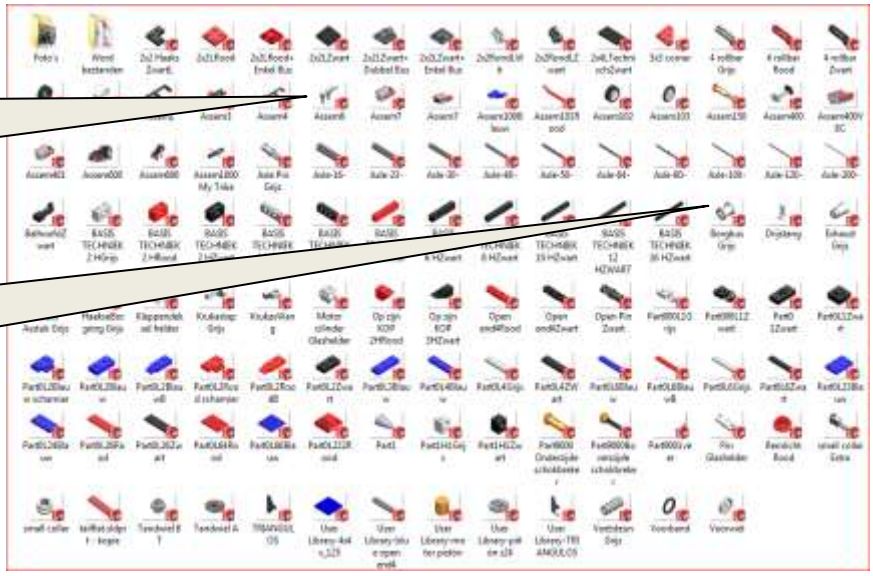


77

 This is your warehouse!

Double-click:  Assembly 6

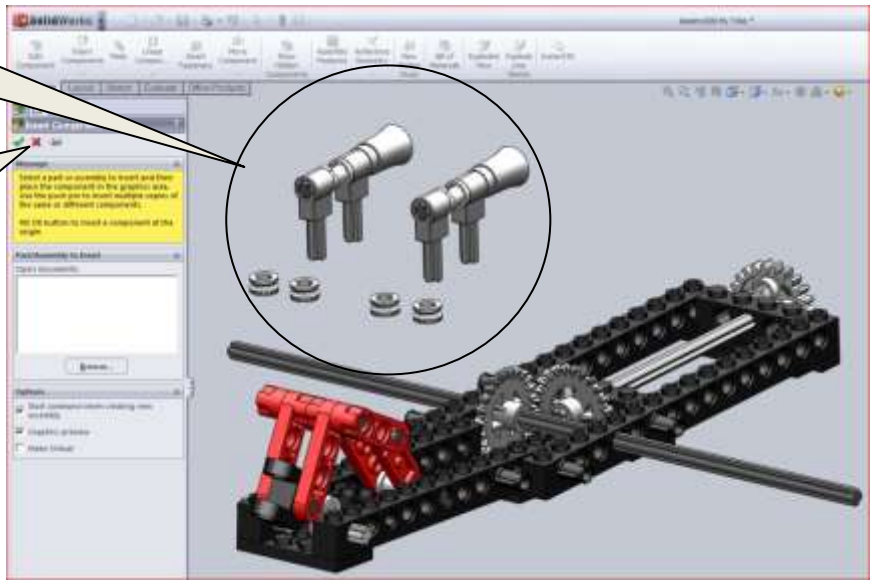
Double-click:  Borgbus Grijs



78

Position the part's as illustrated and click the left mouse button.

Close this action Click: 

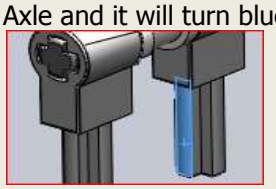


79

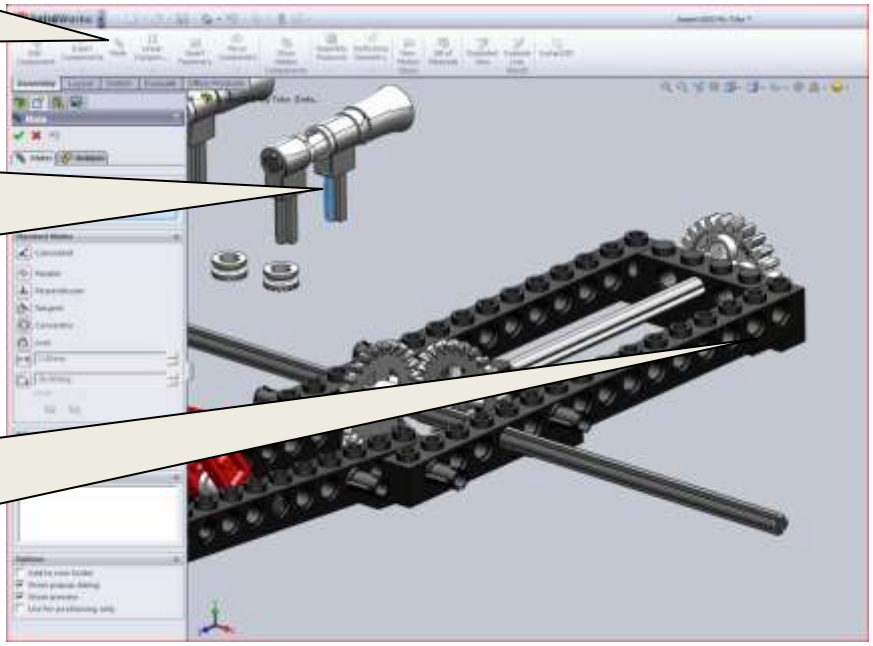
We're going to build again!

Click Mate. 

1.Click the outside of the Axle and it will turn blue.



2.Click the inside of the second!! hole in the lower brick, it will turn blue again

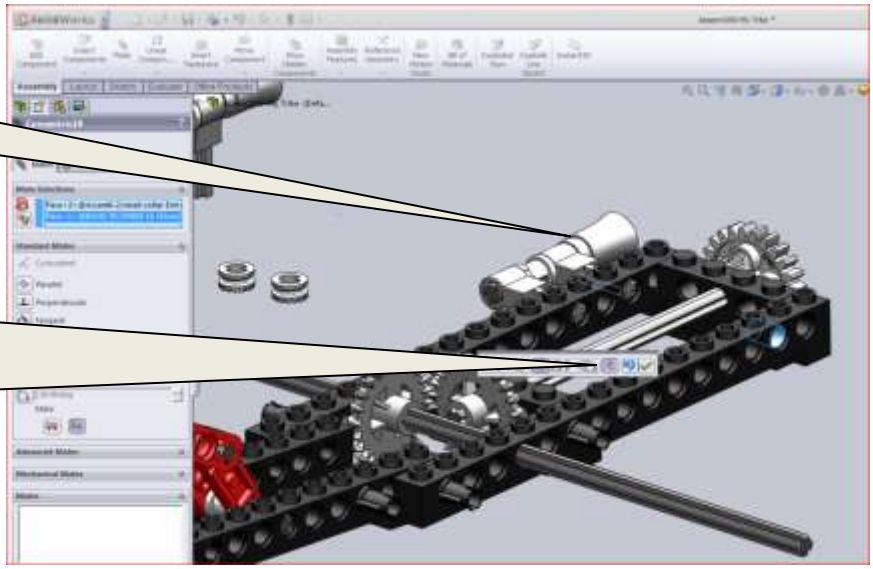


80

There's a chance the part is not correctly positioned!

1.Therefore, click: 
You can see below the part is now correctly positioned**!**


See step 81

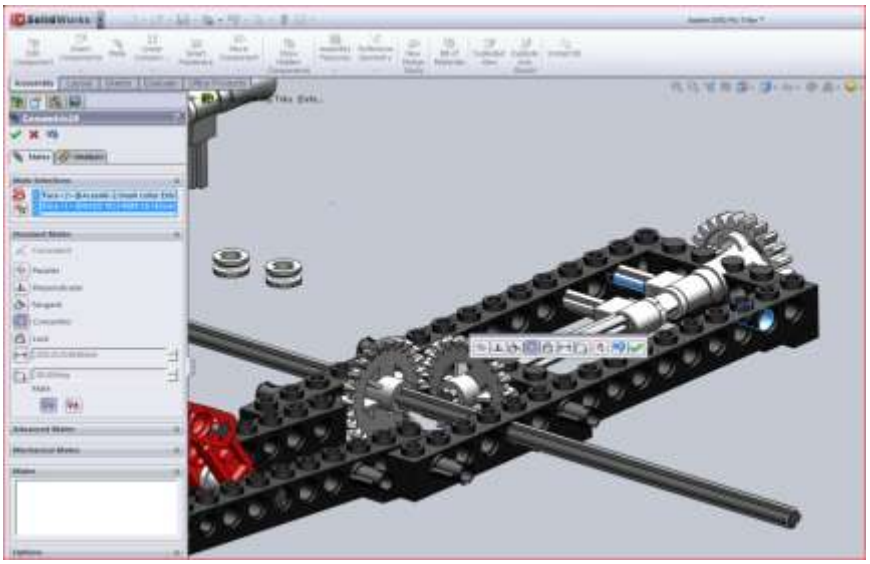


81

It may also happen that the part goes straight through another part!

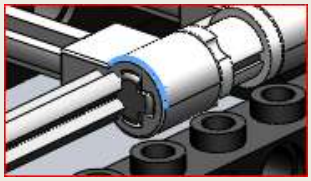
No worry!

We'll handle this in the next step!



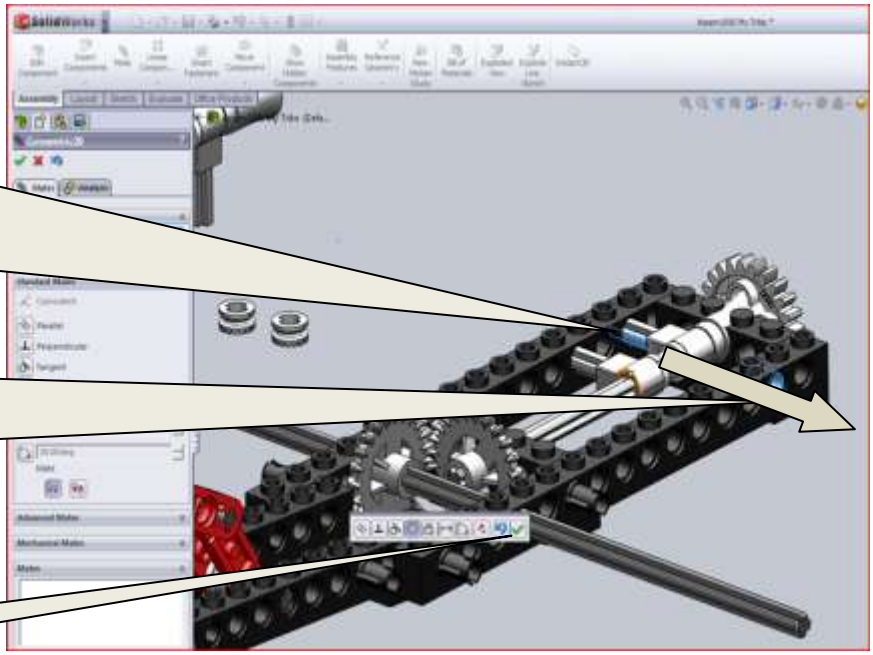
82

1.Click on this edge, use you left Mouse button, hold the button down.



Press and hold the Mouse's button down, and move the mouse.
Use the direction off the arrow.
See for result step 83.

Click: ☑



83

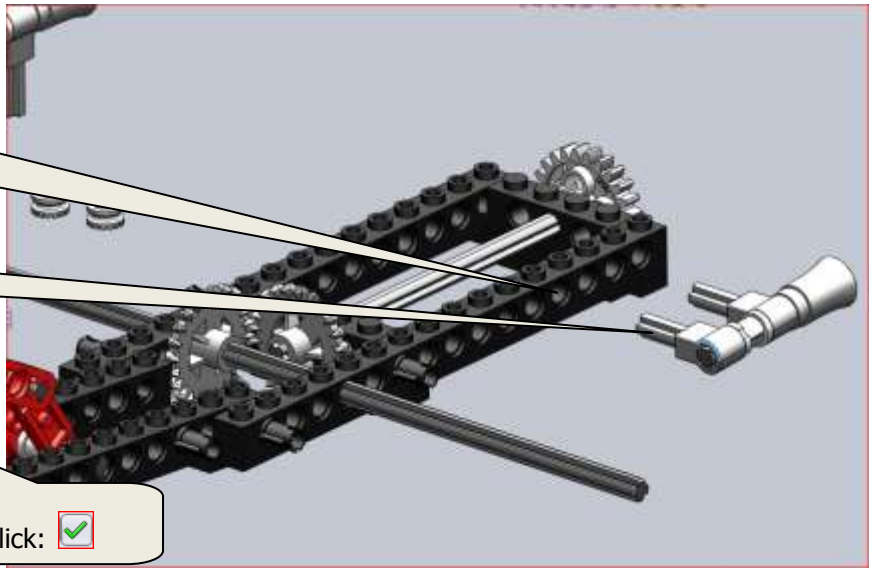
We're still in the **MATE** environment, so we'll simply continue!

Click the inside of the fourth hole in the lower brick, it will turn blue

Click the outside from the Axle and it will turn blue.

You see the part is positioned correctly.

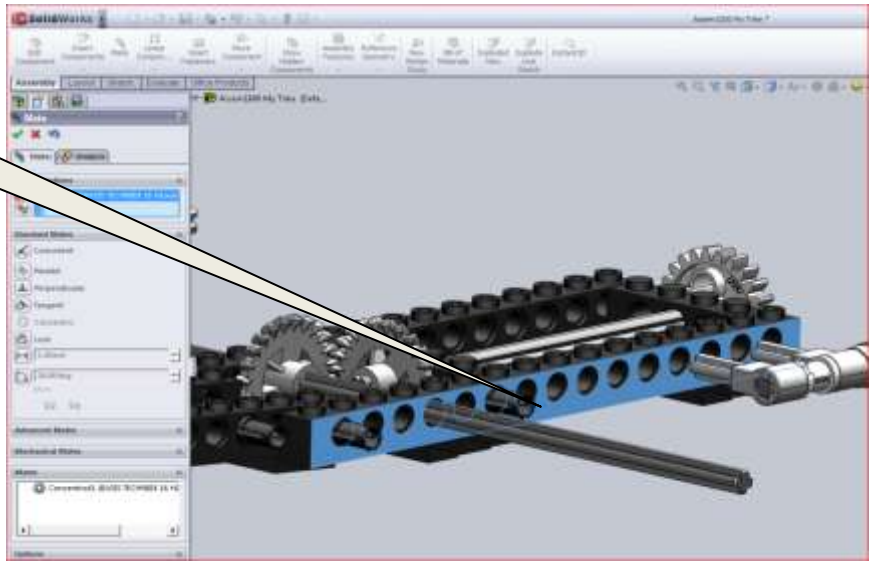
Click: ☑



84

Click the outside of the brick it will turn blue

Press the scroll Wheel down!
Rotate and move the mouse until the part is positioned as illustrated in step 85.

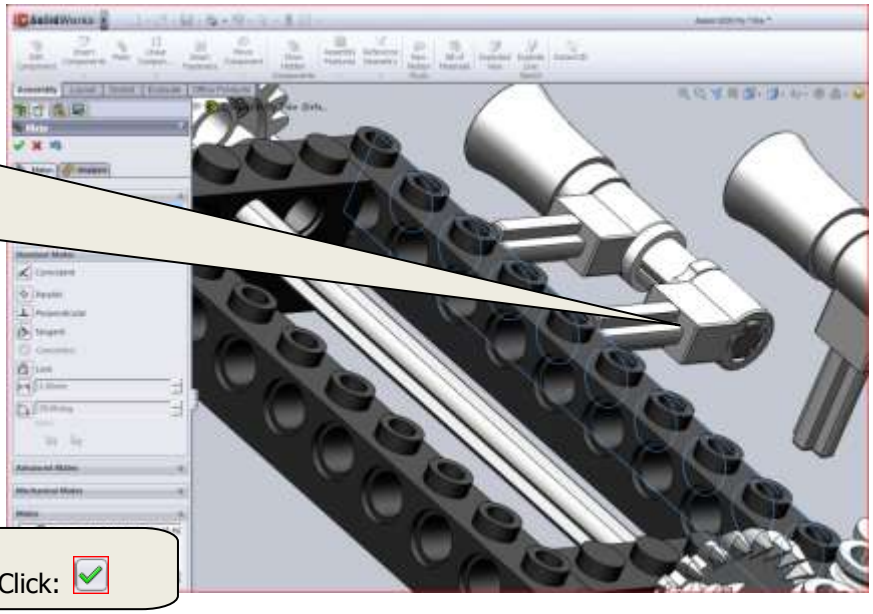


85

Click the outside of the brick it will turn blue again

You see the part is positioned correctly.

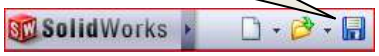
Click:



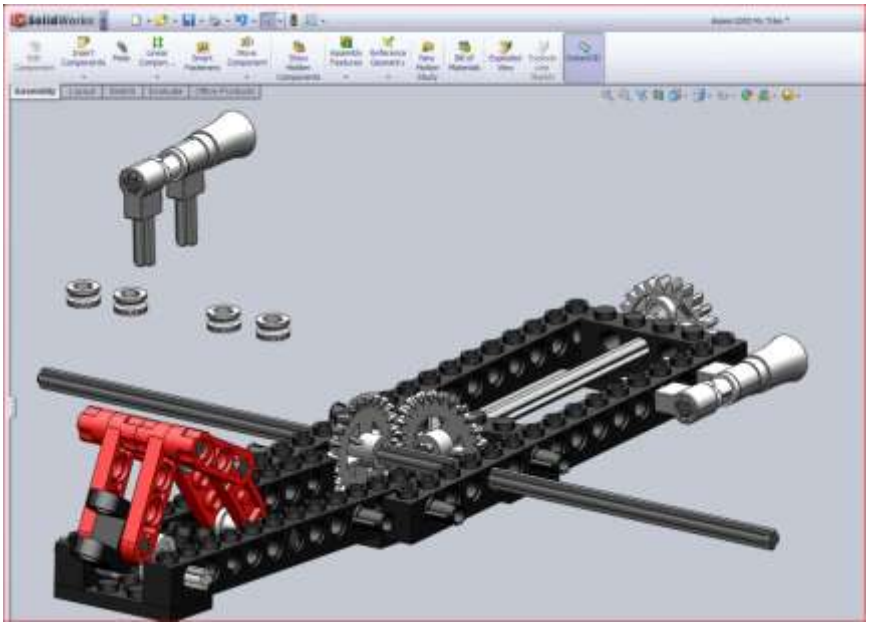
86

Let's save our data once again for safety!

Click Save:



Press the scroll Wheel down! Rotate and move the mouse until the part is positioned as illustrated in step 87.



87

We're going to build

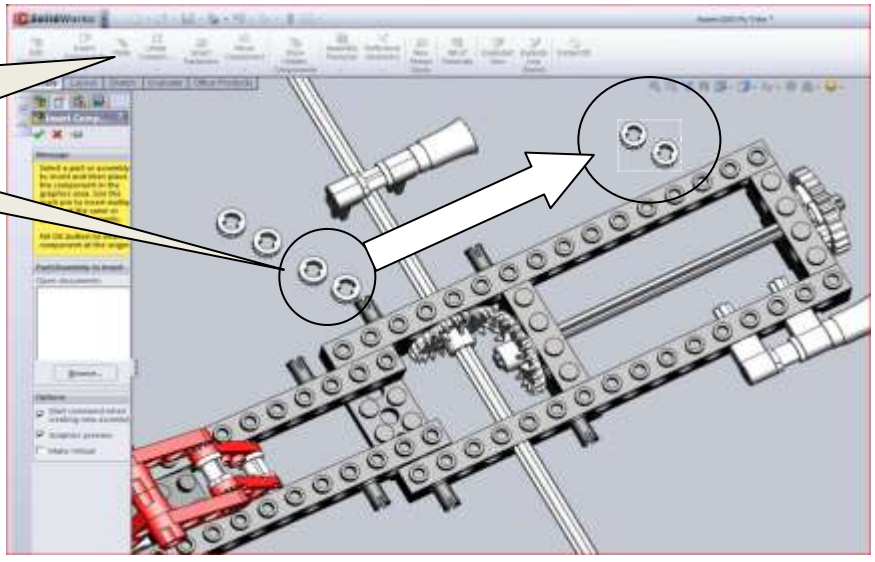
again! Click Mate.

Pick these two parts up with the left mouse but-

Move Both parts to: See Arrow.

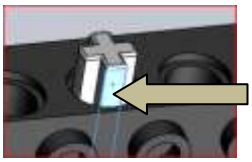
Pick it up with the right Mouse button.

Rotate it to:

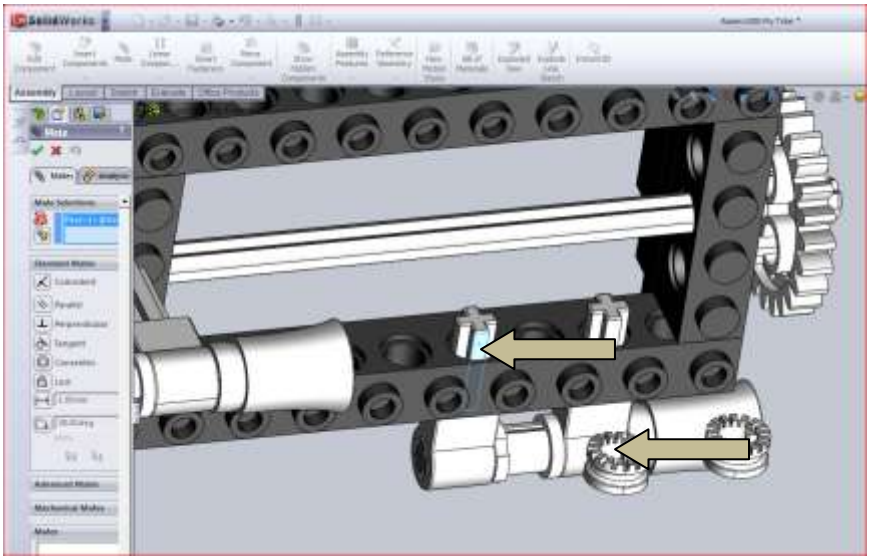


88

Press the scroll Wheel down! Rotate and move the mouse until the part is positioned as illustrated.

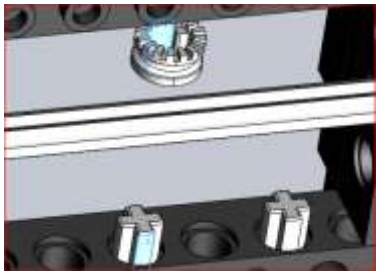
1. Click: 

2. Click: 



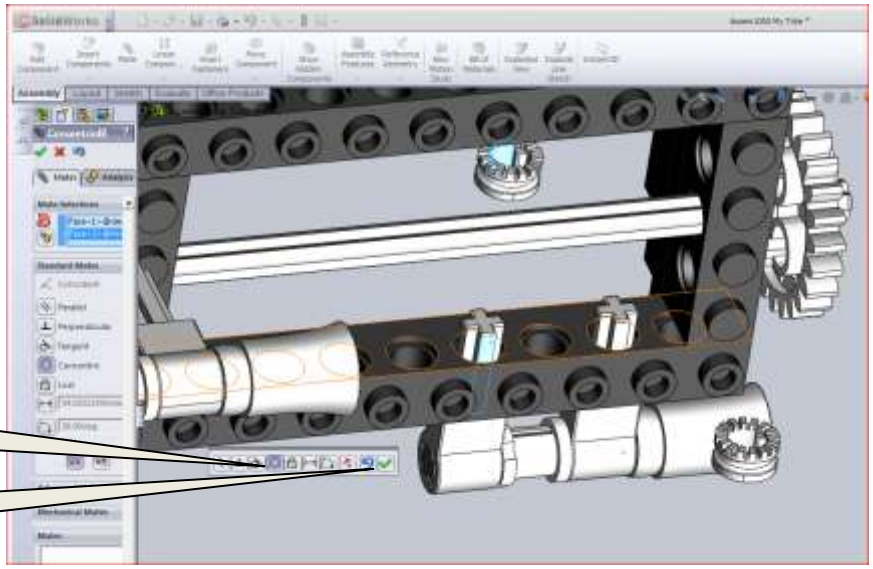
89

You'll see that both parts lie flush.

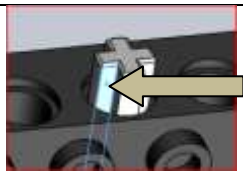


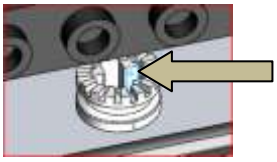
Here's the proof!

Click:



90

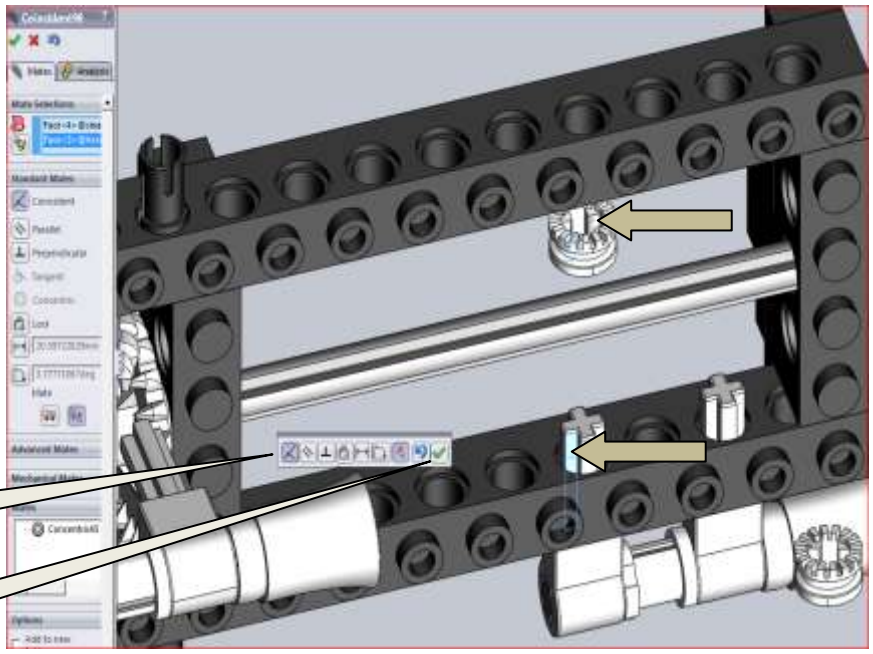
1. Click: 

2. Click: 

The keyway now is correctly positioned.

Here's the proof!

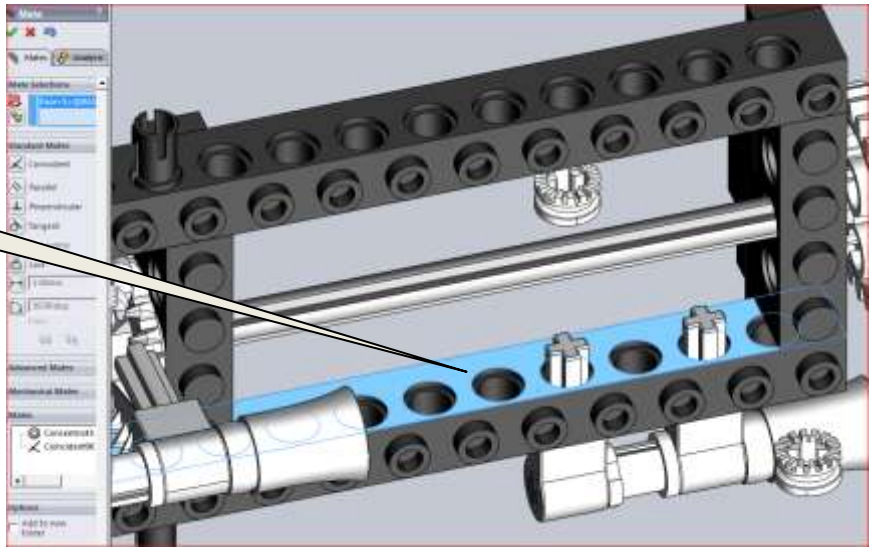
Click:



91

We're still in the **MATE** environment, so we'll simply continue!

Click the outside of the brick it will turn blue

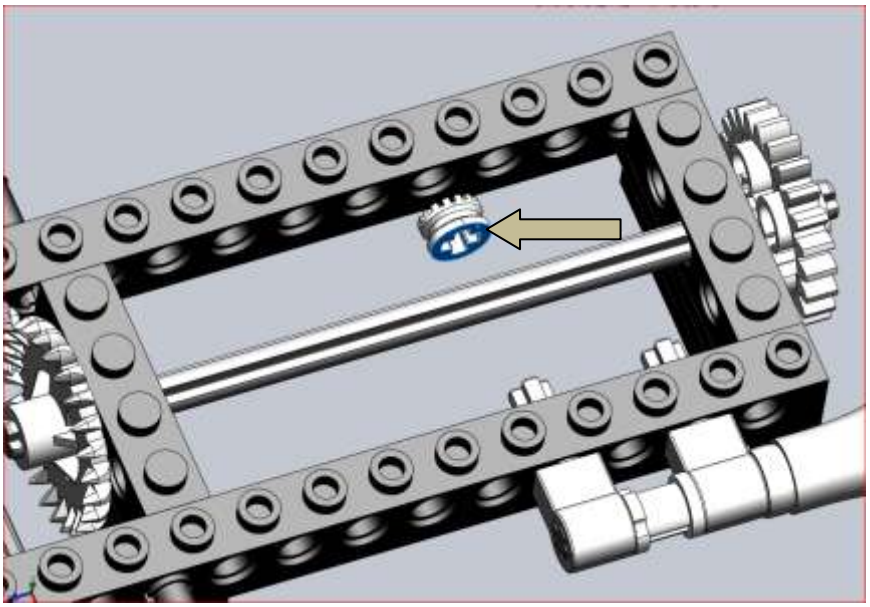


1. Press and hold the mouse's scroll Wheel, and move the mouse.

2. Make sure the model is positioned on screen as illustrated in step 92.

92

1. Click:

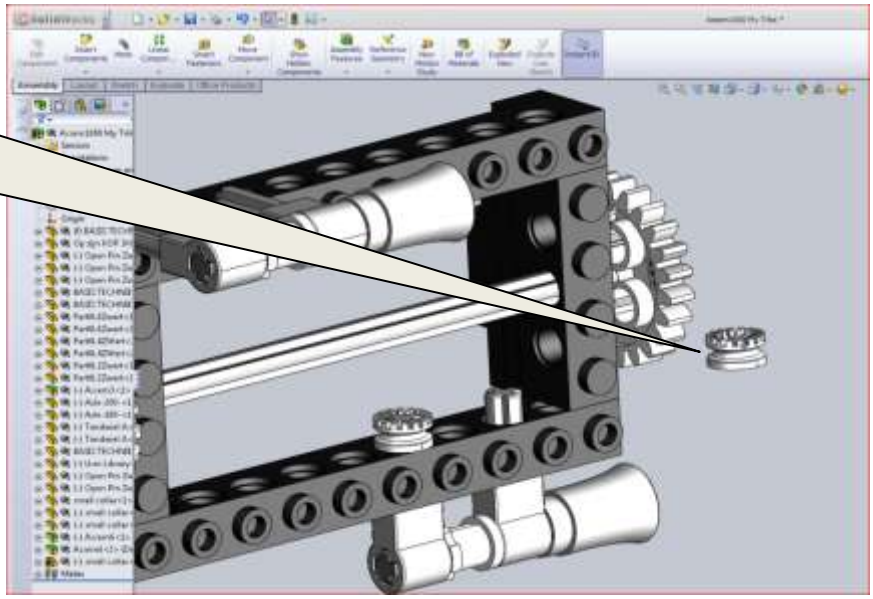


If everything go well ! You'll see that both parts are nicely connected together.

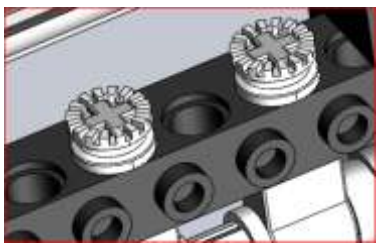
Click:

93

Do the same by yourself with the next connector (small collar) part. Refer to the example and use your knowledge from steps: 87 through 92



? It worked.

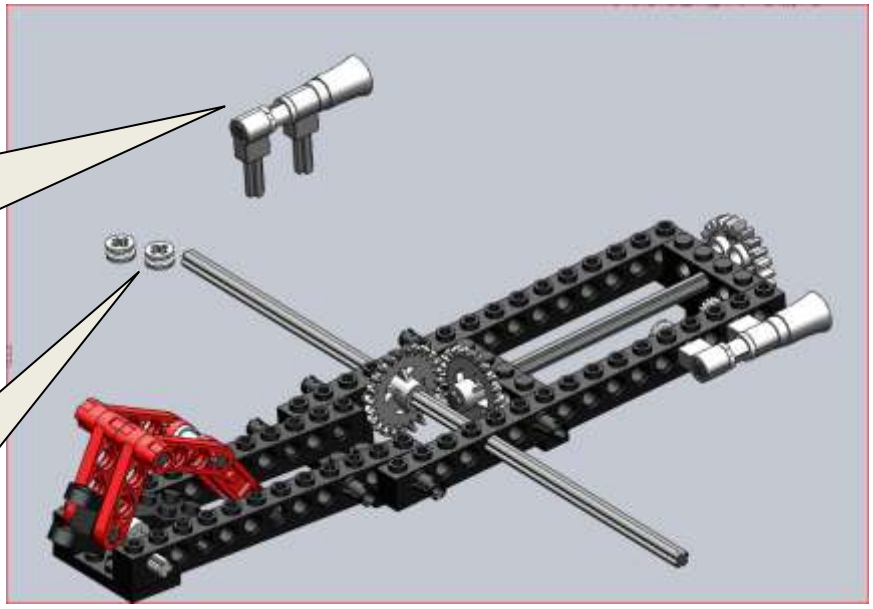


Next, we'll continue the assembly process.

94 Press the scroll Wheel down! Rotate and move the mouse until the part is positioned as illustrated.

Do the same by yourself with the next sub-assembly Refer to the example and use your knowledge from steps: 79 through 87

Do the same by yourself with the next connector's (small collar) Refer to the example and use your knowledge from steps: 87 through 92



95

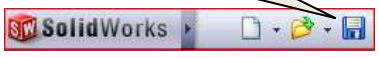
? It worked.

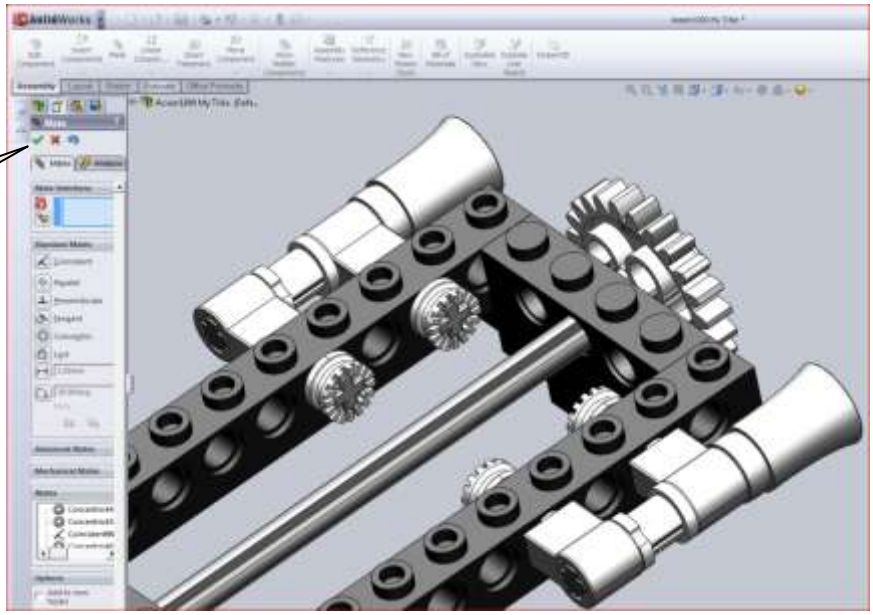
The result must be as illustrated.

If OK! Click: ☑

Let's save our data once again for safety!

 Click Save:



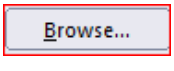


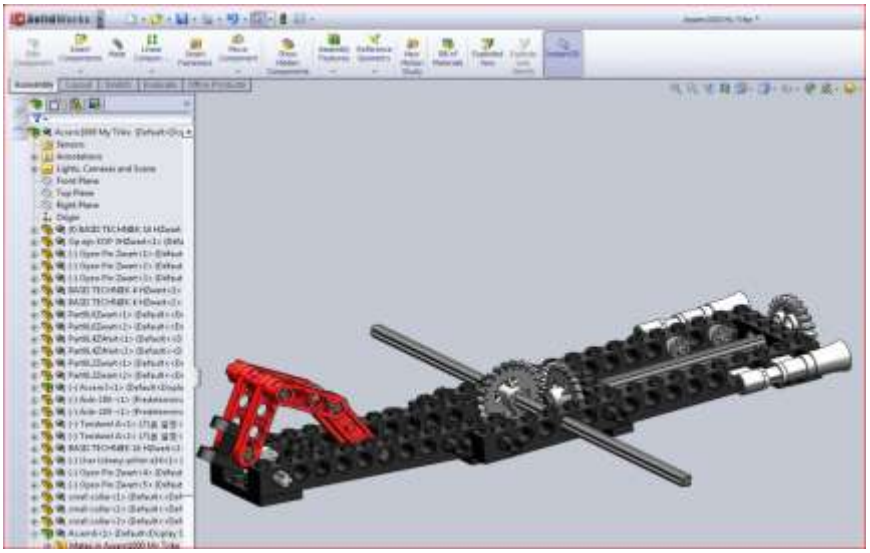
96 Press the scroll Wheel down! Rotate and move the mouse until the part is positioned as illustrated.

Let's move on!

We now return to the warehouse, for new parts.

1. Click: 

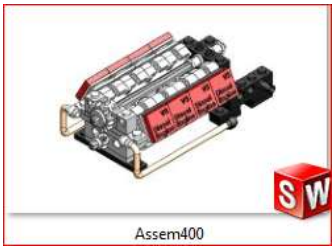
2. Click: 



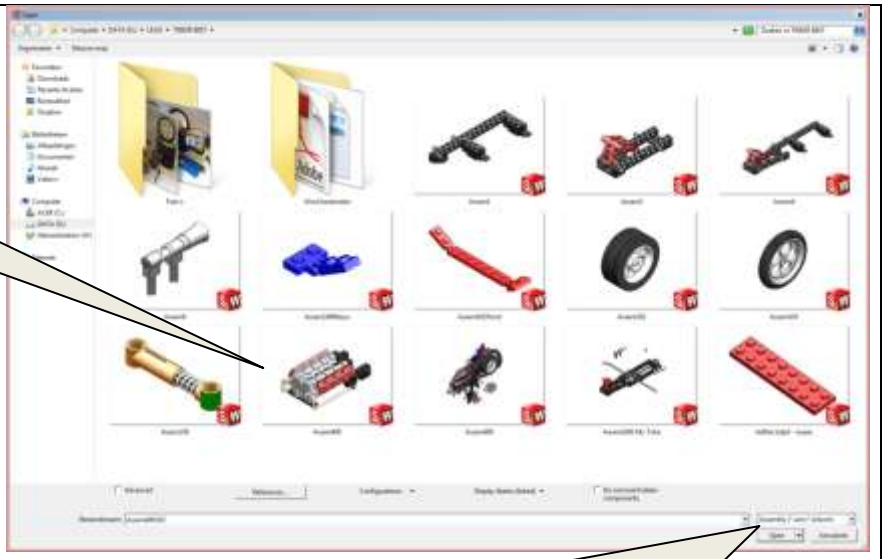
97

We're looking for:
The heart off the Trike

The Engine!!



Double-click: The icon
Assem400

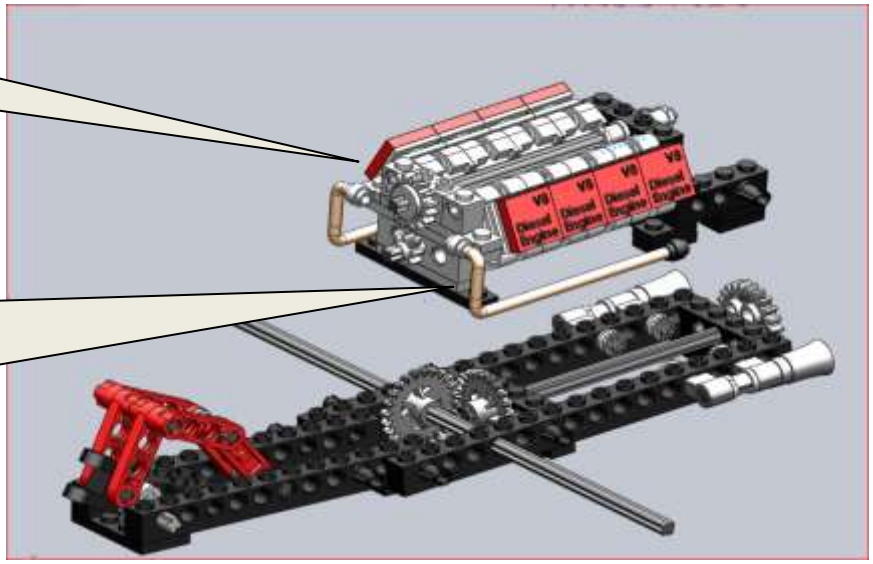


Be sure you are looking in: Assembly (*.asm;*.sldasm)

98

Position the Engine as illustrated and click the left mouse button.

Press the right button down somewhere on the Engine, hold the button down and Rotate and move the mouse until the Engine is positioned as illustrated by step 99



99

We're going to build again!

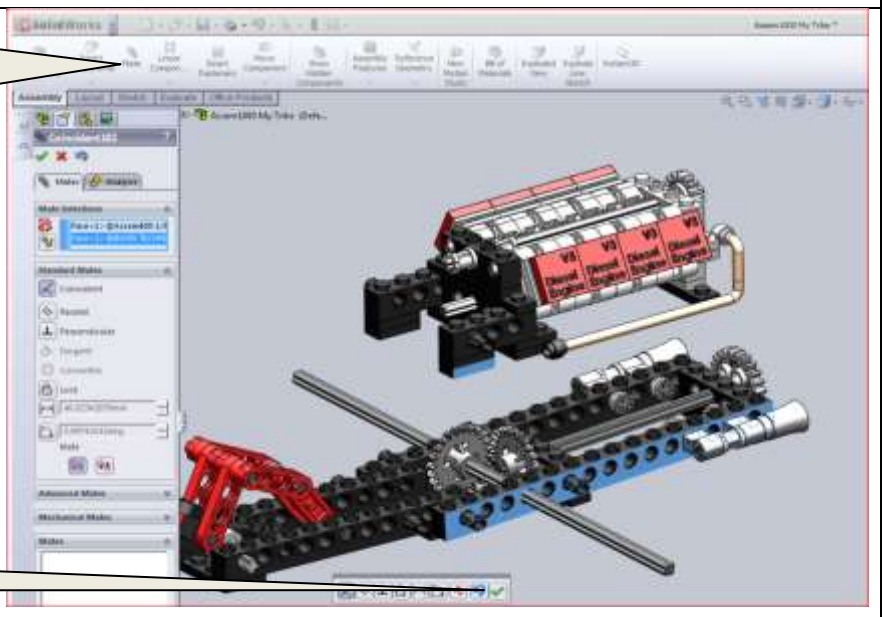
Click Mate. 

1. Click on: 

2. Click on: 

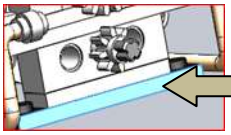
You'll now see that both sides lie flush.

Click: ☑

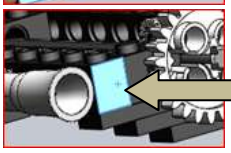


100

Press the right button down some ware on the Assembly, hold the button down and Rotate and move the Assembly until it is positioned as illustrated.



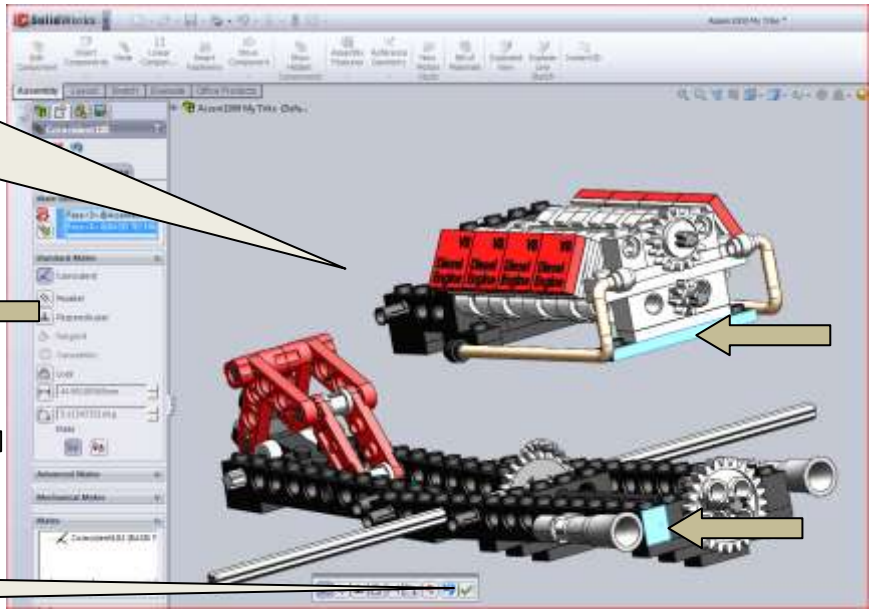
1. Click on:



1. Click on:

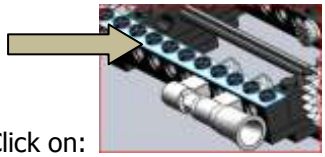
You'll now see that both sides lie flush.

Click: ☑

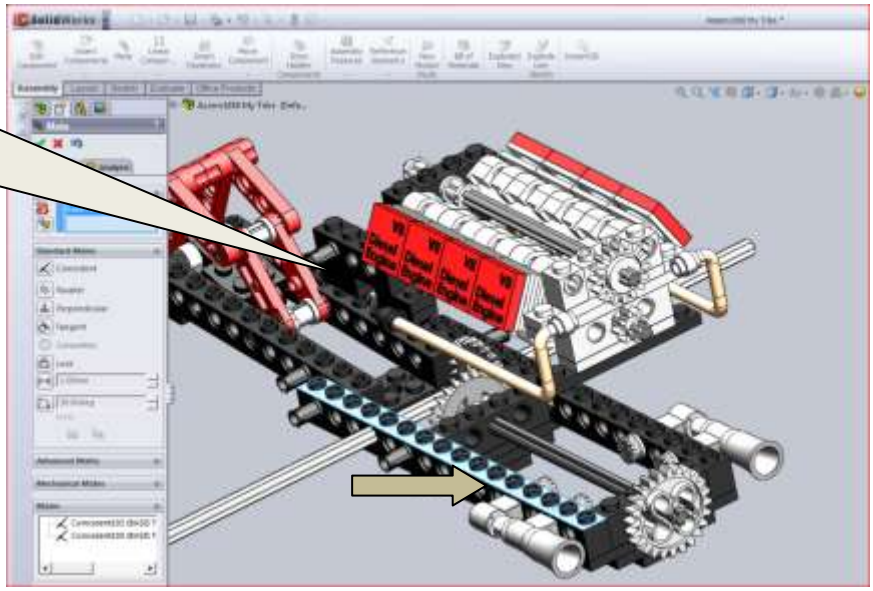


101

Press the right button down somewhere on the Assembly, hold the button down and Rotate and move the Assembly until it is positioned as illustrated.

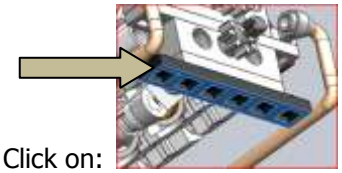


1. Click on:

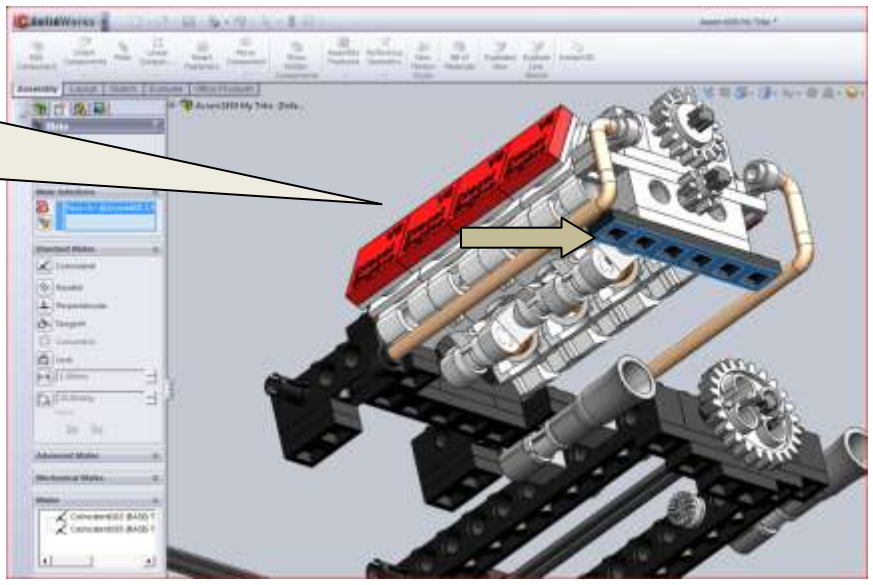


102

Press the right button down some ware on the Assembly, hold the button down and Rotate and move the Assembly until it is positioned as illustrated.



1. Click on:

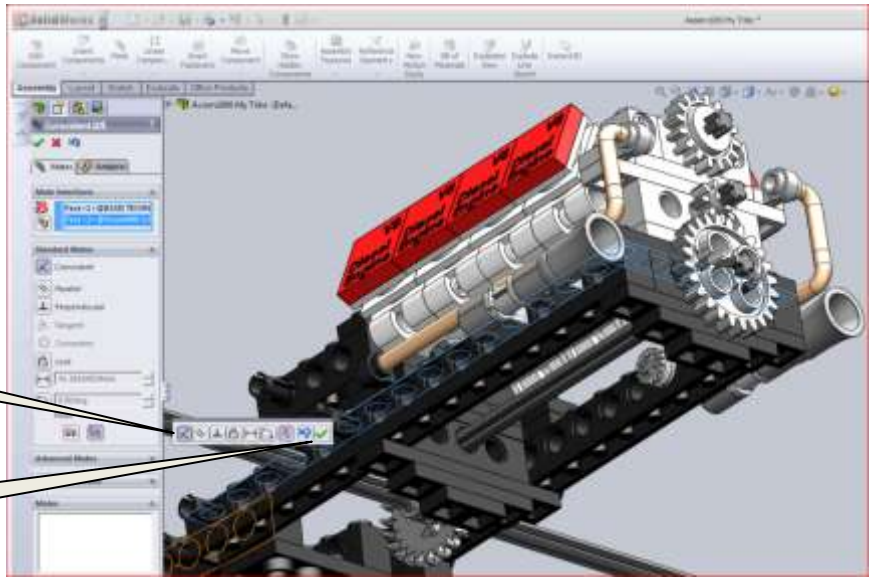


103

If everything go well ! You'll see that both parts are nicely connected together.

Here's the proof!

Click:

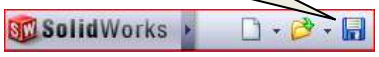


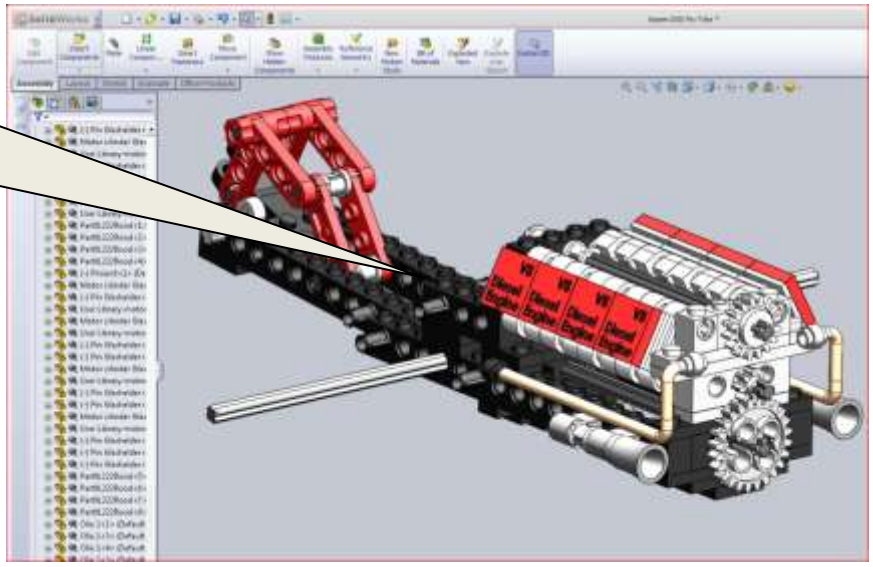
104

Press the right button down some ware on the Assembly, hold the button down and Rotate and move the Assembly until it is positioned as illustrated.

Let's save our data once again for safety!

Click Save:





105

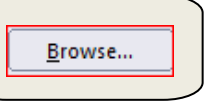
Press the scroll Wheel down! Rotate and move the mouse until the part is positioned as illustrated.

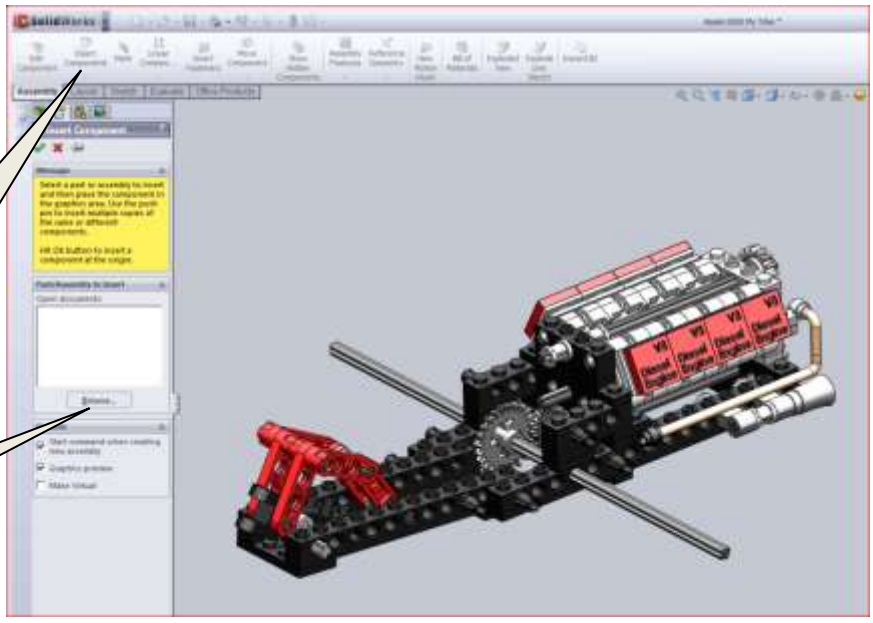
Let's move on!

We now return to the warehouse, for new parts.

1. Click:

2. Click:

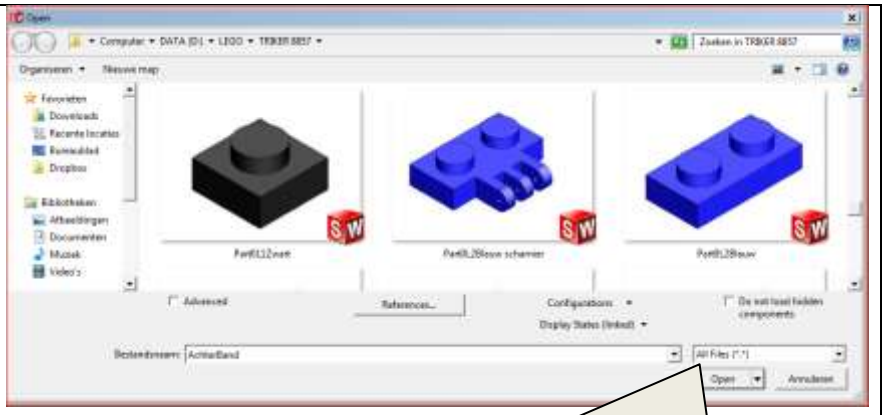


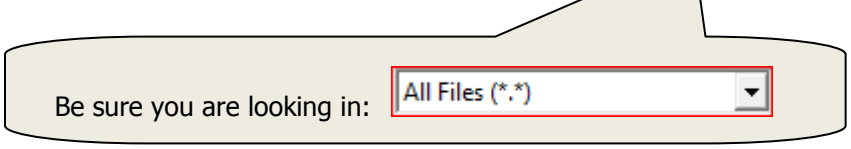


106

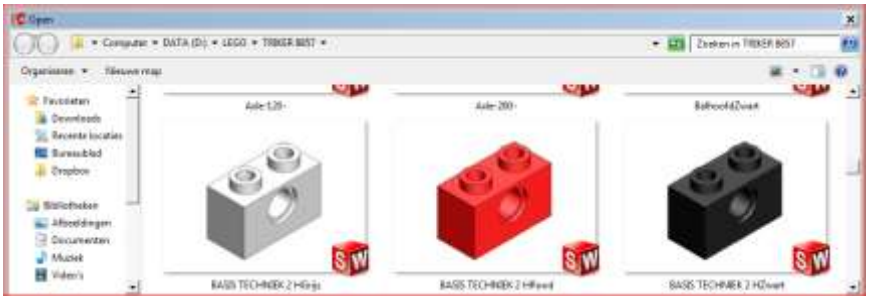
We're looking for:

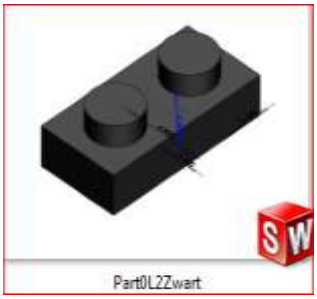
2X Part0L1Zwart



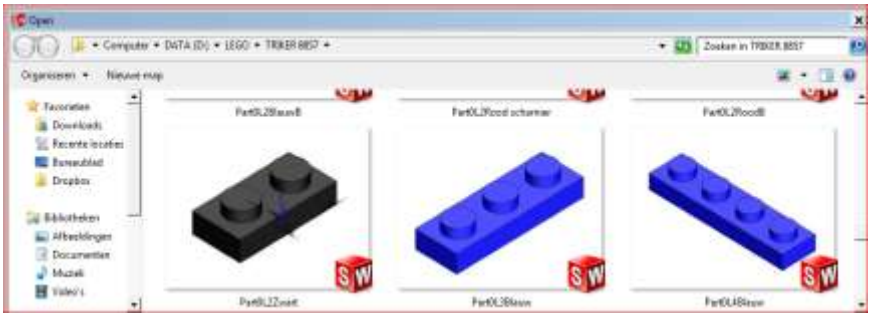


2x BASIS TECHNIEK 2 HZwart





2x Part0L2Zwart



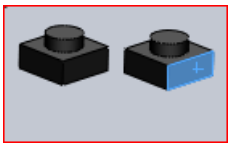
2x Open Pin Zwart

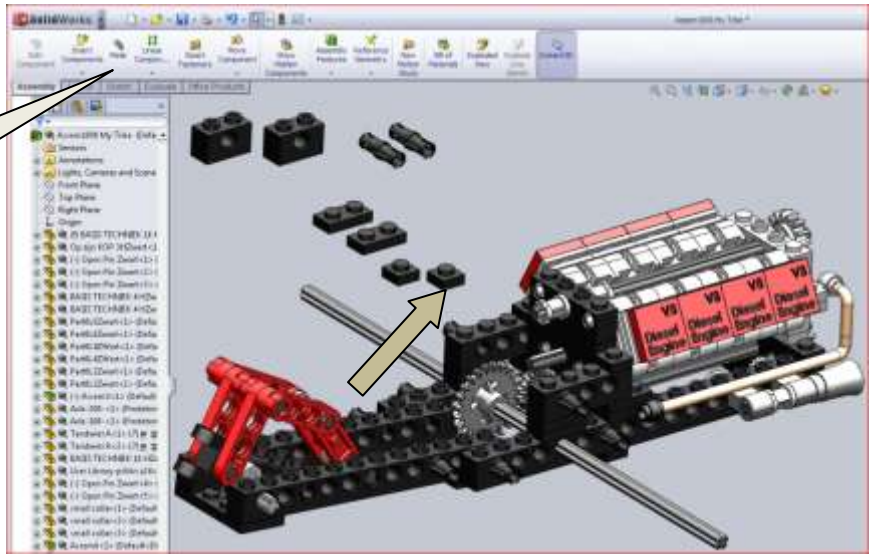
107

Position the parts as illustrated and click the left mouse button.

We're going to build again!

Click Mate. 

1. Click on: 



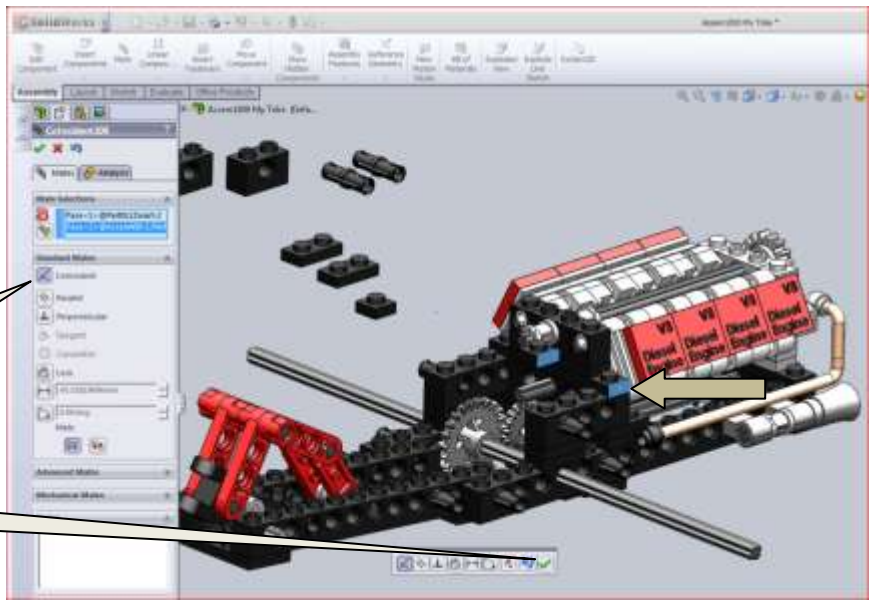
108

1. Click on: 

You'll see that both sides lie flush.

Here's the proof!

Click:

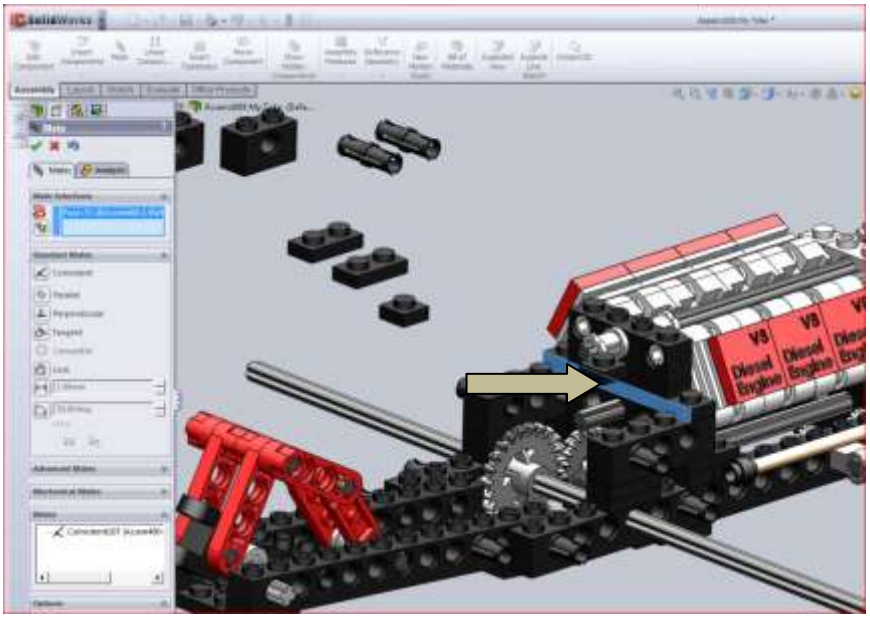


109

We're still in the **MATE** environment, so we'll simply continue!

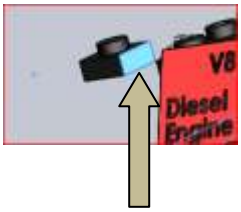
1. Click on: 

Press the scroll Wheel down! Rotate and move the mouse until the part is positioned as illustrated by step 110.



110

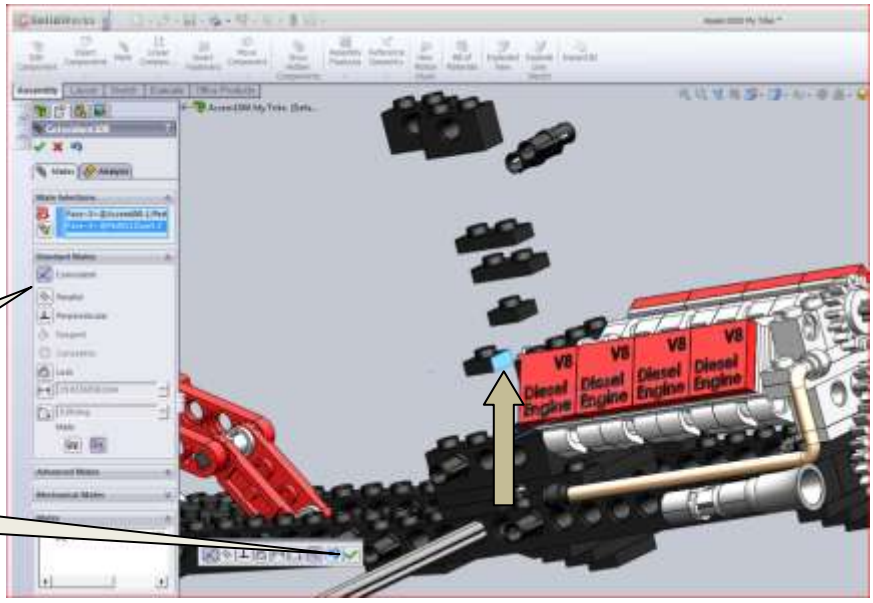
1. Click on:



Again you'll now see That both sides lie flush.

Here's the proof!

Click:

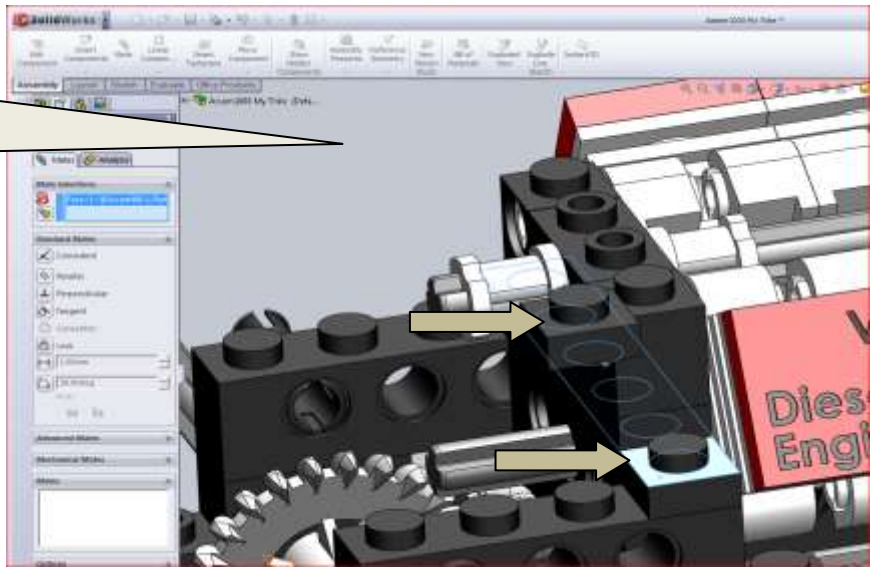


111

Press the scroll Wheel down! Rotate and move the mouse until the part is positioned as illustrated.

1. Click on:

2. Click on:

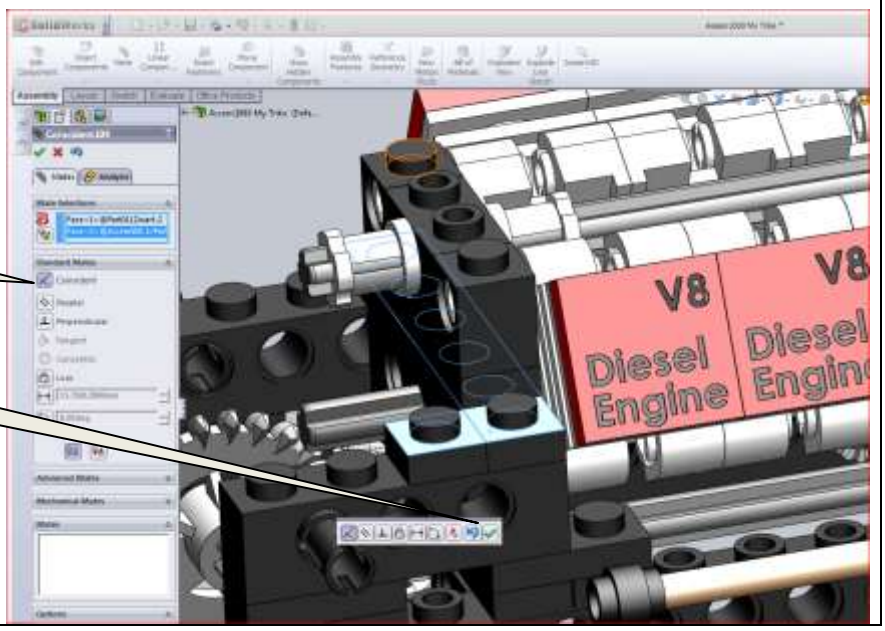


112

If everything go well ! You'll see that both parts are nicely connected together.

The proof!

Click:

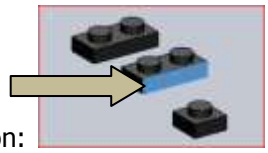


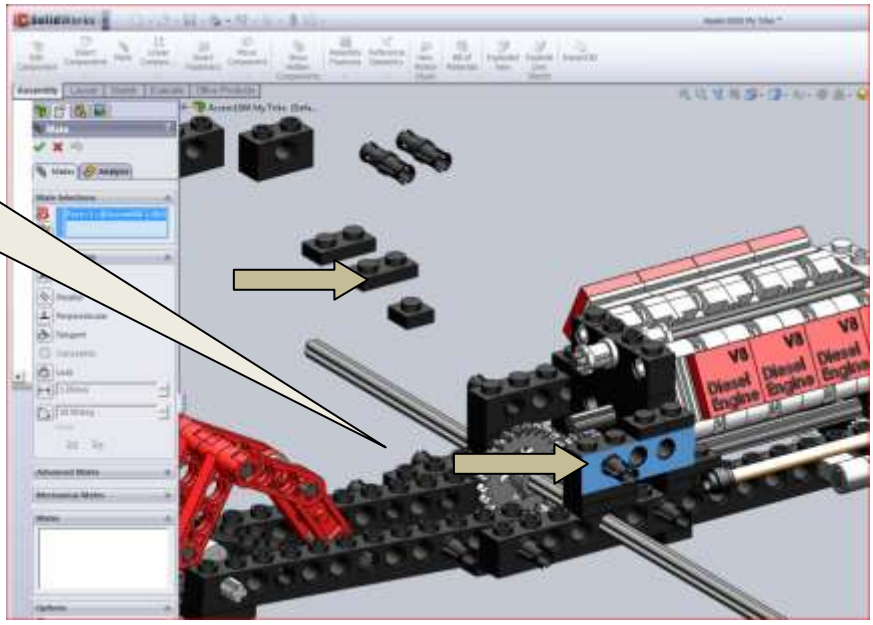
113 We're still in the **MATE** environment, so we'll simply continue!

Press the scroll Wheel down! Rotate and move the mouse until the part is positioned as illustrated.

1. Click on:

2. Click on:



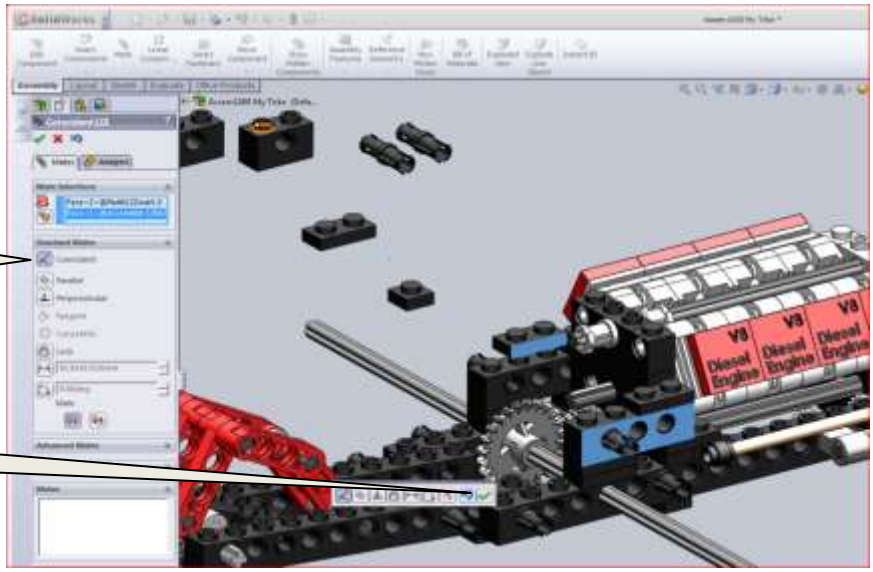


114

Again you'll see
That both sides lie flush.

The proof!

Click:



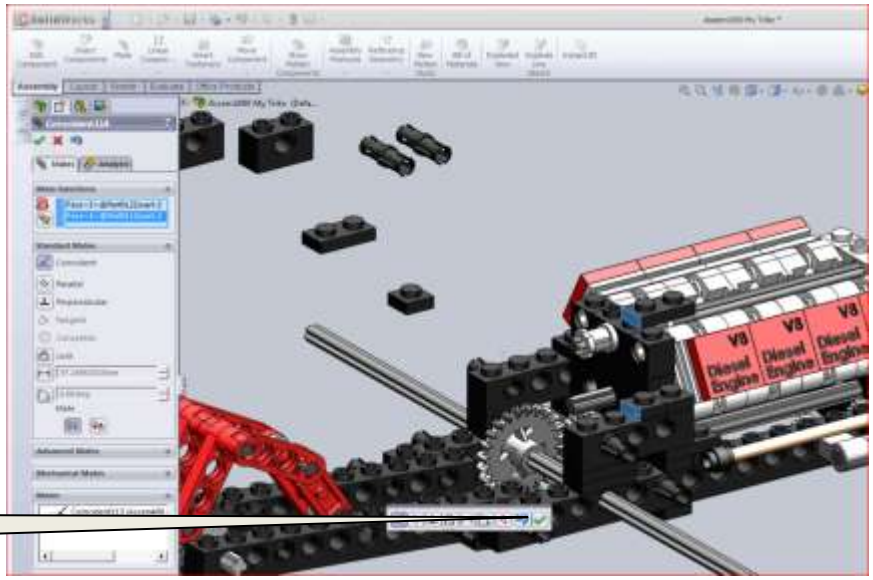
115

1. Click on:

2. Click on:

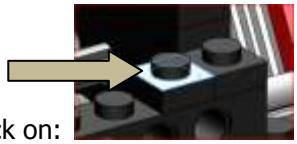
Both sides lie flush!

Click:

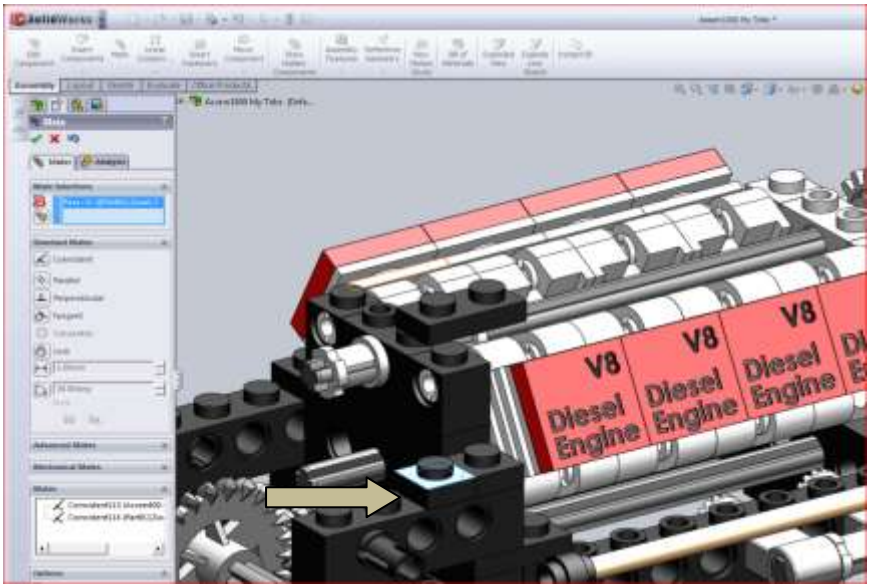


116

ZOOM IN !
Until the Assembly is positioned as illustrated.

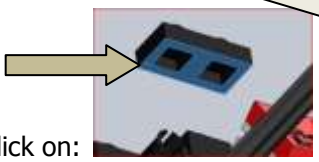


1. Click on:

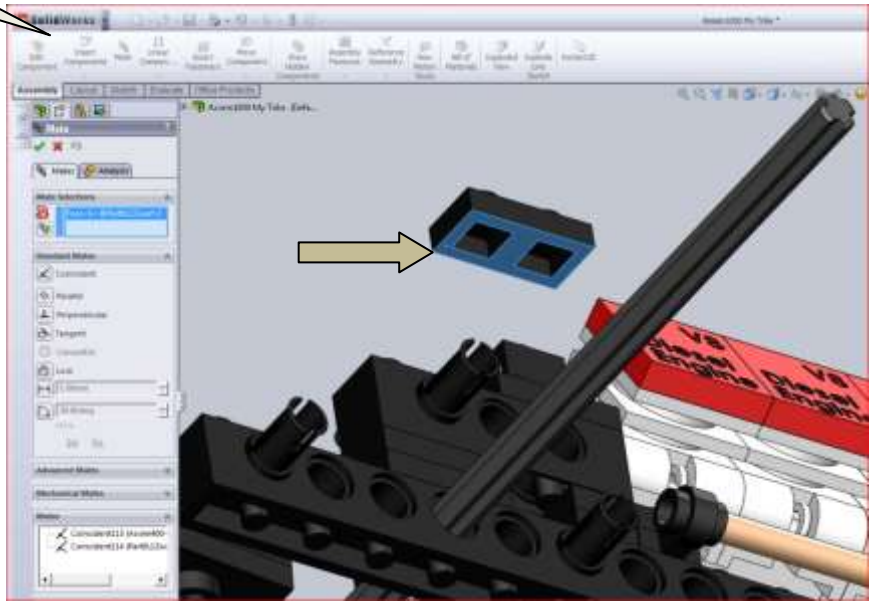


Press the scroll Wheel down! Rotate and move the mouse until the Assembly is positioned as illustrated by step 117.

117



1. Click on:



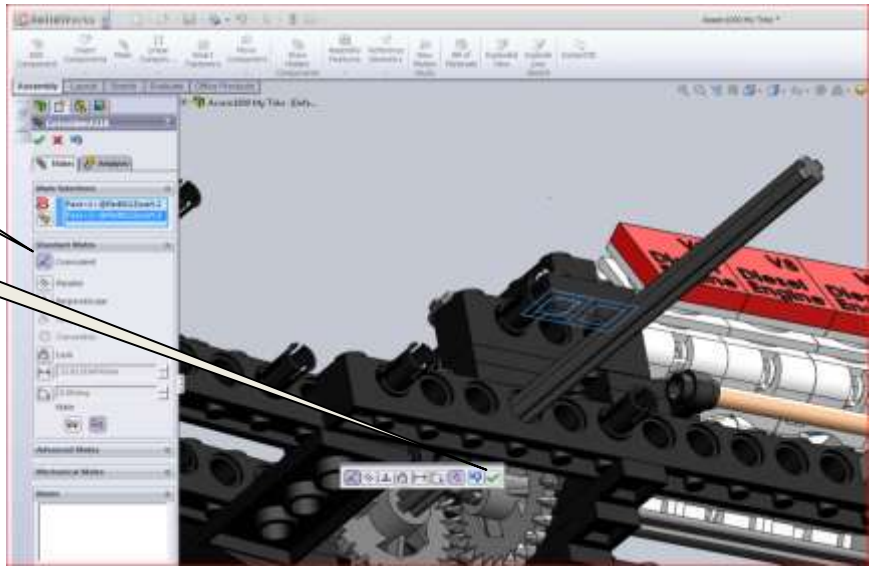
If everything go well! You'll see that both parts are nicely connected together.

See Step 118

118

The proof!

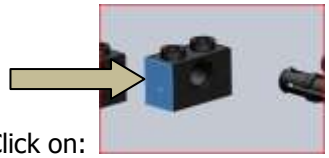
Click: ☑



119

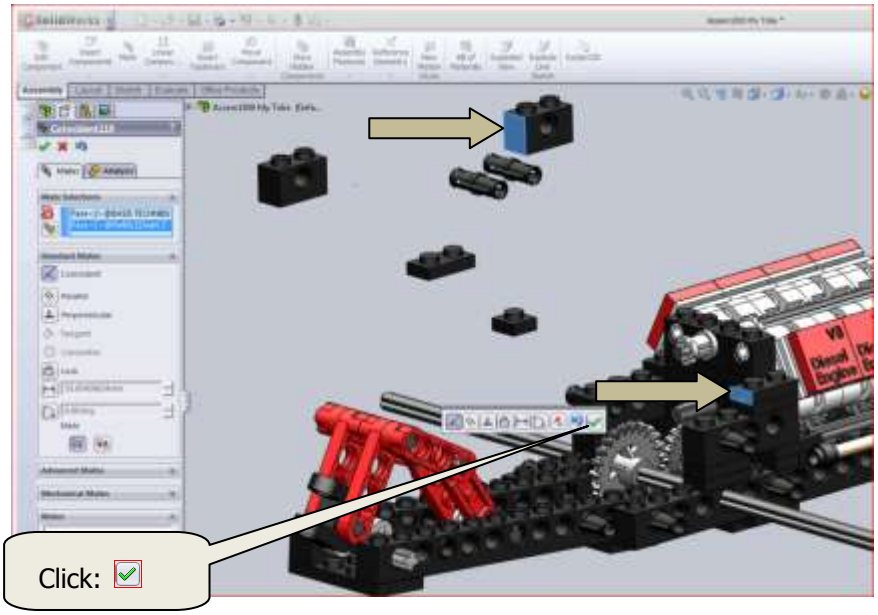
ZOOM OUT !
Until the Assembly is positioned as illustrated.

1. Click on:

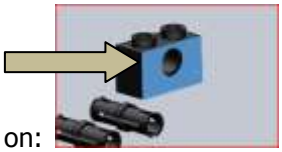


2. Click on:

Both sides will lie flush!



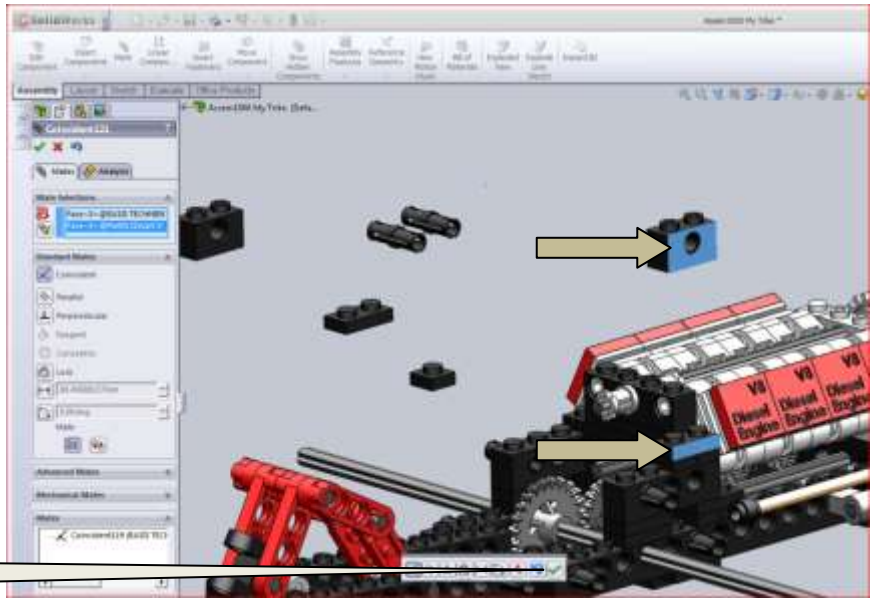
120



1. Click on:

2. Click on:

Again you'll see
That both sides lie flush.

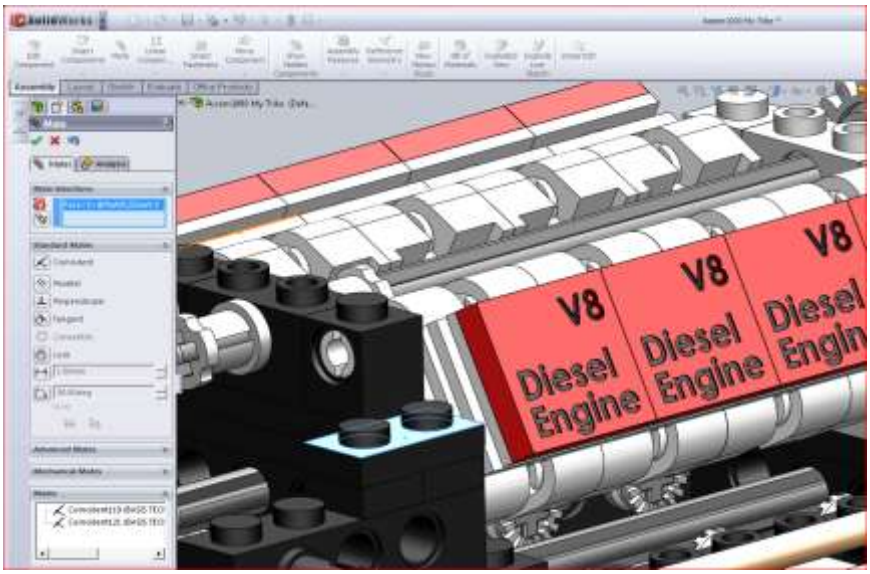


121

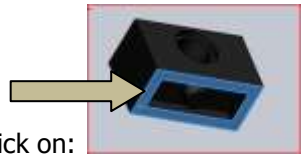
ZOOM IN !
Until the Assembly is positioned as illustrated.

1. Click on:

Press the scroll Wheel down! Rotate and move the mouse until the Assembly is positioned as illustrated by step 122.



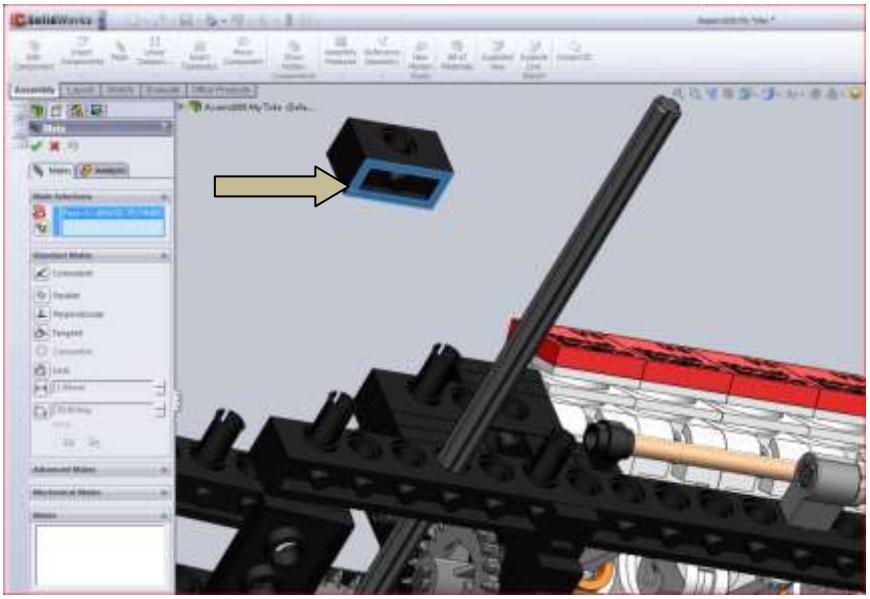
122



1. Click on:

If everything go well! You'll see that both parts are nicely connected together.

See Step 123

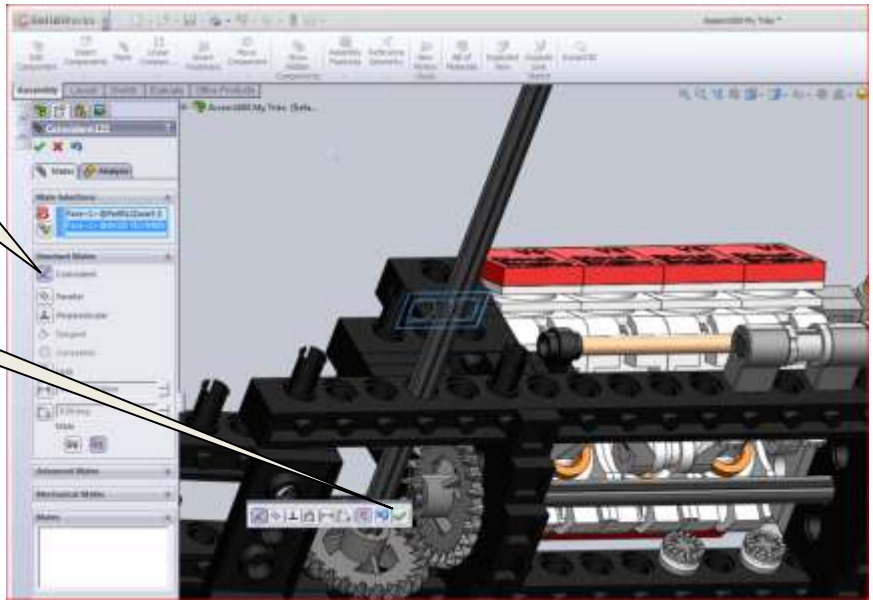


123

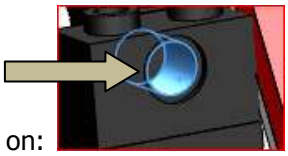
Here's the proof!

Click:

Press the scroll Wheel down! Rotate and move the mouse until the Assembly is positioned as illustrated by step 124.



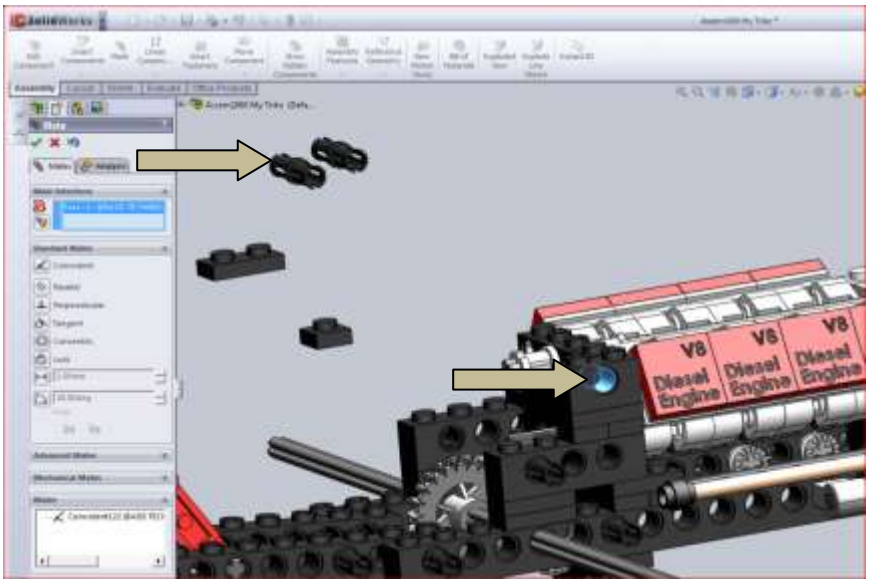
124



1. Click on:

2. Click on:

If necessary ZOOM IN!

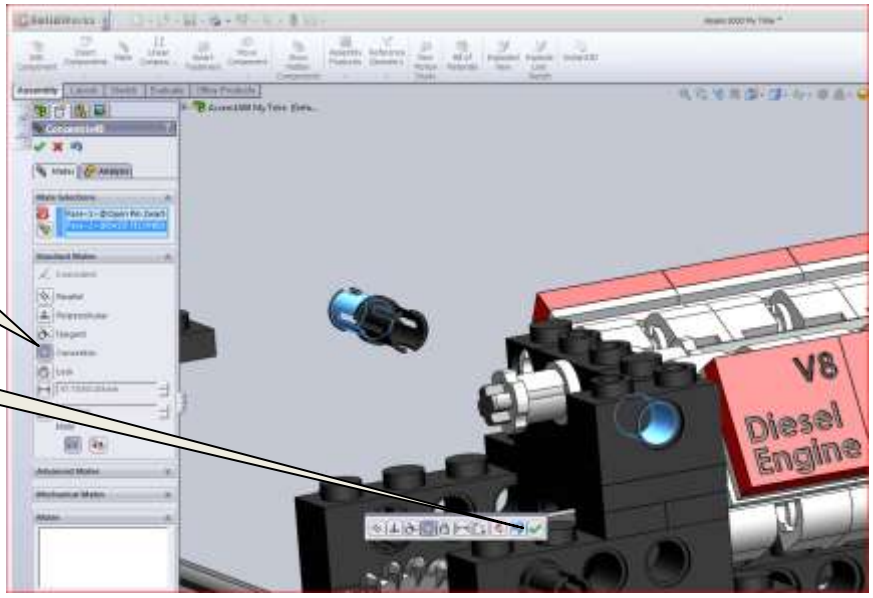


125

You'll now see that both holes are aligned.

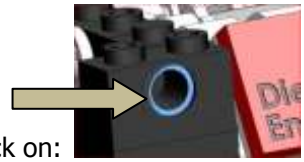
Here's the proof!

Click:



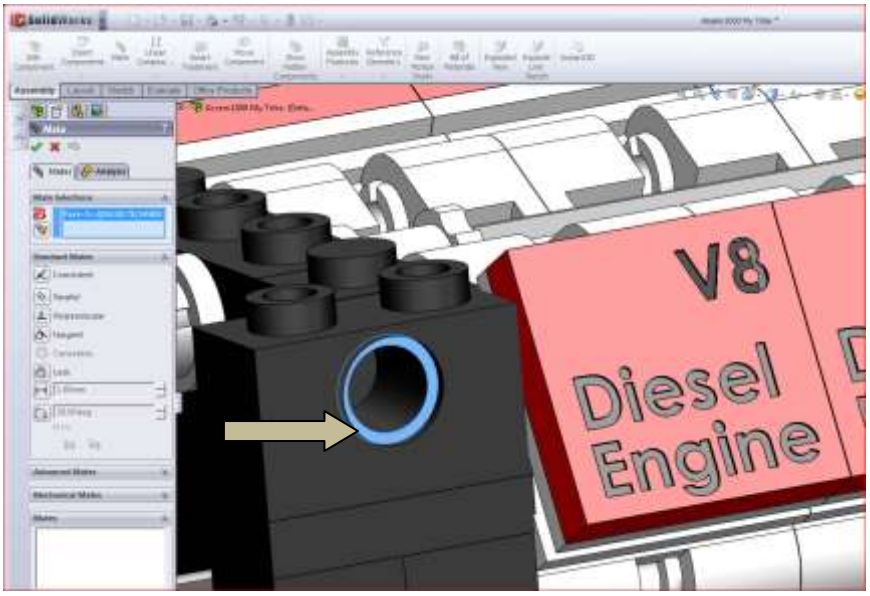
126

ZOOM IN !
Until the Assembly is positioned as illustrated.



1. Click on:

Press the scroll Wheel down! Rotate and move the mouse until the Assembly is positioned as illustrated by step 127.

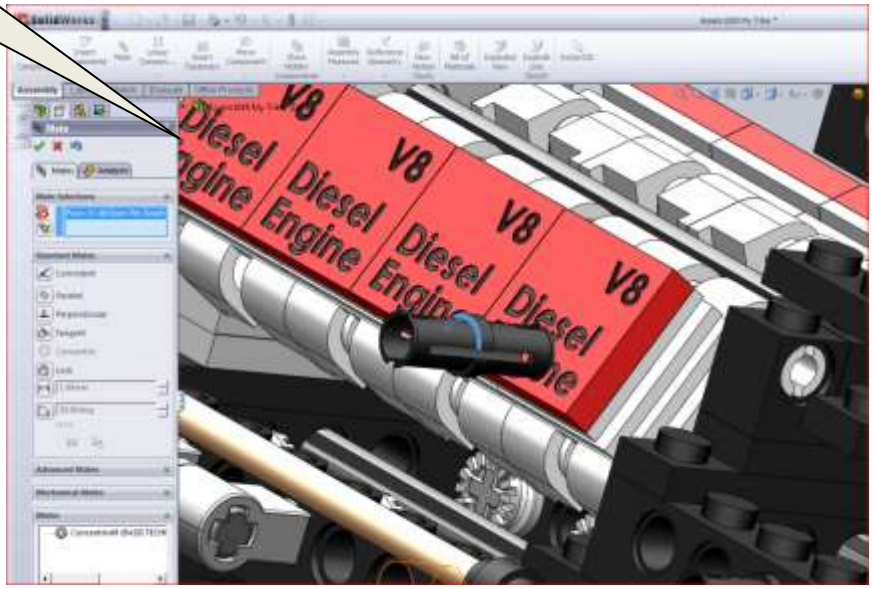


127

1. Click on:

If everything go well! You'll see that both parts are nicely connected together.

See Step 128

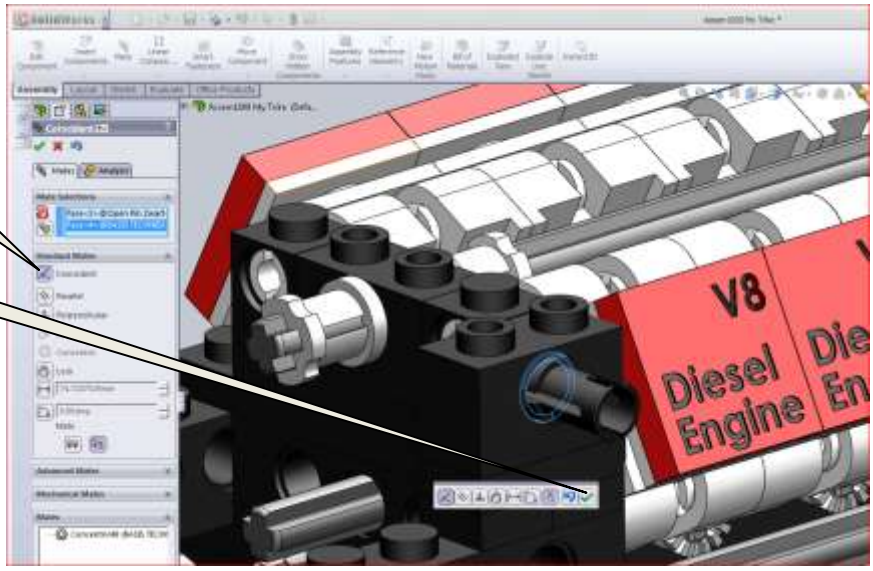


128

Here's the proof!

Click: ☑

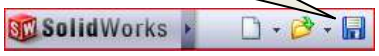
Press the scroll Wheel down! Rotate and move the mouse until the Assembly is positioned as illustrated by step 129.



129

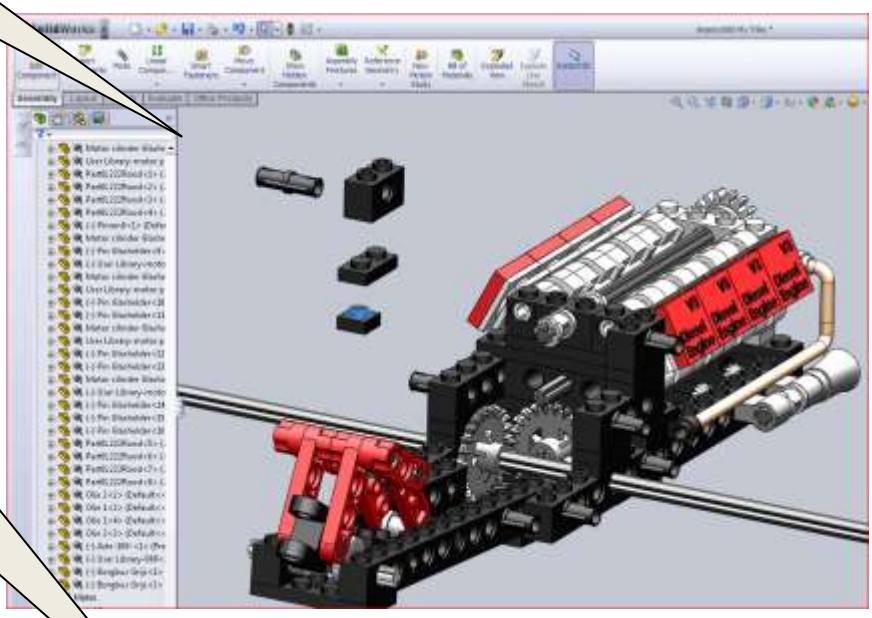
Let's save our data once again for safety!

Click Save:



Do the same yourself with the next four parts! Refer to the example and use your knowledge from steps: 107 through 128.

GOOD LUCK

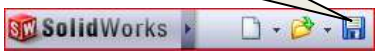


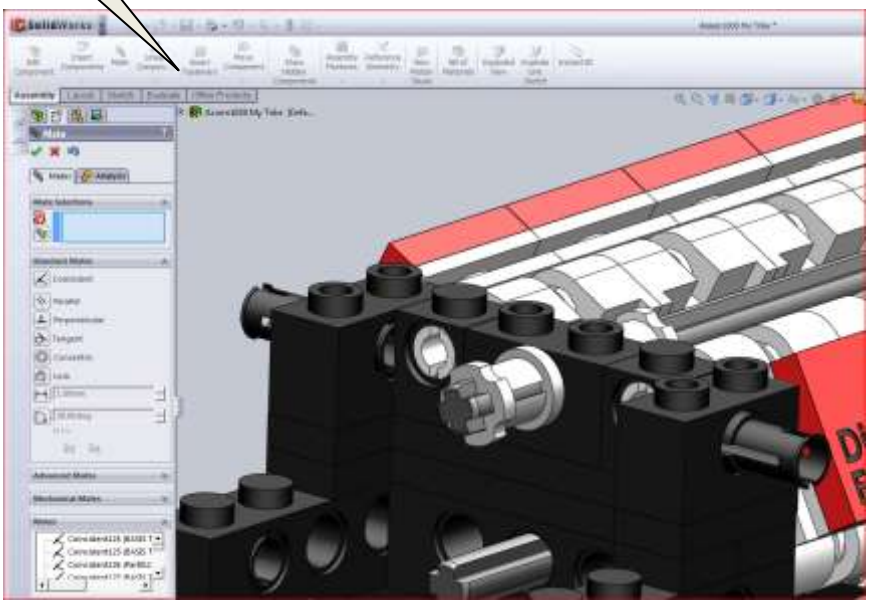
130

If you did well, it will be as illustrated.

Let's save our data once again for safety!

Click Save:



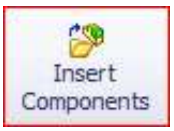


131

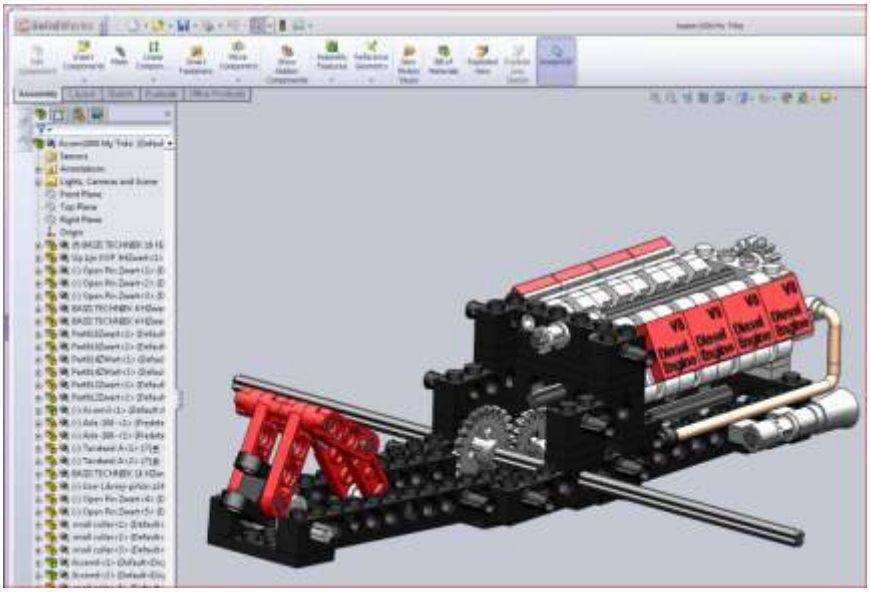
Press the scroll Wheel down! Rotate and move the mouse until the part is positioned as illustrated.

Let's move on!

We now return to the warehouse, for new parts.

1. Click: 

2. Click: 

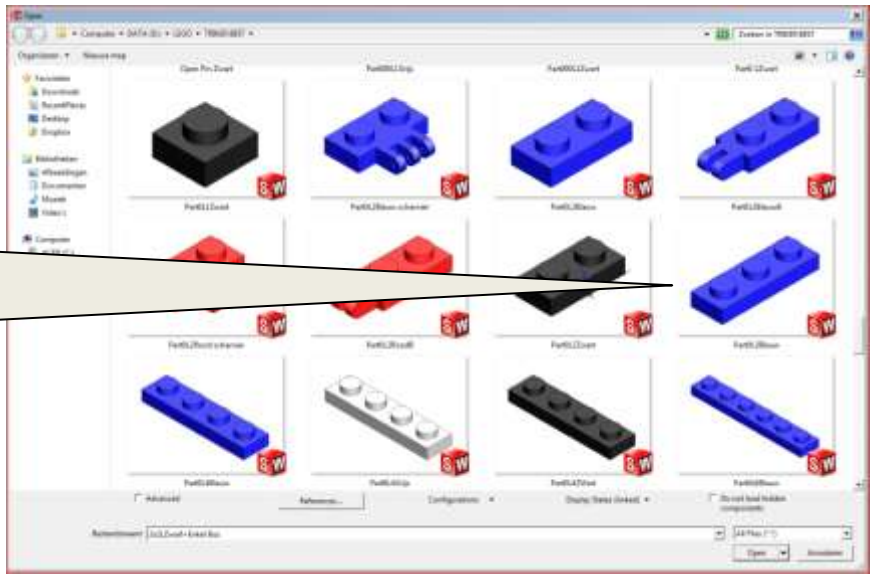


132

We're looking for:

2x 

Part0L3Blauw



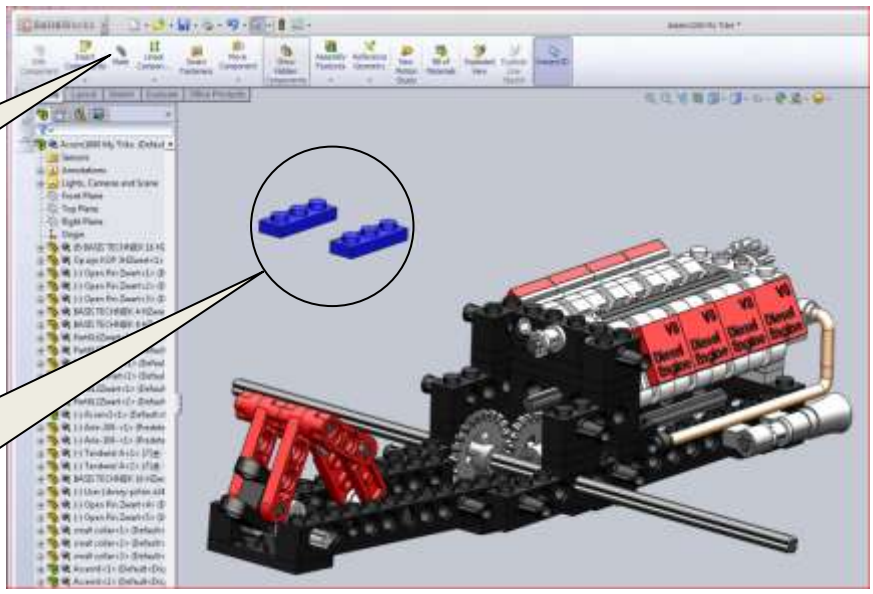
133

Position the parts as illustrated and click the left mouse button.

We're going to build again!

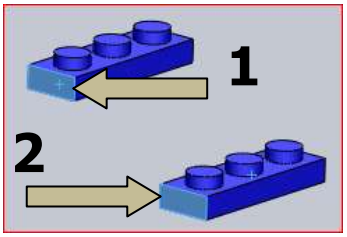
Click Mate. 

We'll now assemble two parts, in the same time on the chassis, using one MATE action.



134

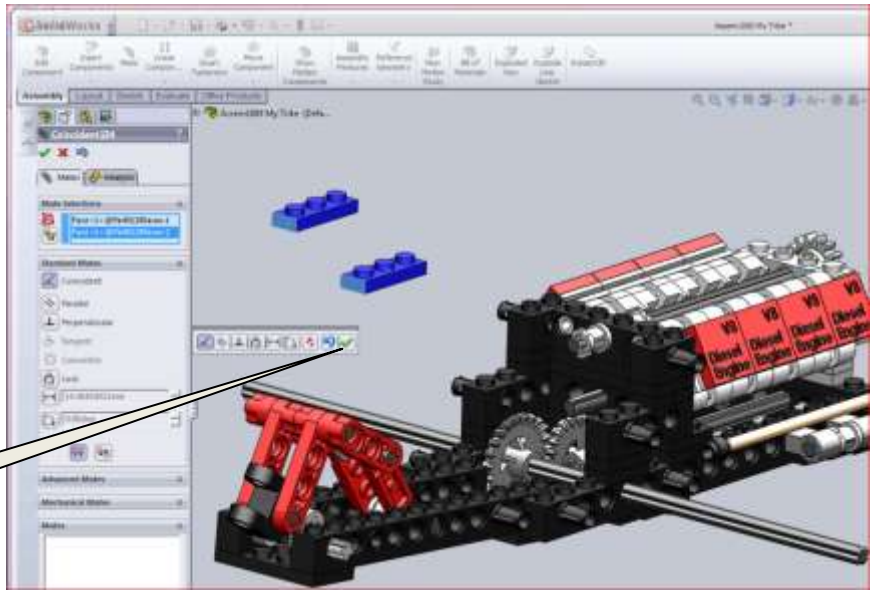
1. Click on:



2. Click on:

Both sides lie flush.

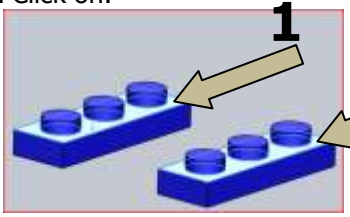
Click: ☑



135

ZOOM IN !
Until the Assembly is positioned as illustrated.

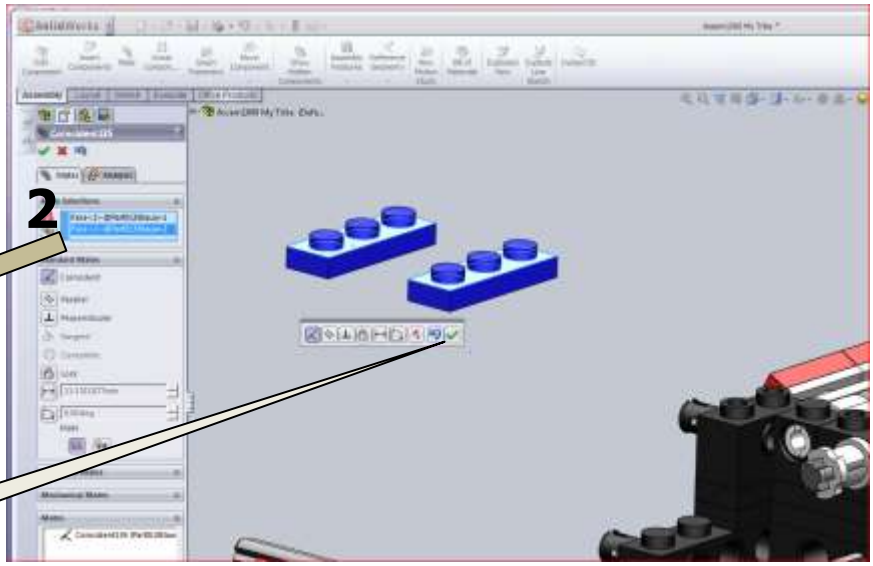
1. Click on:



2. Click on:

Both sides lie flush.

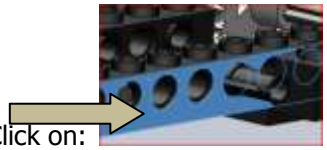
Click: ☑



136

ZOOM OUT!
Until the Assembly is positioned as illustrated.

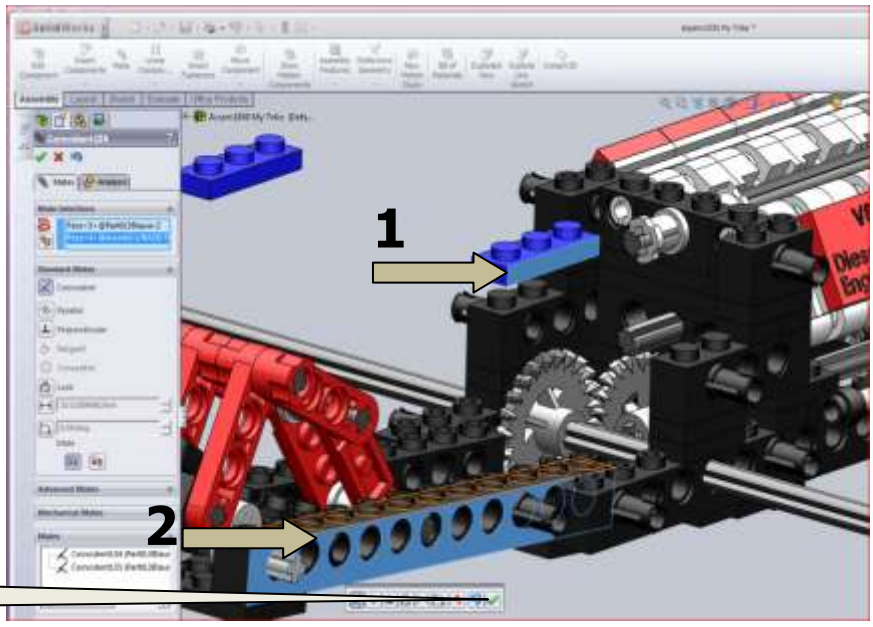
1. Click on:



2. Click on:

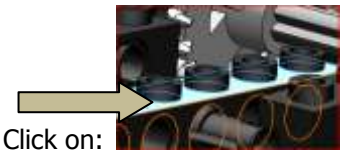
Both sides lie flush.

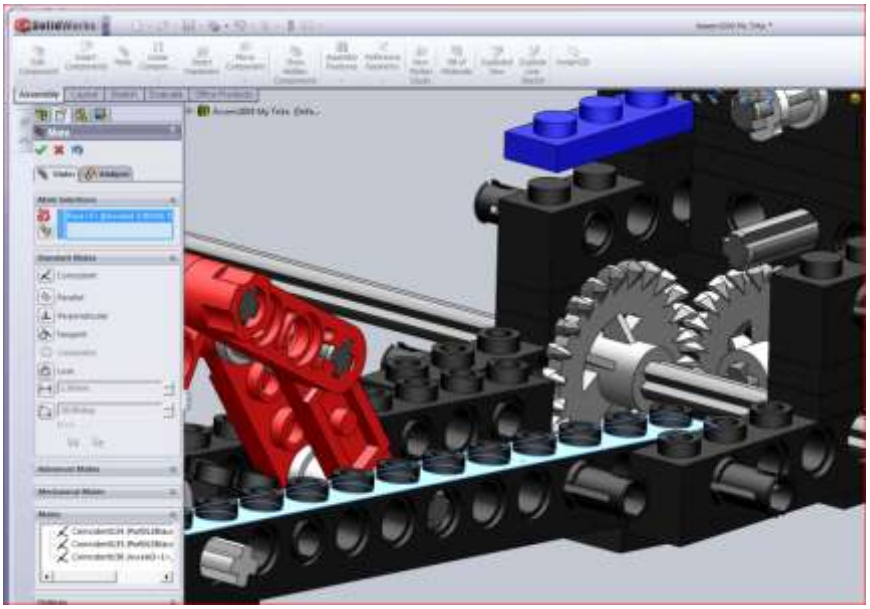
Click: ☑



137

If necessary ZOOM IN!

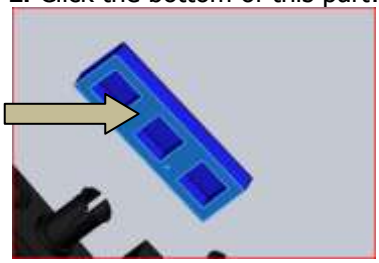
1. Click on: 

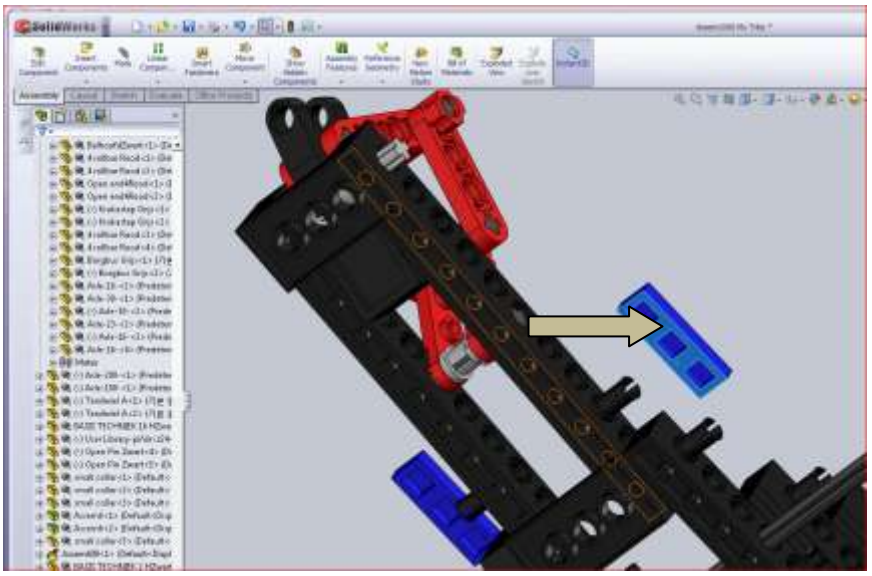


138

Press the scroll Wheel down! Rotate and move the mouse until the part is positioned as illustrated.

1. Click the bottom of this part:



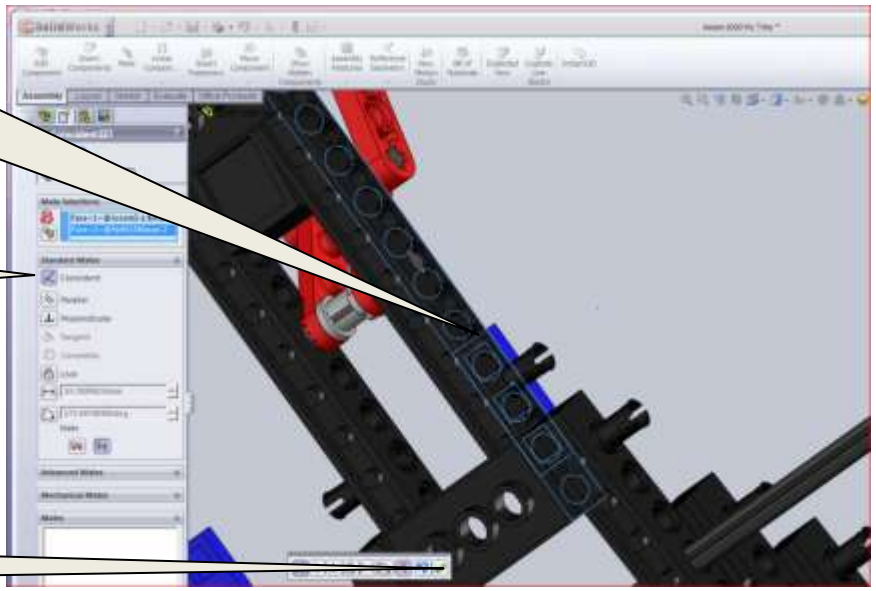


139

If everything go well! You'll see that both part are nicely connected together.

Here's the proof!

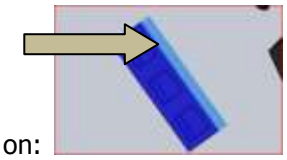
Click: ☑

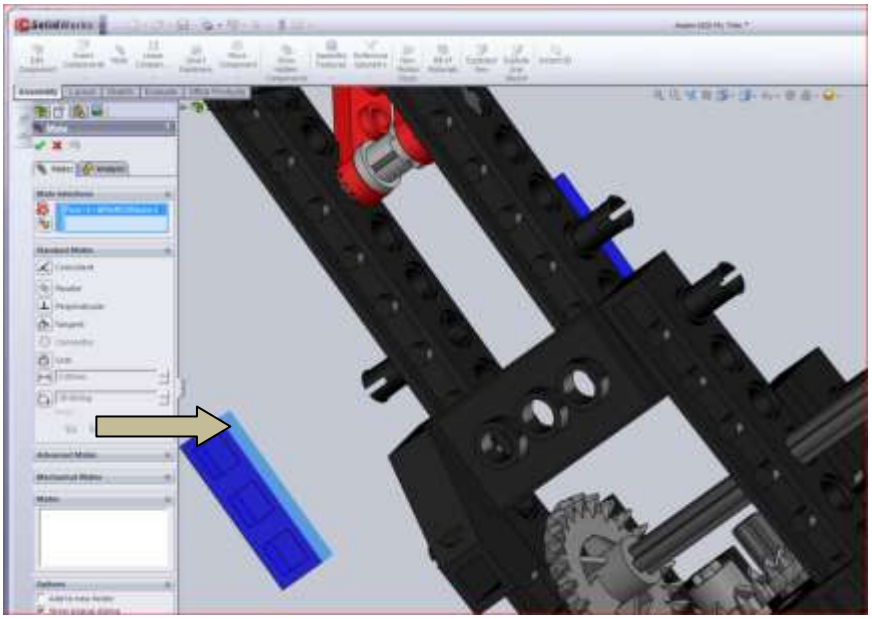


140

We'll now positioning the second part on the right place of the chassis.

1. Click on:





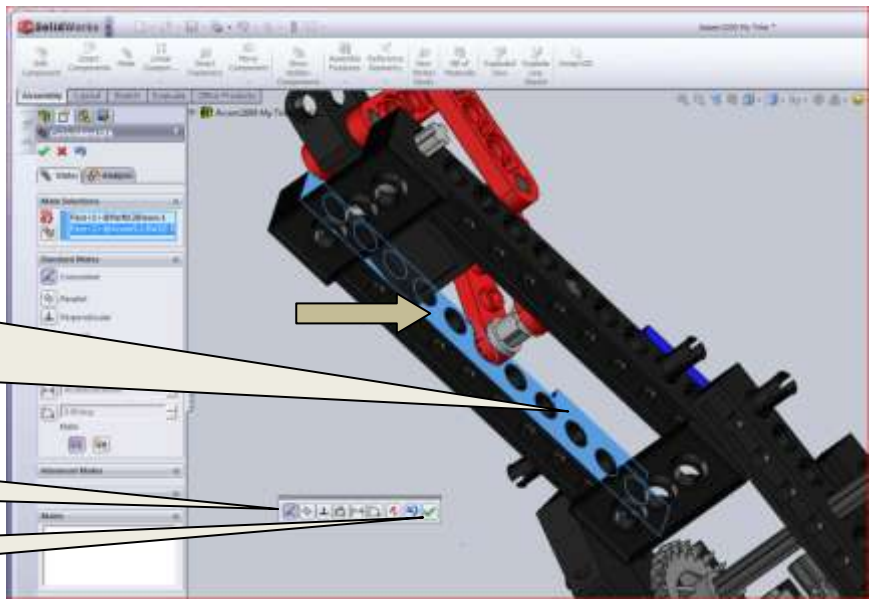
141

1. Click on:

If everything goes well! You'll see that both part are nicely connected together.

Here's the proof!

Click: ☑

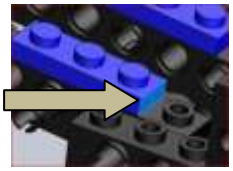


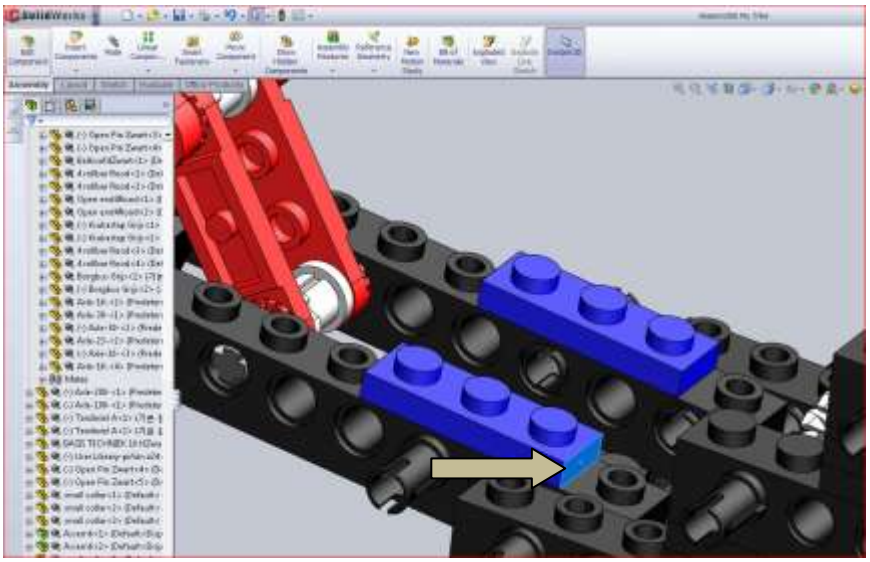
142

We'll now positioning the parts on the right place (distance) of the chassis.

ZOOM in!
Until the Assembly is positioned as illustrated, and Press the scroll Wheel down! Rotate and move the mouse until the part is positioned as illustrated.

1. Click on:





143

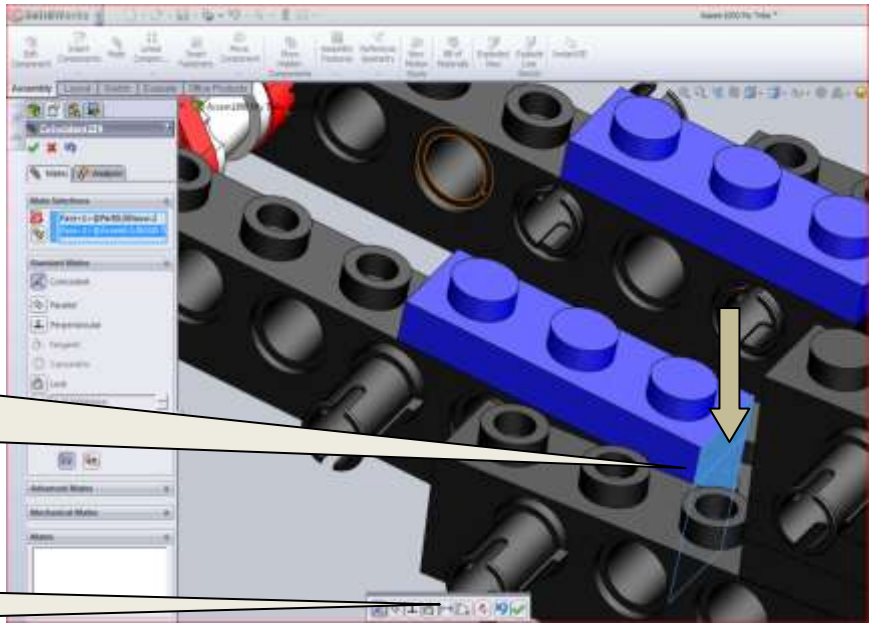
1. Click on:

! **The end face from the brick.**

If everything go well! You'll see that both part are nicely connected together.

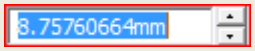
But this is the wrong place!

Click:



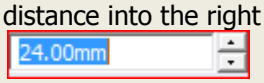
144

This is the distance now!

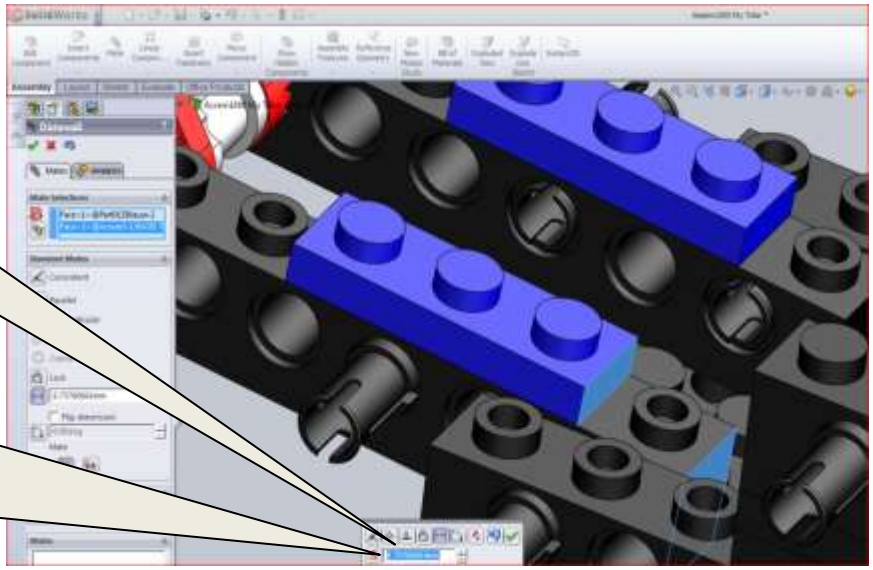


Wrong! Must be 24 mm

Chance the wrong distance into the right one



And click OK.

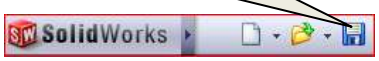


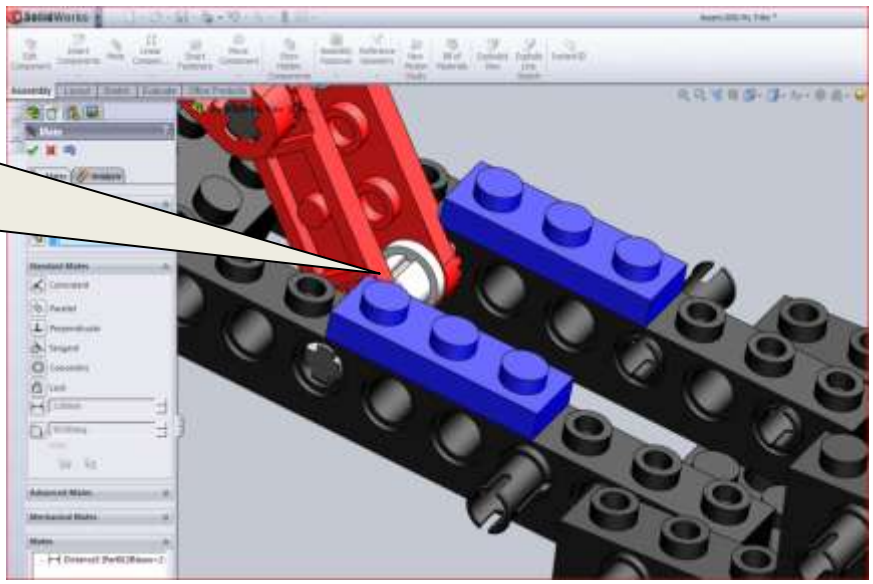
145

If everything go well! You'll see that both parts are nicely connected, and on the right place on the chassis positioned as illustrated.

Let's save our data once again for safety!

Click Save:



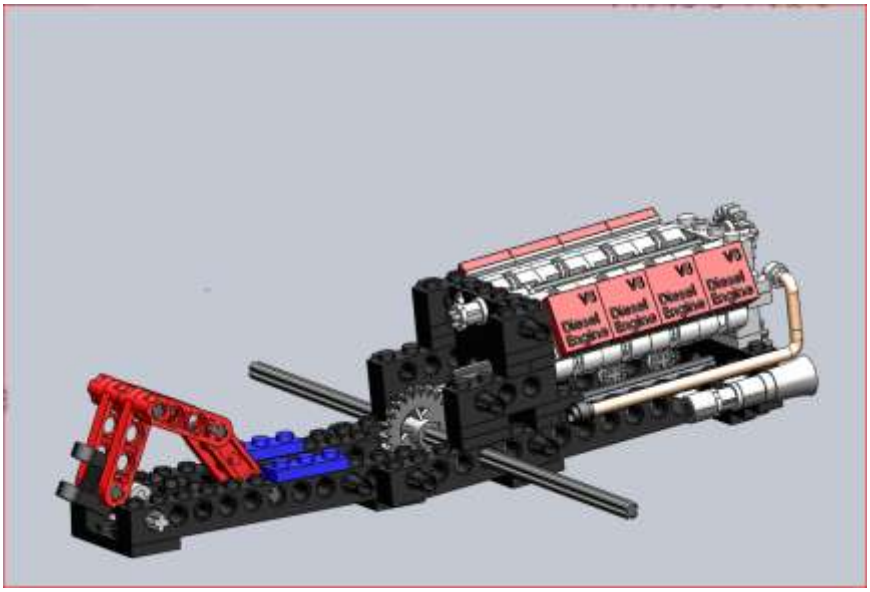


146

ZOOM out!
Until the Assembly is positioned as illustrated, and Press the scroll Wheel down! Rotate and move the mouse until the part is positioned as illustrated.

Let's move on!

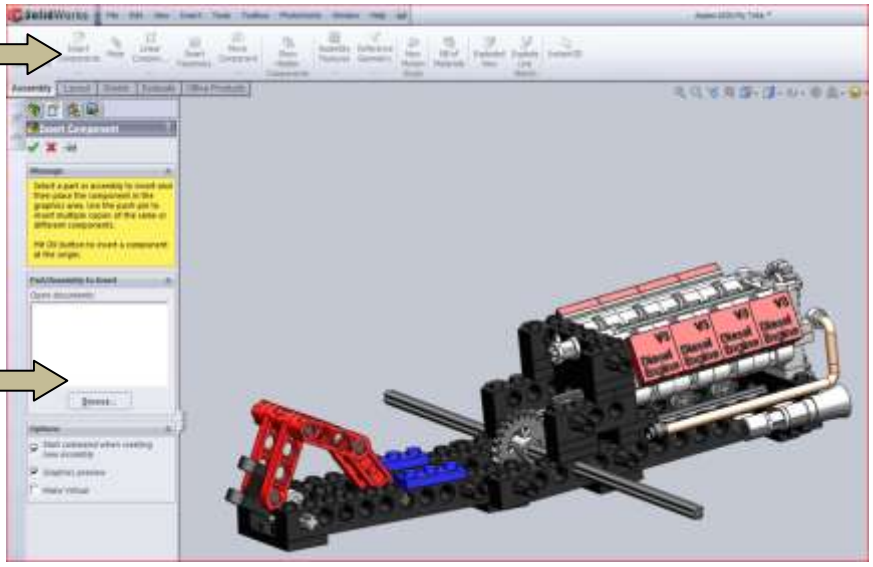
We now return to the warehouse, for new parts.



147

1. Click: 

2. Click: 



148

We're looking for:

1x **Part0L4Blauw**

1x **Part0L24Blauw**

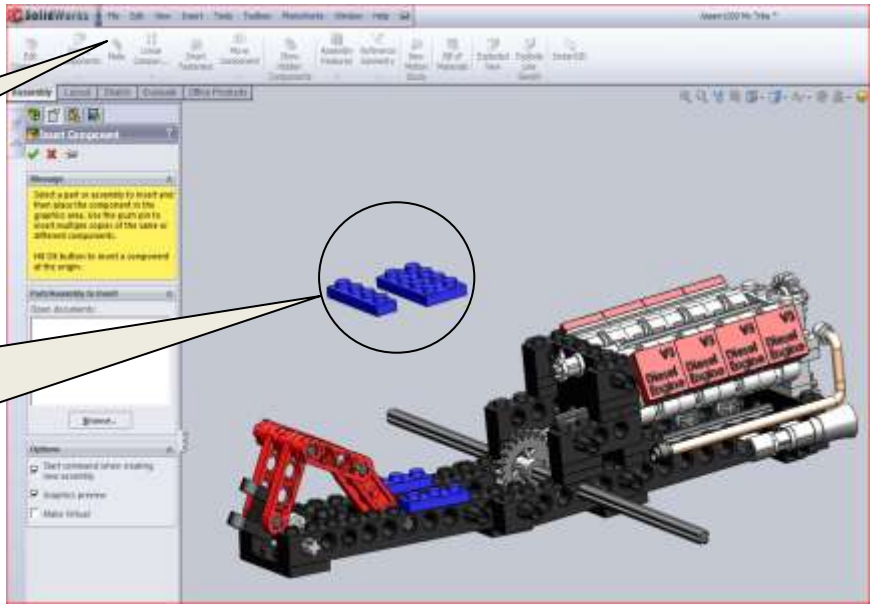
149

Position the parts as illustrated and click the left mouse button.

We're going to build again!

Click Mate. 

Again we'll now assemble two parts, in the same time on the chassis, using one MATE action.



150

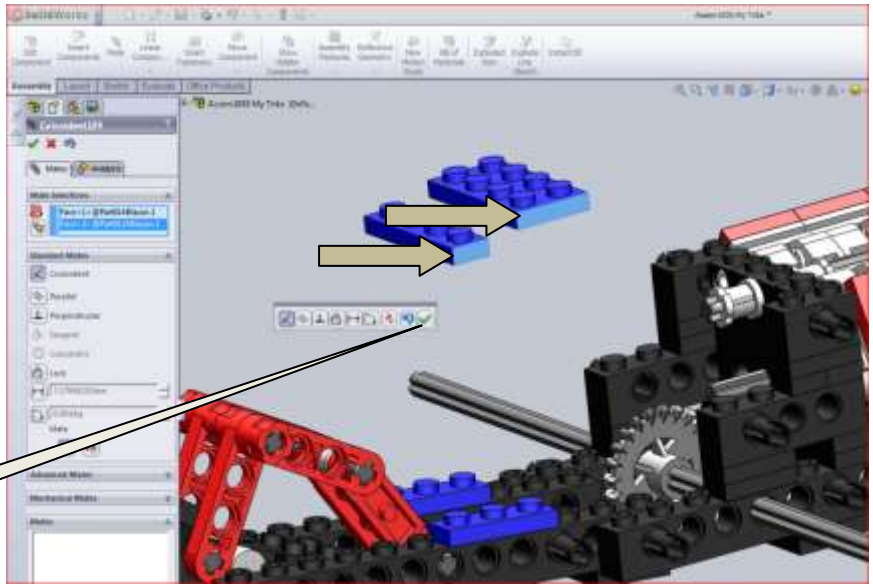
ZOOM in!

1. Click on: 

2. Click on: 

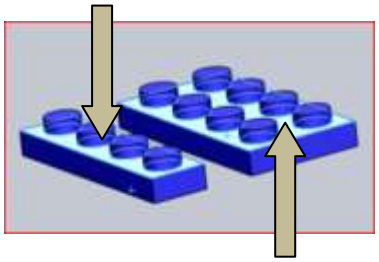
Both sides lie flush.

Click: ☑



151

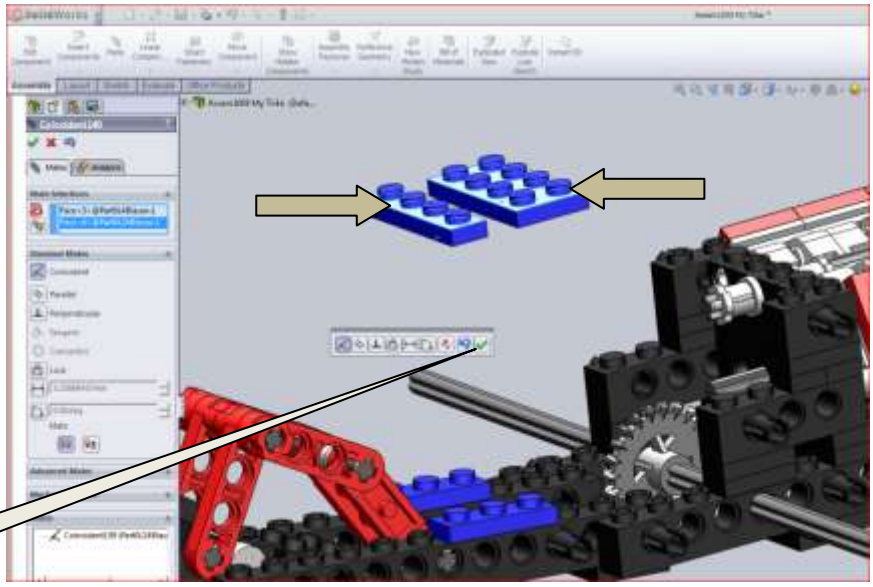
1. Click on:



2. Click on:

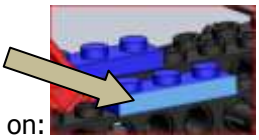
Both sides lie flush.

Click: ☑



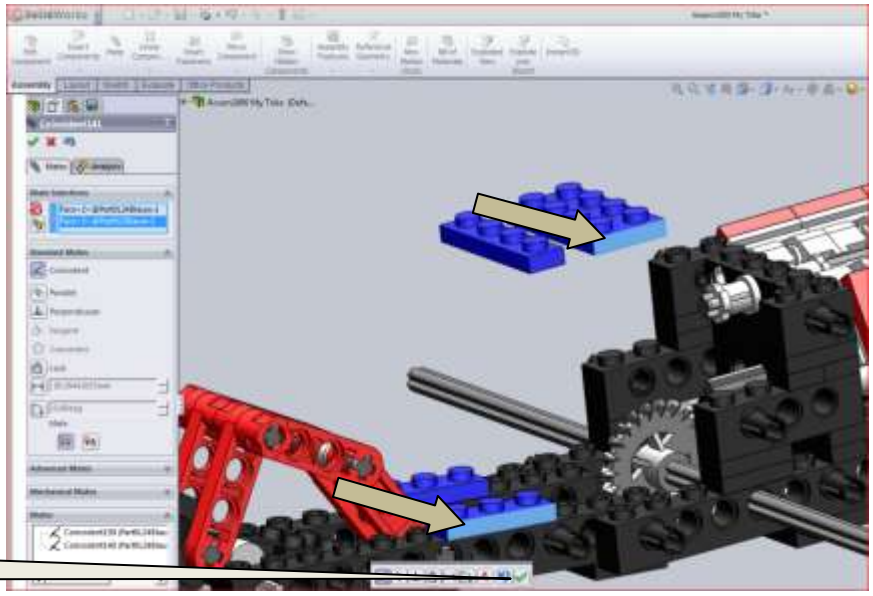
152

1. Click on: 

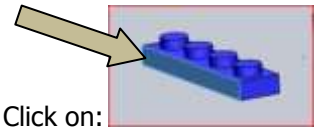
1. Click on: 

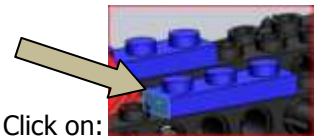
Both sides lie again flush.

Click: ☑



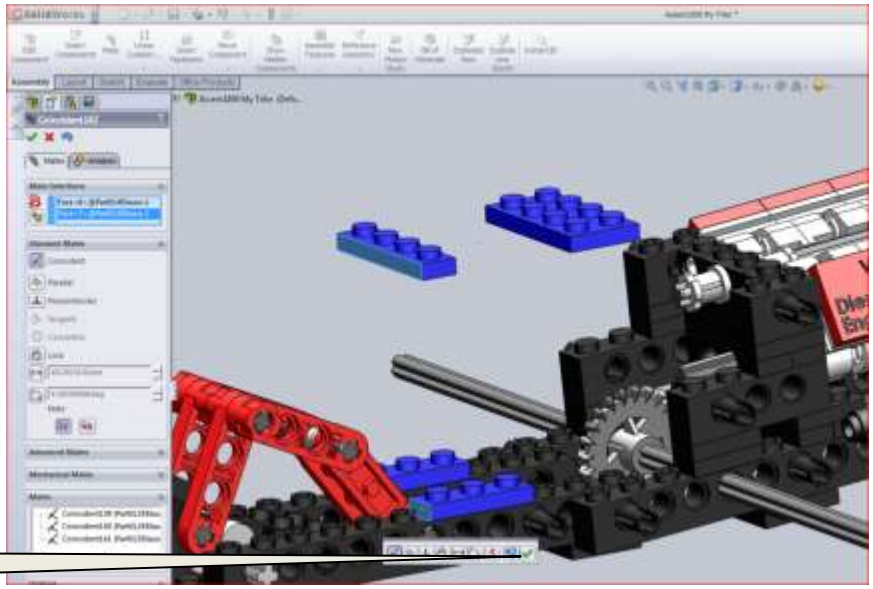
153

1. Click on: 

2. Click on: 

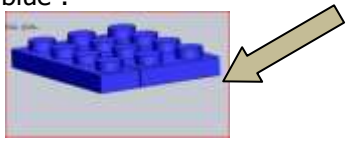
Both sides lie again flush.

Click: ☑

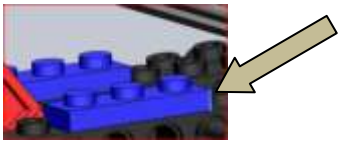


154

1. Click on the edge it will turn blue !

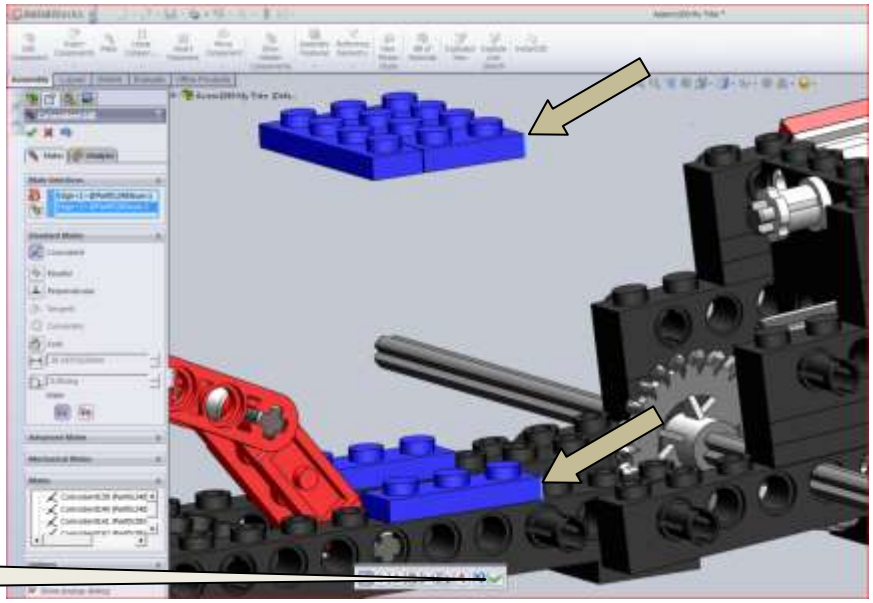


1. Click on the edge it will turn blue!



Both edges lie flush.

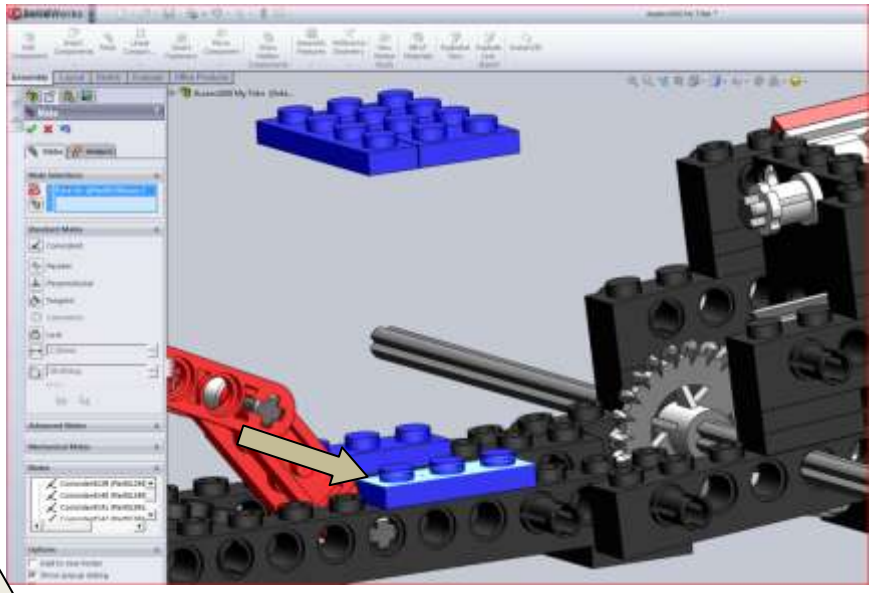
Click: ☑



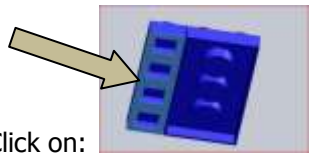
155

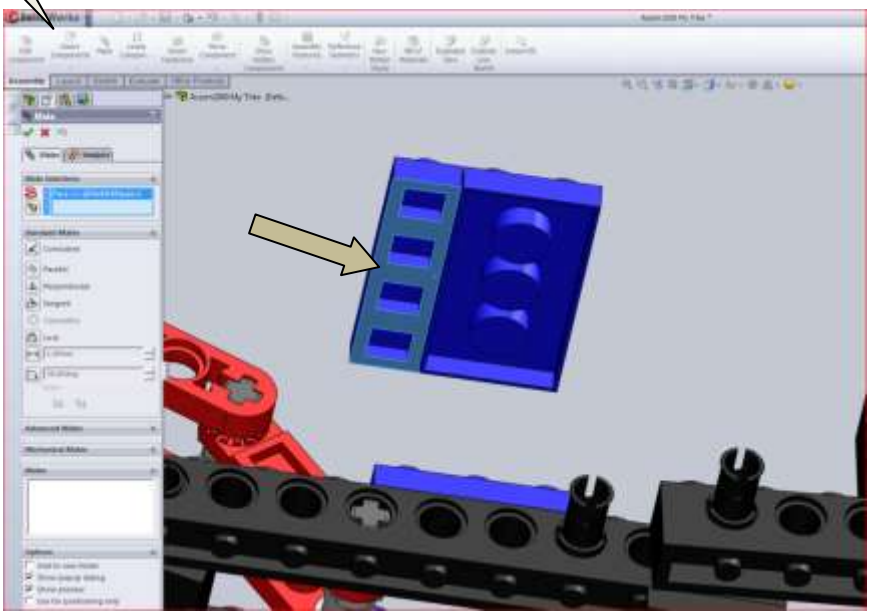
1. Click on: 

Press the scroll Wheel down! Rotate and move the mouse until the Assembly is positioned as illustrated by step 156.



156

1. Click on: 

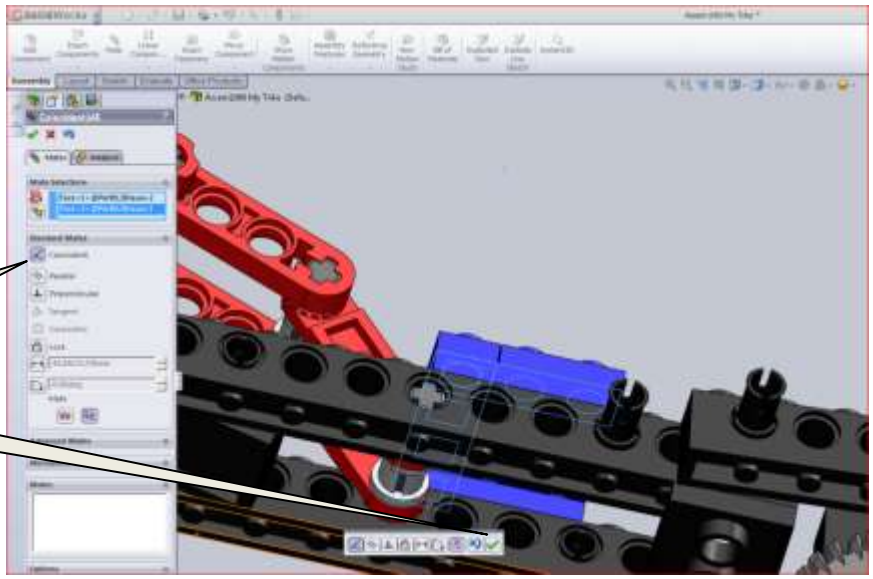


157

You'll now see that both parts are nicely connected together.

Here's the proof!

Click: ☑

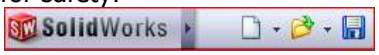


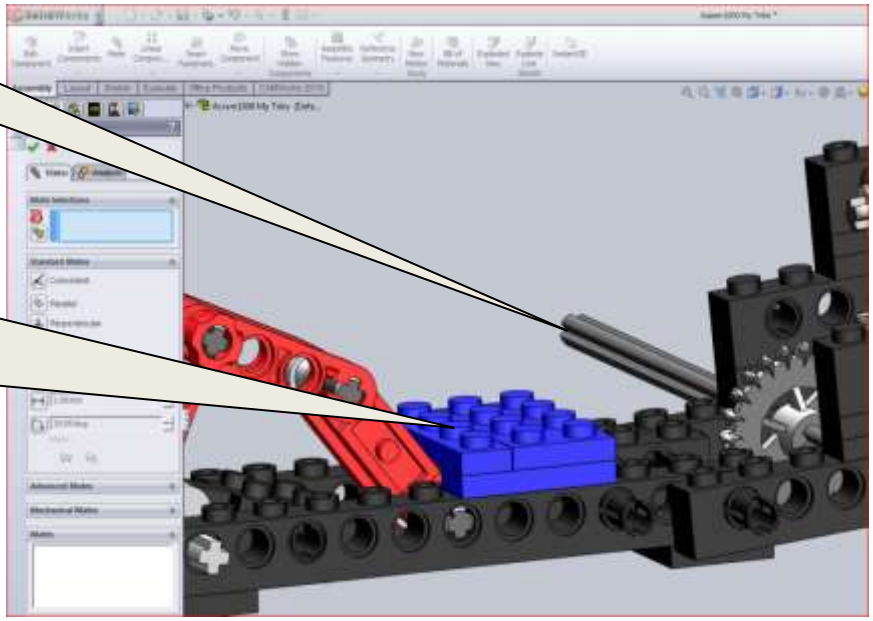
158

Press the scroll Wheel down! Rotate and move the mouse until the Assembly is positioned as illustrated.

If everything go well! You'll see that both parts are nicely connected, and on the right place on the other two bricks positioned as illustrated.

Let's save our data once again for safety!





159

Let's move on!

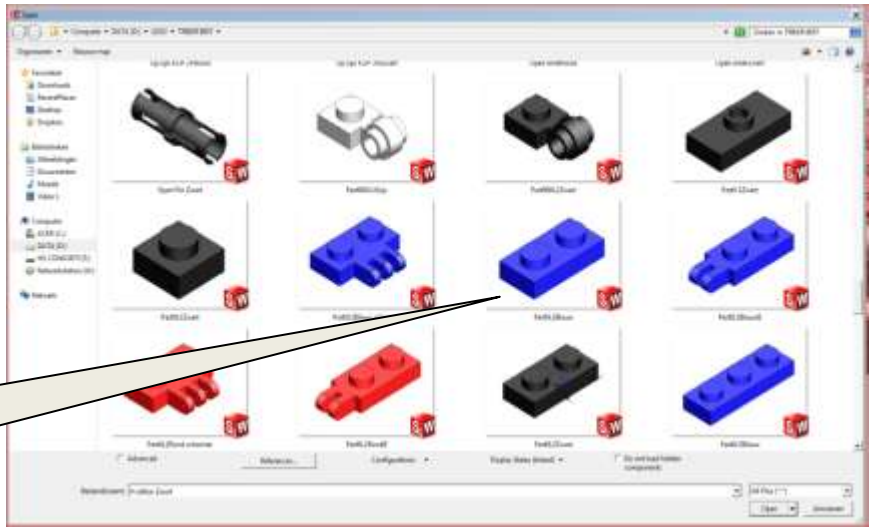
We now return to the warehouse, for new parts.

1. Click:

2. Click:

We're looking for:

2x  Part0L2Blauw

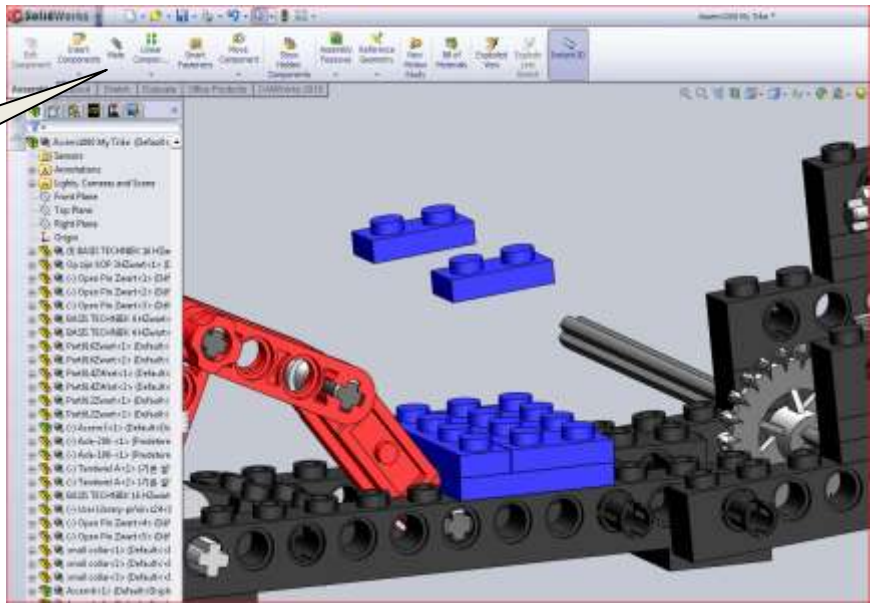


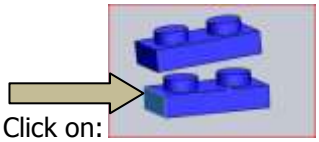
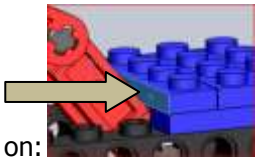
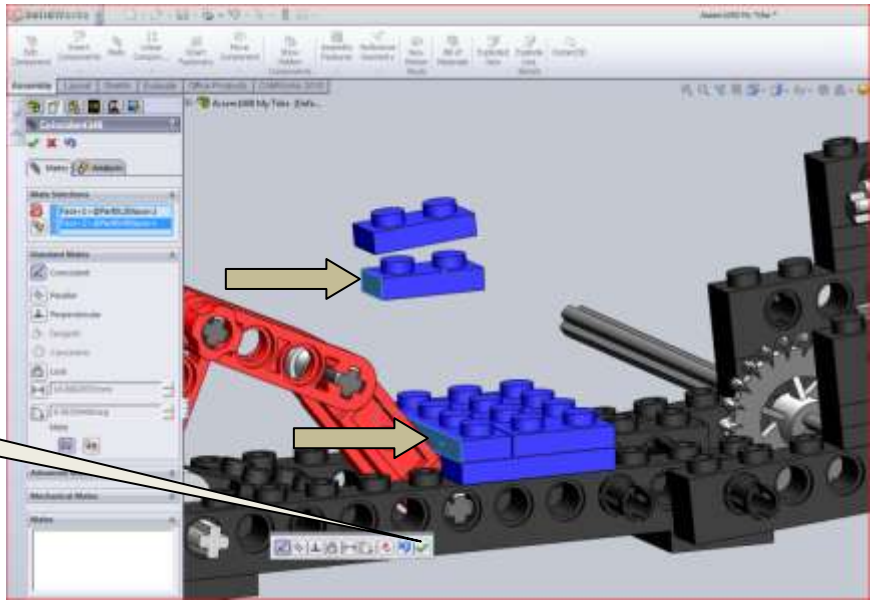
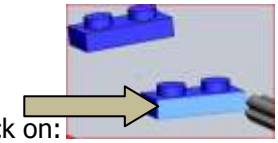
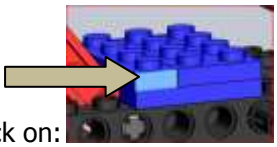
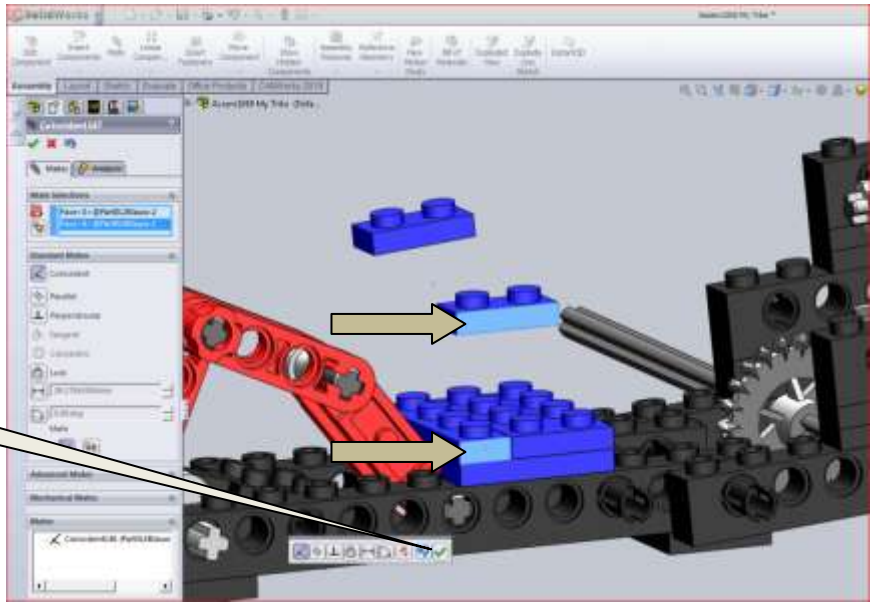
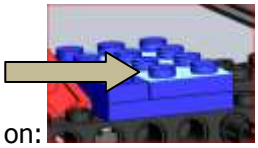
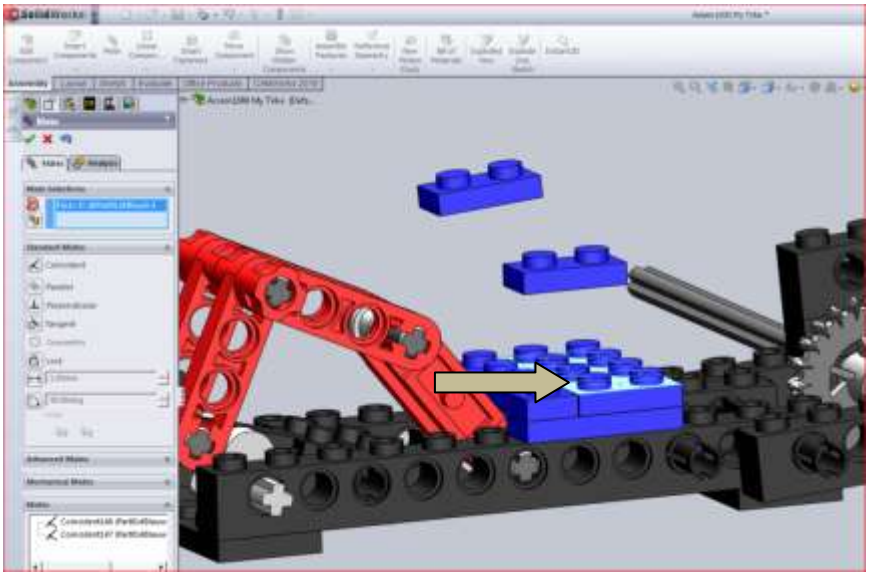
160

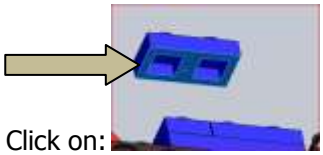
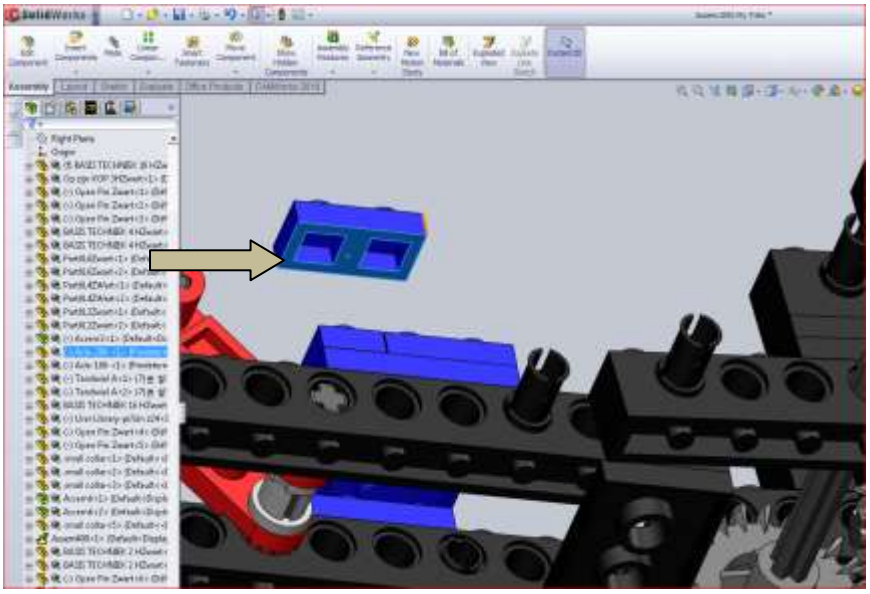
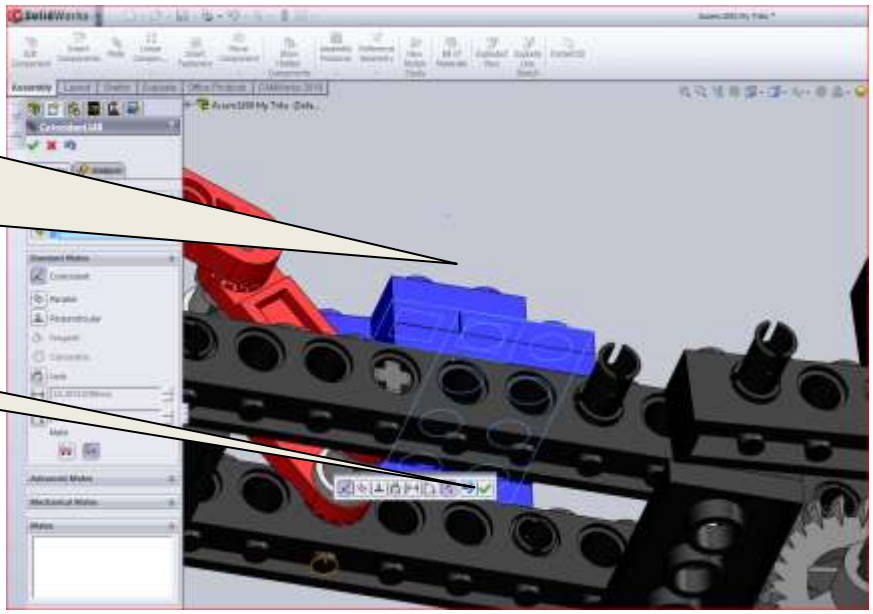
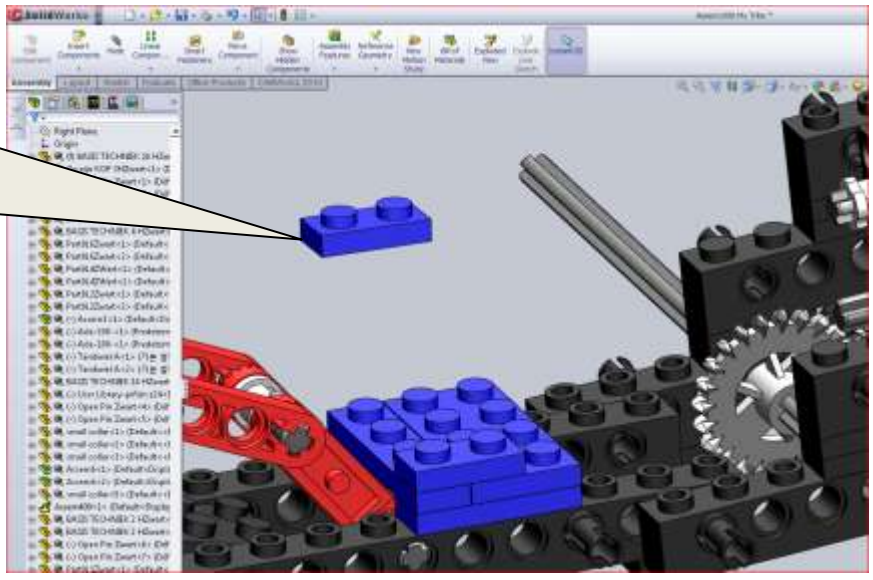
Position the parts as illustrated and click the left mouse button.

We're going to build again!

Click Mate. 



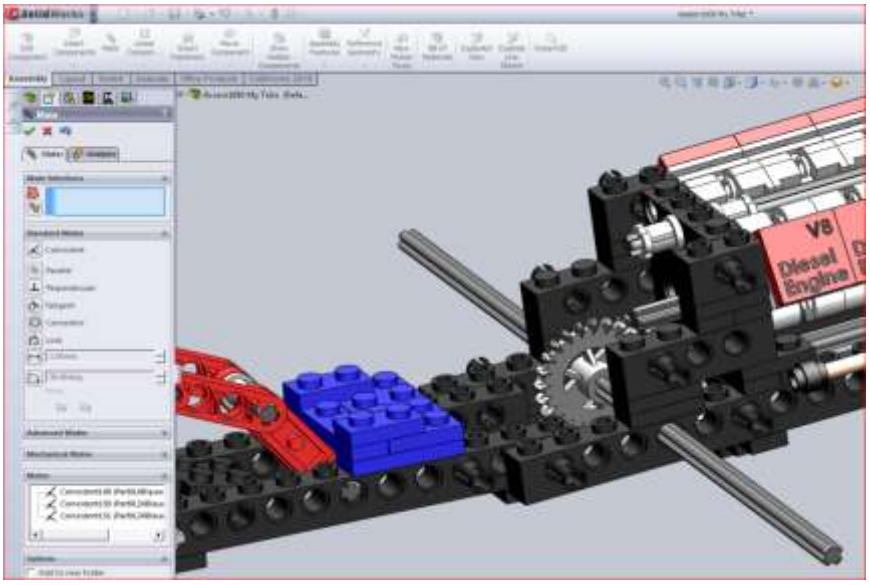
161	**1.** Click on:  **2.** Click on:  Click: ☑	
162	**1.** Click on:  **2.** Click on:  Click: ☑	
163	**1.** Click on: 	

164	Press the scroll Wheel down! Rotate and move the mouse until the Assembly is positioned as illustrated. **1.** Click on: 	
165	If everything goes well! You'll see that the part will be nicely connected, and in the right place with the other bricks, positioned as illustrated. Click: ☑	
166	Do the same yourself with the next part! Refer to the example and use your knowledge from steps: 161 through 165. **GOOD LUCK**	

167

If you did well it will be as illustrated.

Let's save our data once again for safety!



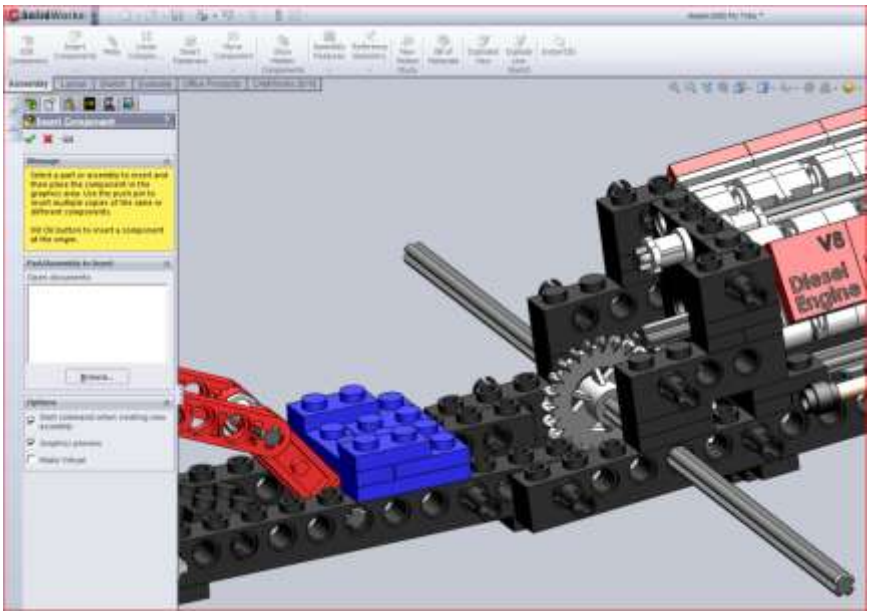
168

Let's move on!

We now return to the warehouse, for new parts.

1. Click: 

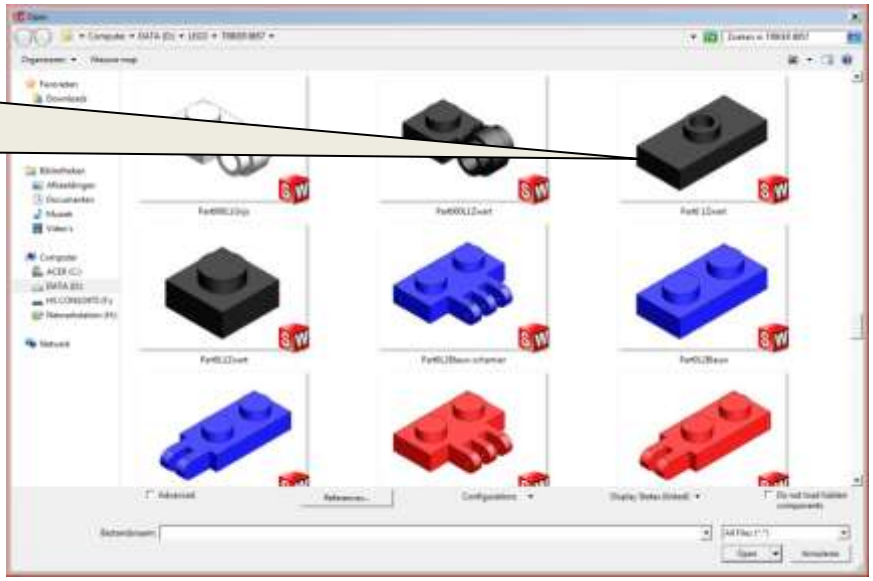
2. Click: 



169

We're looking for:

2x  Part0 1Zwart



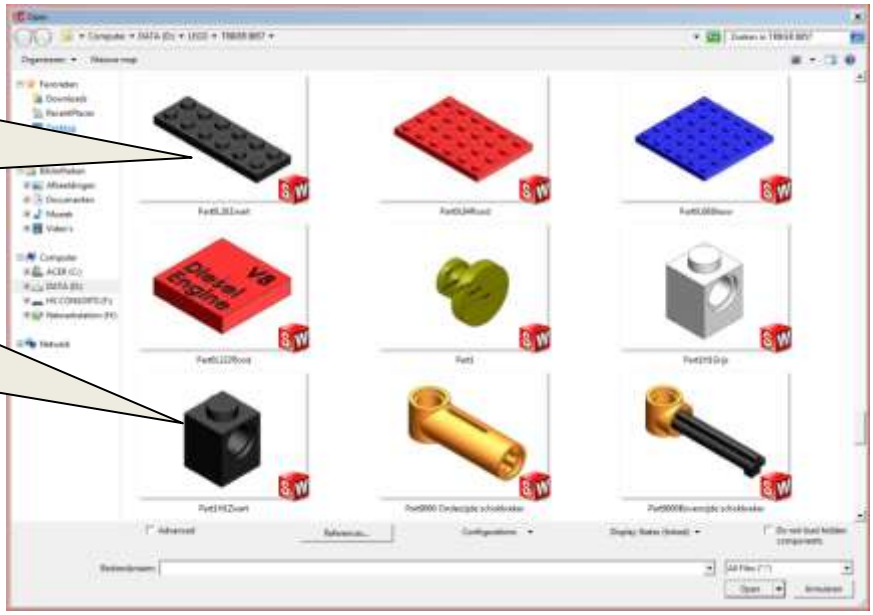
170

We're looking for:

1x  Part0L26Zwart

We're looking for:

2x  Part1H1Zwart

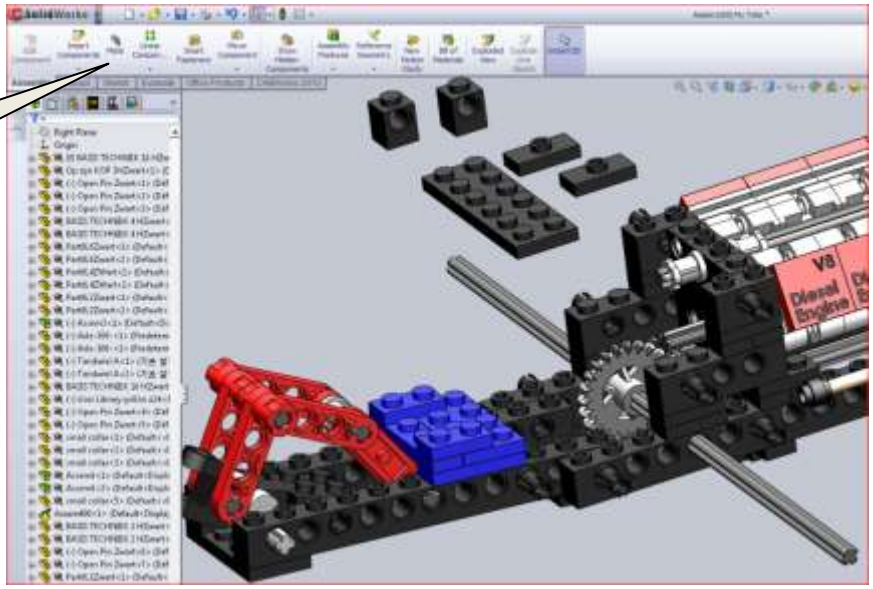


171

Position the parts as illustrated and click the left mouse button.

We're going to build again!

Click Mate. 

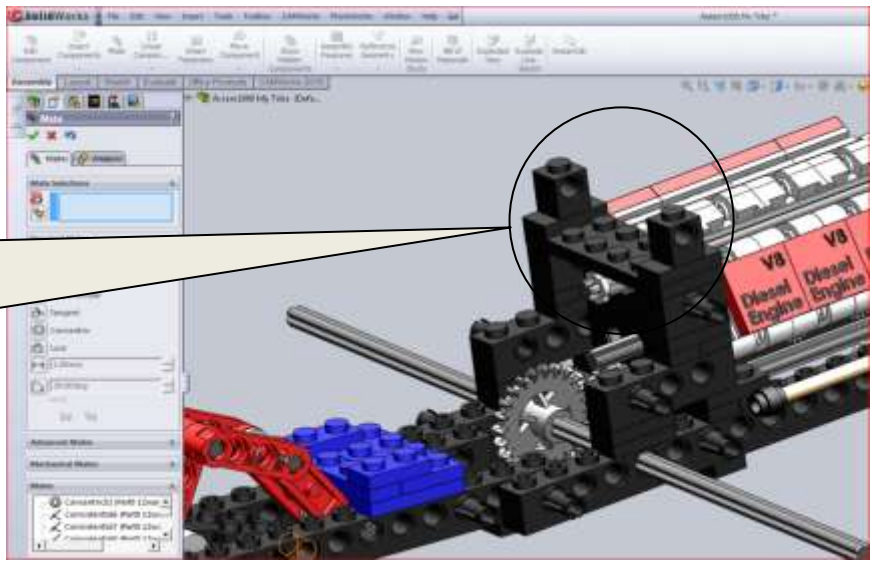


172

What do you think? can you make this by yourself, using your knowledge from the last steps:

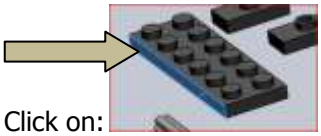
If everything go well! You'll see that the parts will nicely connected, and on the right place on the other bricks positioned as illustrated.

If not, following step 173 through 189.

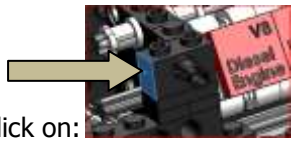


173

Ok! You think you can't. I 'll help you!

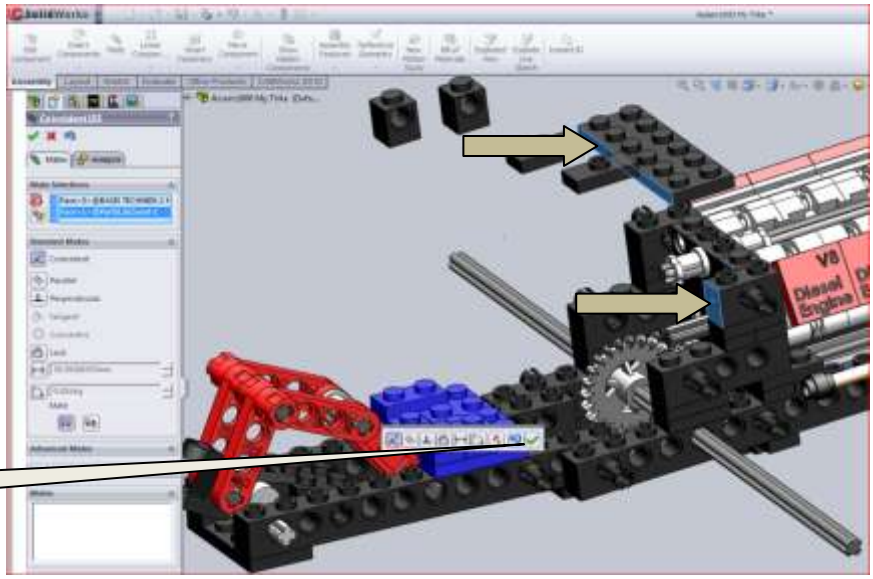


1. Click on:



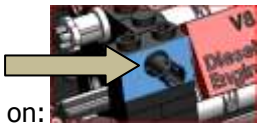
2. Click on:

Click: ☑



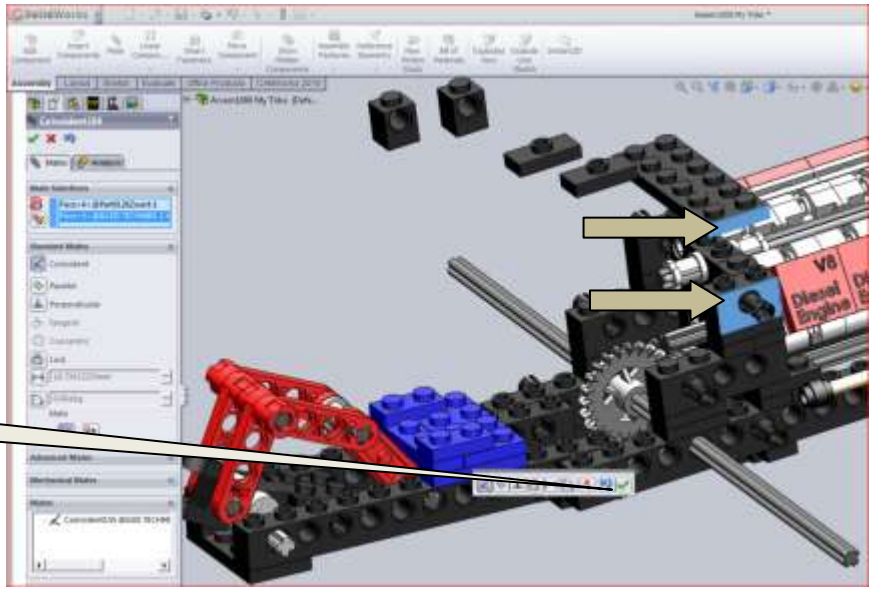
174

1. Click on:



2. Click on:

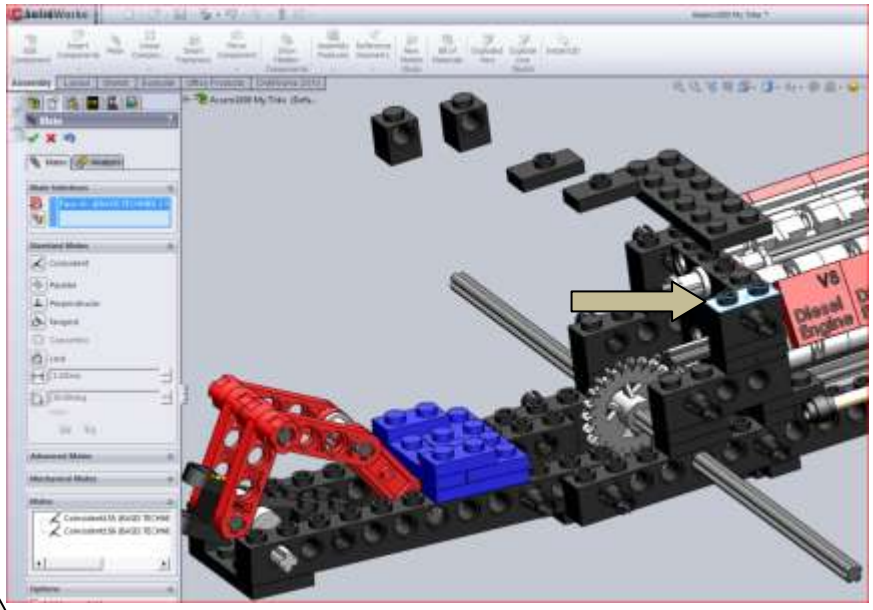
Click: ☑



175

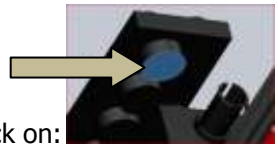
1. Click on:

Press the scroll Wheel down! Rotate and move the mouse until the Assembly is positioned as illustrated.
See step 176.

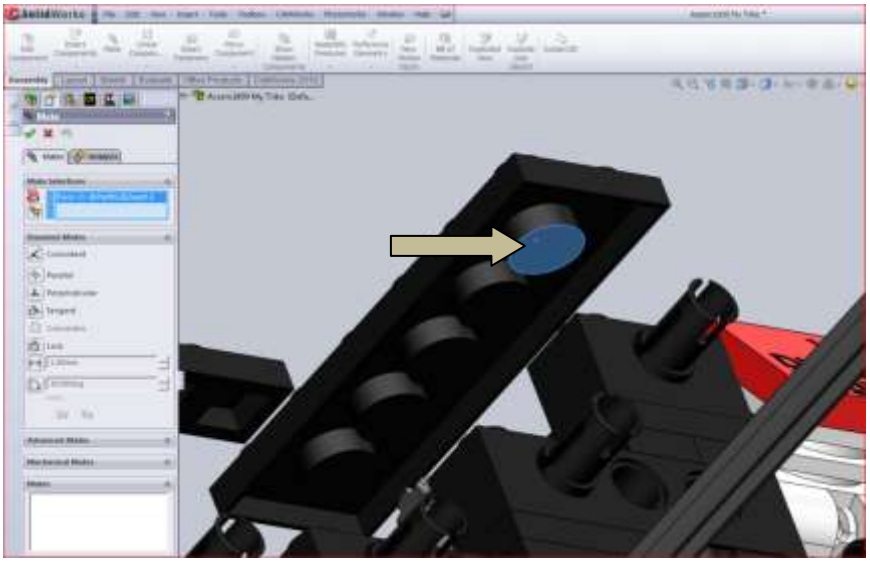


176

ZOOM in!

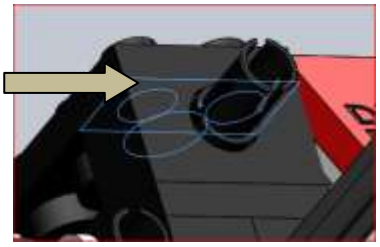


1. Click on:

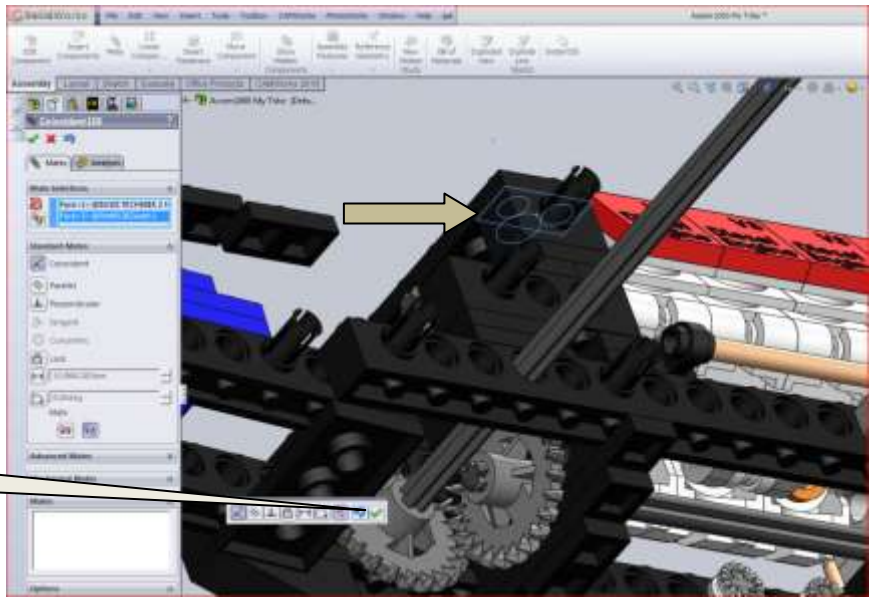


177

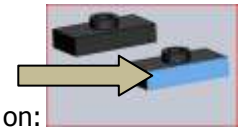
You'll now see that both parts are nicely connected together.



Click: ☑



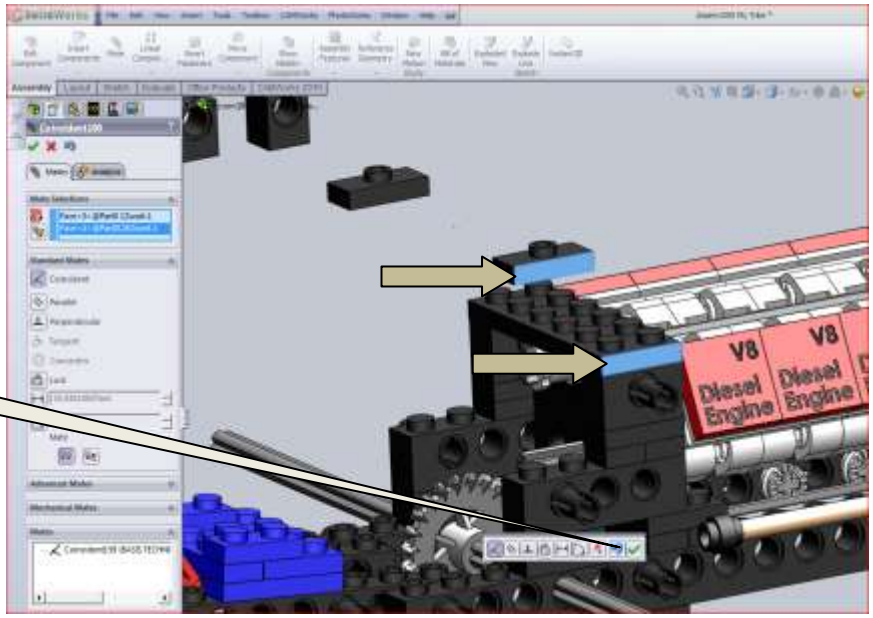
178



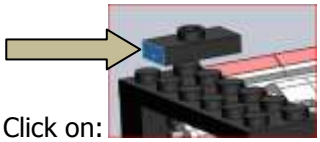
1. Click on:

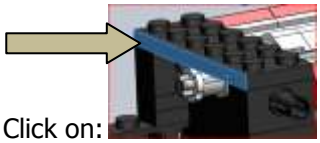
2. Click on:

Click: ☑

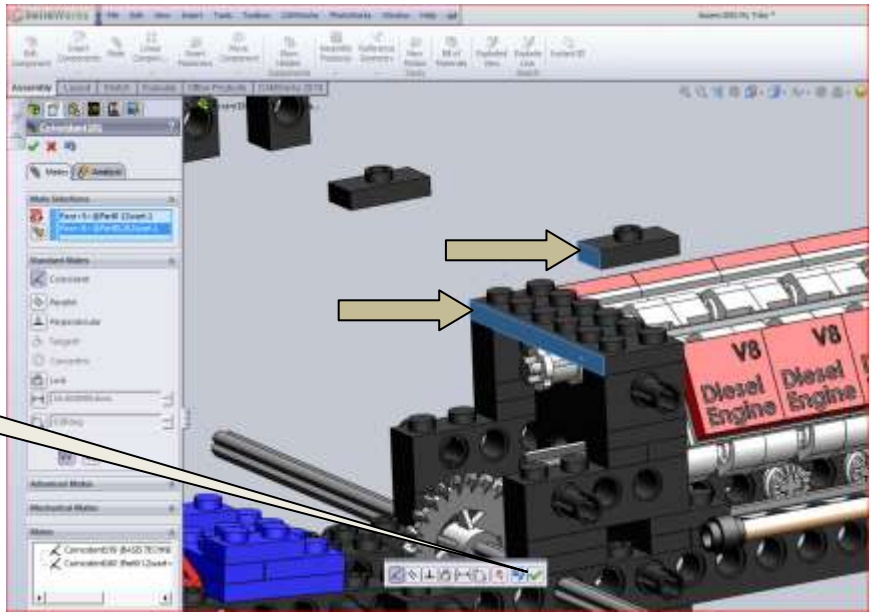


179

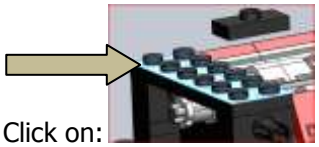
1. Click on: 

2. Click on: 

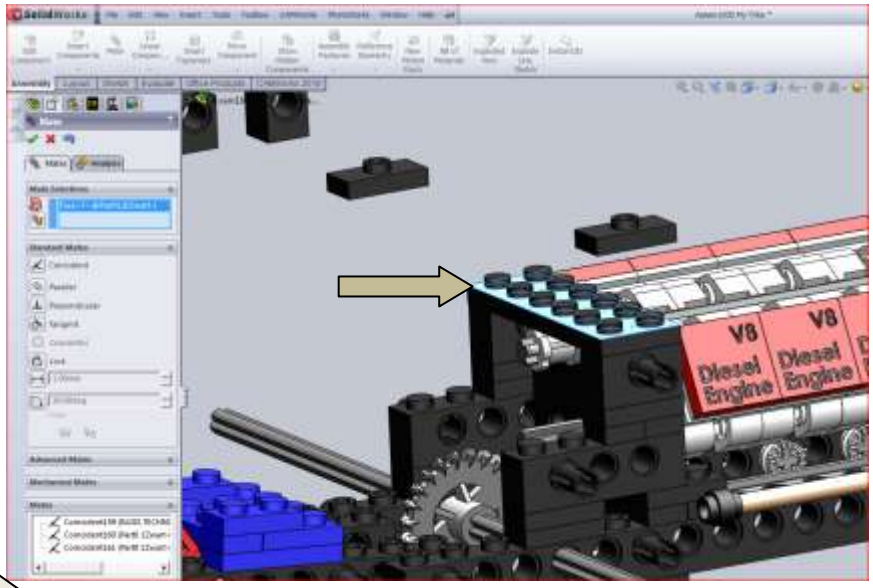
Click: ☑



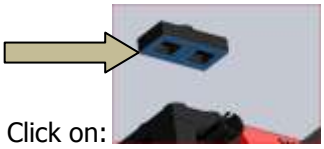
180

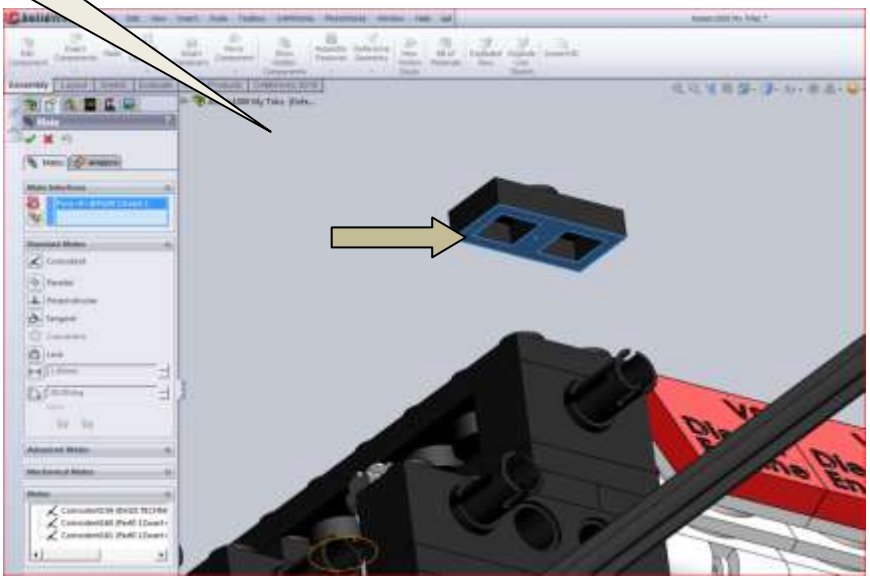
1. Click on: 

Press the scroll Wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.
See step 181.



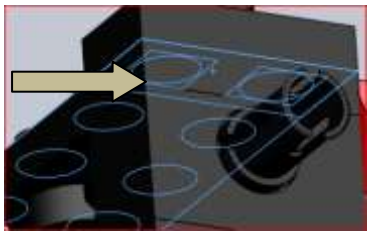
181

1. Click on: 

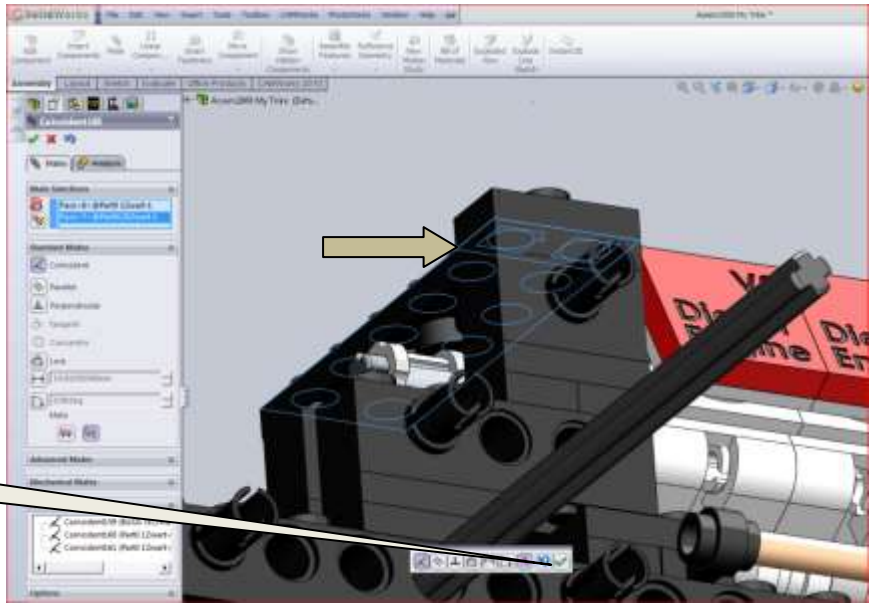


182

You'll now see that both parts are nicely connected together.



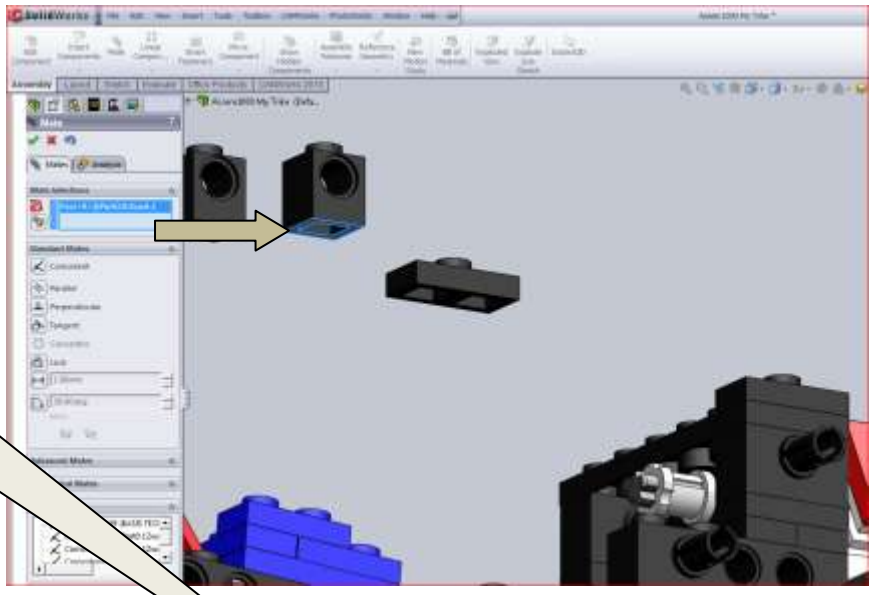
Click: ☑



183

1. Click on:

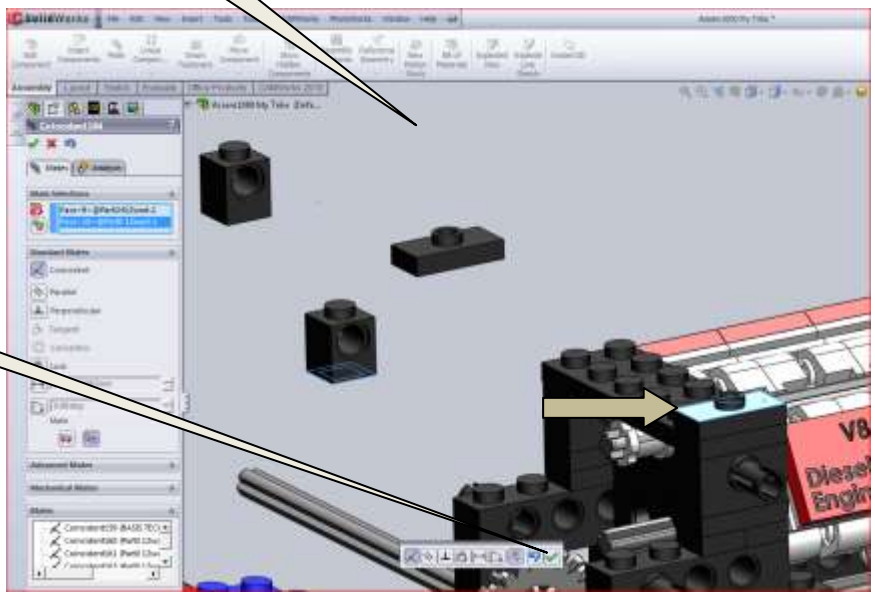
Press the scroll Wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.
See step 184.

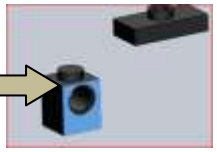
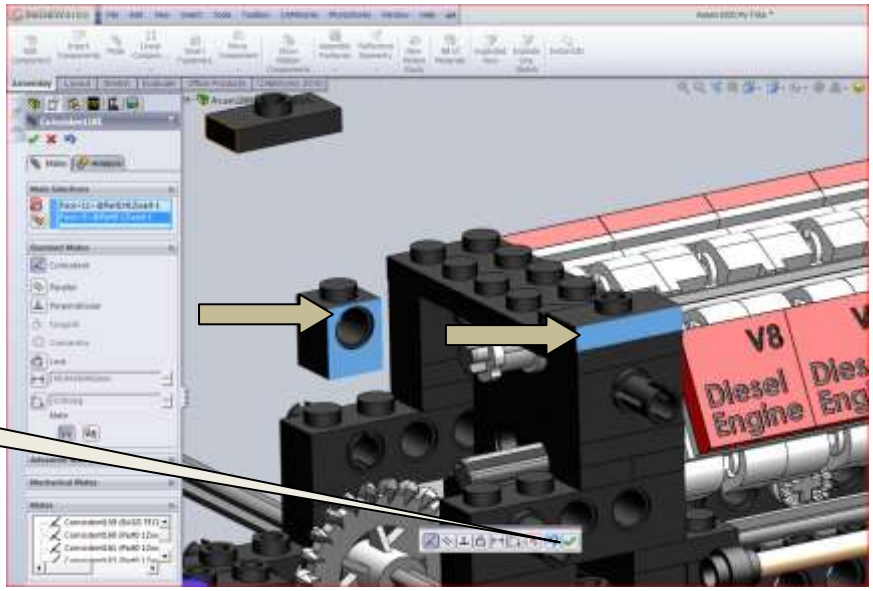
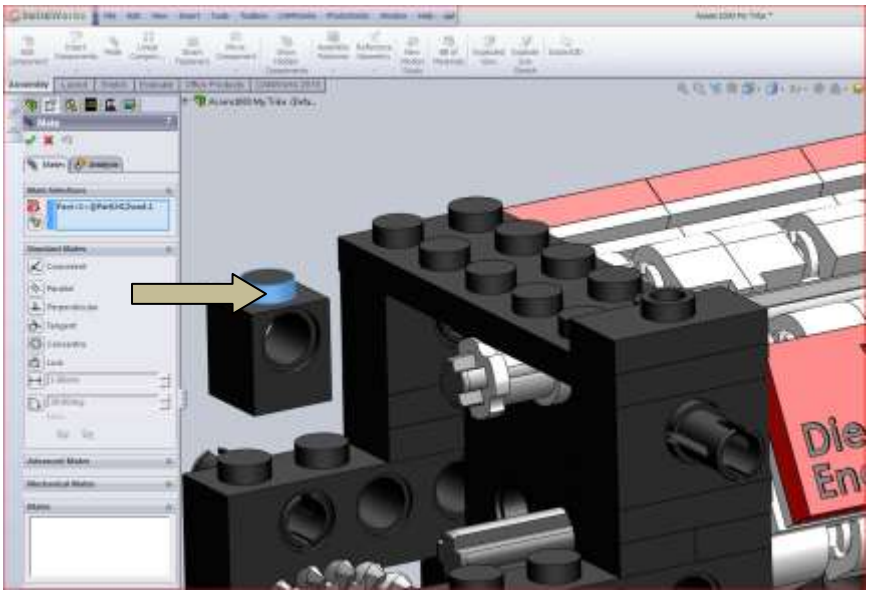
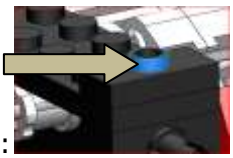
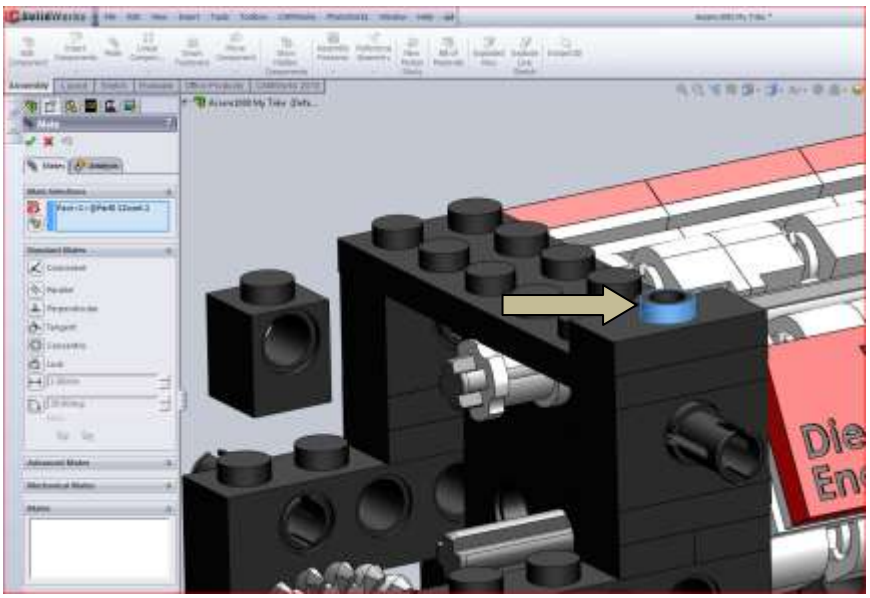


184

1. Click on:

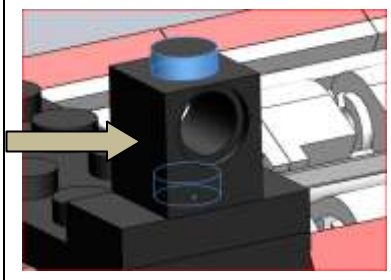
Click: ☑



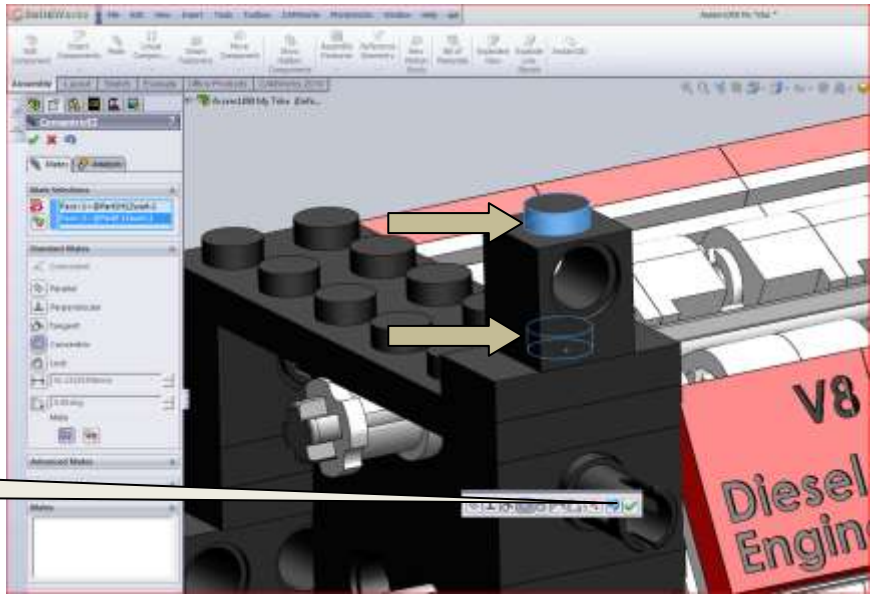
185	**1.** Click on:  **2.** Click on:  Click: ☑	
186	**1.** Click on: 	
187	**1.** Click on: 	

188

You'll now see that both parts are nicely connected together.



Click:

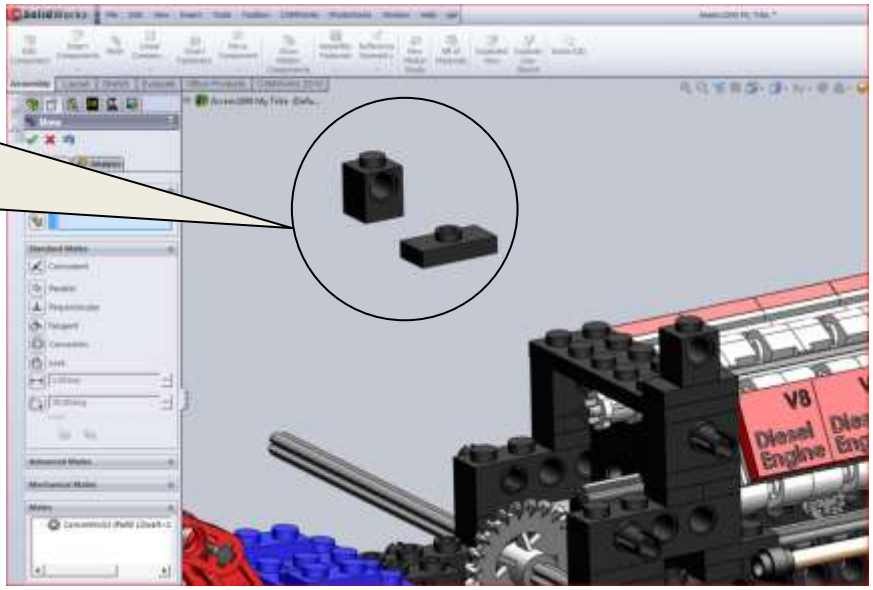


189

ZOOM out!

Do the same yourself with the next two parts! Refer to the example and use your knowledge from steps: 178 through 188.

GOOD LUCK

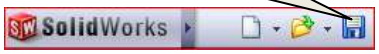


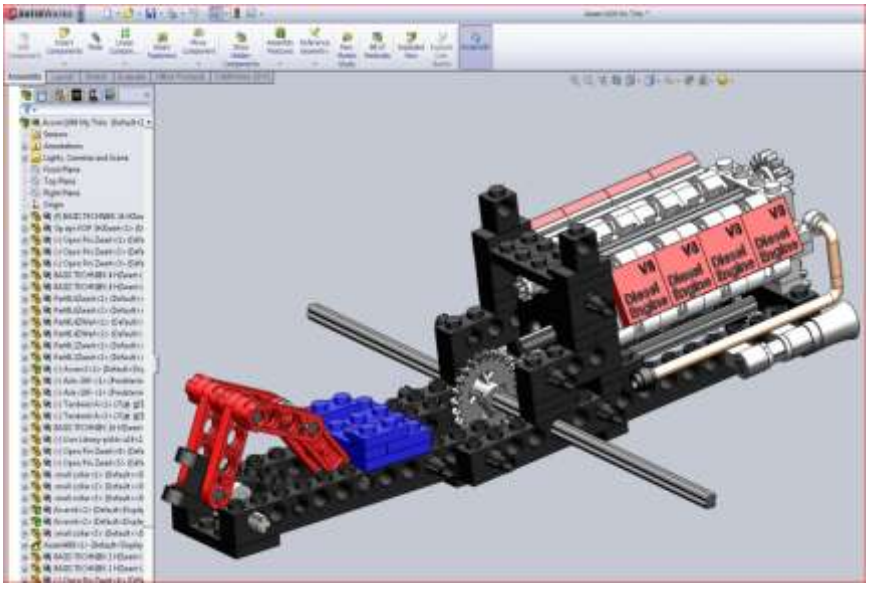
190

If you did well, it will be as illustrated.

Let's save our data once again for safety!

Click Save:

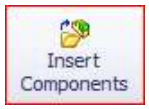




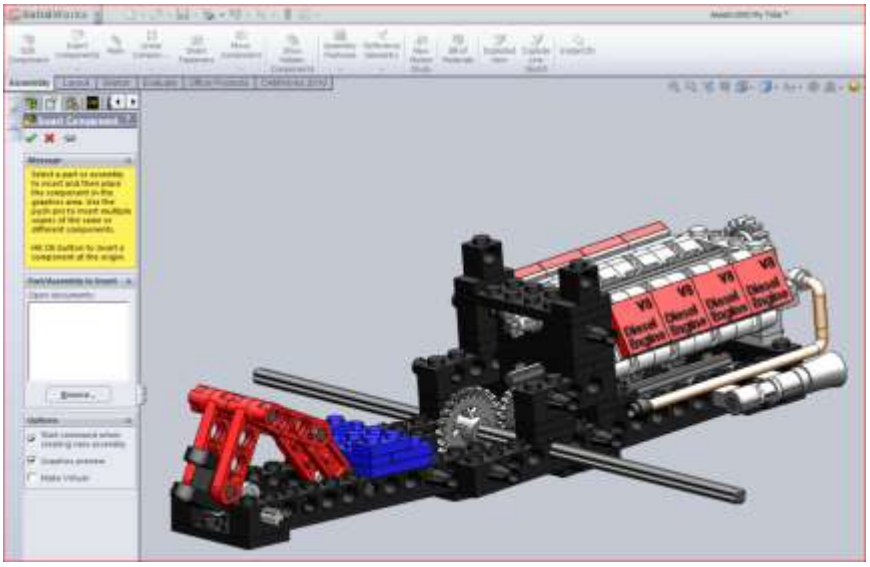
191

Let's move on!

We now return to the warehouse, for new parts.

1. Click: 

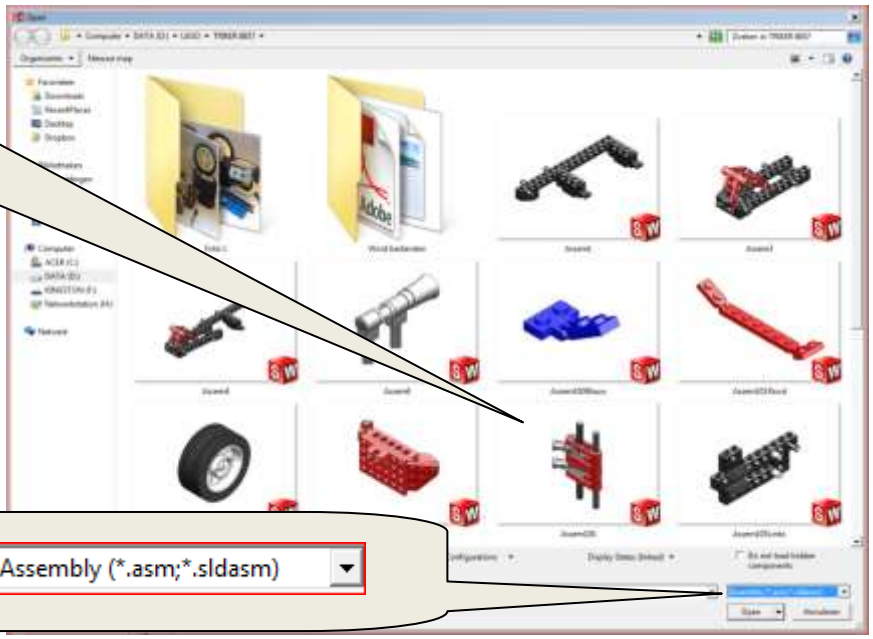
2. Click: 



192

We're looking for:

1x  Assem104



Be sure you are looking in: Assembly (*.asm;*.sldasm)

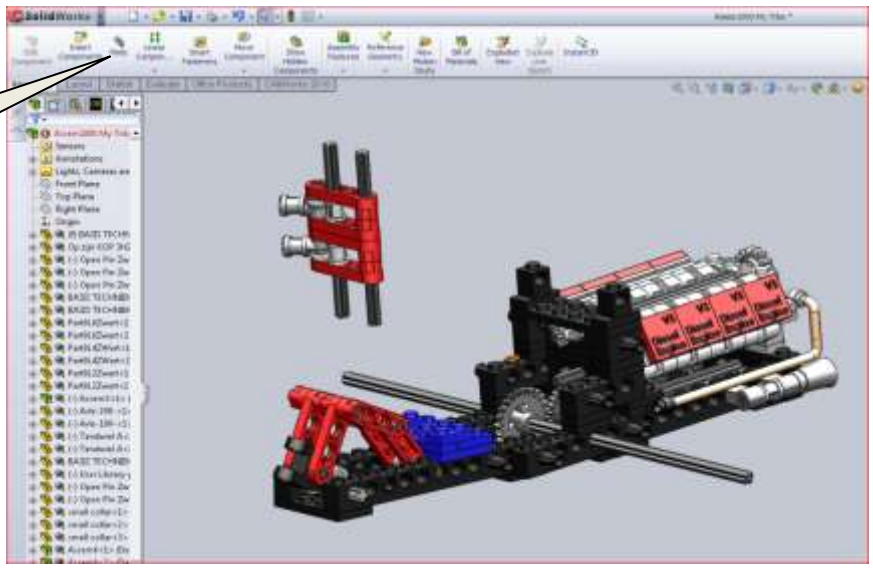
193

Position the Assembly as illustrated and click the left mouse button.

We're going to build again!

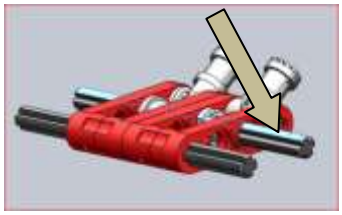
Click Mate. 

Press the right mouse button down! rotate and move the mouse until the Assembly104 is positioned as illustrated. See step 193.

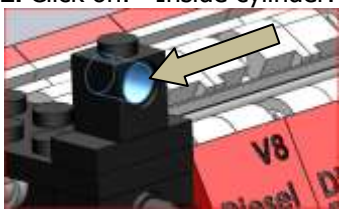


194

1. Click on: Outside axle.

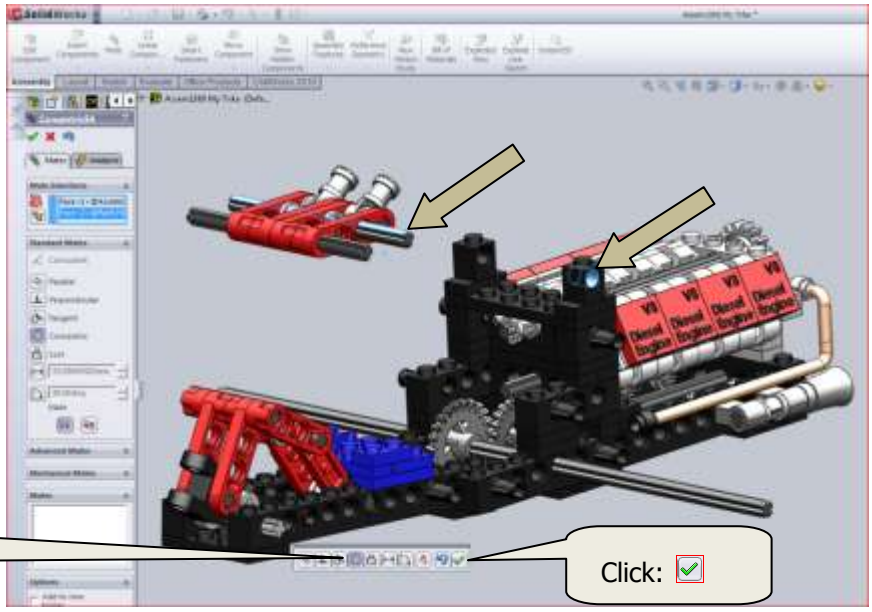


2. Click on: Inside cylinder.



You'll now see that both parts Are aligned.

Here's the proof!



195

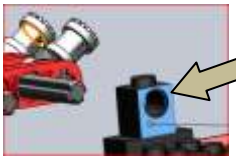
We'll now put the subassembly in the middle of the chassis. Therefore we need a different type off mate function.

Open: Advanced Mates

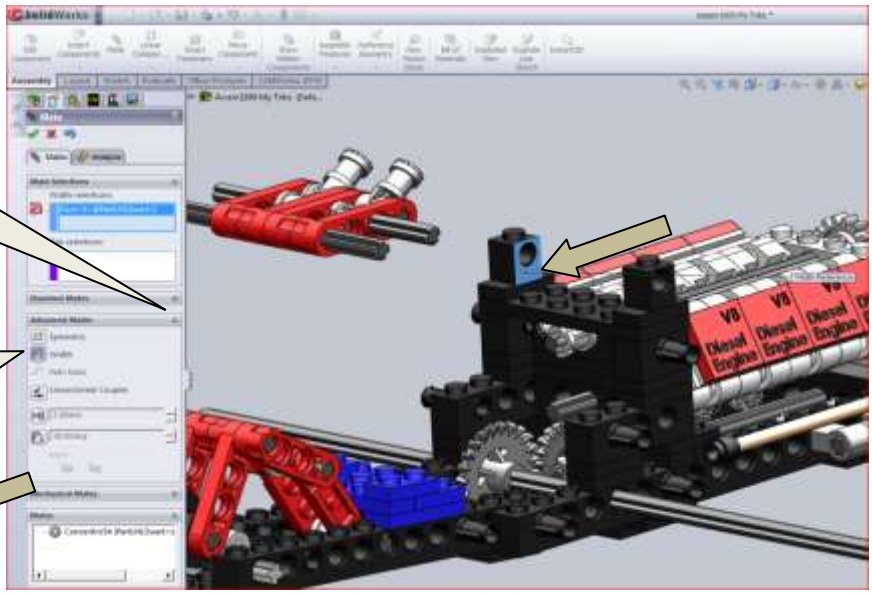
Click :

Use the function Width !

Click :



1. Click on:



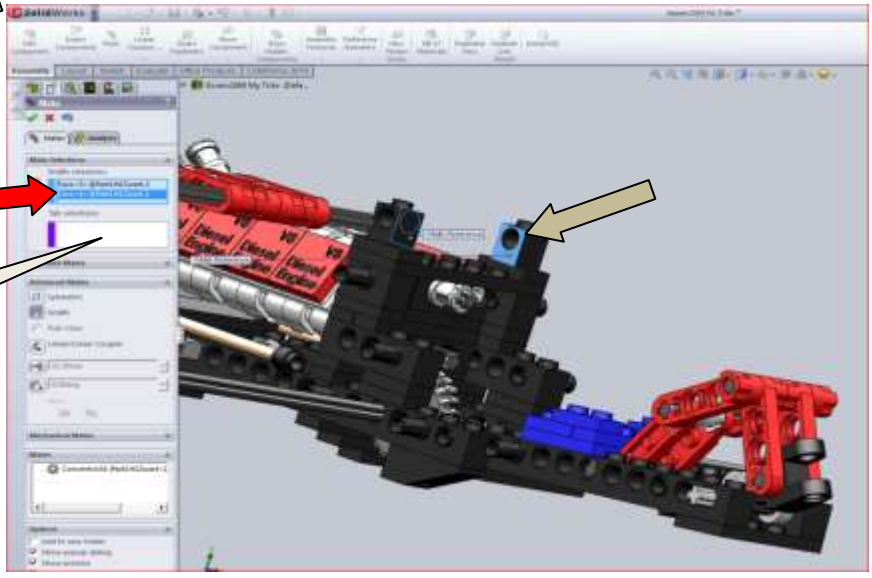
196

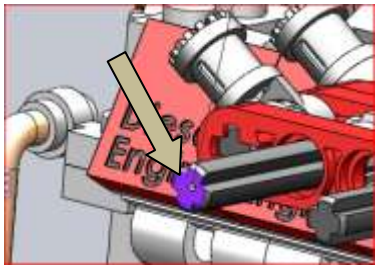
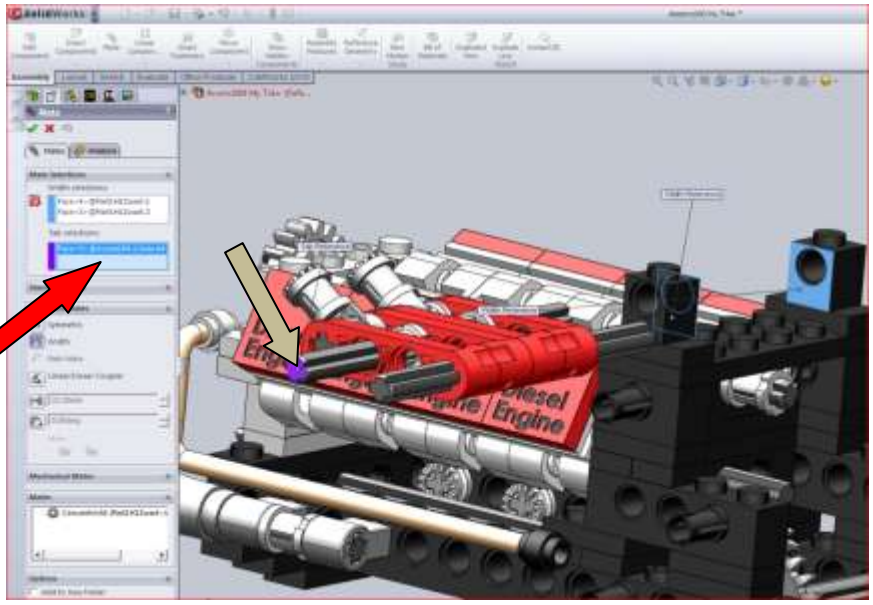
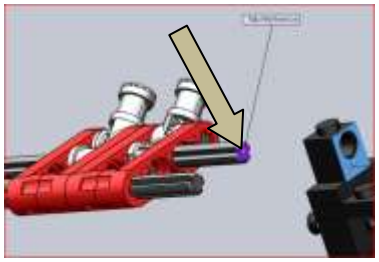
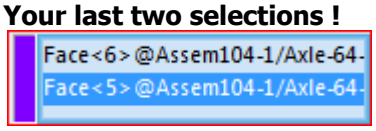
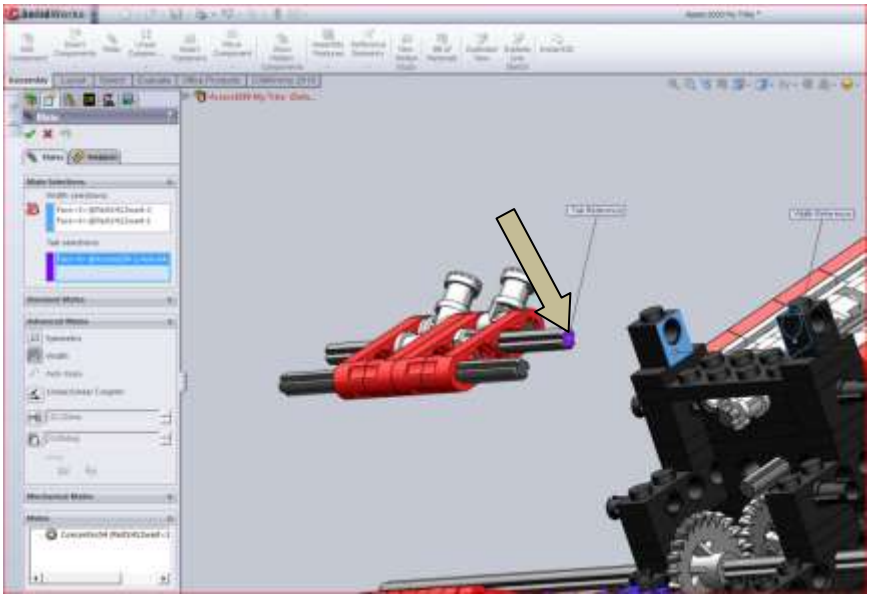
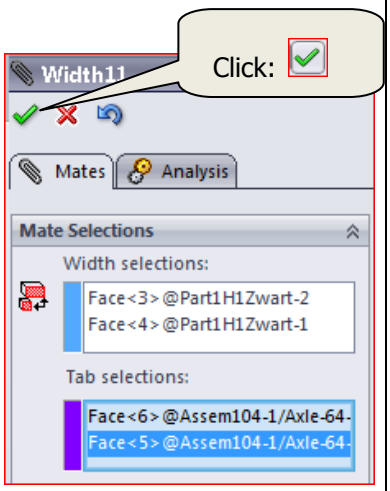
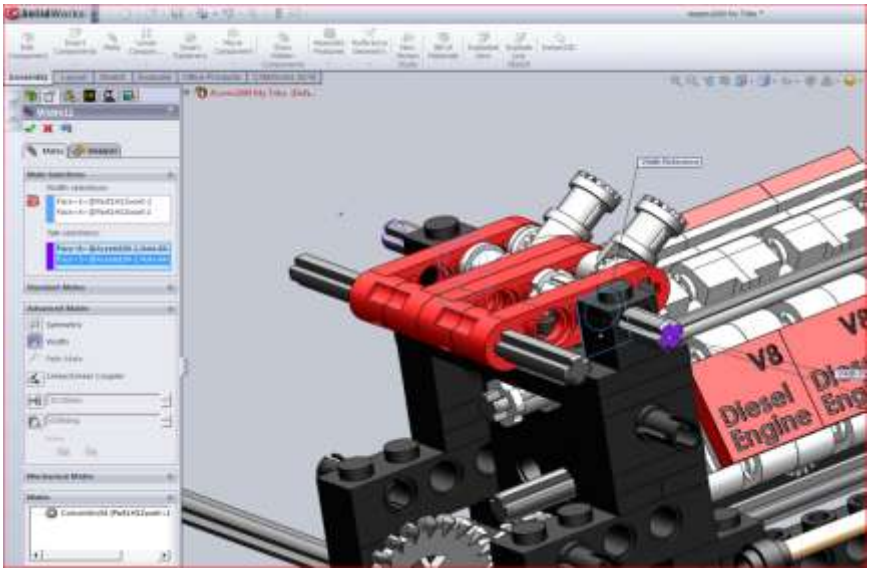
1. Click on:

Your first two selections !

Face<3>@Part1H1Zwart-2
Face<4>@Part1H1Zwart-1

Click on this field:
It will turn blue



197	**1.** Click on the axle-(front): It will turn purple.  **Your first selection !**	
198	**1.** Click on the second axle-(front):It will again turn purple.  **Your last two selections !** 	
199	**The subassembly 104** We'll now have a position in the middle of the chassis. 	

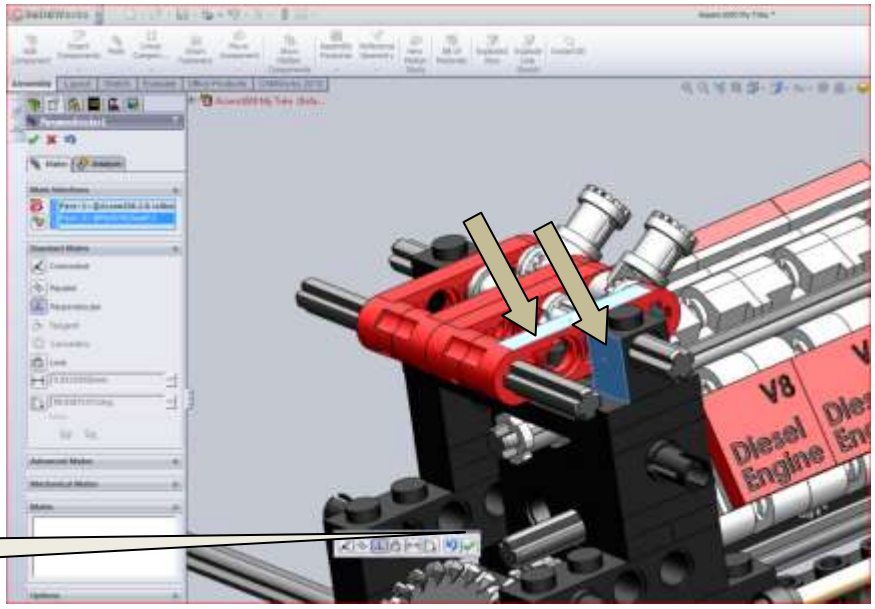
200

1. Click on:

2. Click on:

The two parts are now nicely connected in a 90 degree angle.

Click: ☑



201

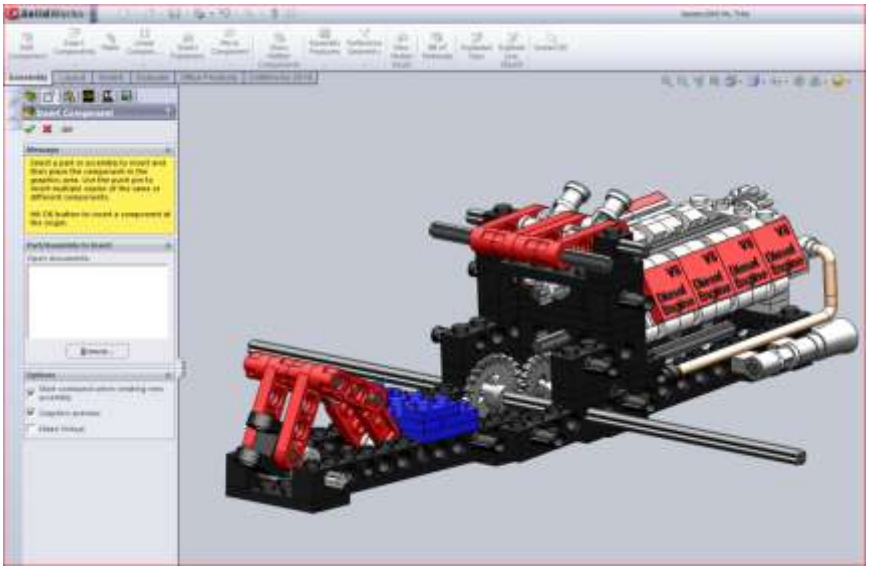
ZOOM out!

If you did well it will be as illustrated.

We now return to the warehouse, for new parts.

1. Click: Insert Components

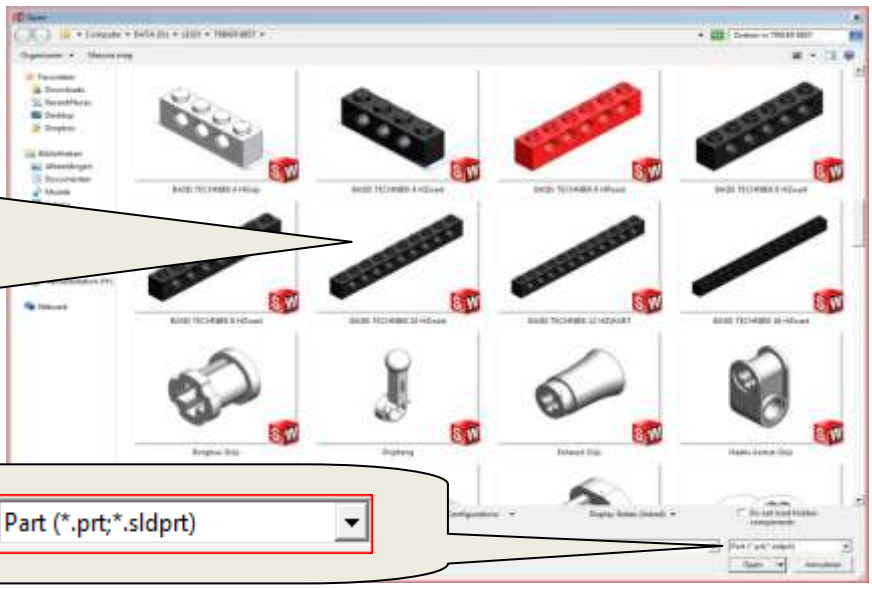
2. Click: Browse...



202

We're looking for:

2x



Be sure you are looking in: Part (*.prt;*.sldprt)

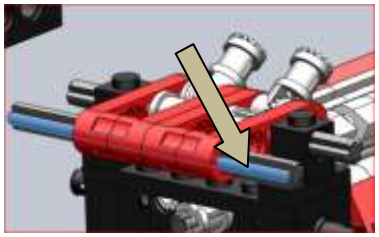
203

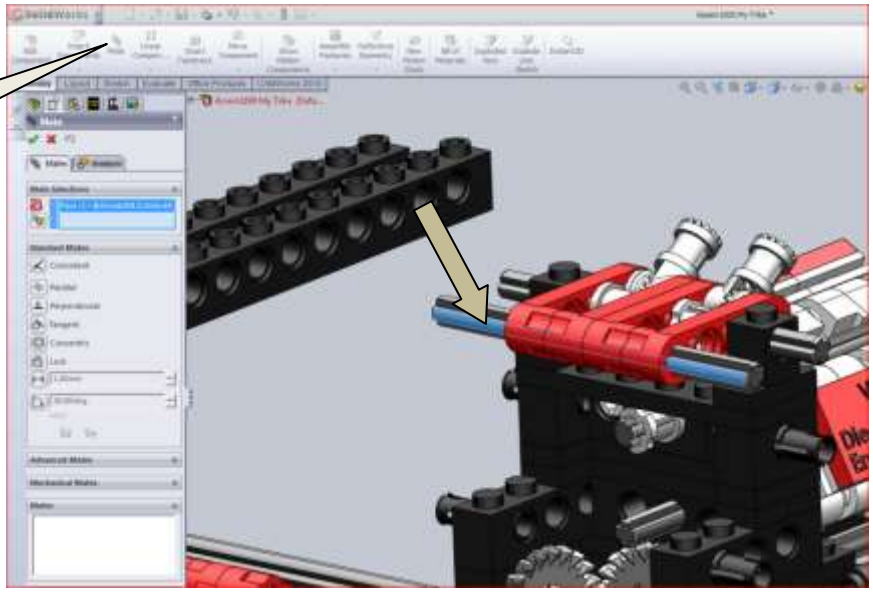
Position the Assembly as illustrated and click the left mouse button.

We're going to build again!

Click Mate. 

1. Click on:Outside axle.





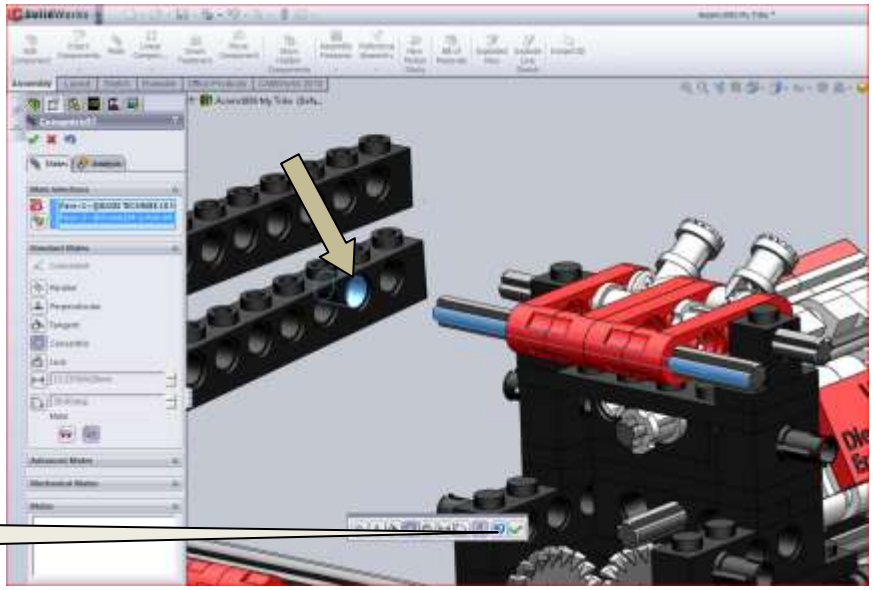
204

1. Click on: Inside Cylinder.

The second hole!

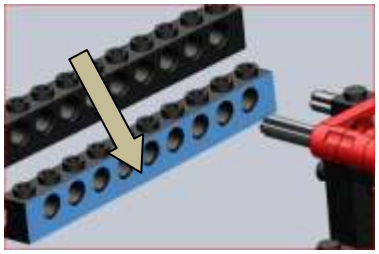
You'll now see that both selected parts are aligned.

Click: ☑

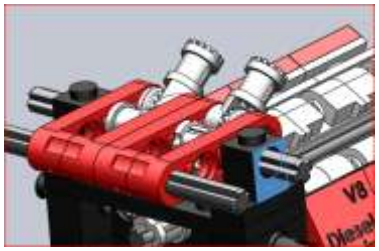


205

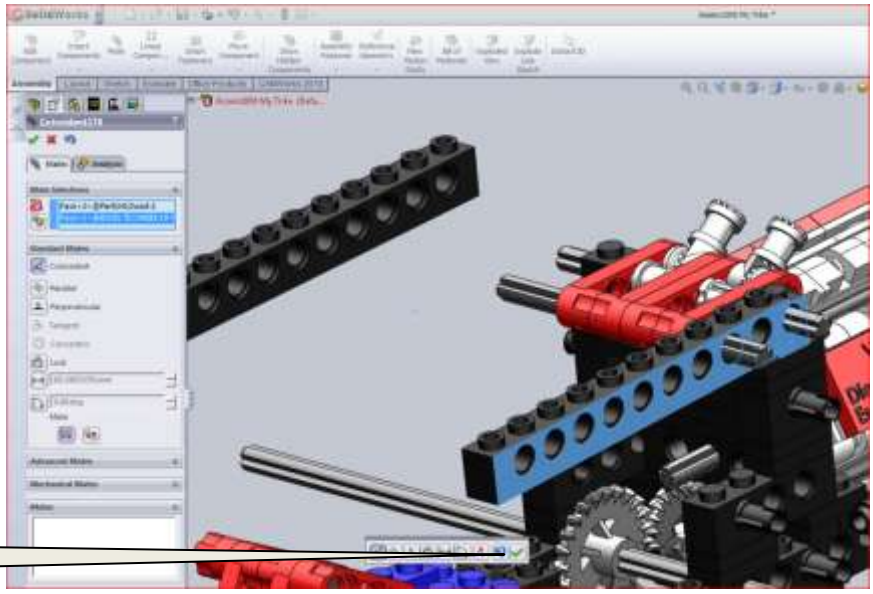
1. Click on: Outside brick.



2. Click on: Outside brick



Click: ☑



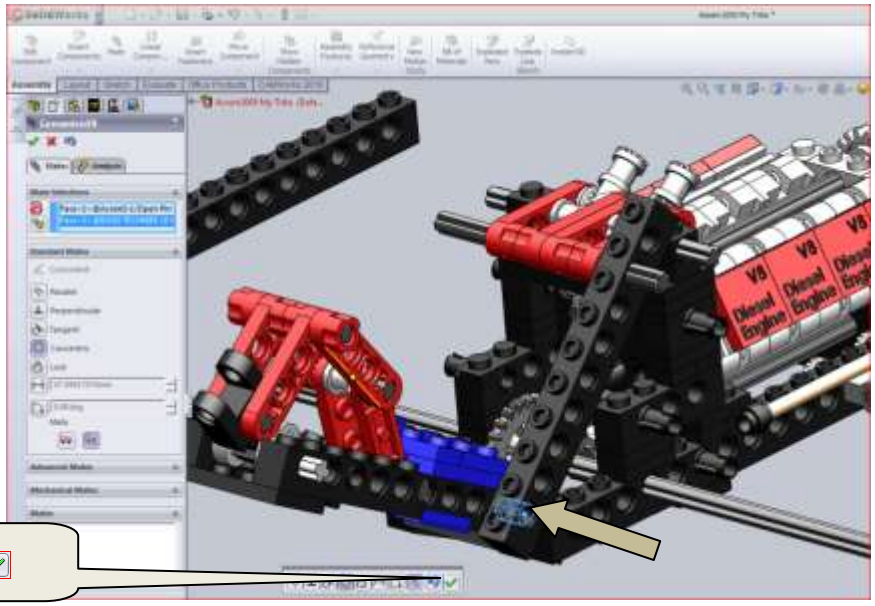
206

1. Click on: Inside cylinder.

2. Click on: outside connector.

The two parts are now nicely connected.

Click:

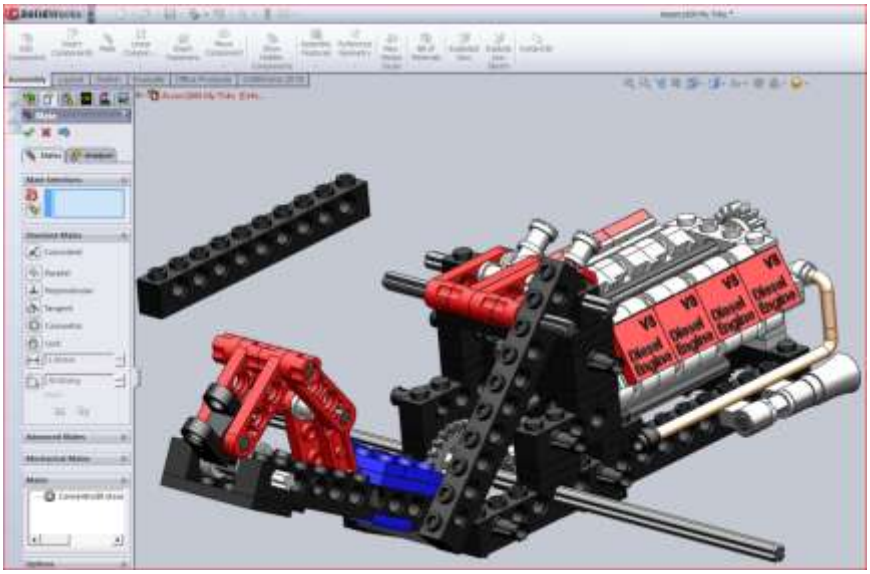


207

ZOOM out!

If you did well it will be as illustrated.

Let's save our data once again for safety!

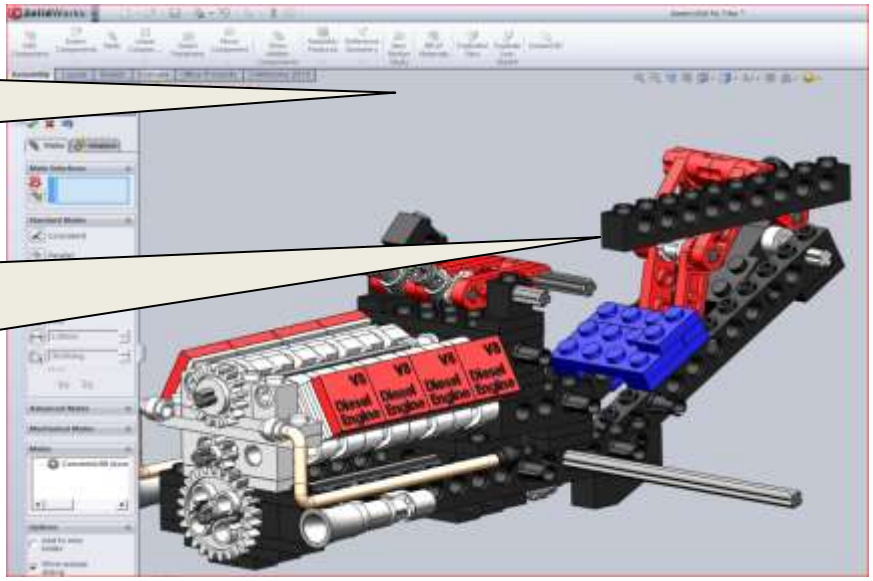


208

Press the scroll Wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.

Do the same yourself with the next part!
Refer to the example and use your knowledge from steps: 198 through 201.

GOOD LUCK

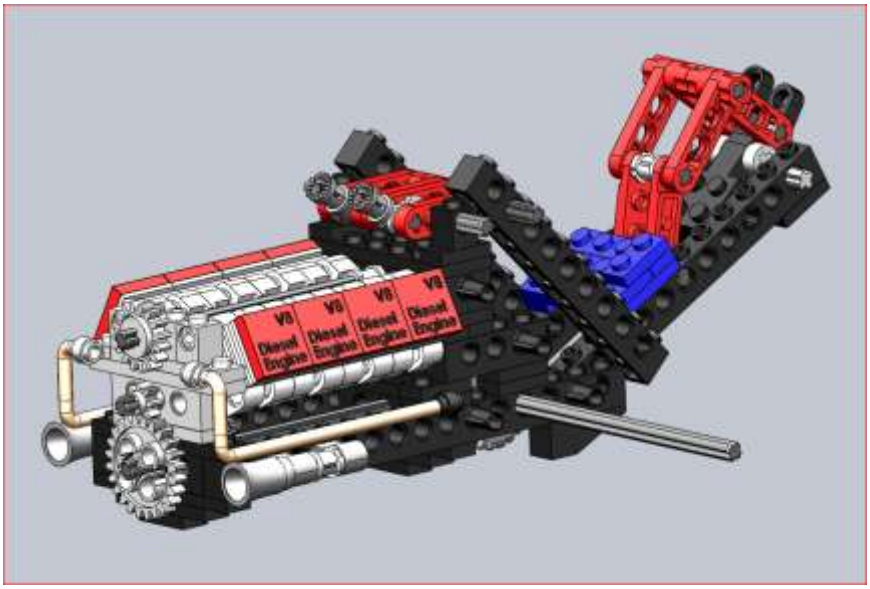


209

? It worked.

The result must be as illustrated.

Let's save our data once again for safety!



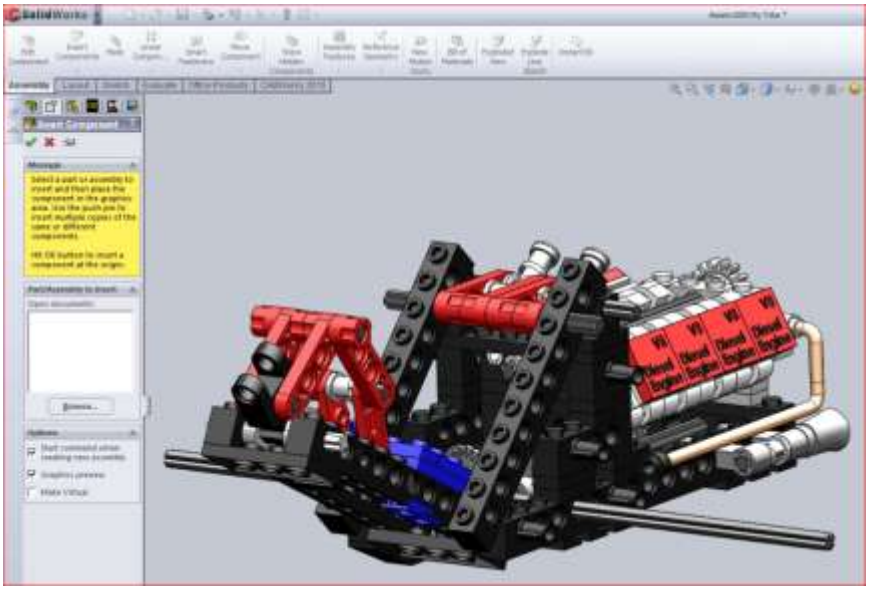
210

Let's move on!

We now return to the warehouse, for new parts.

1. Click:

2. Click:

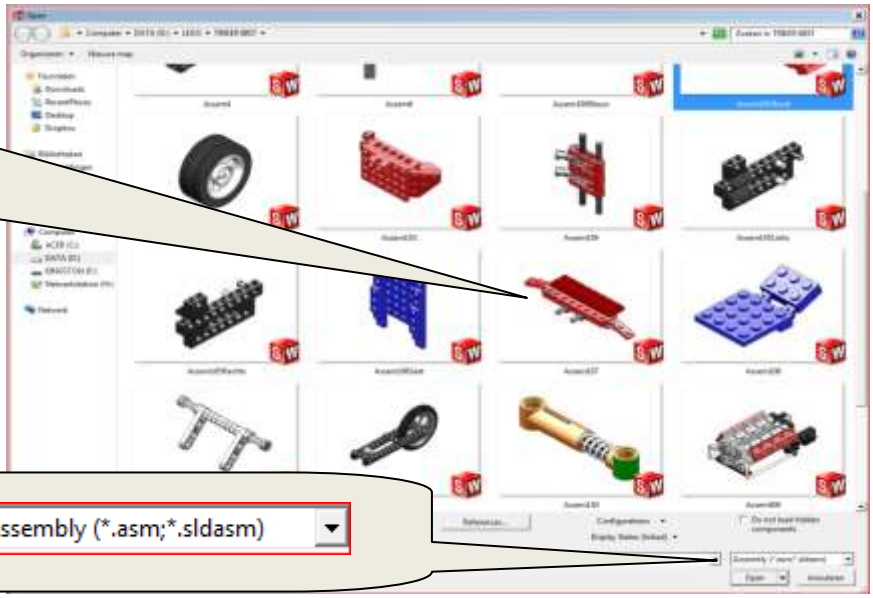


211

We're looking for:

1x Assem107

The spoiler!



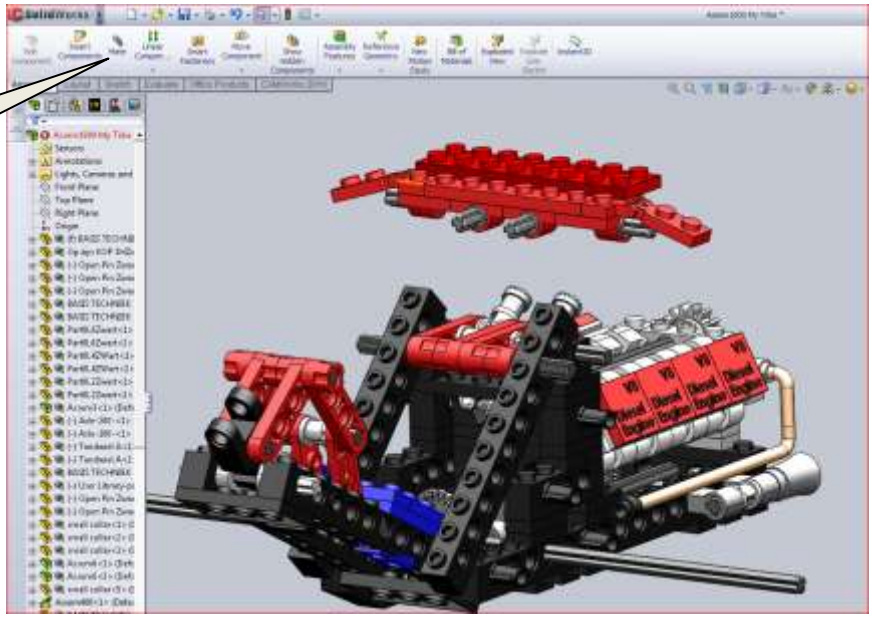
Be sure you are looking in: Assembly (*.asm;*.sldasm)

212

Position the Assembly as illustrated and click the left mouse button.

We're going to build again!

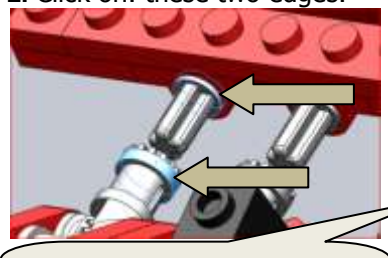
Click Mate. 



213

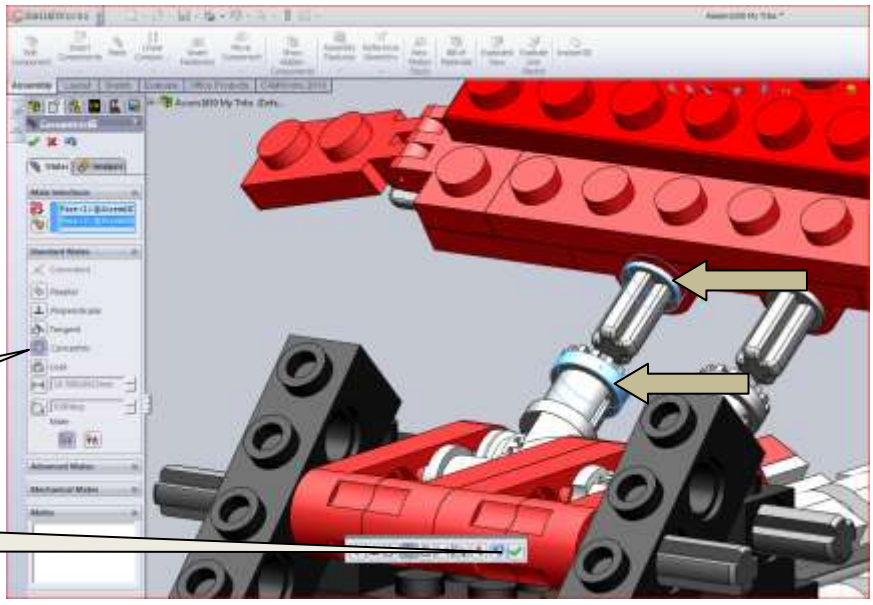
ZOOM in!

1. Click on: these two edges.



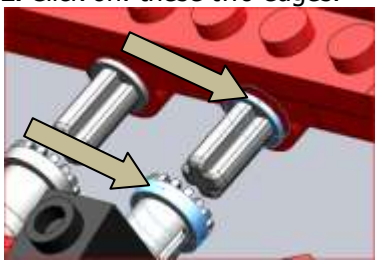
You'll now see that both selected parts are aligned

Click: ☑

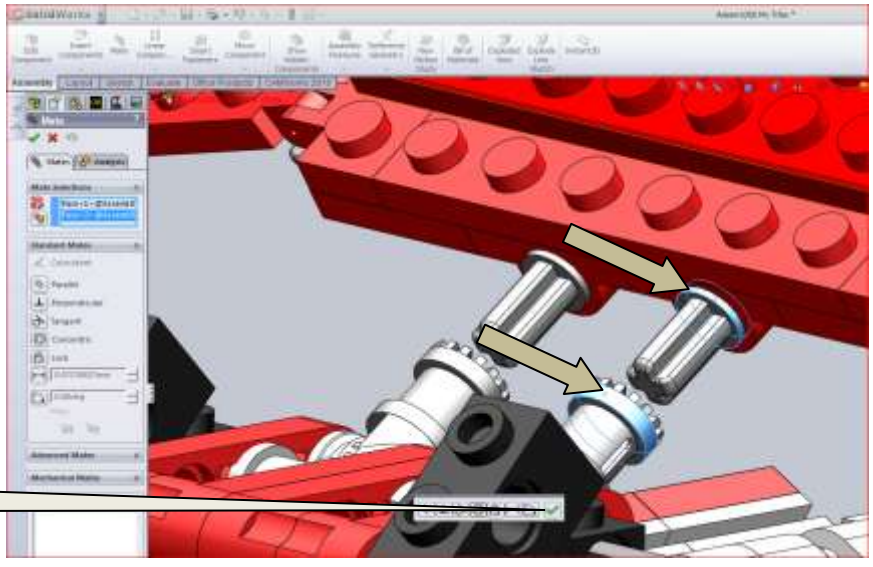


214

1. Click on: these two edges.

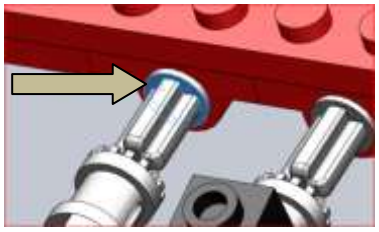


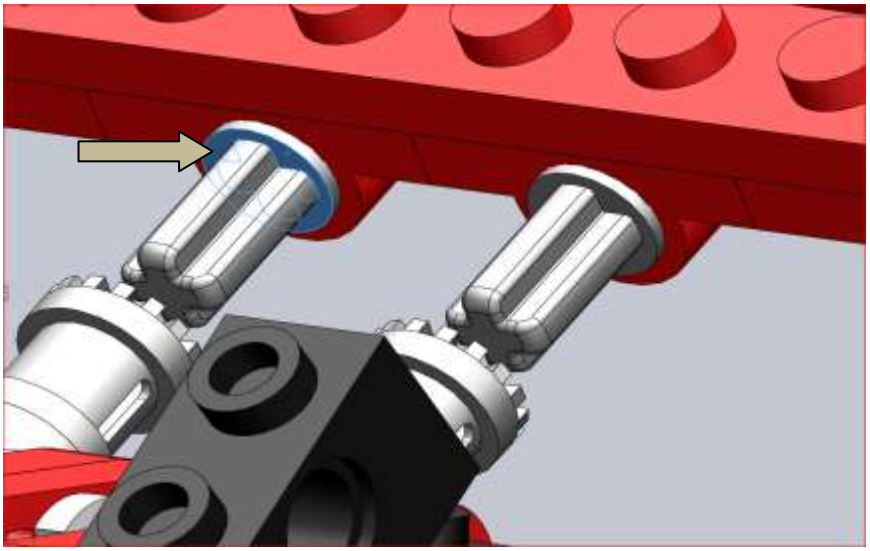
Click: ☑



215

1. Click on: this face.



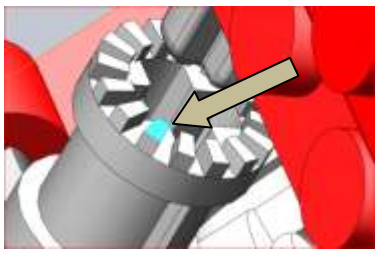


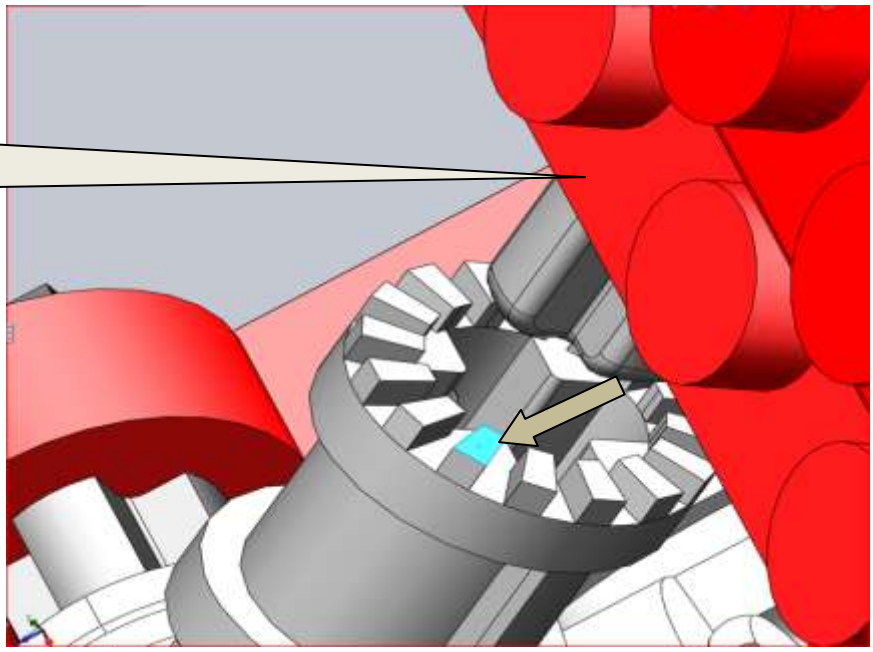
216

ZOOM in!

Press the scroll Wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.

1. Click on: this face.



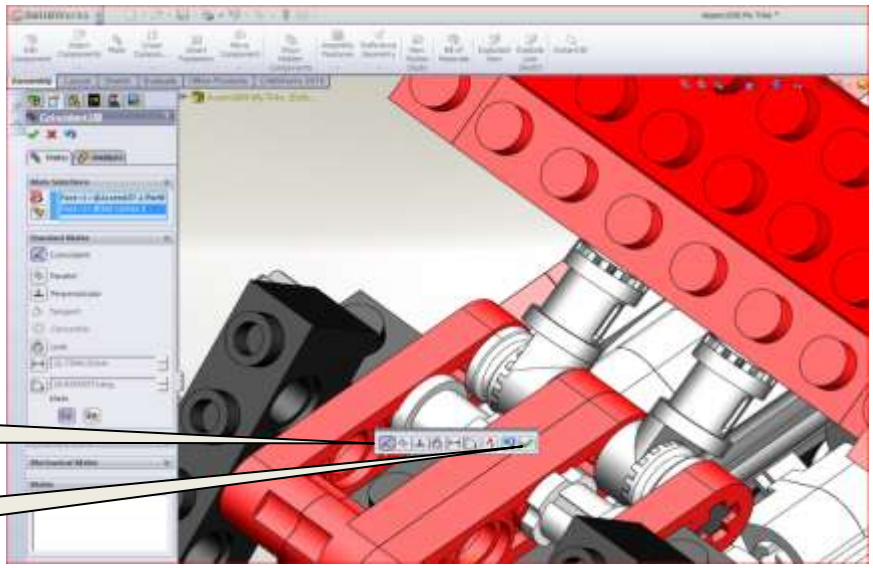


217

The two parts are now nicely connected.

Here's the proof!

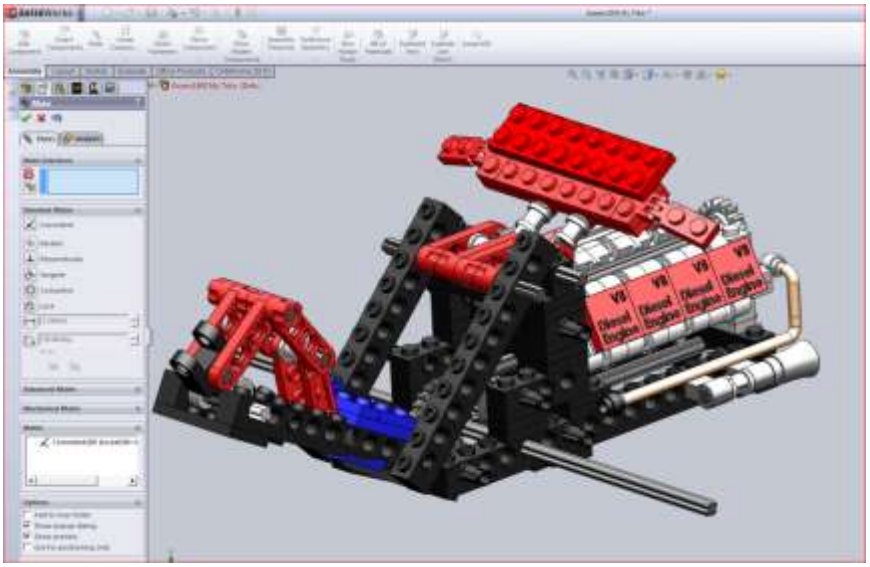
Click: ☑



218

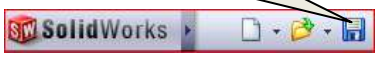
ZOOM out!

If you did well it will be as illustrated.



Let's save our data once again for safety!

Click Save:



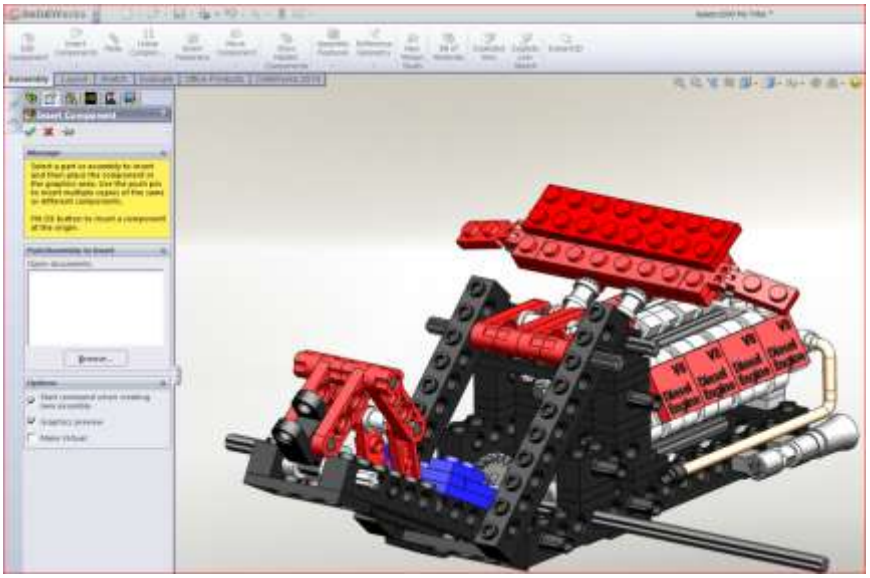
219

The spoiler is not complete

We go back to the warehouse, search for missing parts.

1. Click: Insert Components

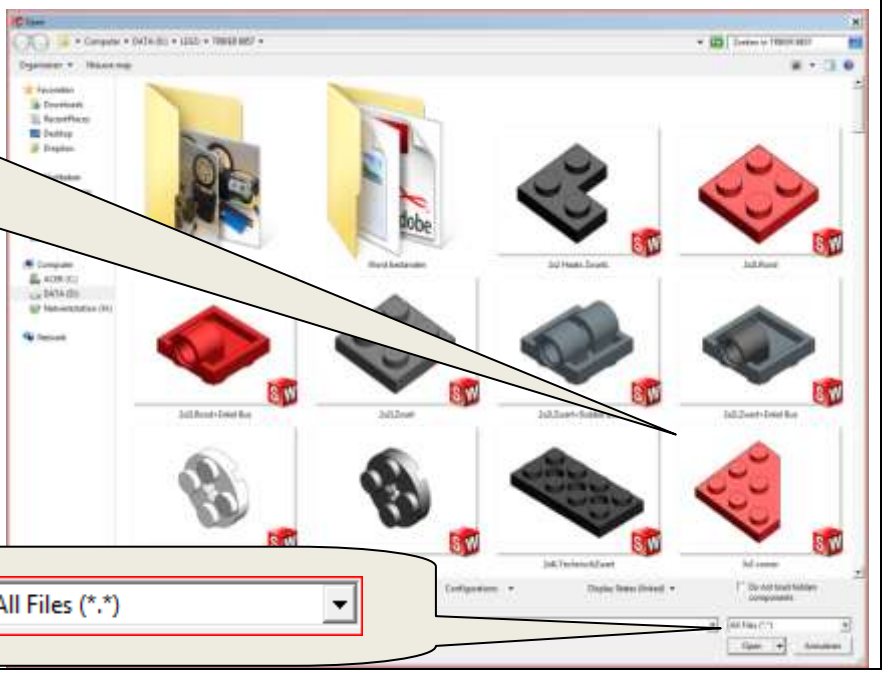
2. Click: Browse...



220

We're looking for:

2x  3x3 corner



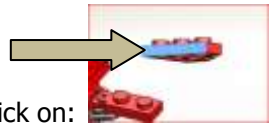
Be sure you are looking in: All Files (*.*)

221

Position the Assembly as illustrated and click the left mouse button.

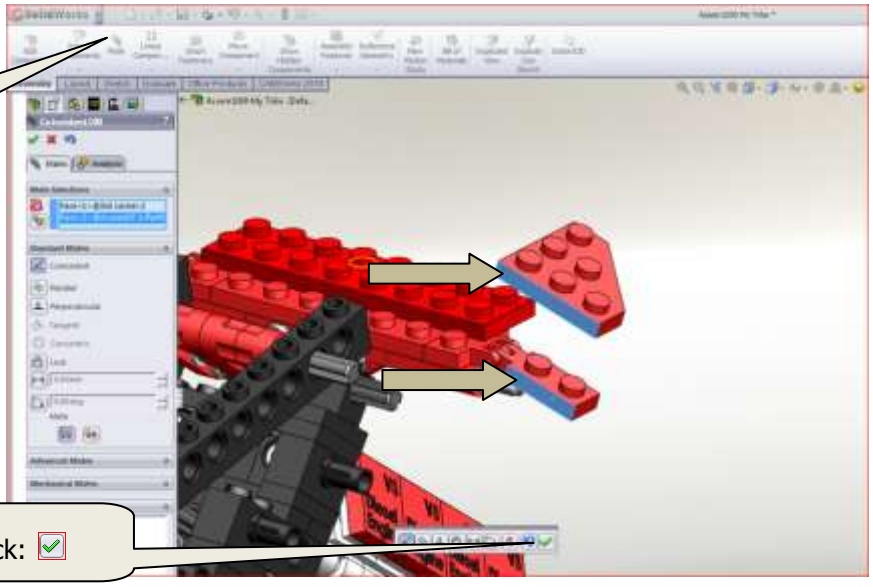
We're going to build again!

Click Mate. 

1. Click on: 

2. Click on: 

Click: ☑



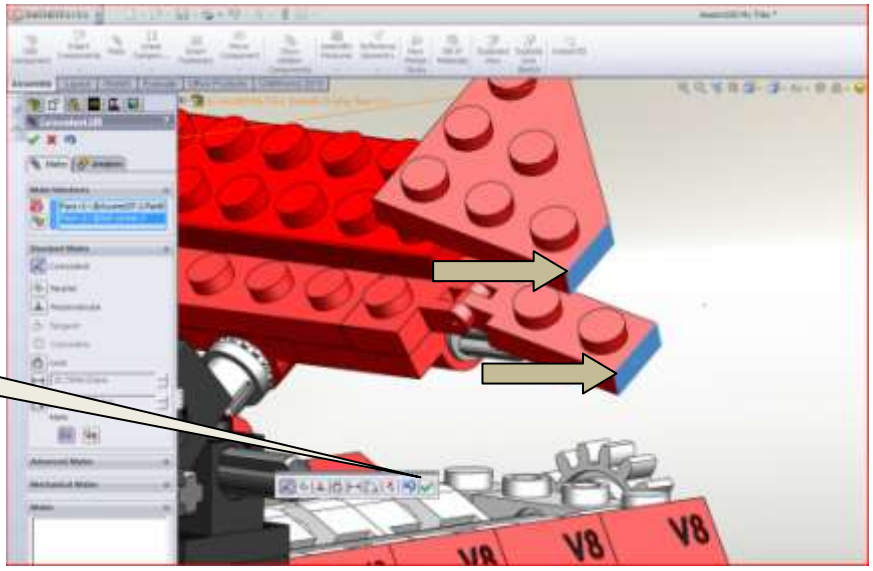
222

1. Click on: 

2. Click on: 

Both sides will lie flush.

Click: ☑

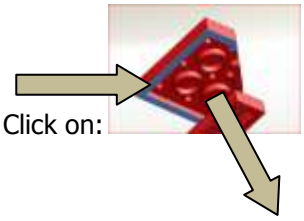


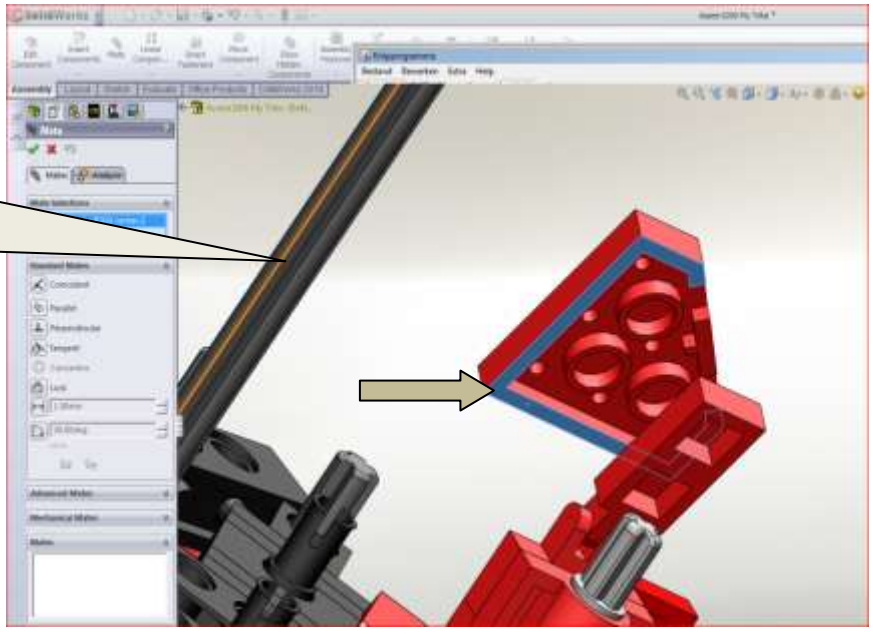
223

1. Click on: 

Press the scroll Wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.

ZOOM in!

2. Click on: 

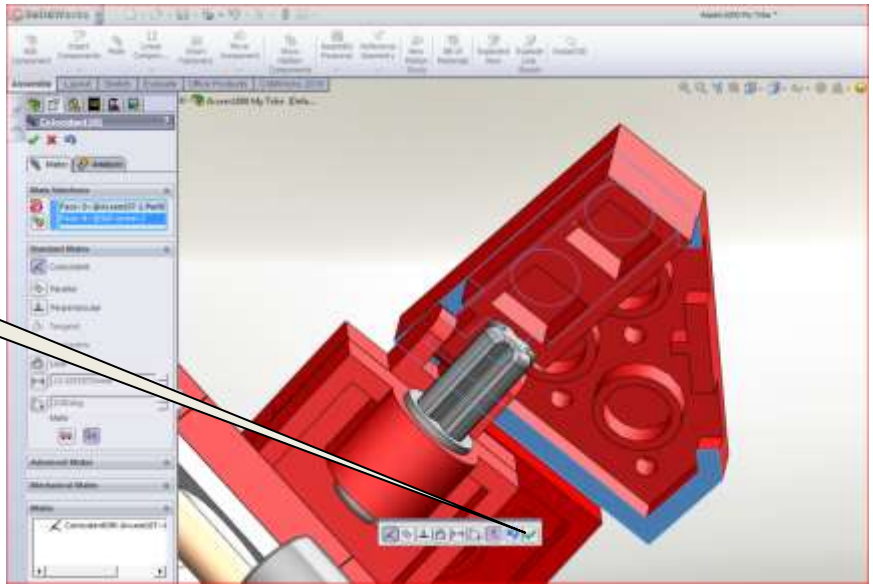


224

You'll now see that both parts are nicely connected together.

Click: ☑

Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.
See step 220.



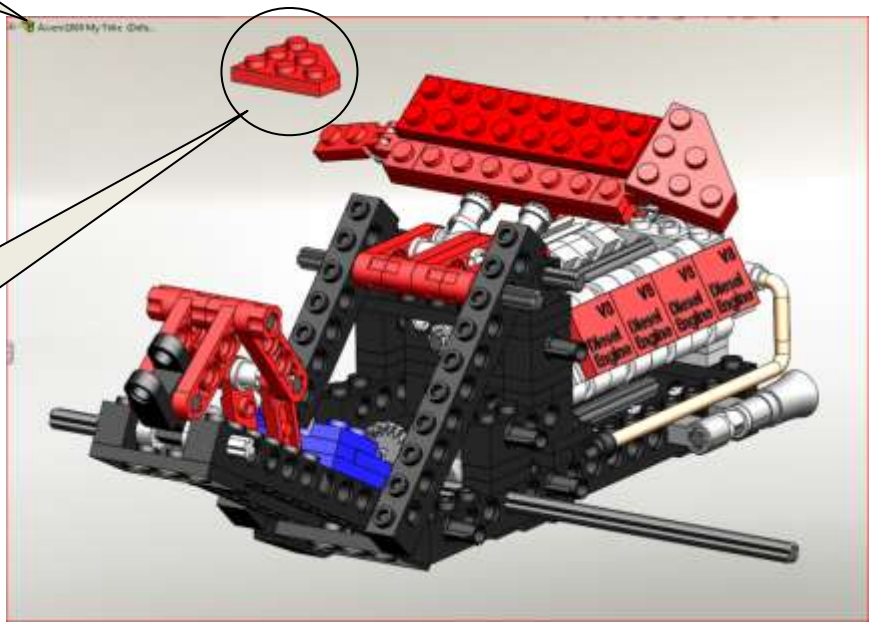
225

Let's save our data once again for safety!

Click Save:

Do the same yourself with the next part!
Refer to the example and use your knowledge from steps: 216 through 219.

GOOD LUCK

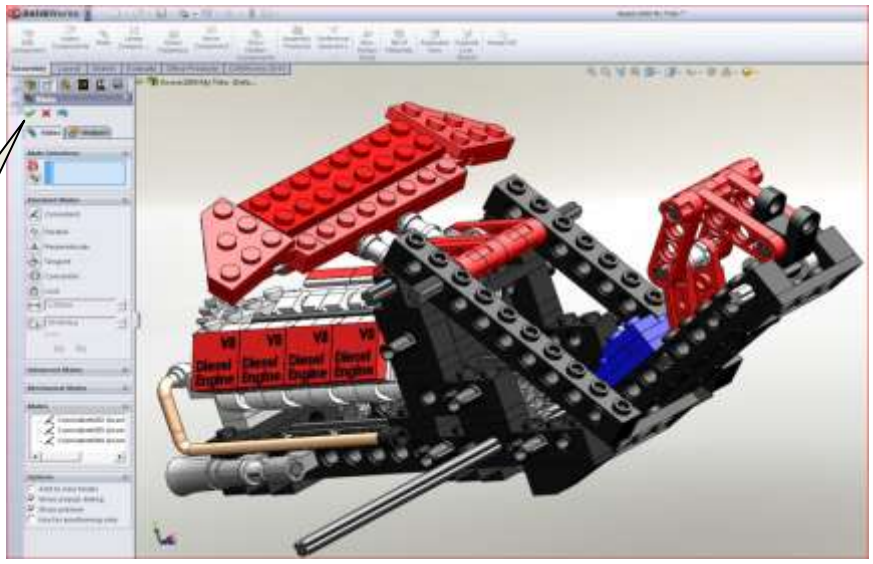


226

ZOOM out!

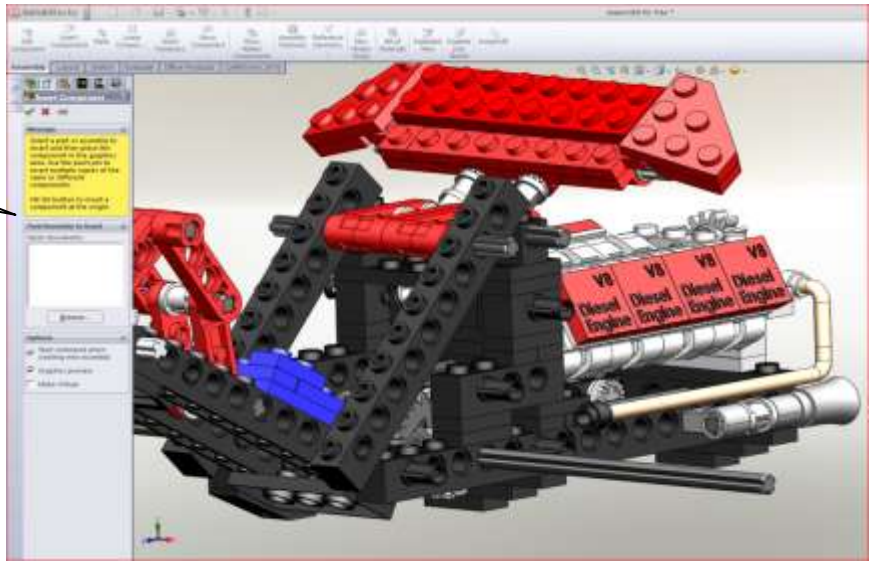
If you did well it will be as illustrated.

Click: ☑

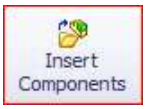


227

Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.



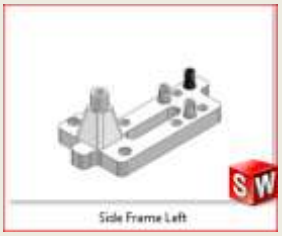
We go back to the warehouse, for new parts.

1. Click: 

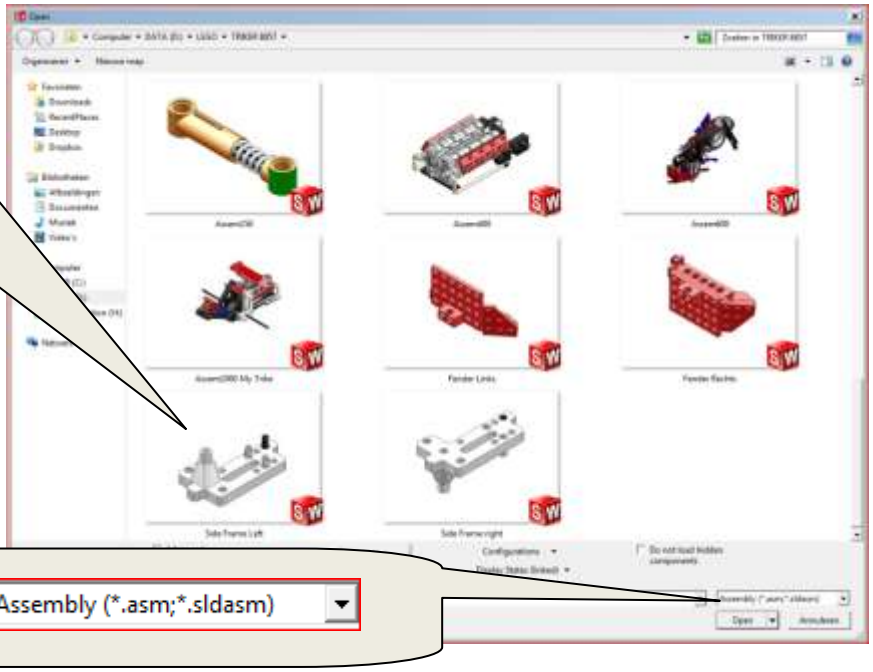
2. Click: 

228

We're looking for:

1x 

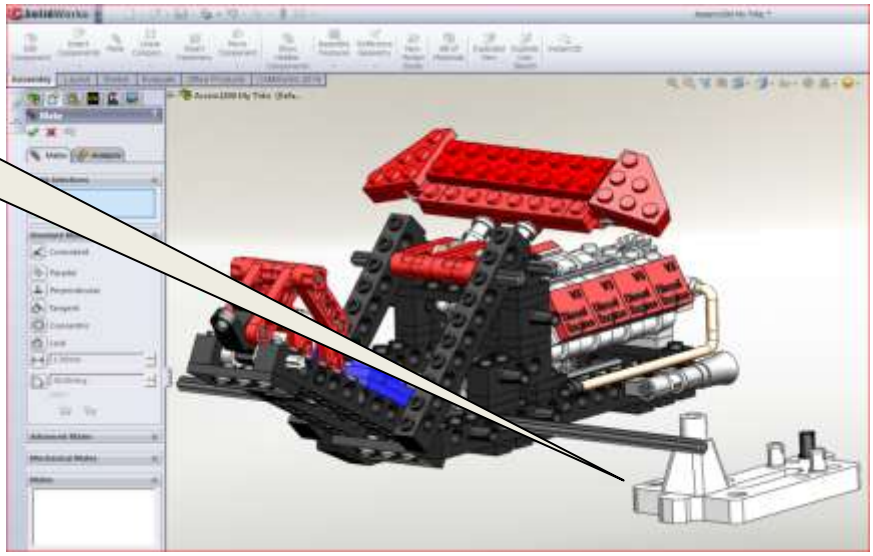
Side Frame Left



Be sure you are looking in:

229

Position the Side Frame Left as illustrated and click the left mouse button.



Press the right mouse button down! Some place on the Side Frame rotate and move the mouse until the **Side Frame Left** is positioned as illustrated, see step 225

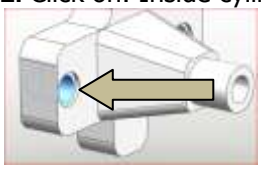
230

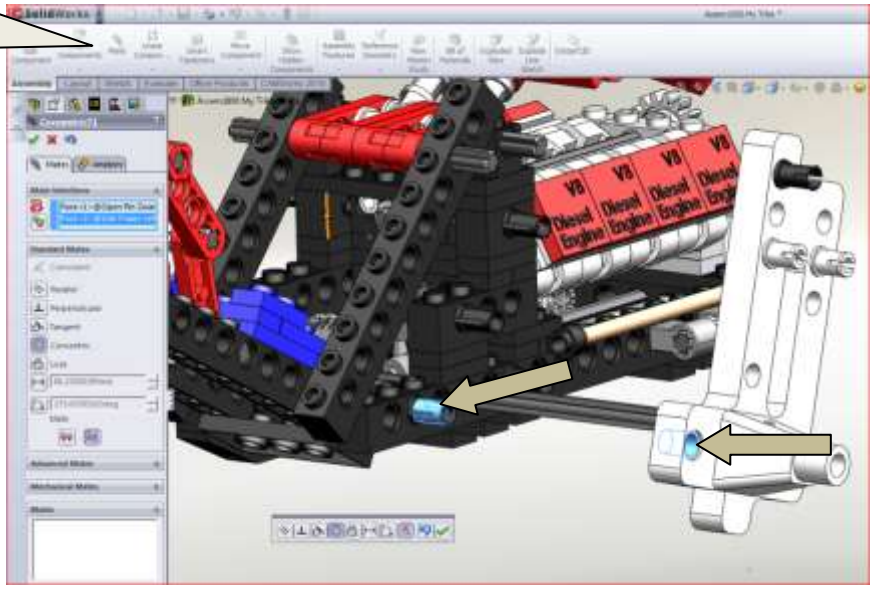
We're going to build again!

Click Mate. 

1. Click on: Outside connector.

2. Click on: Inside cylinder.



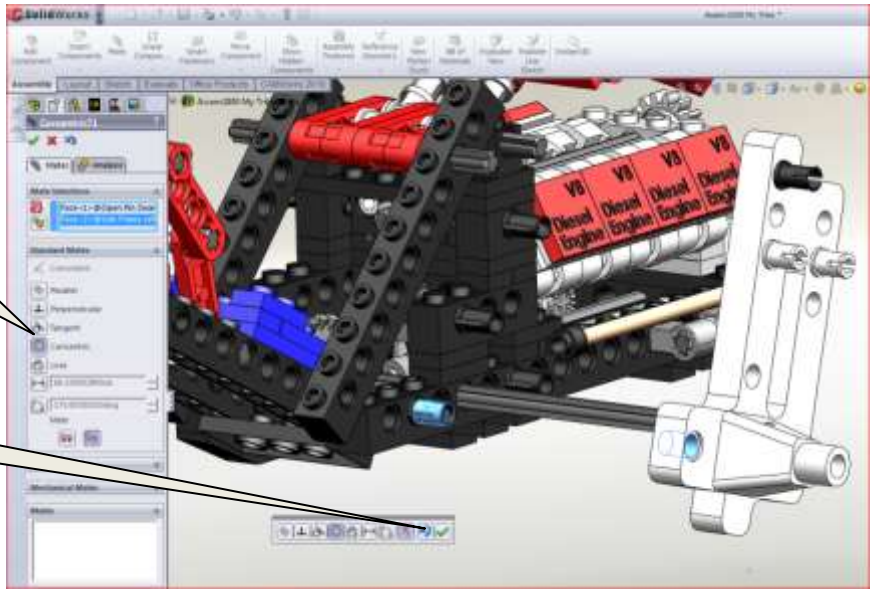


231

You'll now see that both selections are aligned.

Here's the proof! 

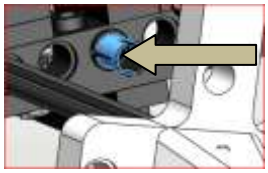
Click: 



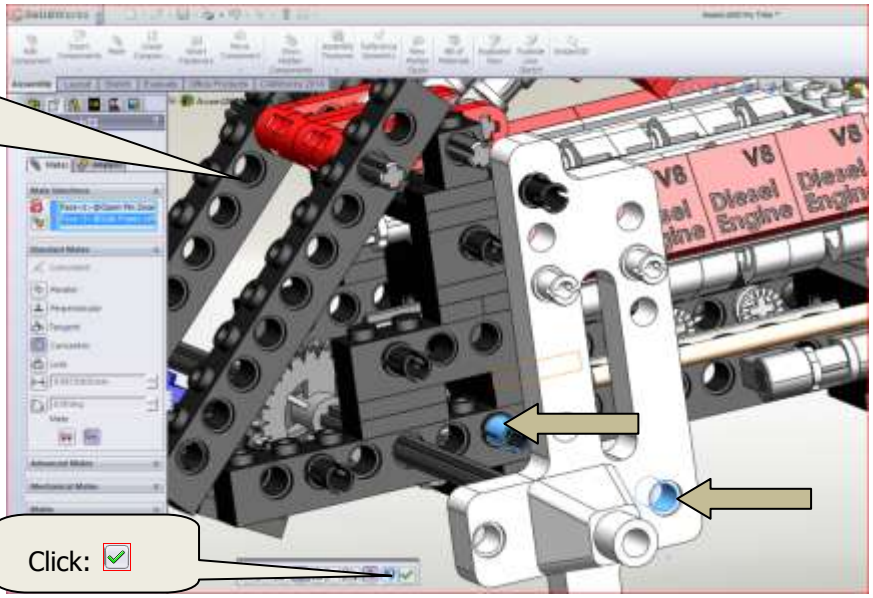
232

Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.

1. Click on: Outside connector.



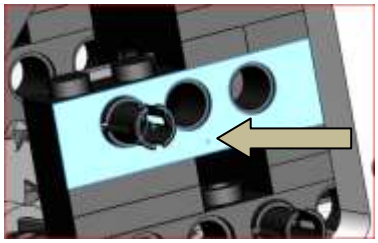
2. Click on: Inside cylinder.

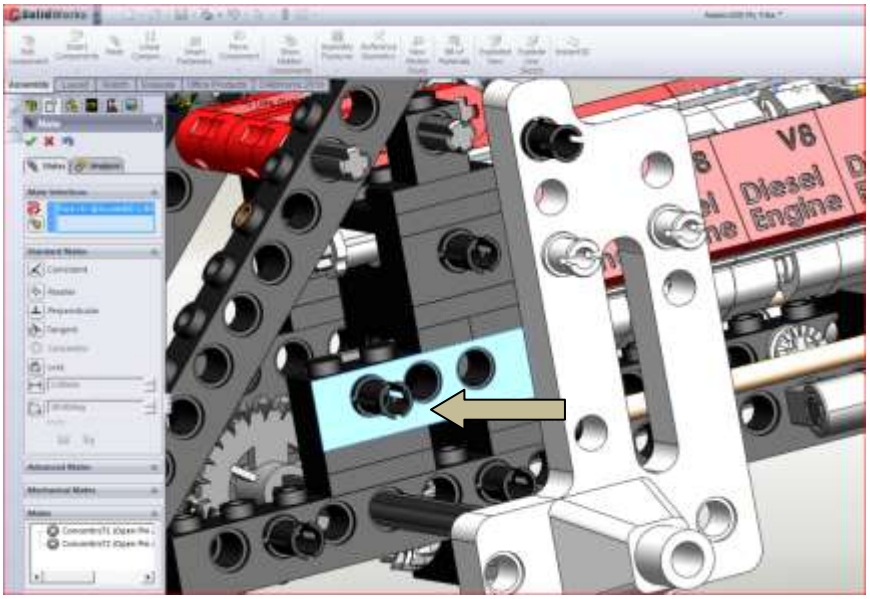


Click:

233

1. Click on: Outside brick.

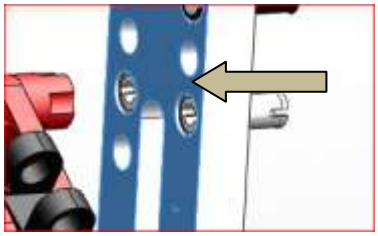


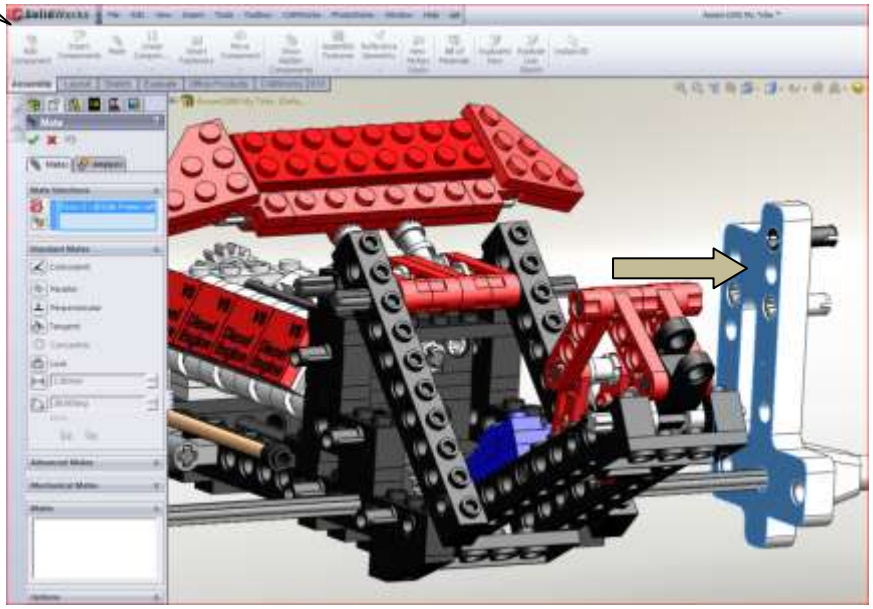


Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.
See step 229.

234

1. Click on: Outside brick.





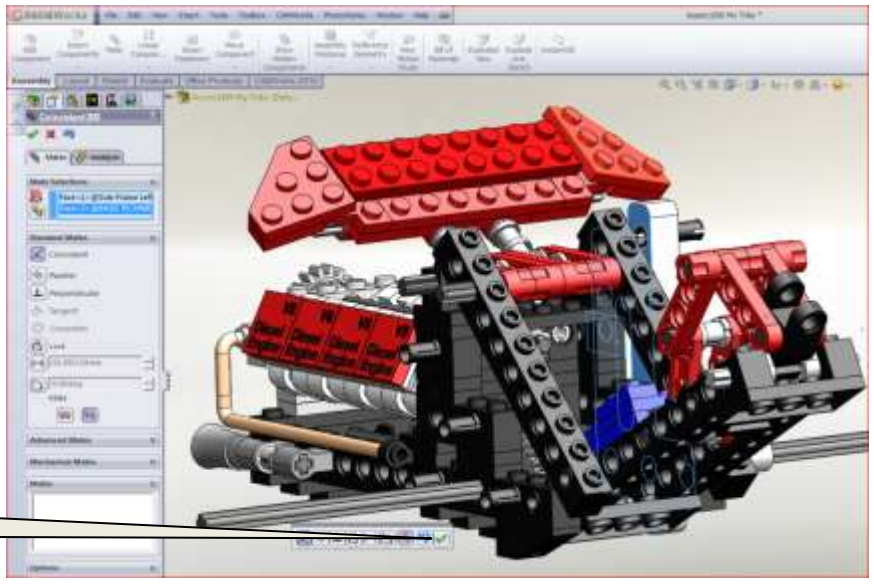
235

ZOOM out!

Iff you did well it will be as illustrated.

You'll now see that both parts are nicely connected together.

Click: ☑



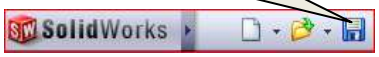
236

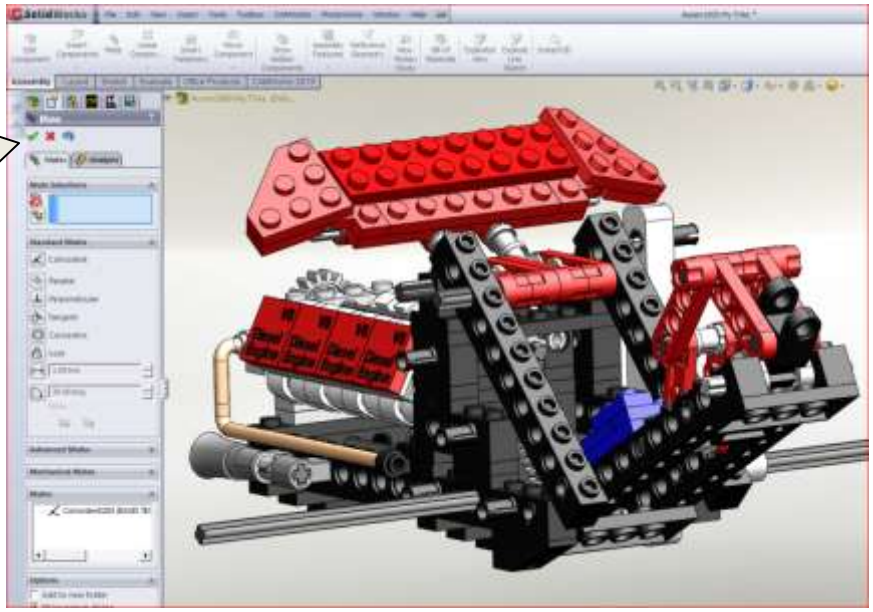
Click: 

With this order we close the MATE function.

Let's save our data once again for safety!

 Click Save:

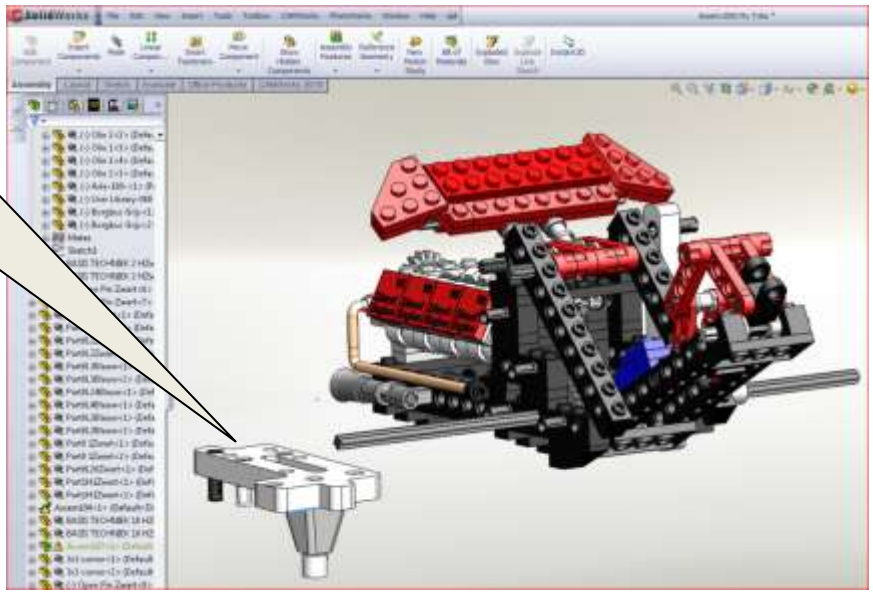




237

Do the same by yourself with the next Assembly **Side Frame Right!** Refer to the example and use your knowledge from steps: 222 through 231.

GOOD LUCK



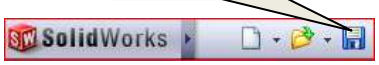
238

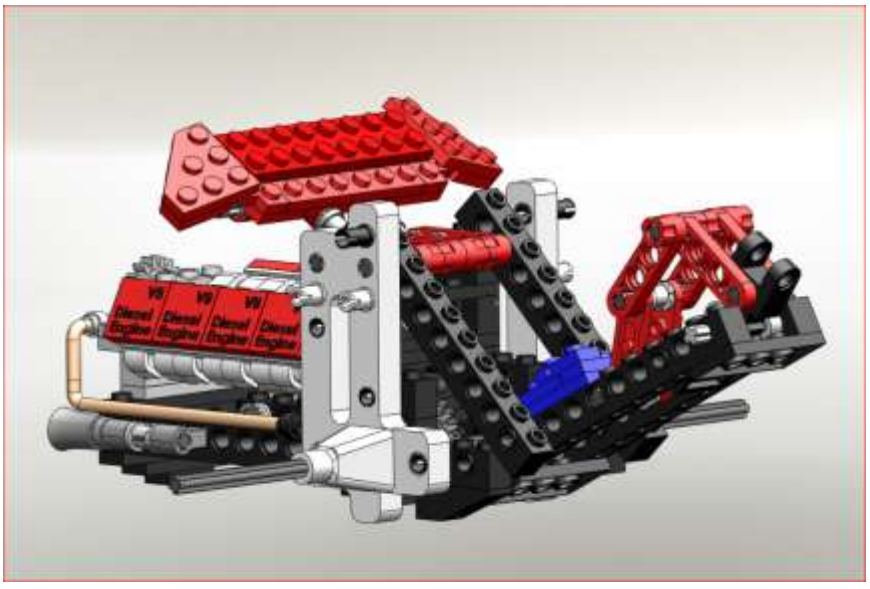
 **ZOOM out!**

If you did well it will be as illustrated.

Let's save our data once again for safety!

 Click Save:

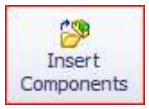




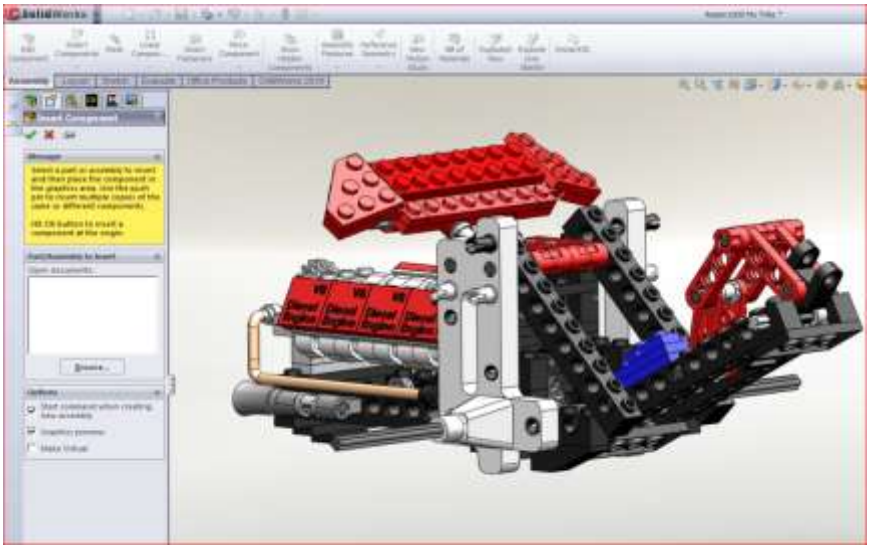
239

Let's move on!

We now return to the warehouse, for new parts.

1. Click: 

2. Click: 

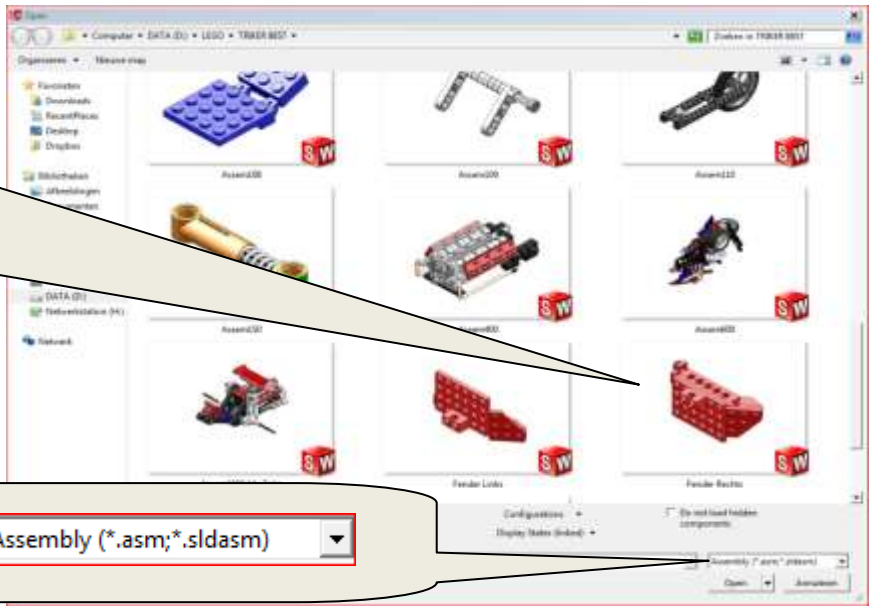


240

We're looking for:

1x 

Fender rechts

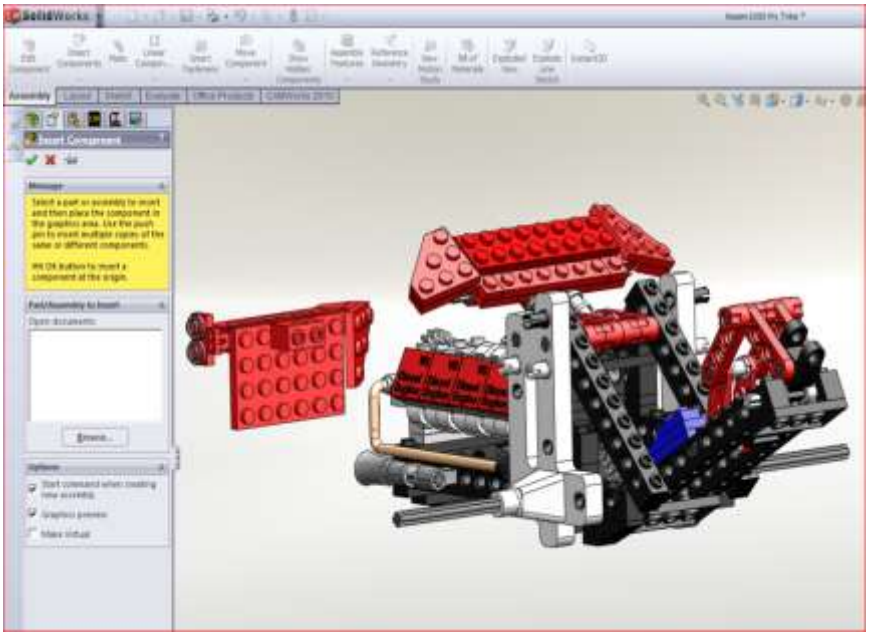


Be sure you are looking in:

241

Position the Fender as illustrated and click the left mouse button.

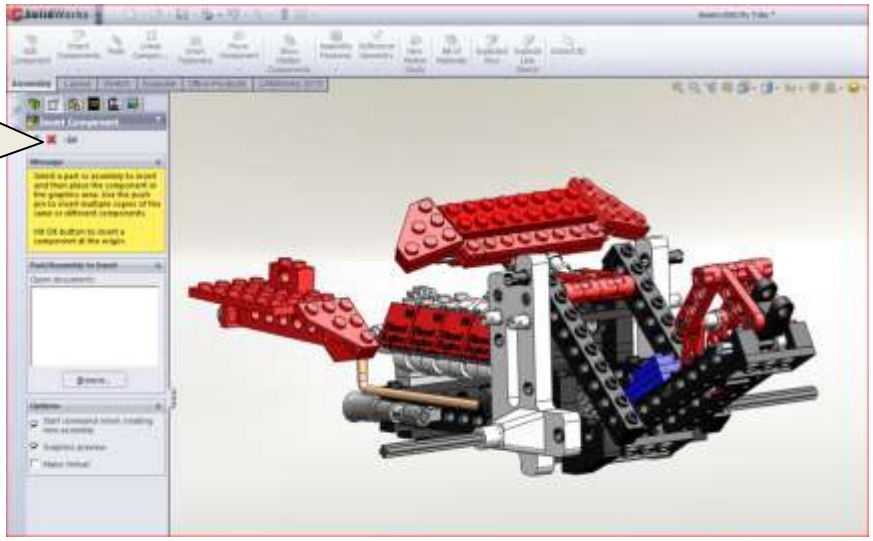
Press the right mouse button down! Some place on the graphics window, rotate and move the mouse until the **Fender rechts** is positioned as illustrated, see step 237



242

Click: 

With this order we close the **Insert** function.

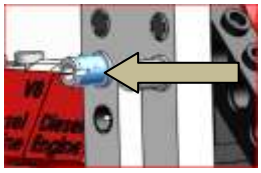


243

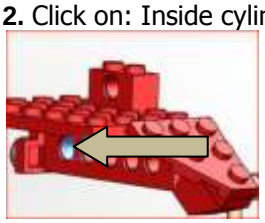
We're going to build again!

Click Mate. 

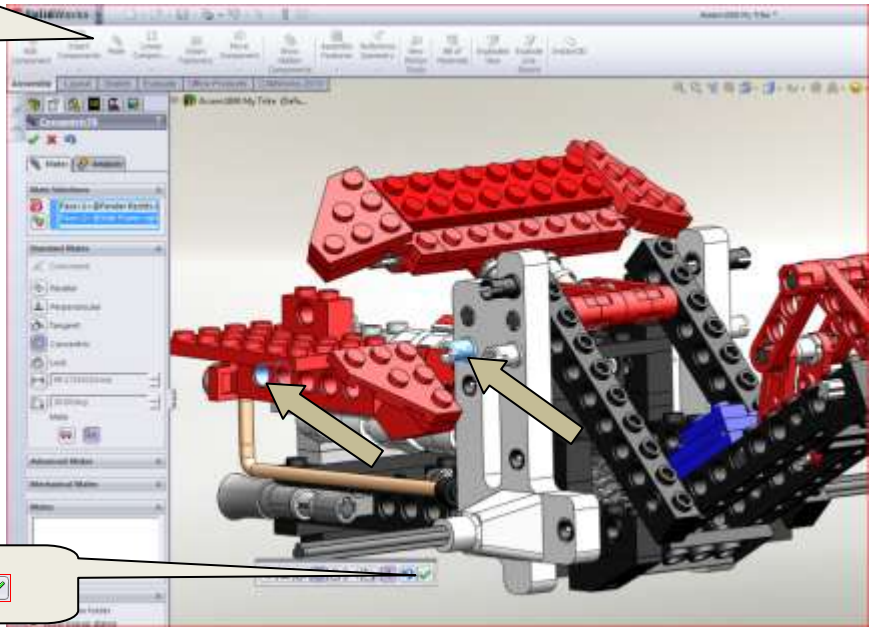
1. Click on: Outside connector.



2. Click on: Inside cylinder.

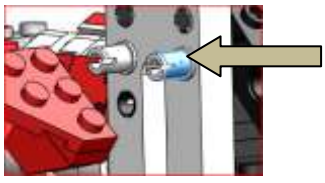


Click: 

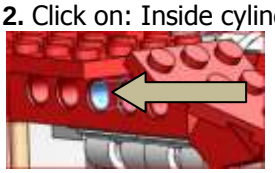


244

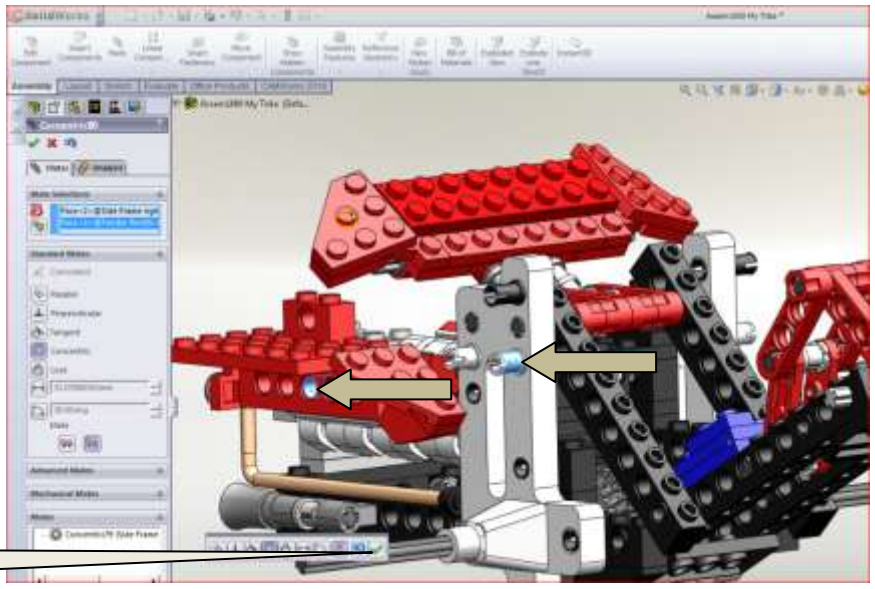
1. Click on: Outside connector.



2. Click on: Inside cylinder.

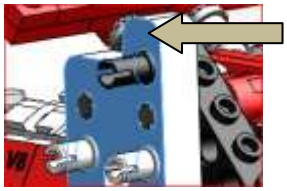


Click: 

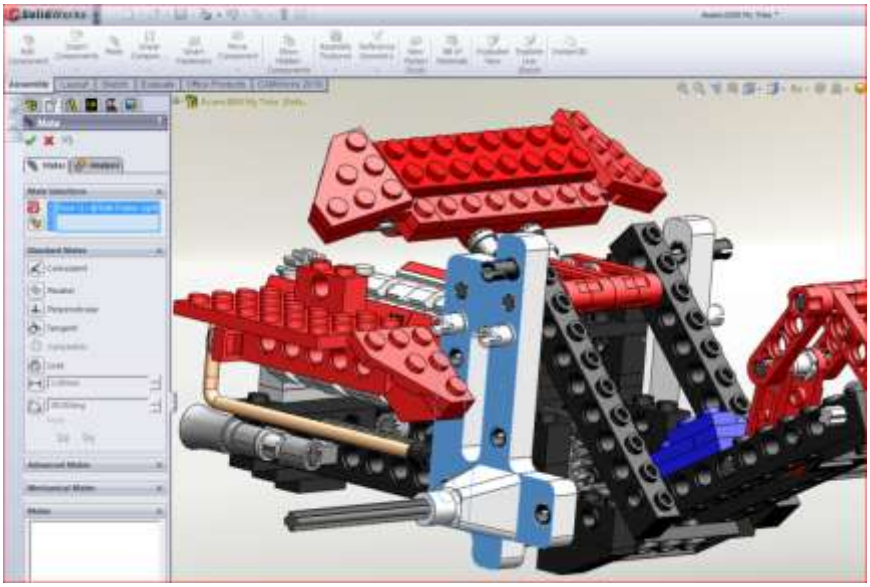


245

1. Click on:
Outside side Frame.

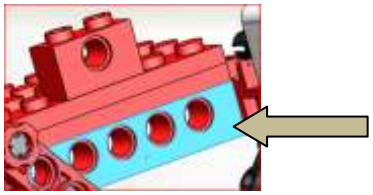


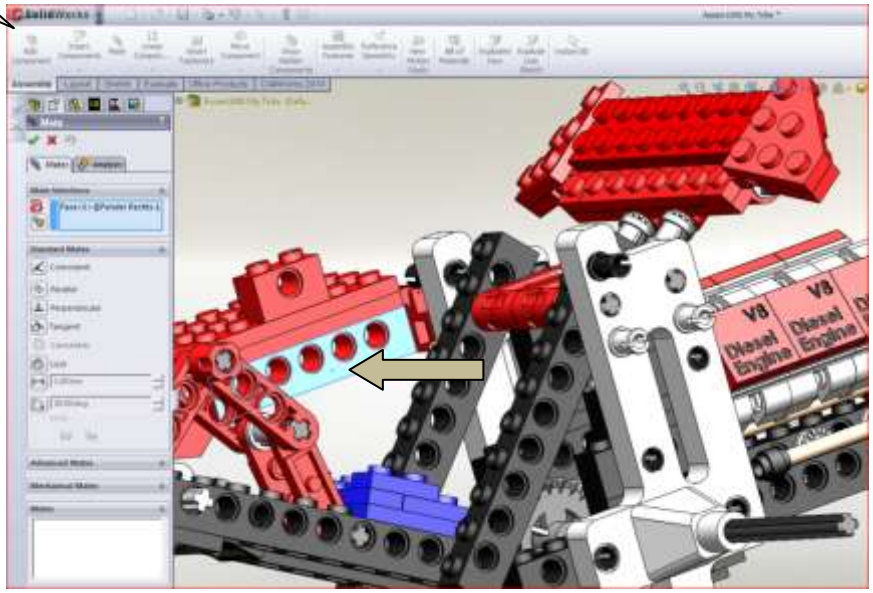
Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.
See step 241.



246

1. Click on:
Outside fender.





247

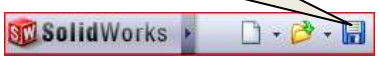
Rotate / Zoom out!

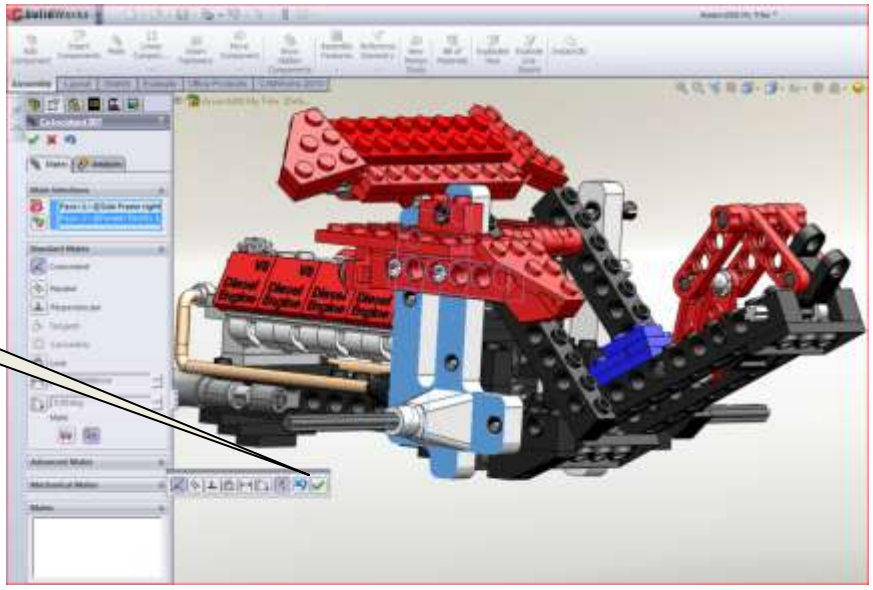
If you did well it will be as illustrated.

Click: ☑

Let's save our data once again for safety!


Click Save:

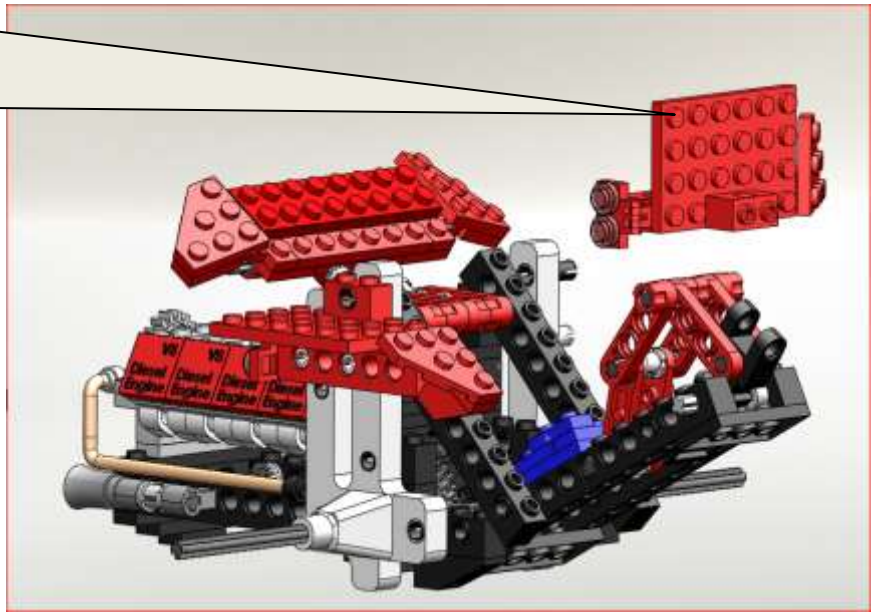




248

Do the same by yourself with the next Assembly **Fender links!**
Refer to the example and use your knowledge from steps: 234 through 242.

GOOD LUCK

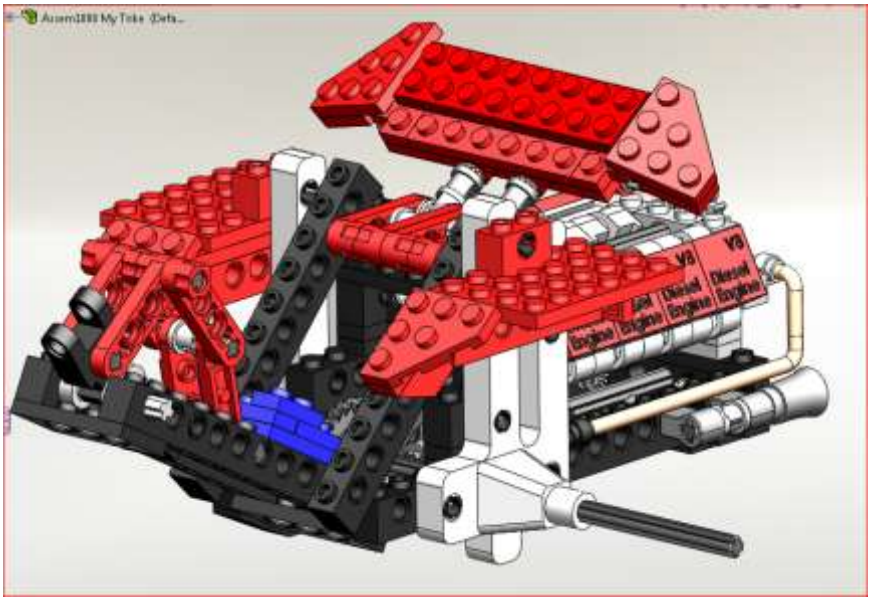


249

ZOOM out!

If you did well it will be as illustrated.

Let's save our data once again for safety!

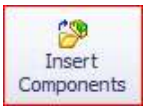


250

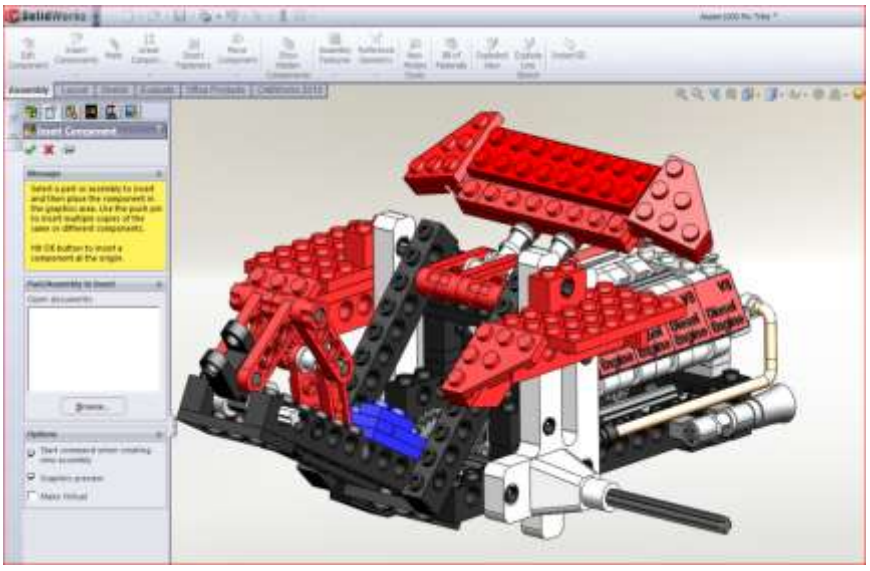
Let's move on!

We now return to the warehouse, for new parts.

1. Click:



2. Click:



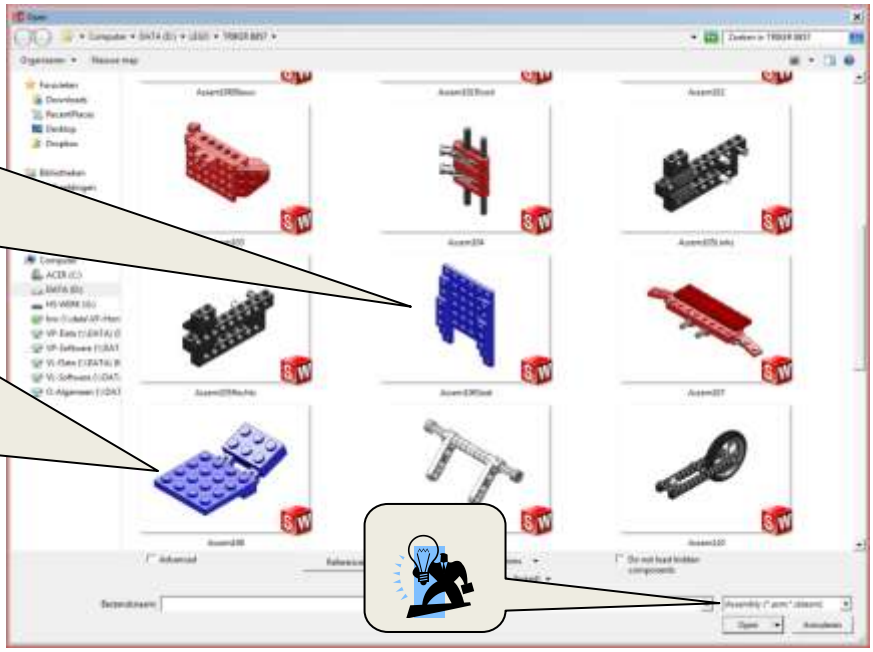
251

We're looking for:

1x Assem106Seat

We're looking for:

1x Assem108

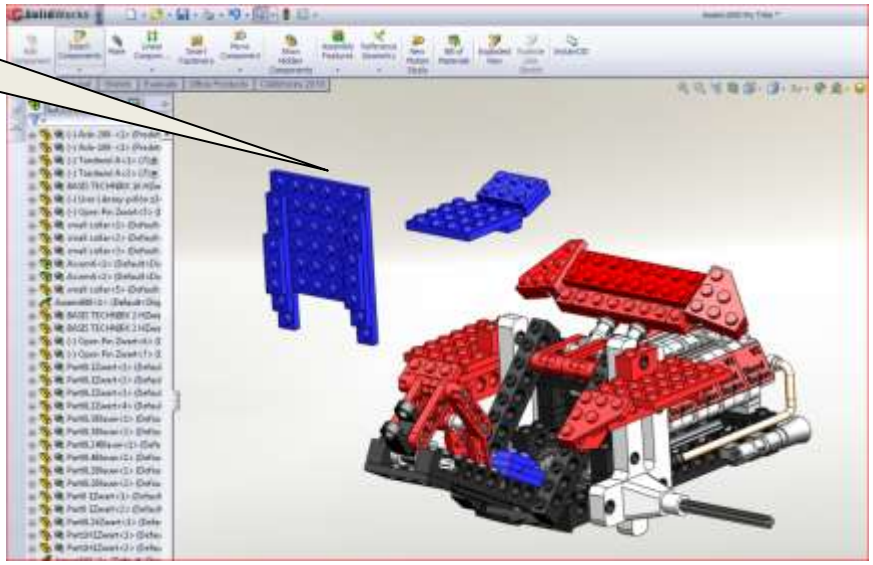


252

Position the two assembly's as illustrated and click the left mouse button.

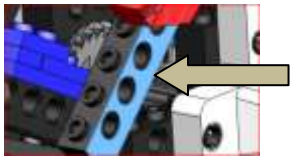
We're going to build again!

Click Mate. 

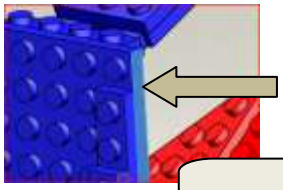


253

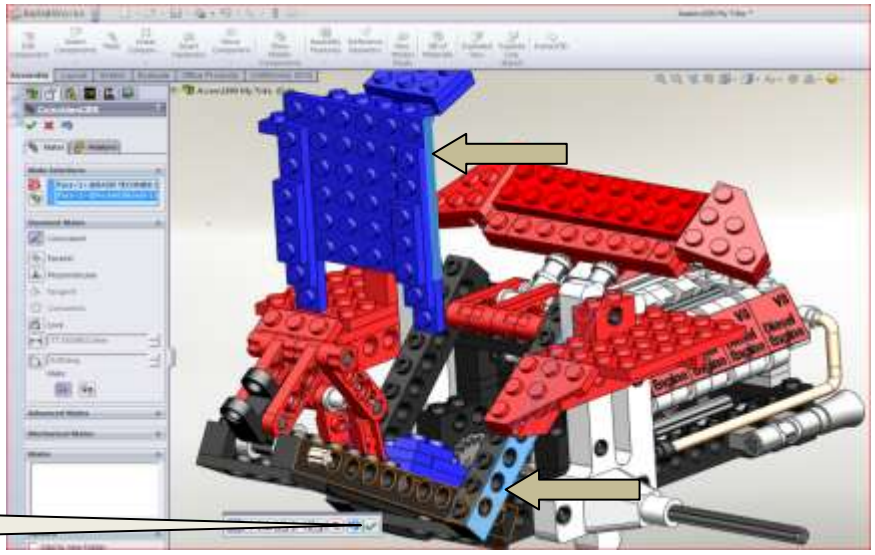
1. Click on:
Outside brick.



2. Click on:
Outside brick.

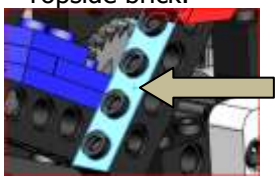


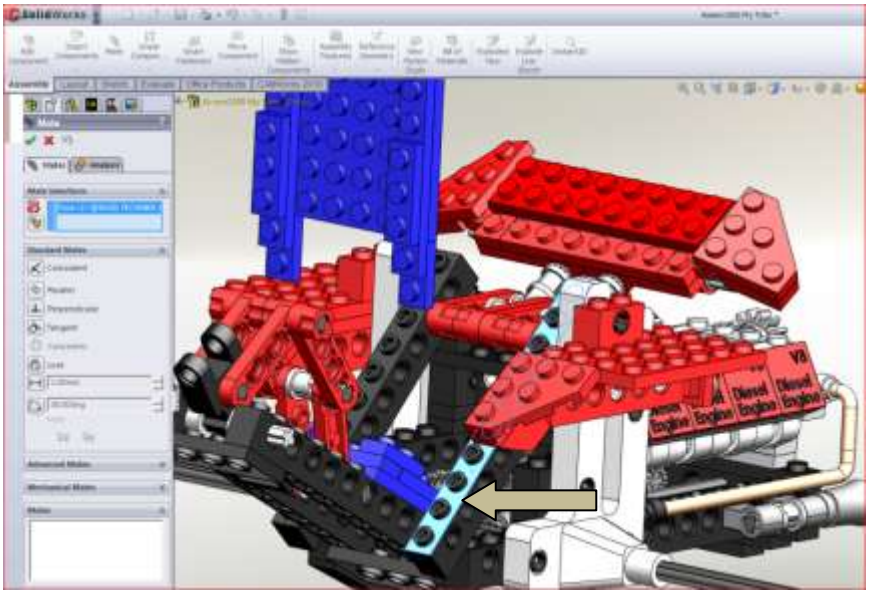
Click: ☑



254

1. Click on:
Topside brick.

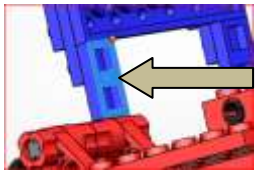


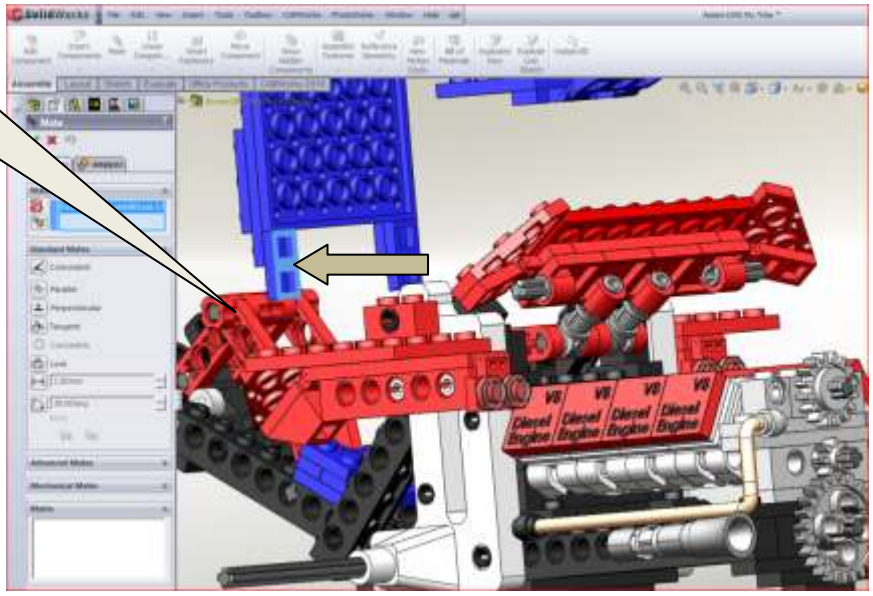


255

Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.

1. Click on:
Bottom brick.

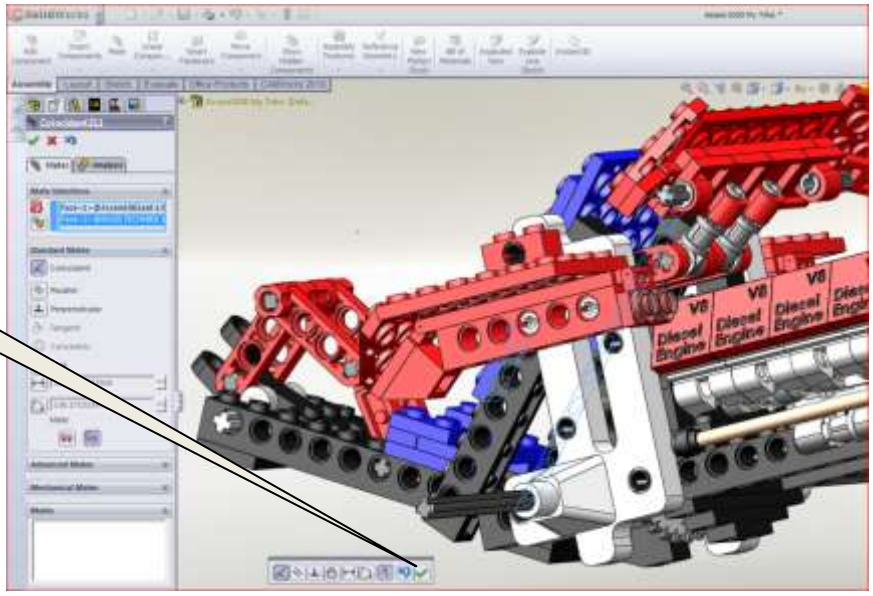




256

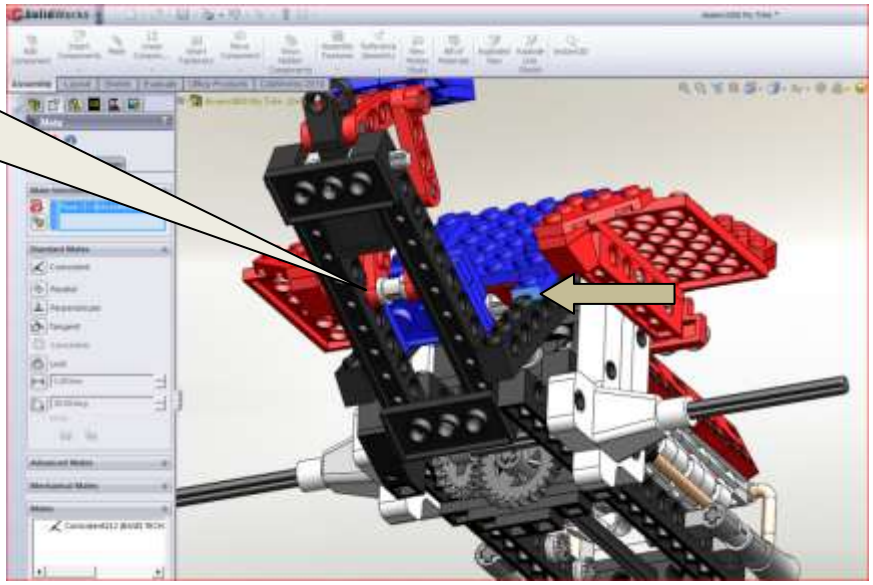
You'll now see that both parts are nicely connected together.

Click: ☑

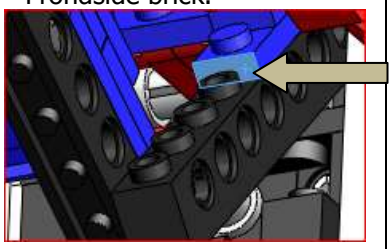


257

Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.

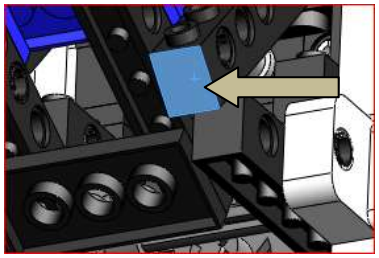


1. Click on:
Frondside brick.

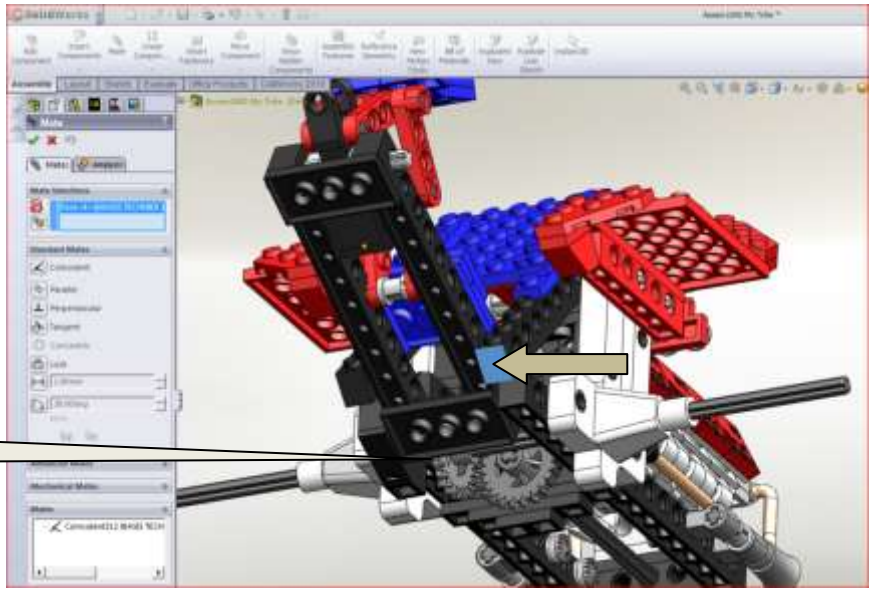


258

1. Click on:
Frondside brick.



Click: ☑

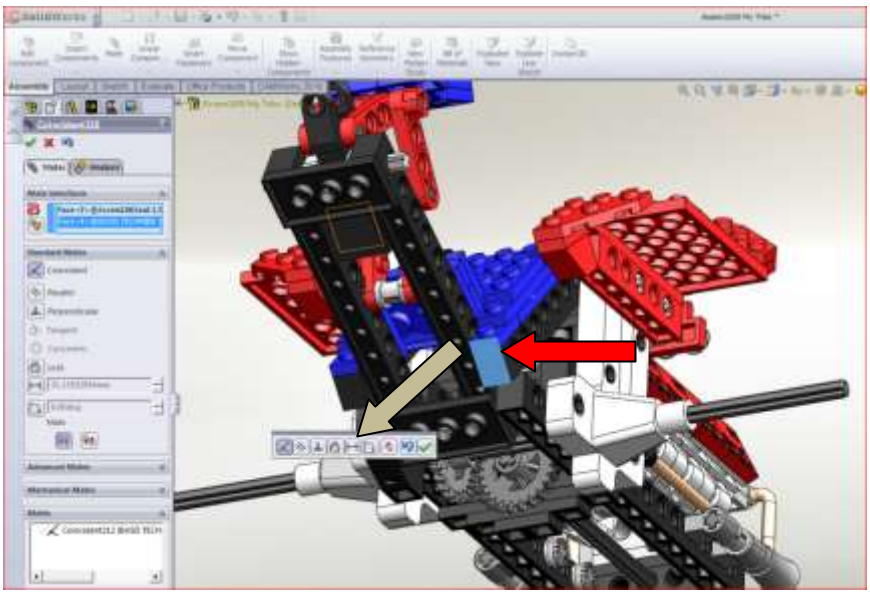


259

You'll now see that both parts are nicely connected together.

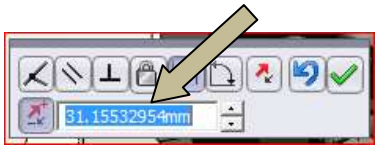
This is Wrong!

1. Click on: Distance.

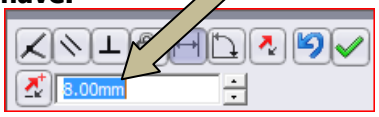


260

This is the distance, we have from the start!



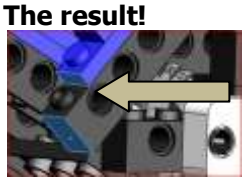
This is the distance we will have!

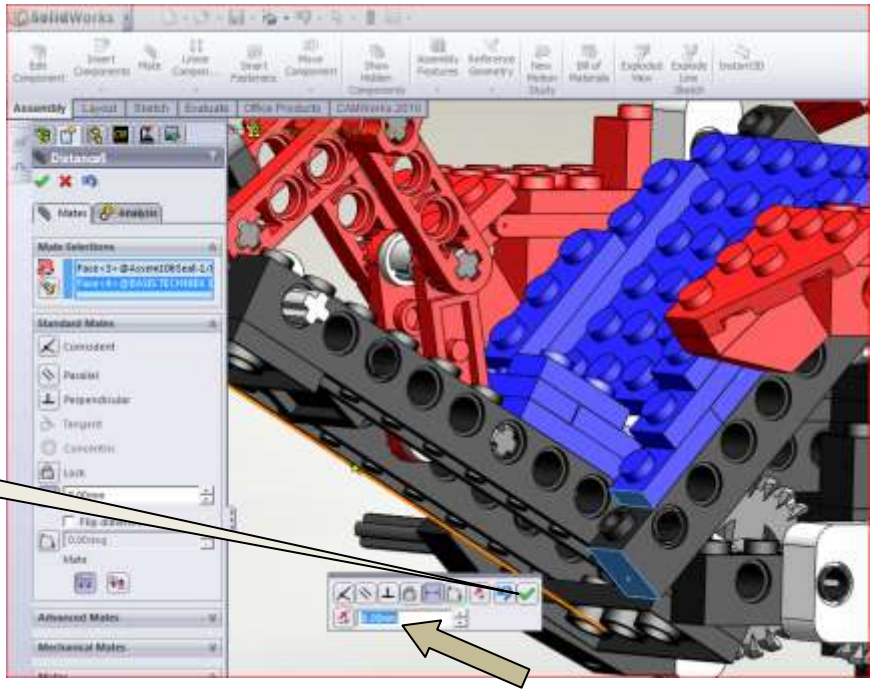


Fill in the value 8.00mm

Click:

The result!





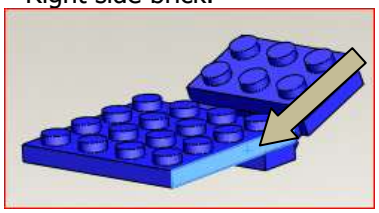
261

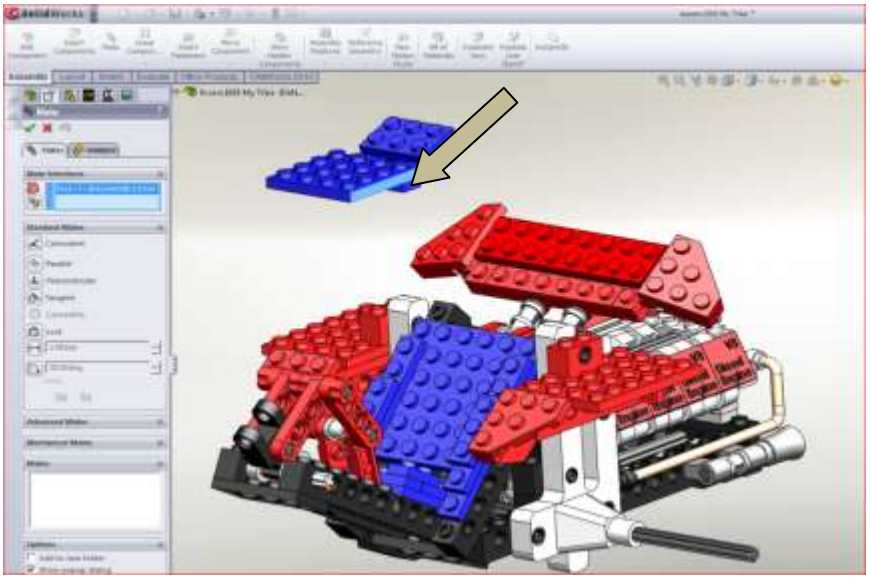
ZOOM out!

If you did well it will be as illustrated.

Let's move on!

1. Click on:
Right side brick.

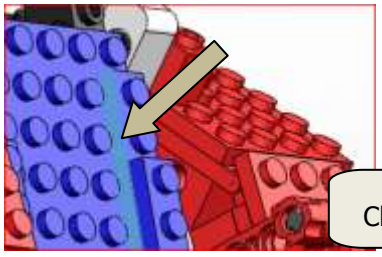




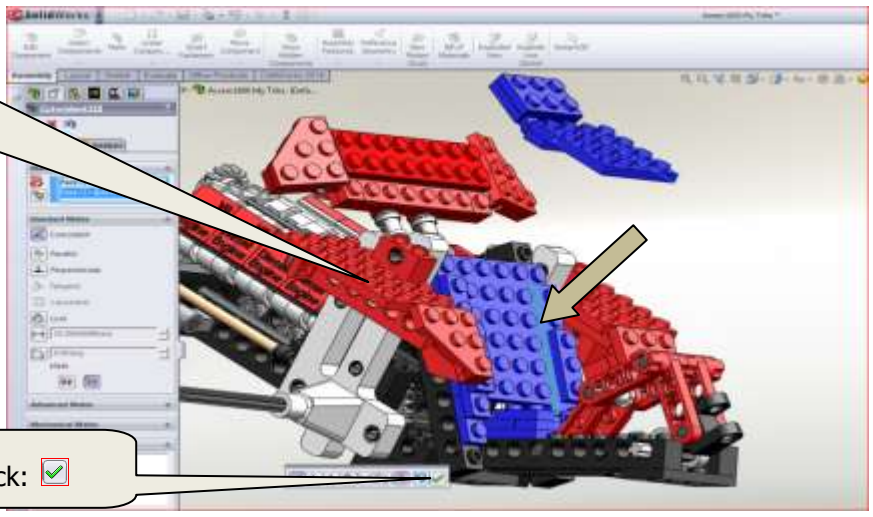
262

Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.

1. Click on:
Frondside brick.

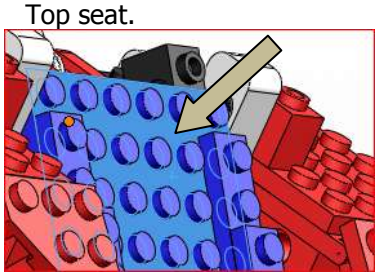


Click:

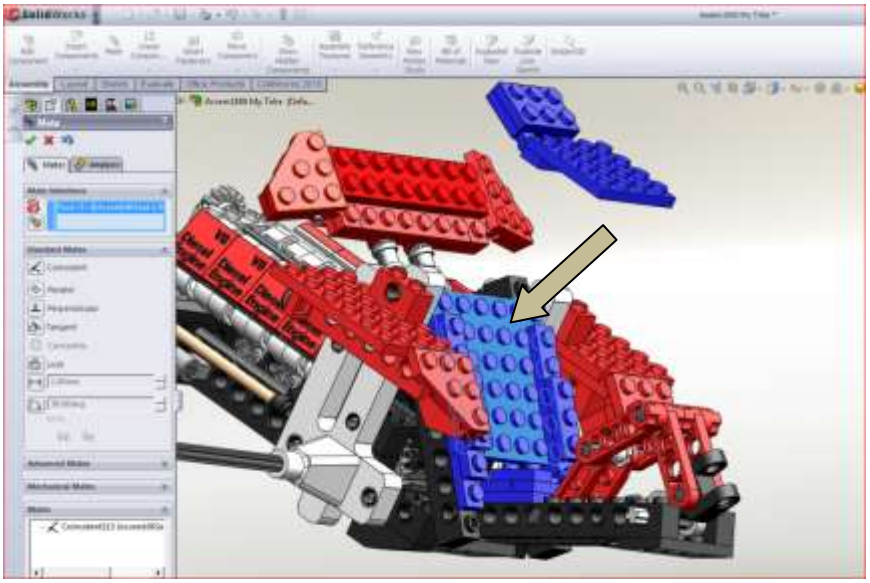


263

1. Click on:
Top seat.

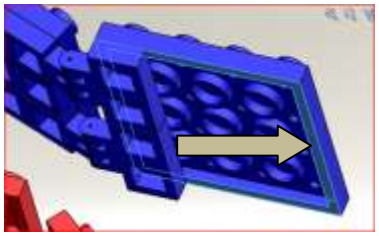


Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.
See step 259.

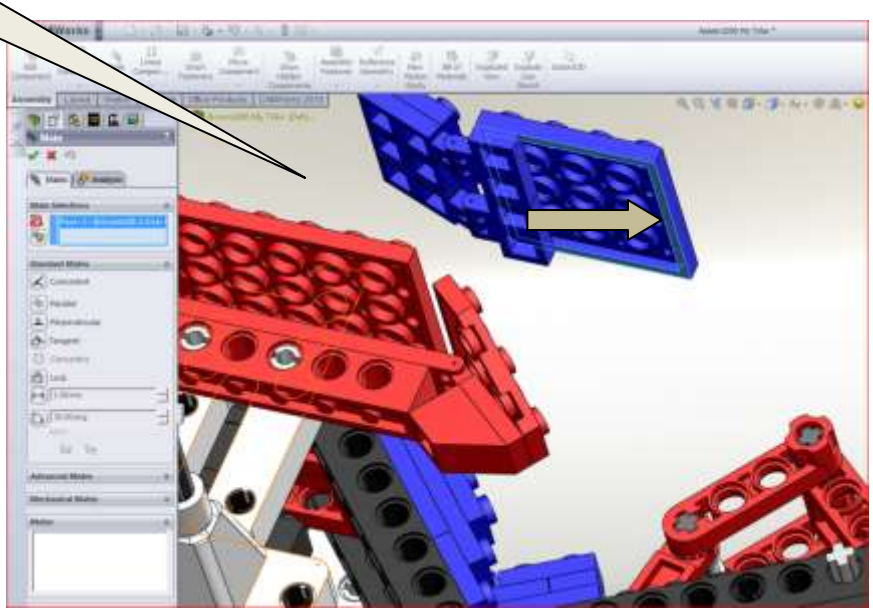


264

1. Click on:
Bottom subseat.



You'll now see that both parts will nicely lie flush.
See step 260.

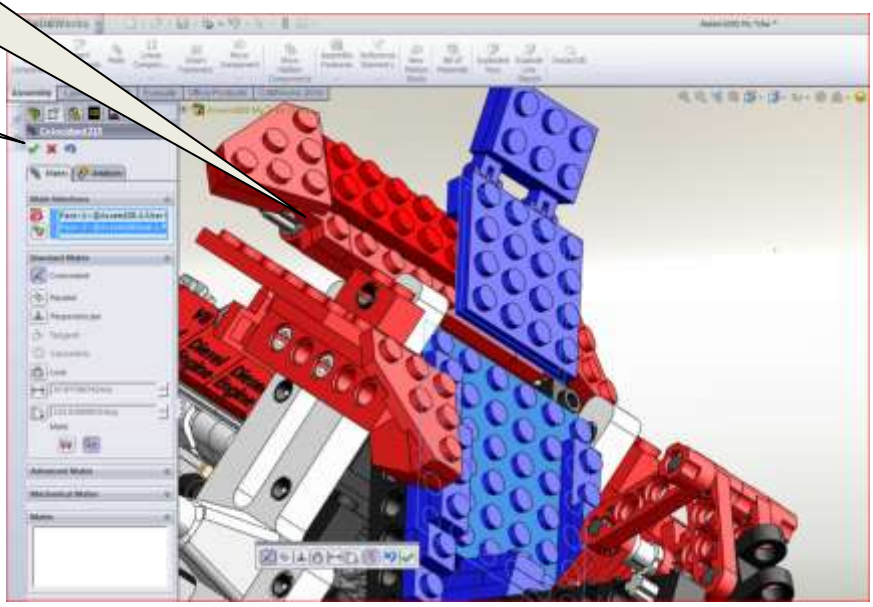


265

Click: ☑

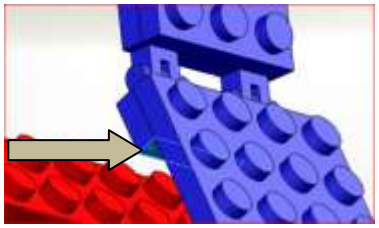
Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.

ZOOM in!
See step 262.

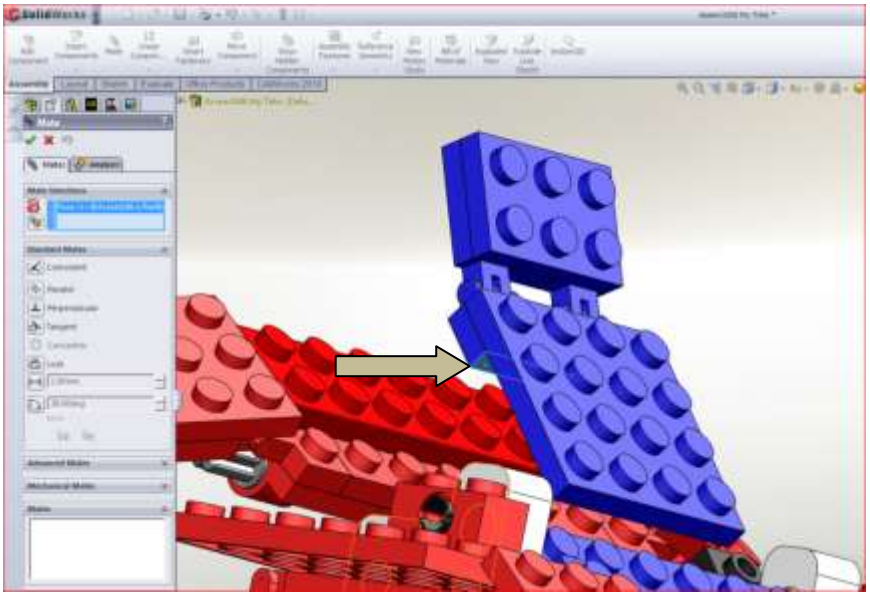


266

1. Click on:
Outside brick.

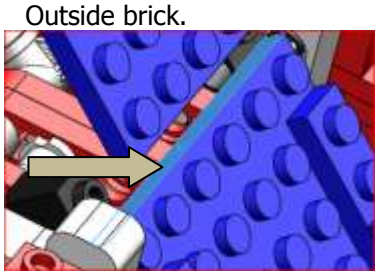


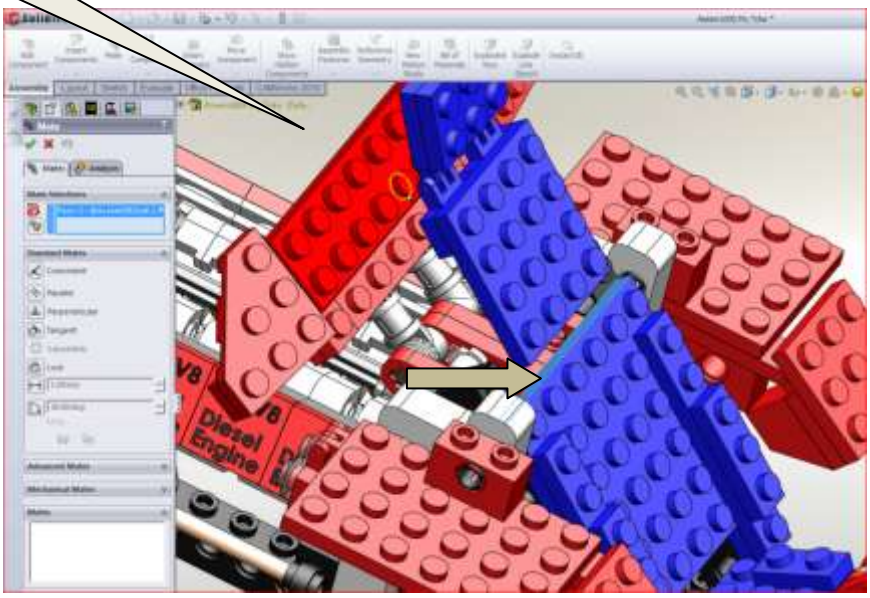
Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.
See step 262.



267

1. Click on:
Outside brick.

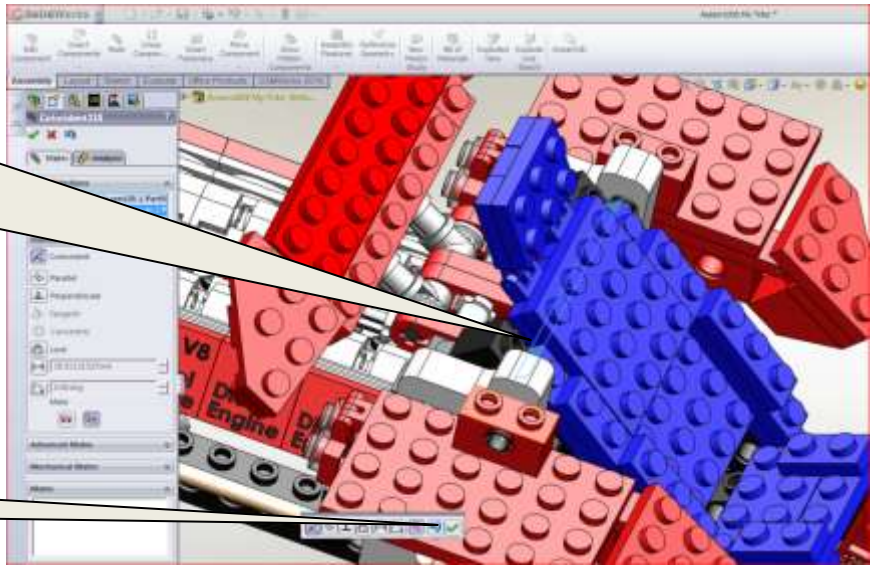




268

You'll now see that both parts will nicely connect together.

Click: ☑



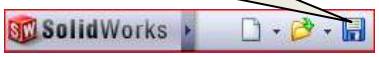
269

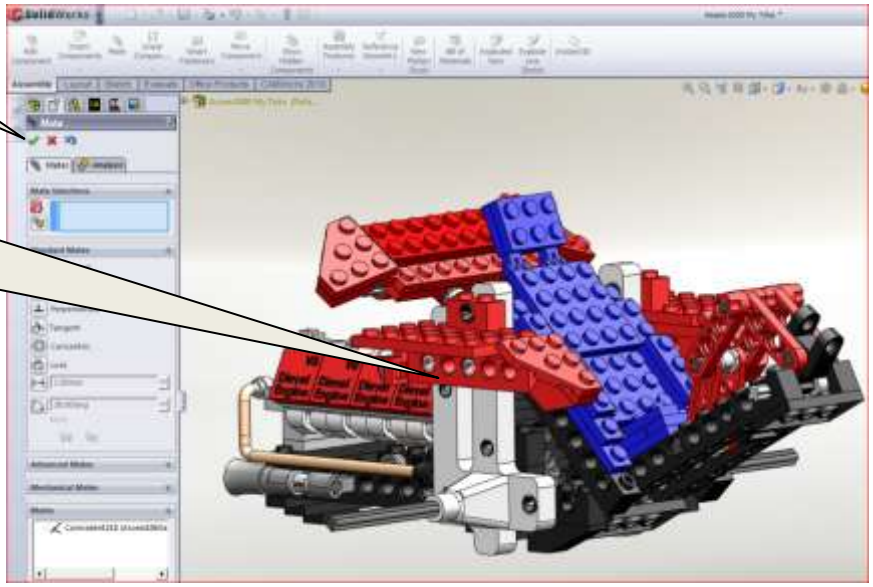
Click:

Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.

Let's save our data once again for safety!

Click Save:



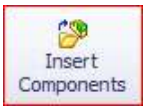


270

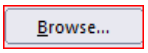
Let's move on!

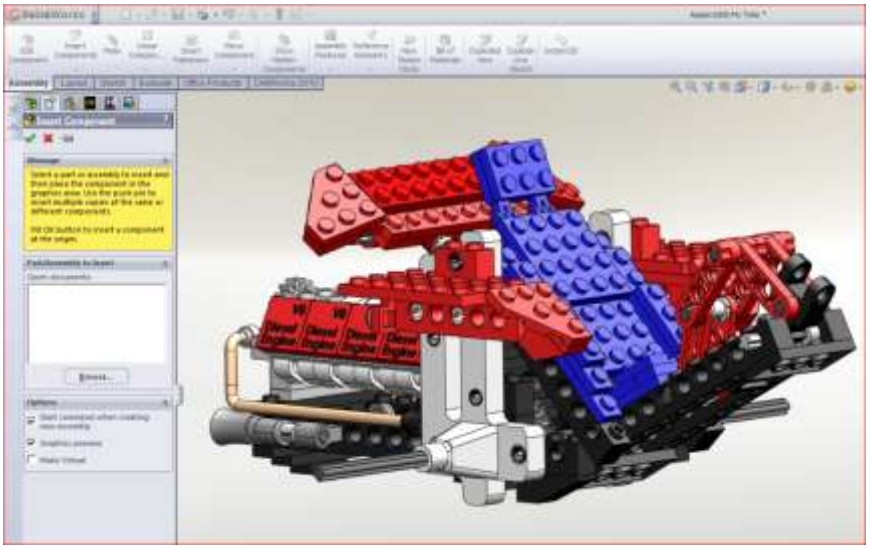
We now return to the warehouse, for new parts.

1. Click:



2. Click:

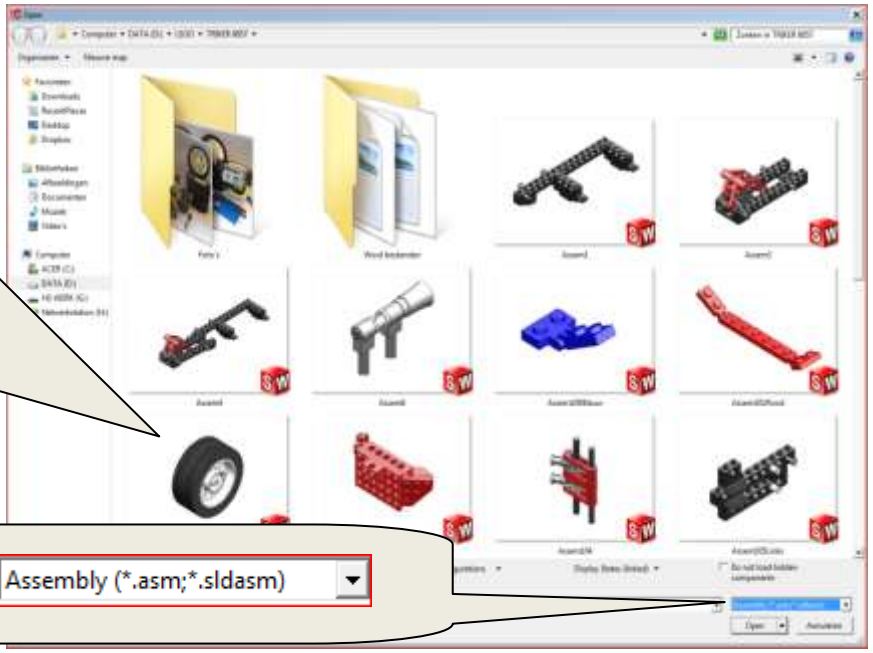




271

We're looking for:
2x Rear wheel

Assem102



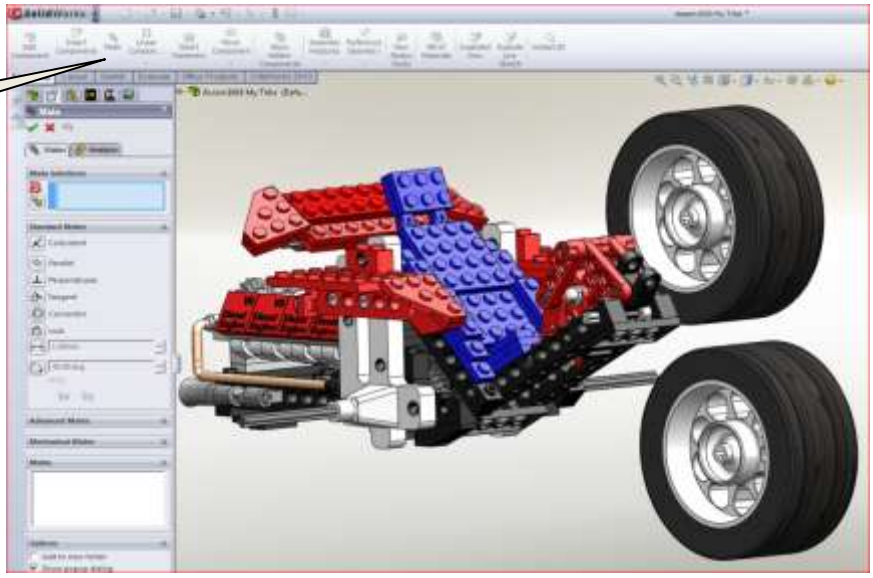
Be sure you are looking in:

272

Position the rear wheel's as illustrated and click the left mouse button.

We're going to build again!

Click Mate. 



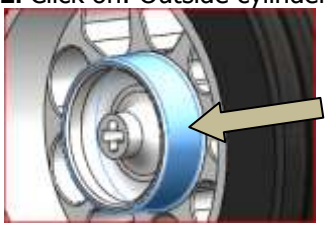
273

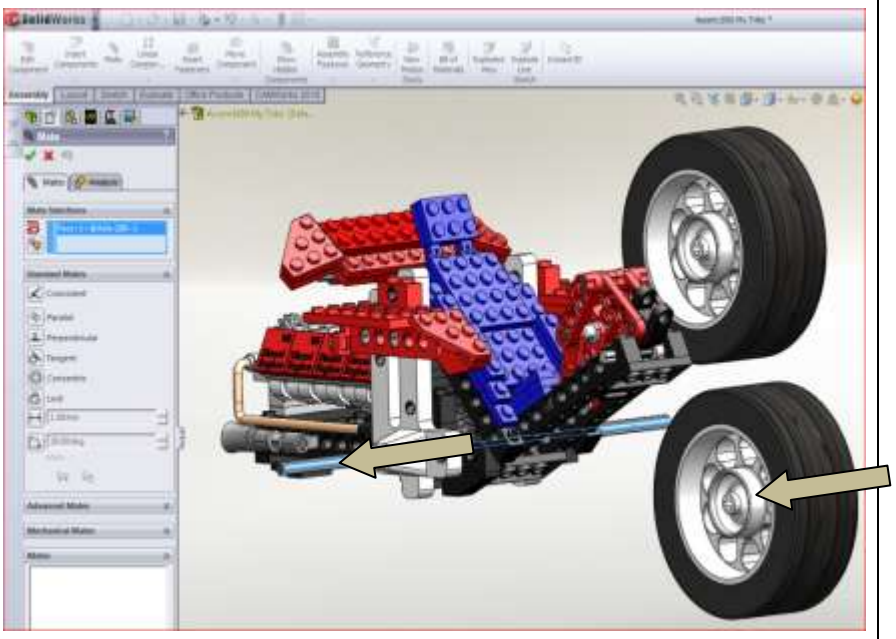
ZOOM in!

1. Click on: Outside axle.

ZOOM out!

2. Click on: Outside cylinder.



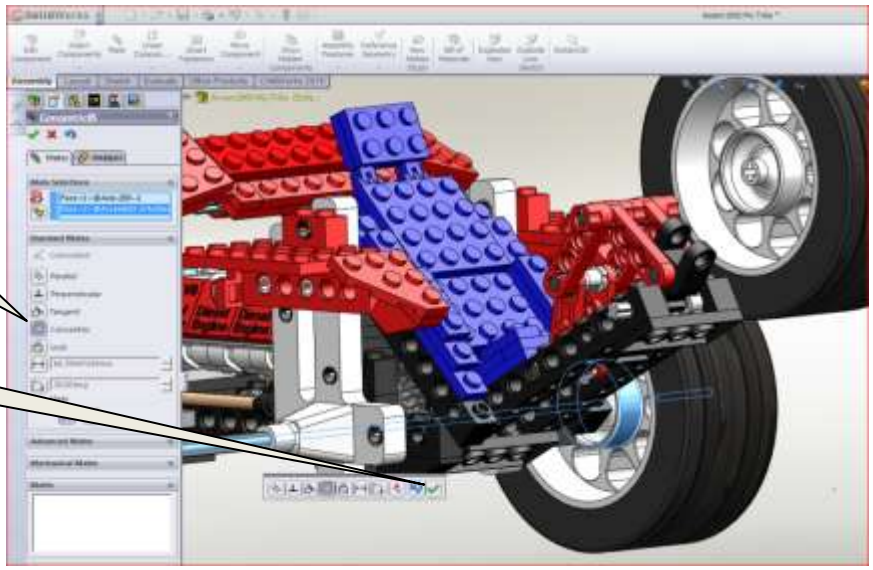


274

You'll now see that both selections are aligned.

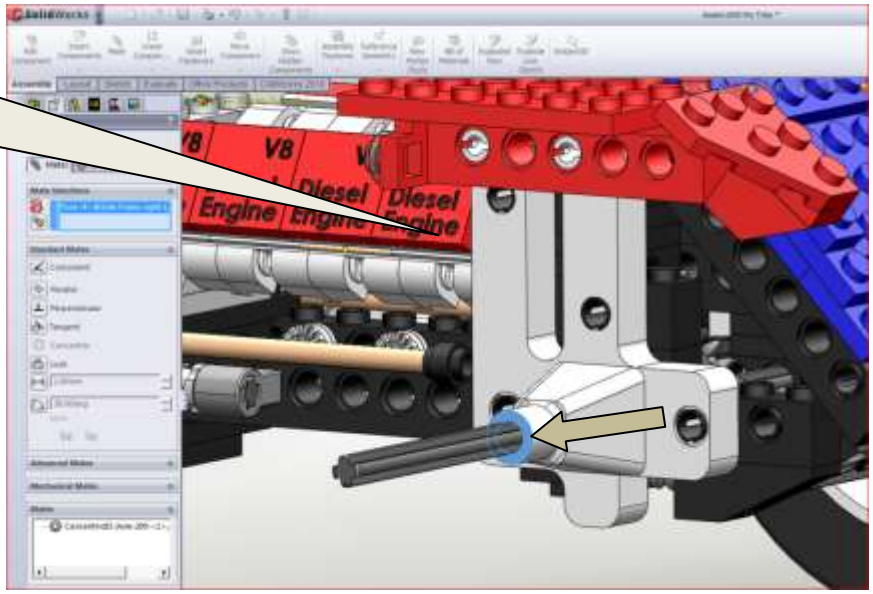
Here's the proof! 

Click: 



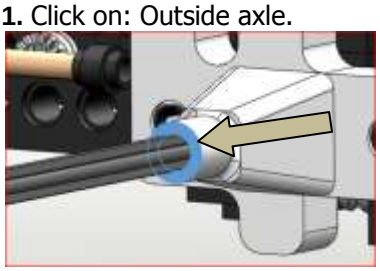
275

Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.



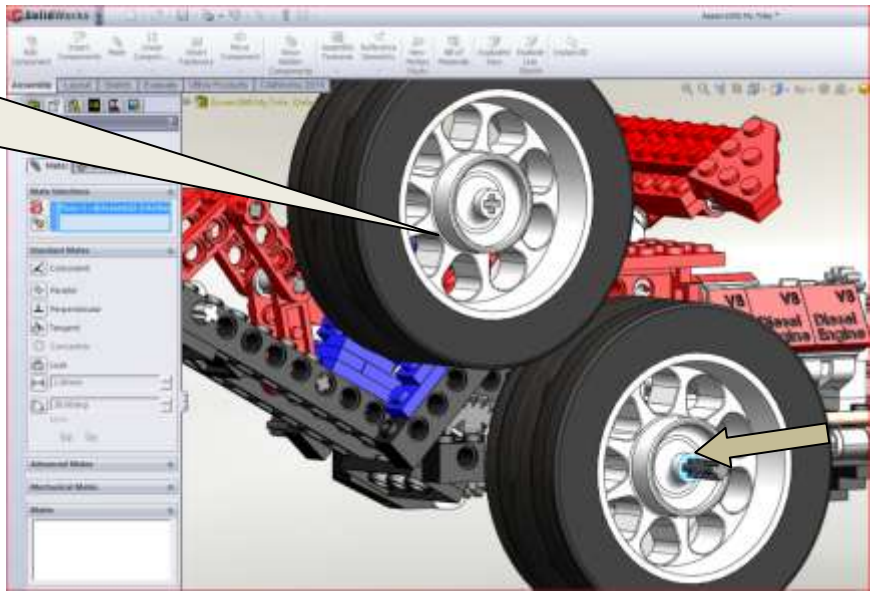
ZOOM in!

1. Click on: Outside axle.

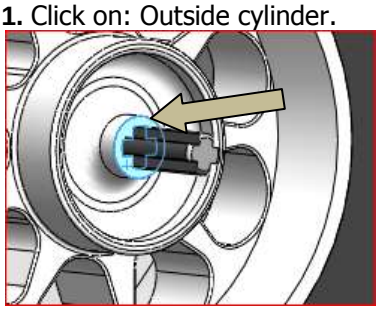


276

Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.

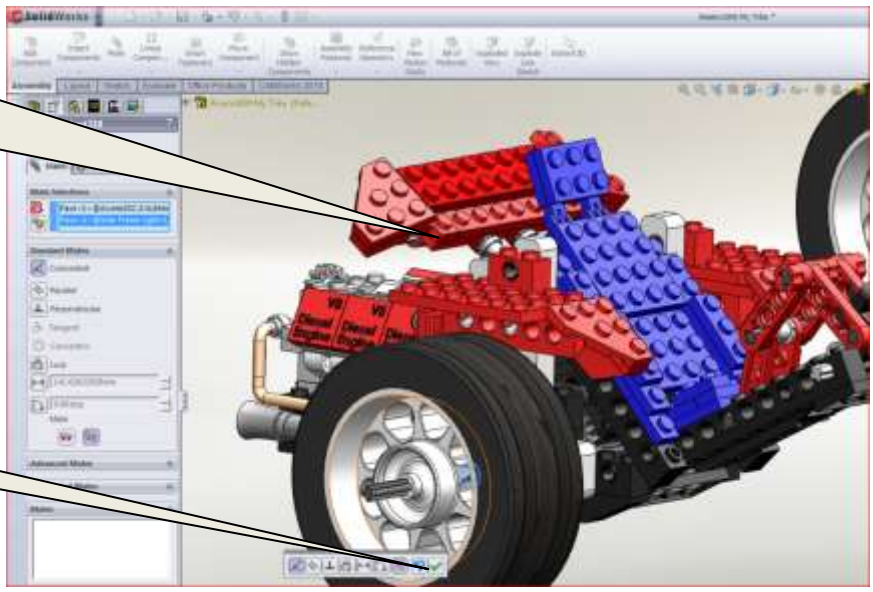


1. Click on: Outside cylinder.



277

Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.



ZOOM out!

If you did well, it will be as illustrated.

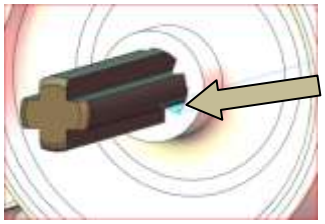
Click: ☑

278

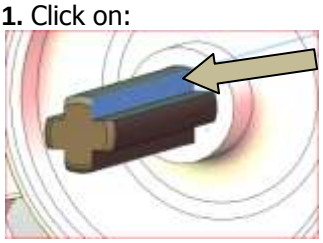
ZOOM in!

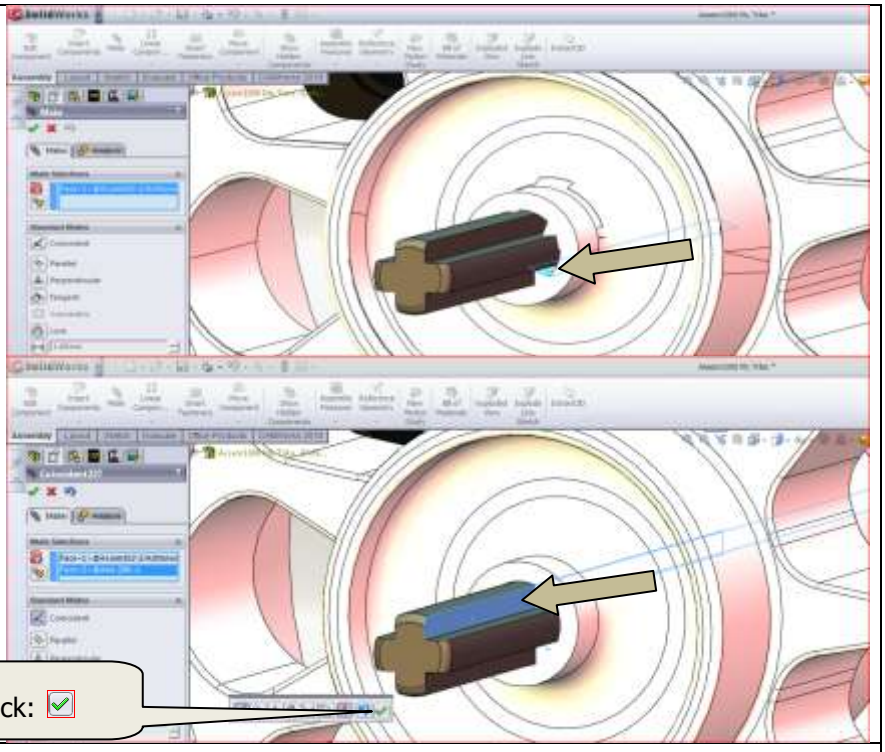
as illustrated.

1. Click on:



1. Click on:



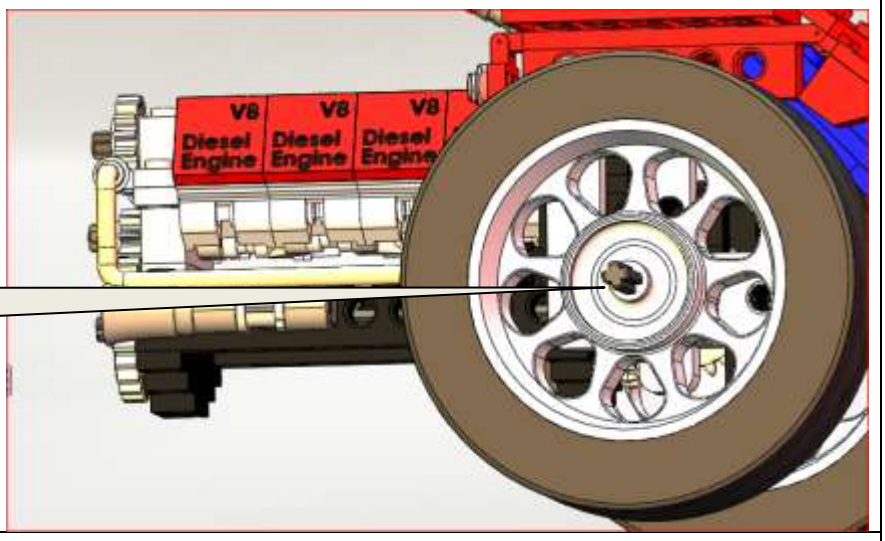


279

ZOOM out!

If you did well it will, be as illustrated.

The rear Wheel is now connected on the axle.

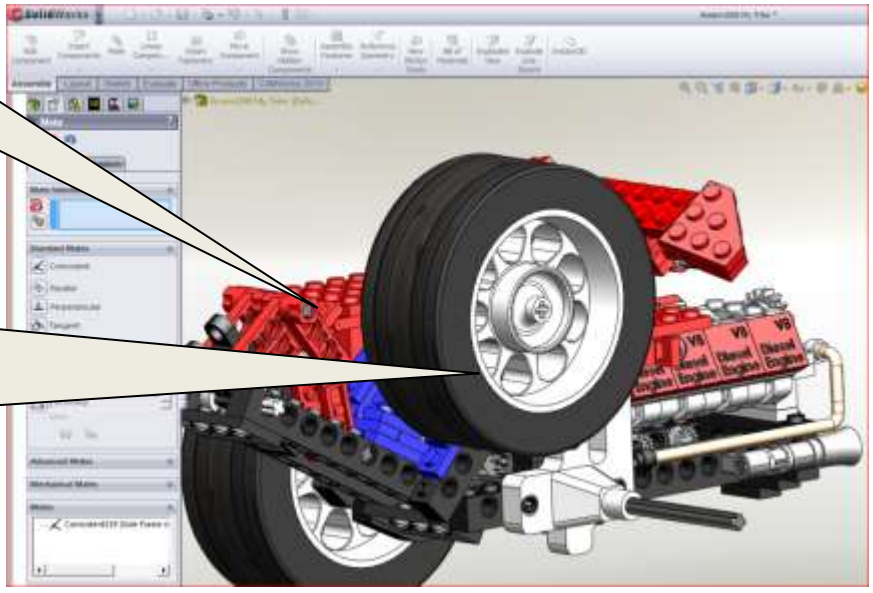


280

Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.

Do the same by yourself with the next Assembly102 Rear Wheel.
Refer to the example and use your knowledge from steps: 268 through 272.

GOOD LUCK



281

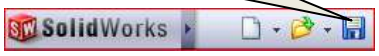
ZOOM out!

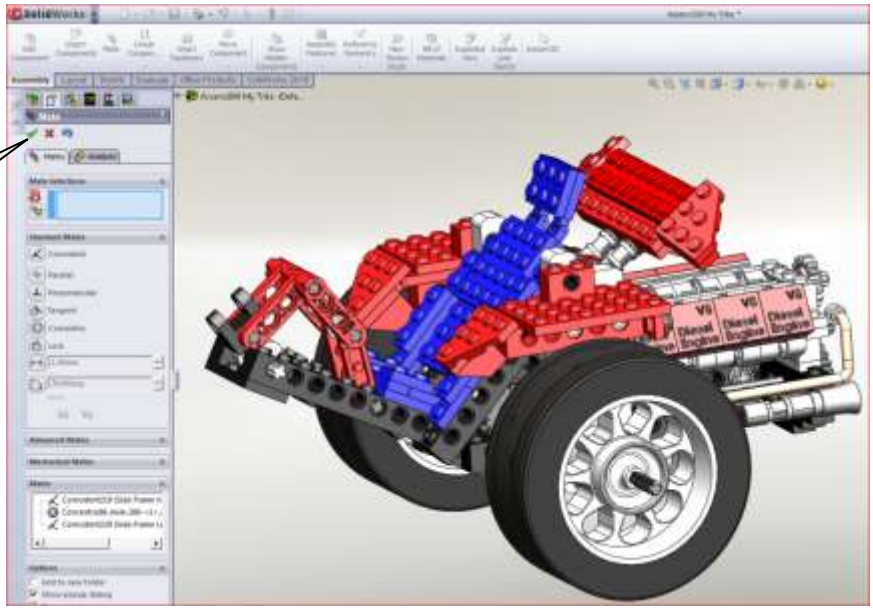
If you did well it will be as illustrated.

Click:

Let's save our data once again for safety!


Click Save:



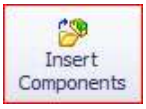


282

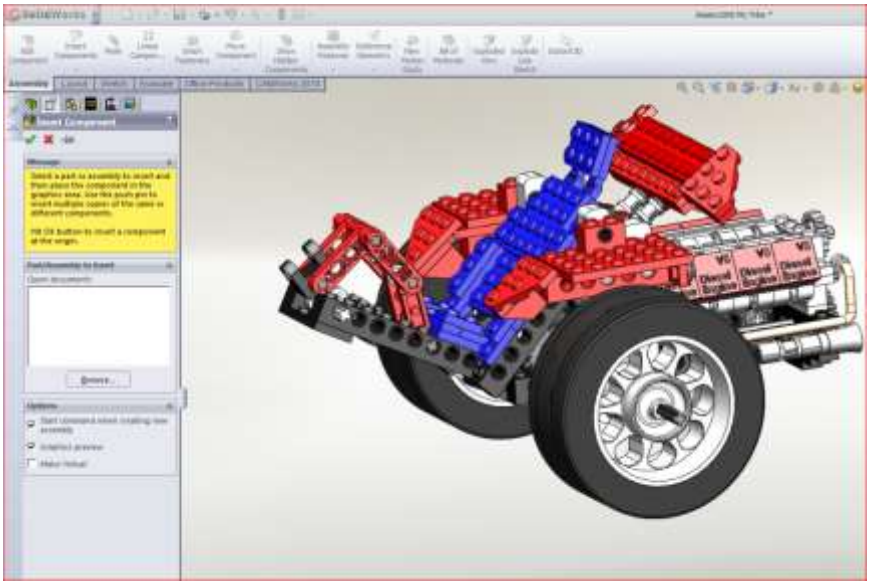
Let's move on!

We now return to the warehouse, for new parts.

1. Click:



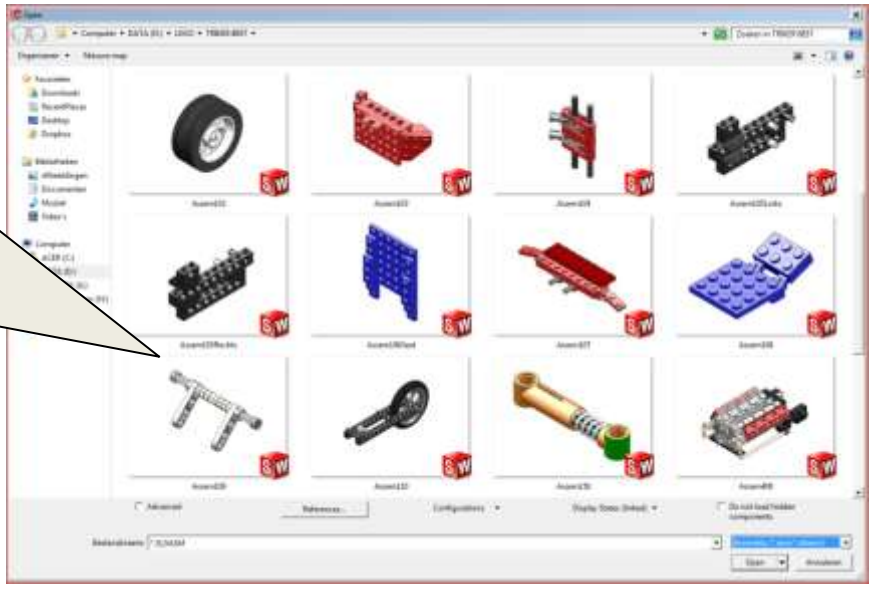
2. Click:



283

We're looking for: 1x

Assem109



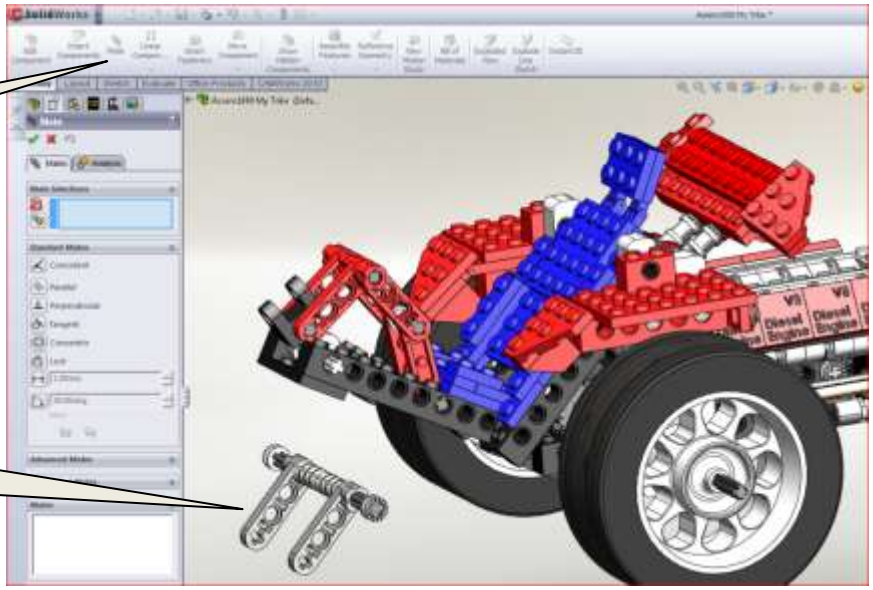
284

Position the Assem109 as illustrated and click the left mouse button.

We're going to build again!

Click Mate. 

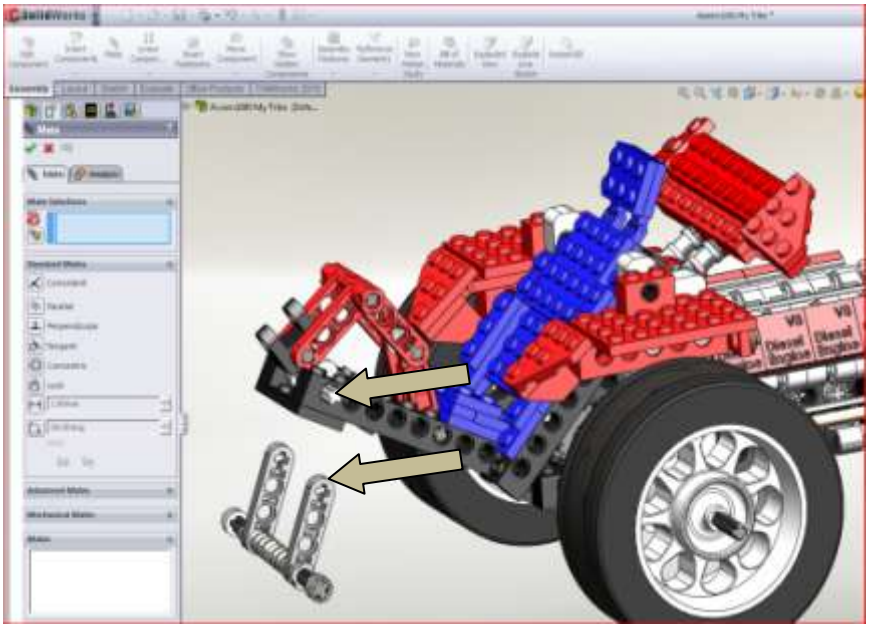
Rotate the Assem109 as Illustrated: See step 278



285

1. Click on: Outside axle.

2. Click on: Outside cylinder.

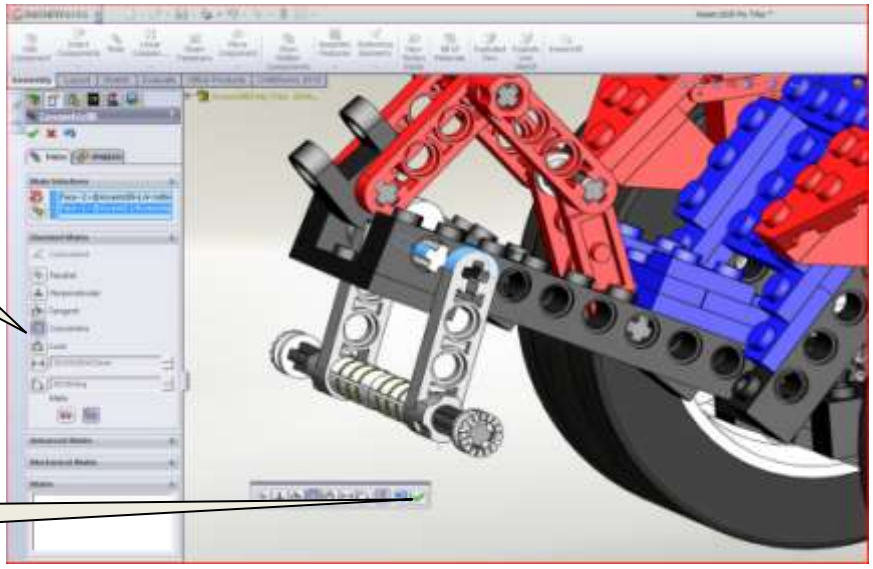


286

You'll now see that both selections are aligned.

Here's the proof! 

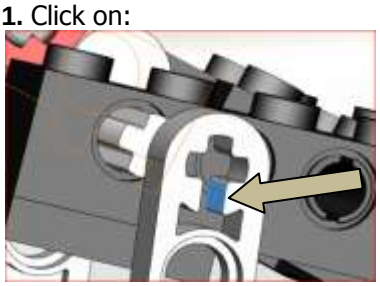
Click: 

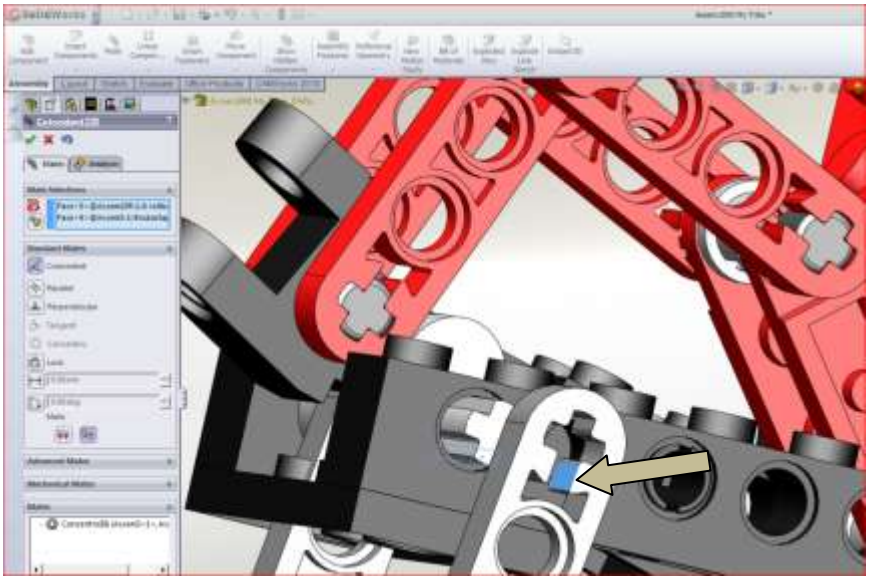


287

ZOOM in!
as illustrated.

1. Click on:

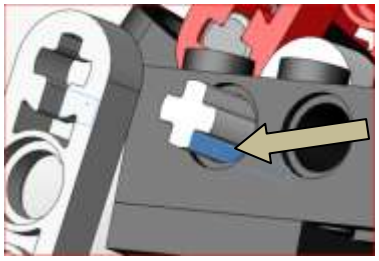




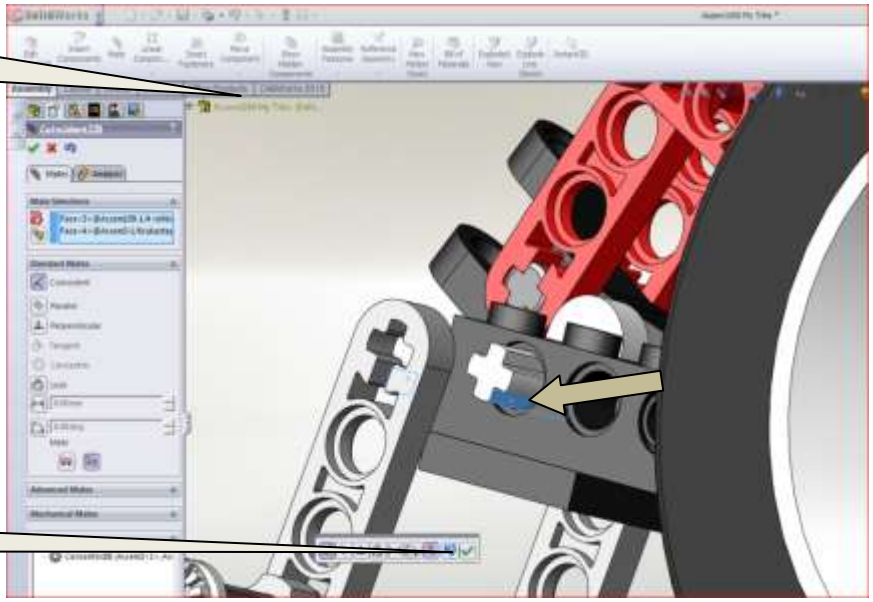
288

Rotate the Assembly as Illustrated:

1. Click on:



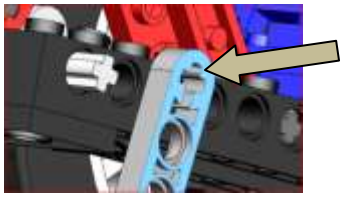
Click: ☑



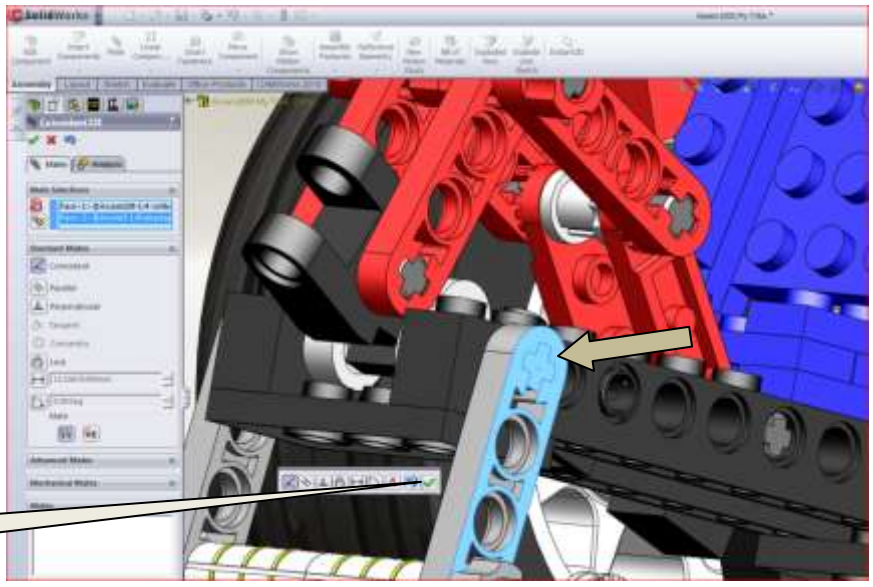
289

1. Click on: Face Axle.

2. Click on:



Click: ☑



290

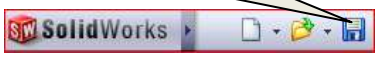
ZOOM out!

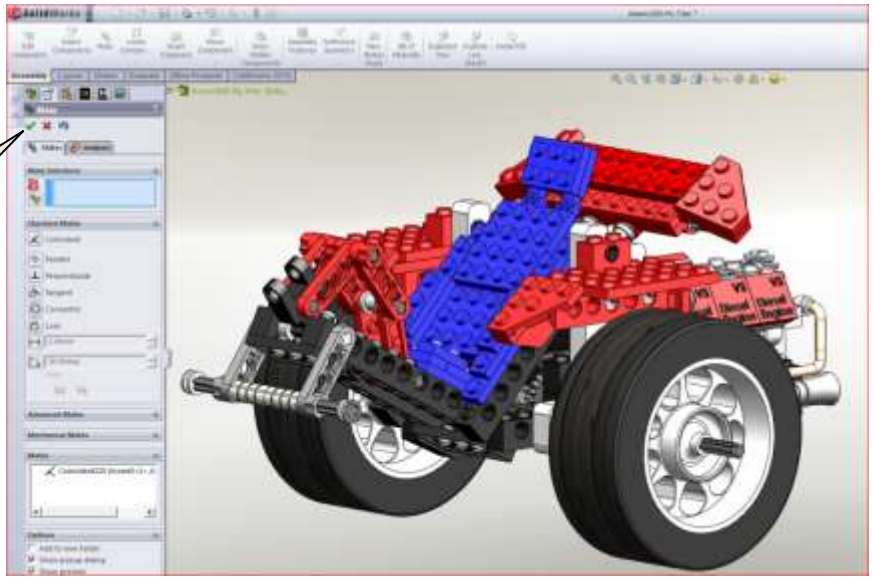
If you did well, it will be as illustrated.

Click:

Let's save our data once again for safety!

Click Save:





291

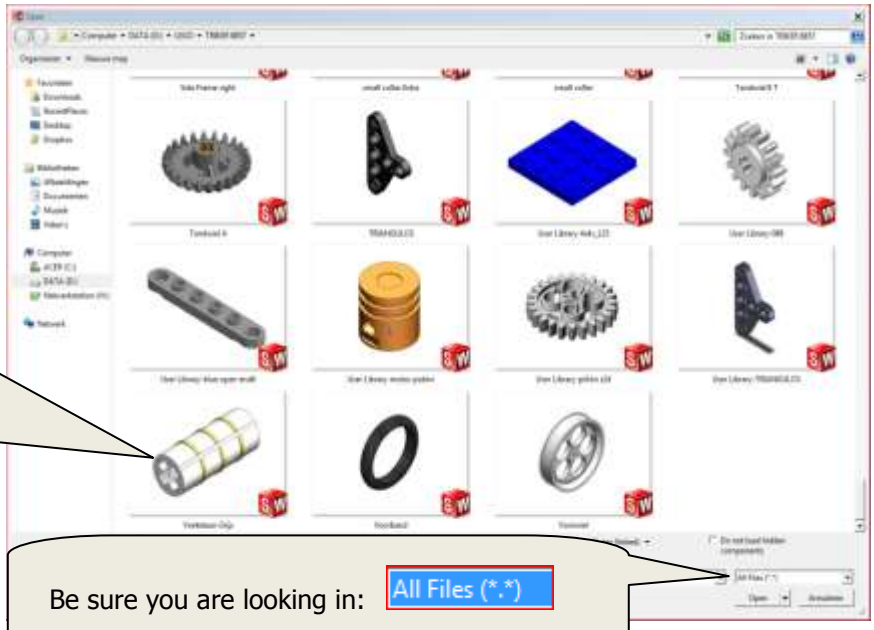
Let's move on!

We now return to the warehouse, for new parts.

1. Click:

2. Click:

We're looking for:
2x Voetsteun grijs.



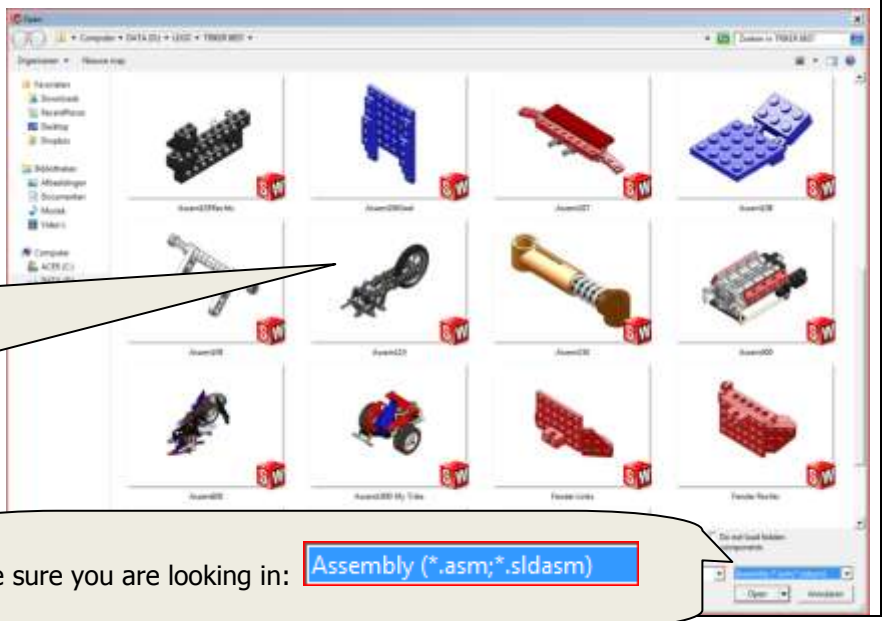
Be sure you are looking in: All Files (*.*)

292

Let's get a second part.

We now return to the warehouse, for new parts.

We're looking for:
1x Assem110.



Be sure you are looking in: Assembly (*.asm;*.sldasm)

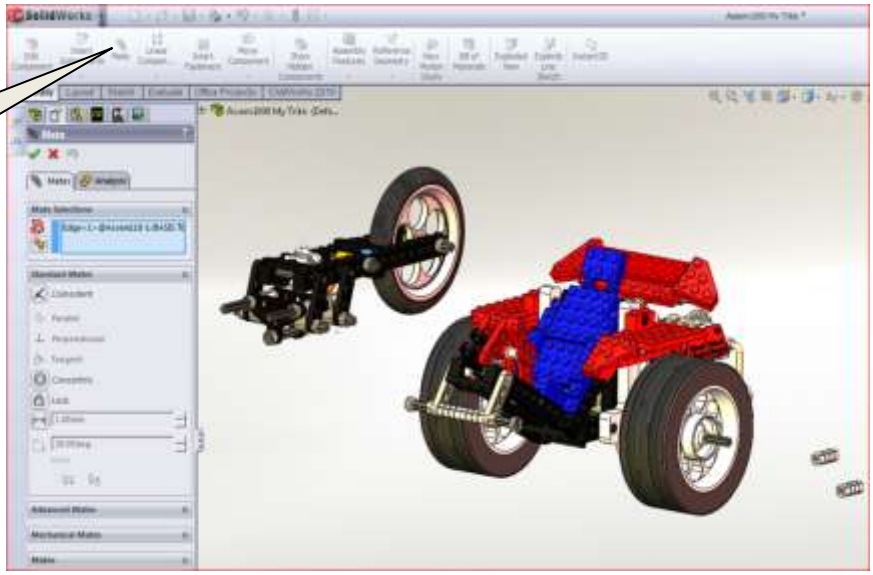
293

Position the two parts and the Assem110 as illustrated and click the left mouse button.

We're going to build again!

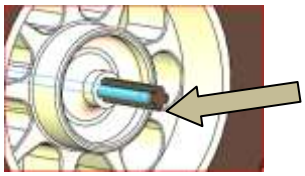
Click Mate. 

Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated. **See step 287.**



294

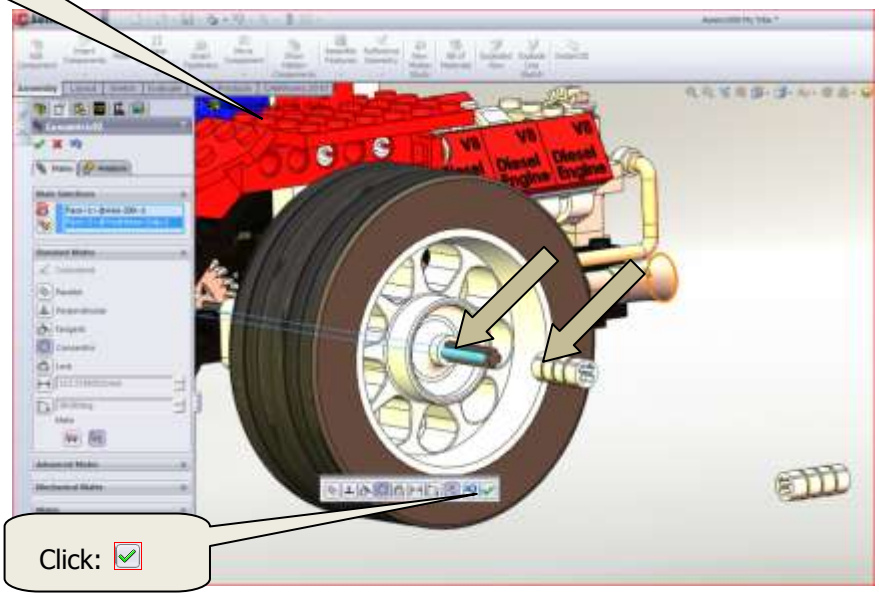
1. Click on: Outside Axle.



2. Click on: Outside cylinder.

You will now see that both selections are aligned.

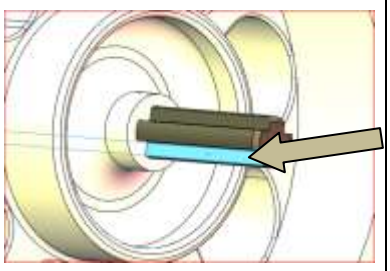
Look for the proof!

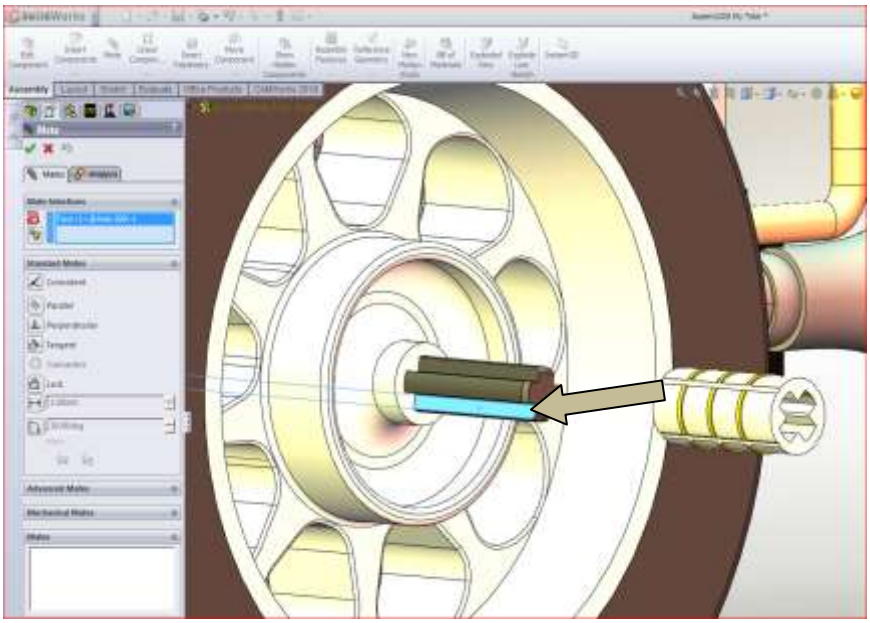


295

ZOOM in!
as illustrated.

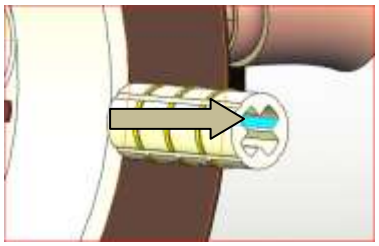
1. Click on: Face Outside Axle.

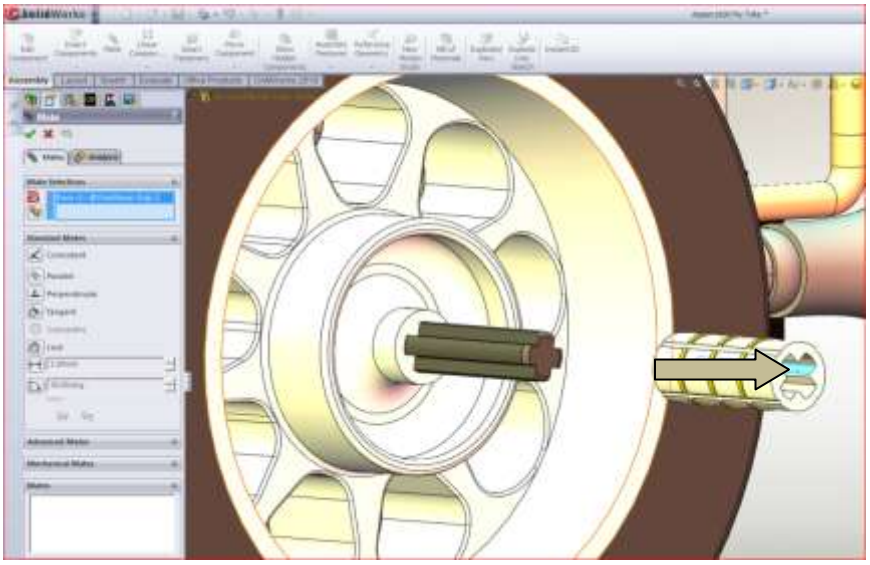




296

1.Click on: Face inside cylinder.

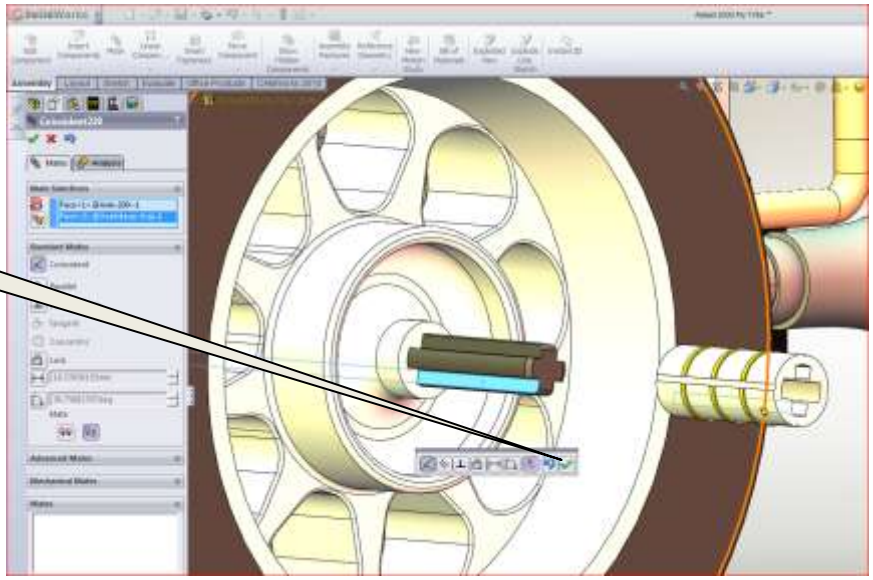




297

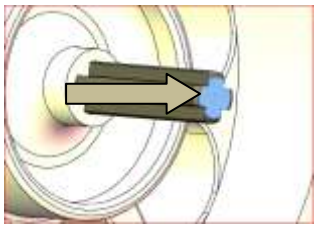
The cylinder and the axle are now well aligned with respect to each other.

Click: ☑

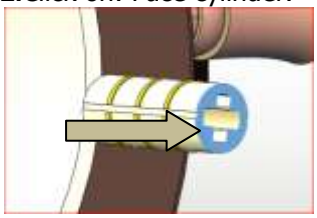


298

1.Click on: Face axle.

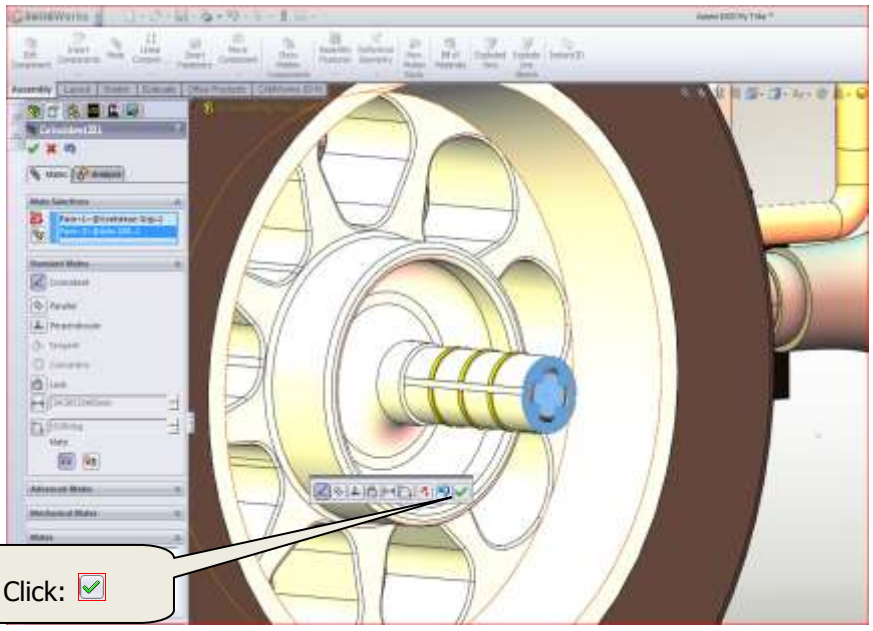


2.Click on: Face cylinder.



You will now see that both selections are connected.

Click: ☑

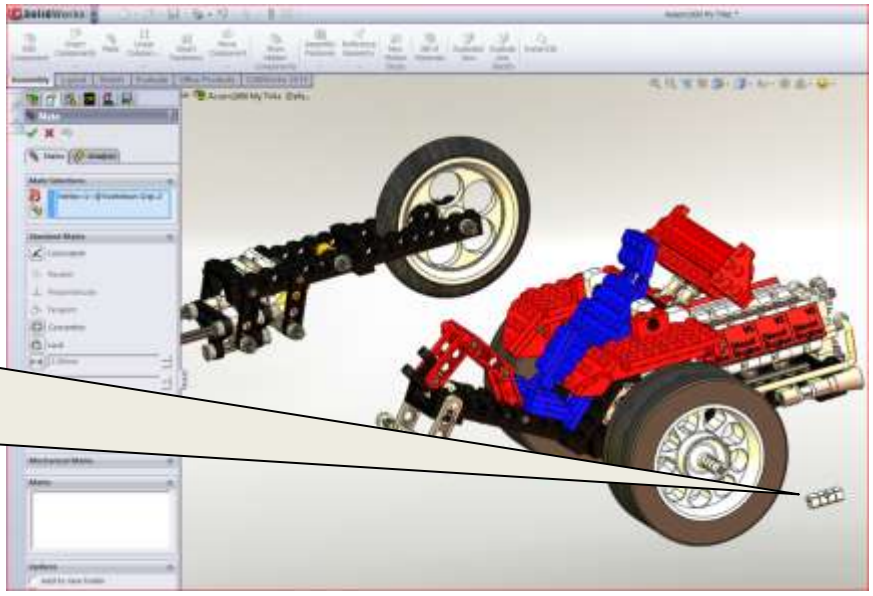


299

ZOOM out!
as illustrated.

Do the same by yourself with the next Part.
Refer to the example and use your knowledge from steps: 289 through 293.

GOOD LUCK

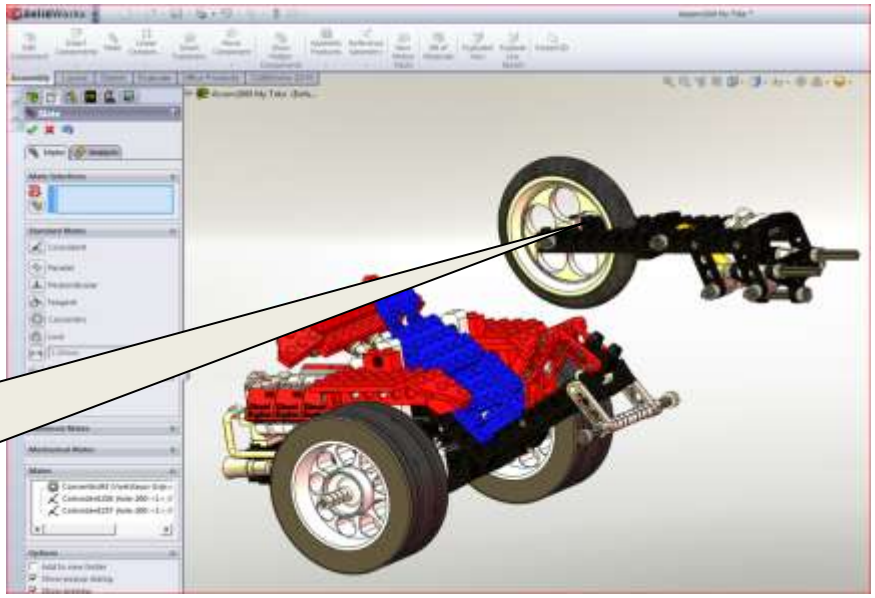


300

ZOOM out!
If you did well, it will be as illustrated.

We're still working within the environment of the **mate** function, so we simply continue.

Press the right mouse button down on the Assembly! rotate and move the mouse until the Assembly is positioned as illustrated. **See step 287.**

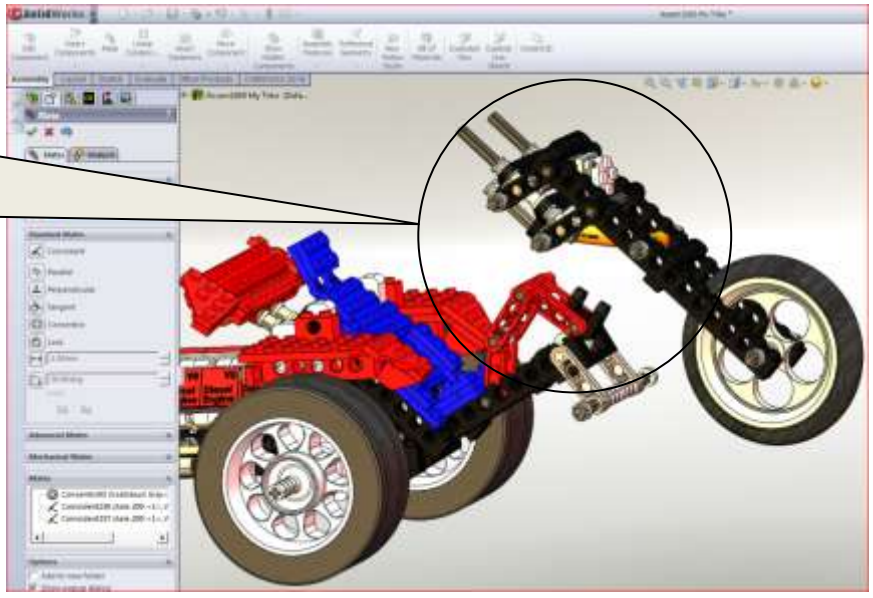


301

We will now mount the front fork on the frame!!

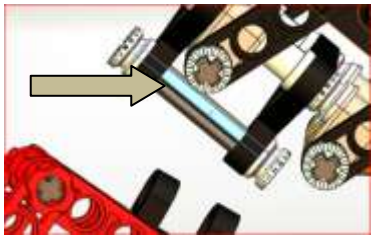
ZOOM in!

as illustrated.
See step 287.

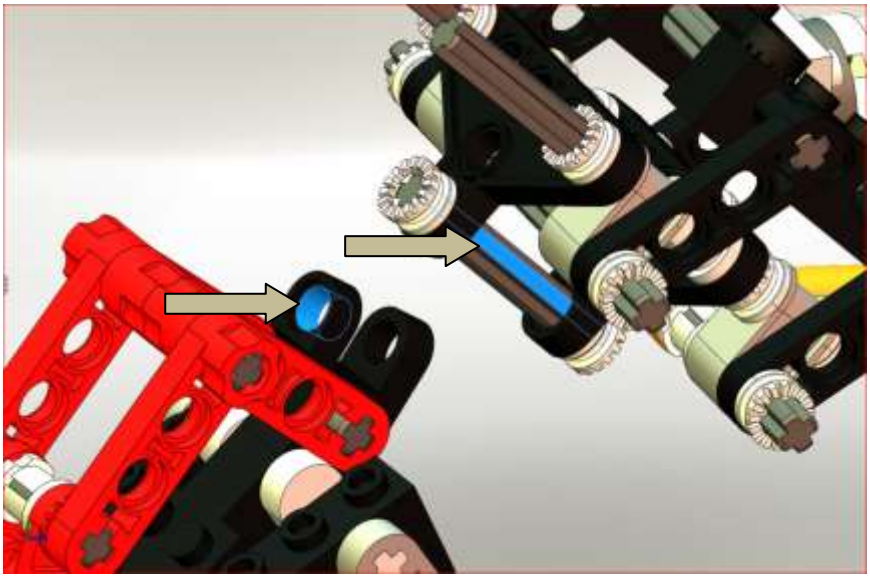


302

1.Click on: Outside axle.



1.Click on: Inside hole.

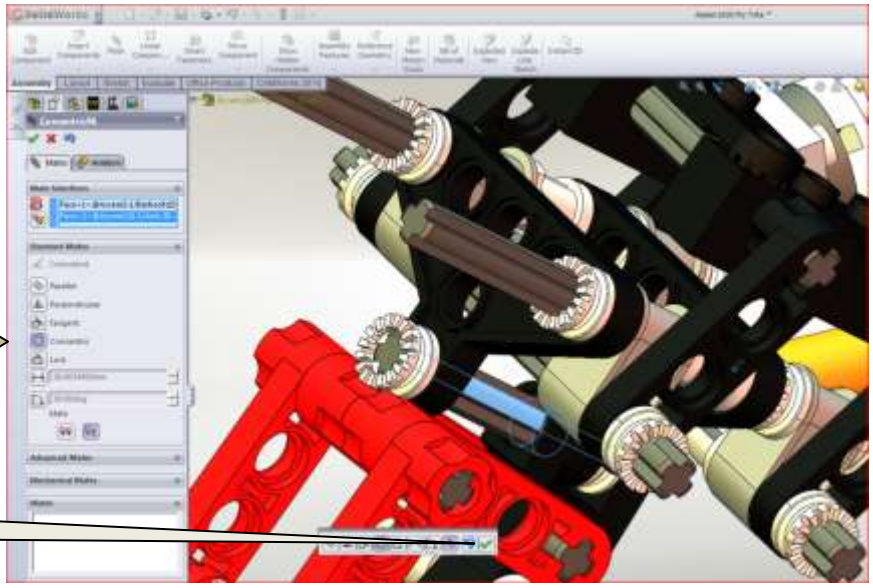


303

You will now see that both selections are aligned.

Look for the proof!

Click: ☑

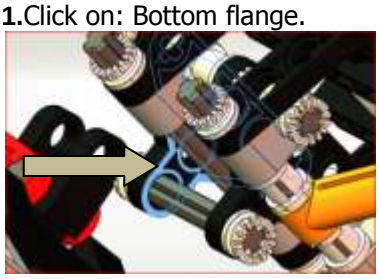


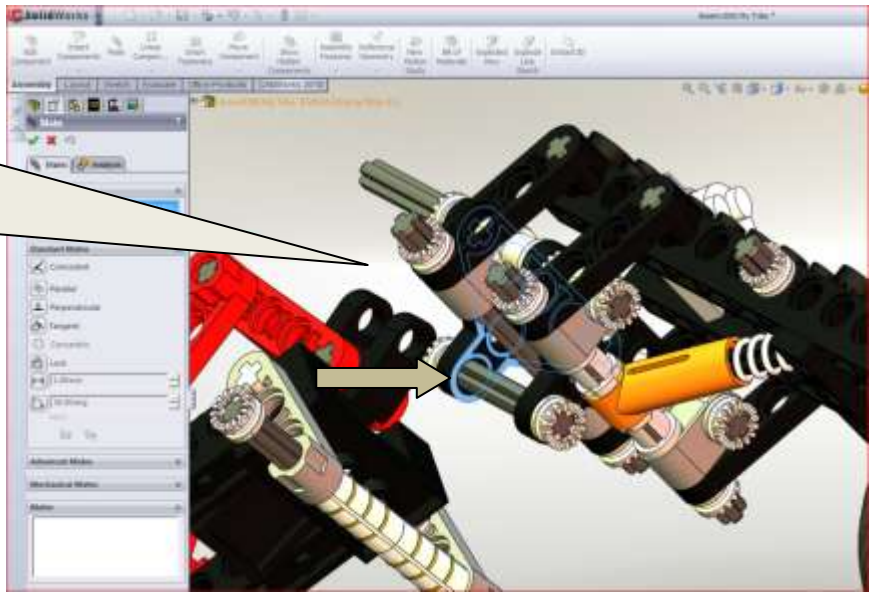
304

Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.

Zoom in!

1.Click on: Bottom flange.

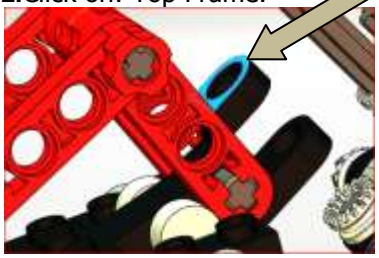




305

Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated.

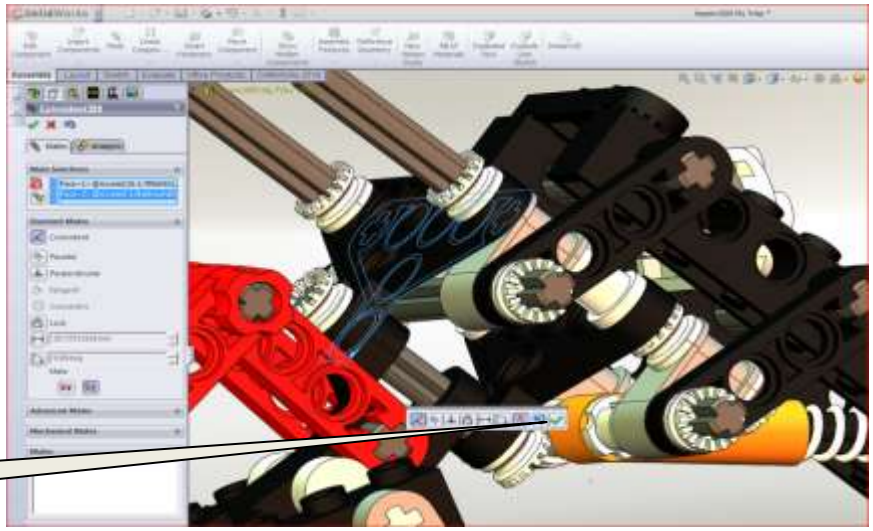
1.Click on: Top Frame.



306

You will now see that both selections are connected.

Look for the proof!

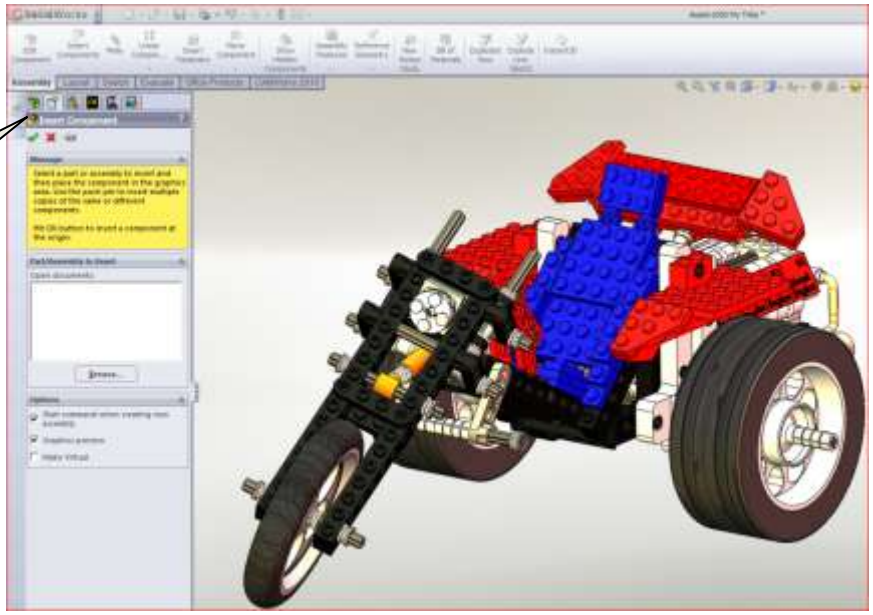


Click:

307

Zoom out!

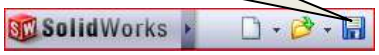
If you did well it will be as illustrated.



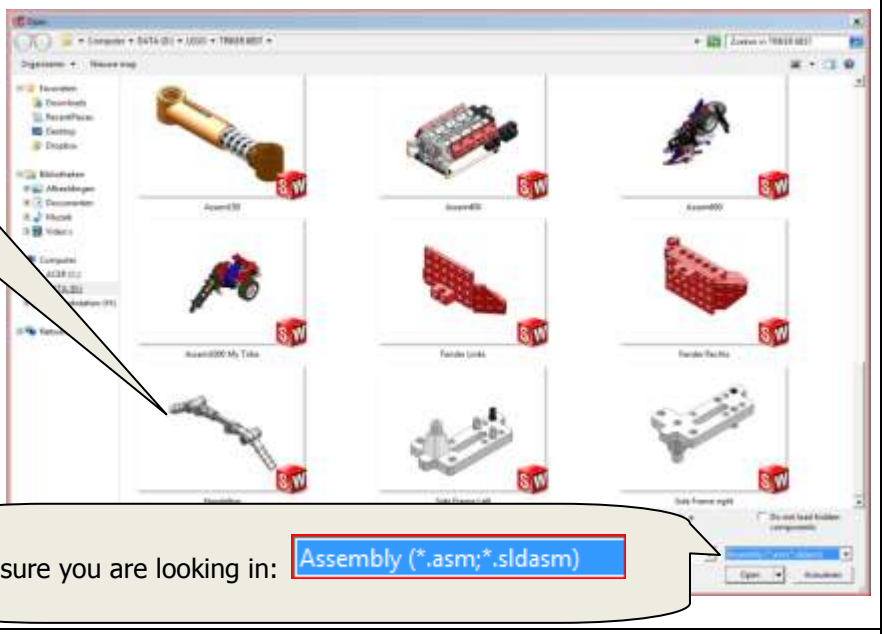
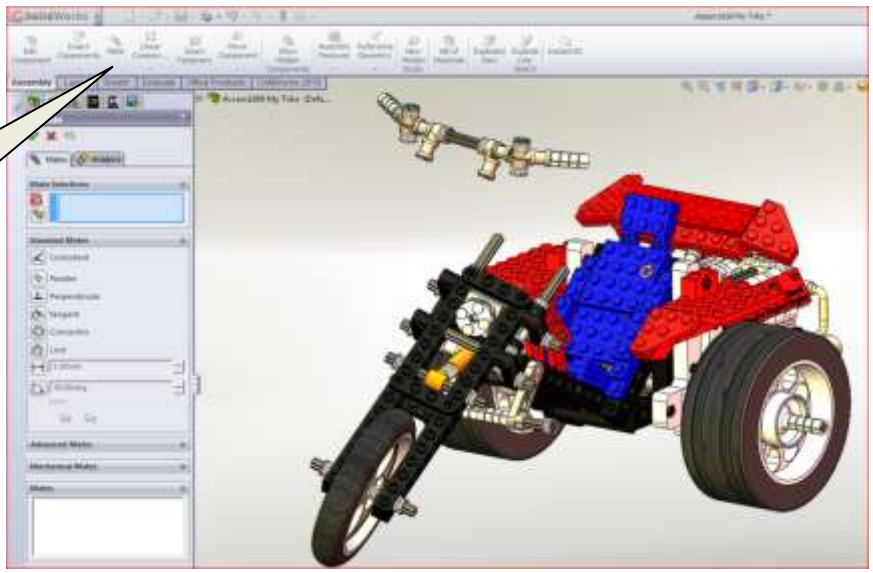
Click:

Let's save our data once again for safety!

Click Save:



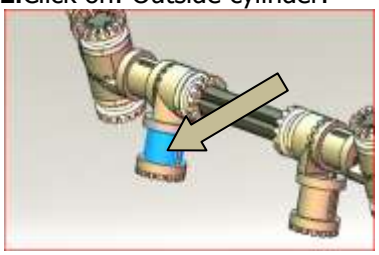
Let's move on!

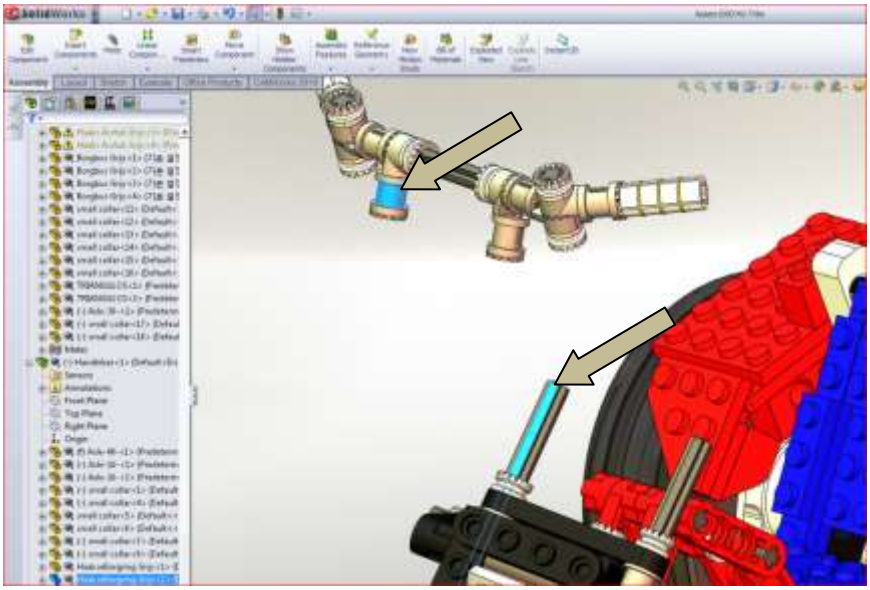
	We now return to the warehouse, for a new Assembly. **1.** Click:  **2.** Click: 	
308	We're looking for:  1x Handlebar.	 Be sure you are looking in: Assembly (*.asm;*.sldasm)
309	Position the Assembly Handlebar as illustrated and click the left mouse button. We're going to build again! Click Mate.  Press the mouse's scroll wheel down! rotate and move the mouse until the Assembly is positioned as illustrated. **Zoom In! See step 305.**	

310

1.Click on: Outside axle.

2.Click on: Outside cylinder.



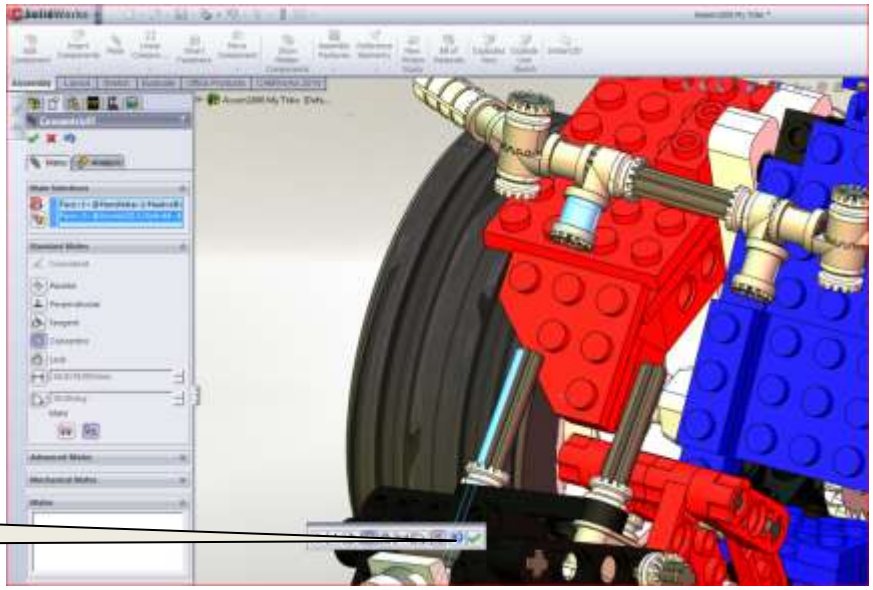


311

You will now see that both selections are aligned.

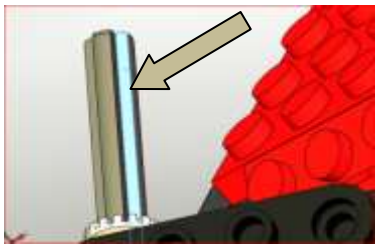
Look for the proof!

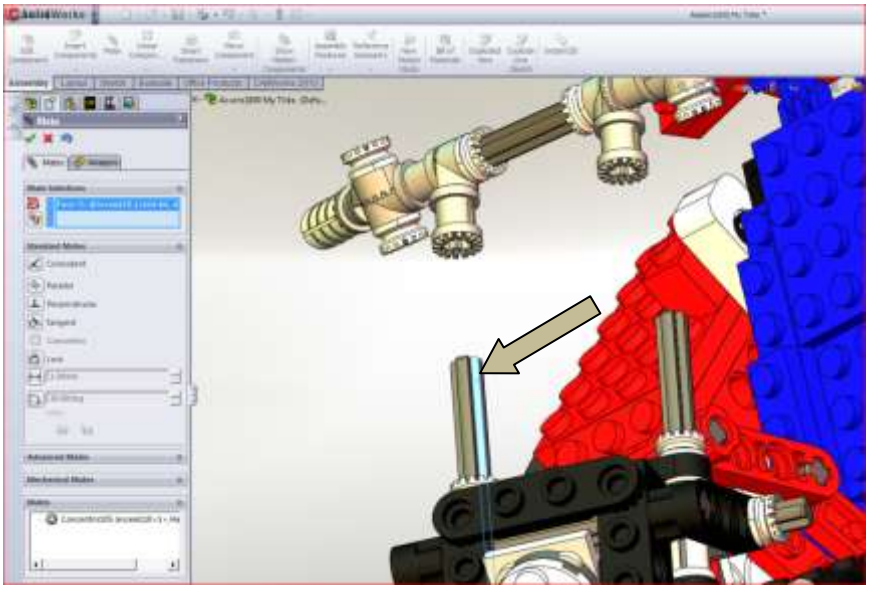
Click: ☑

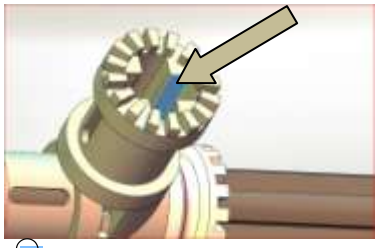
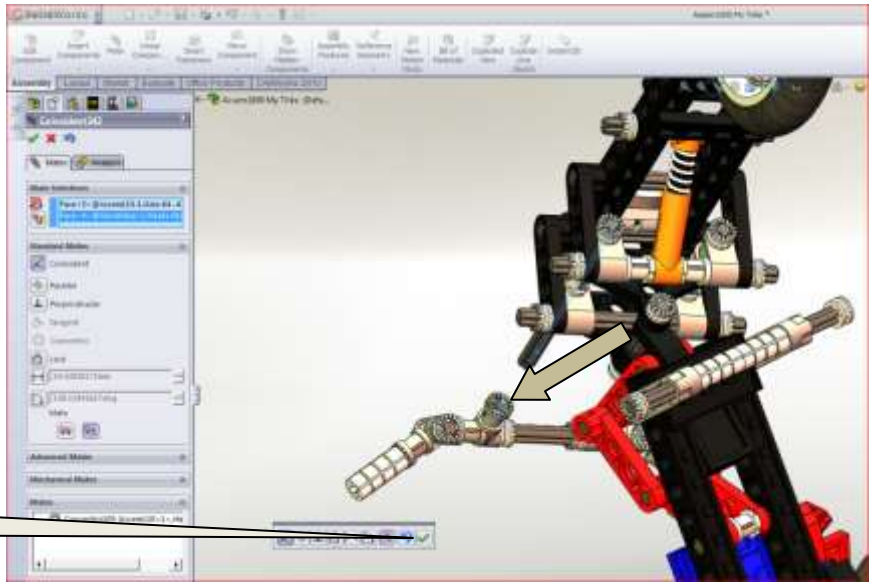
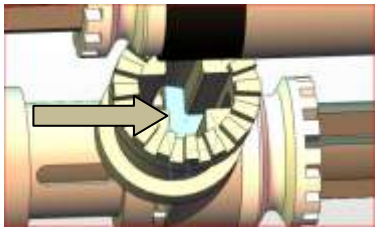
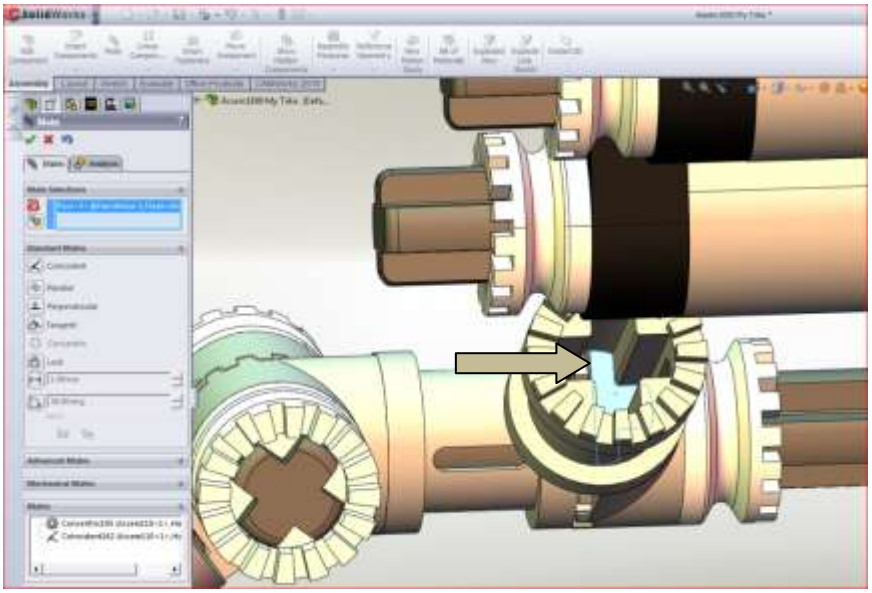
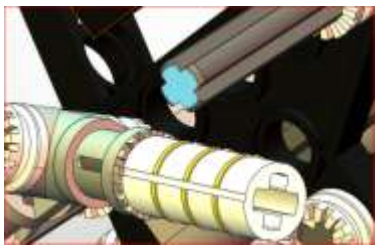
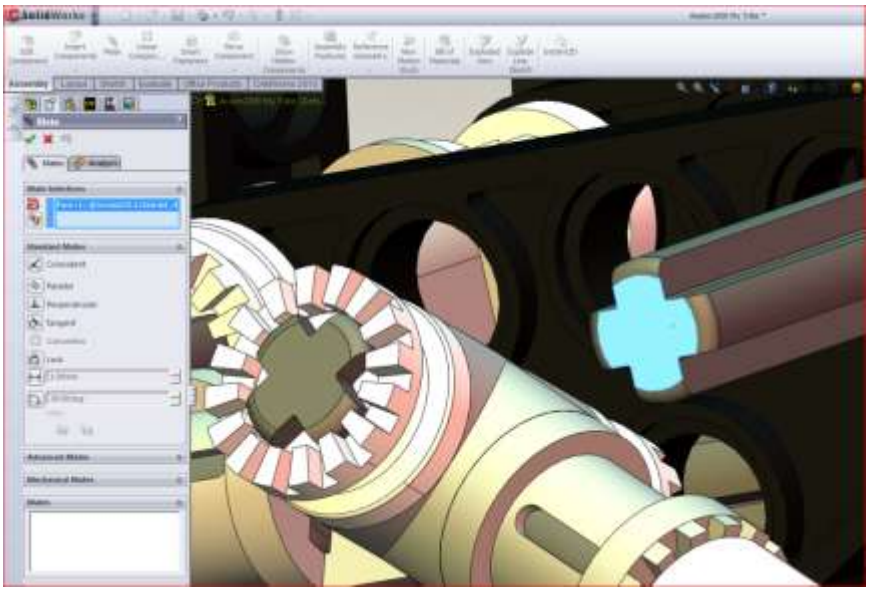


312

1.Click on: Outside axle.





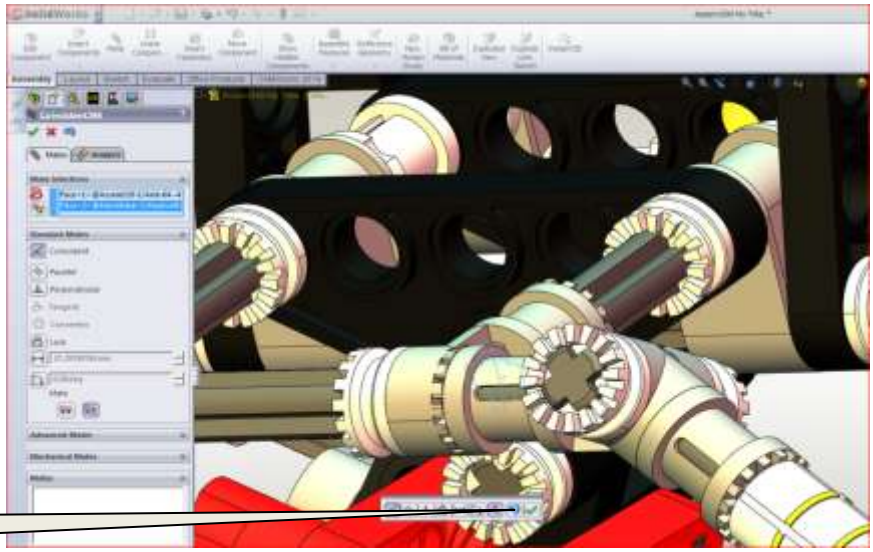
313	**1.**Click on: Inside flange.  You will now see that both selections are aligned. Look for the proof! Click: ☑	
314	**ZOOM in!** **1.**Click on: Inside top. 	
315	**Rotate until the Assembly is positioned as illustrated.** **1.**Click on: Outside axle. 	

316

You will now see that both selections are connected.

Look for the proof!

Click: ☑

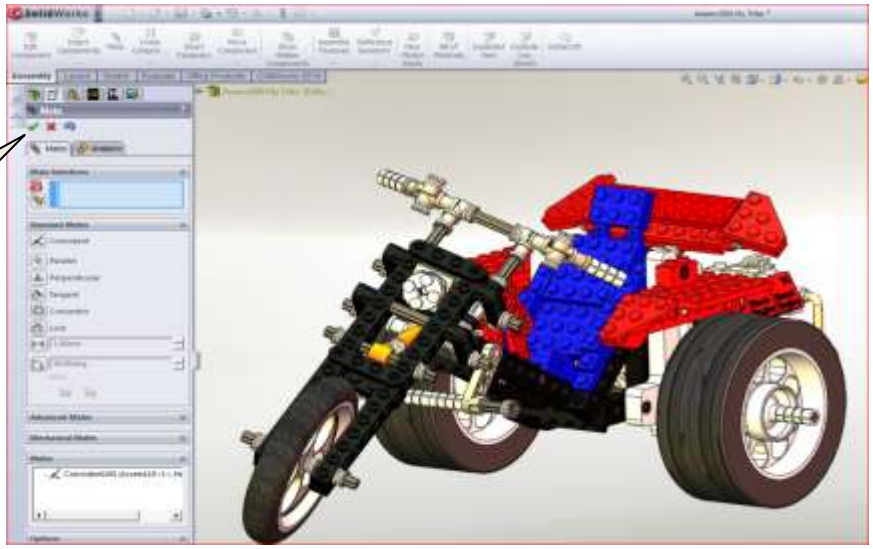


317

ZOOM out!

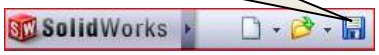
If you did well, it will be as illustrated.

Click: ☑



Let's save our data once again for safety!

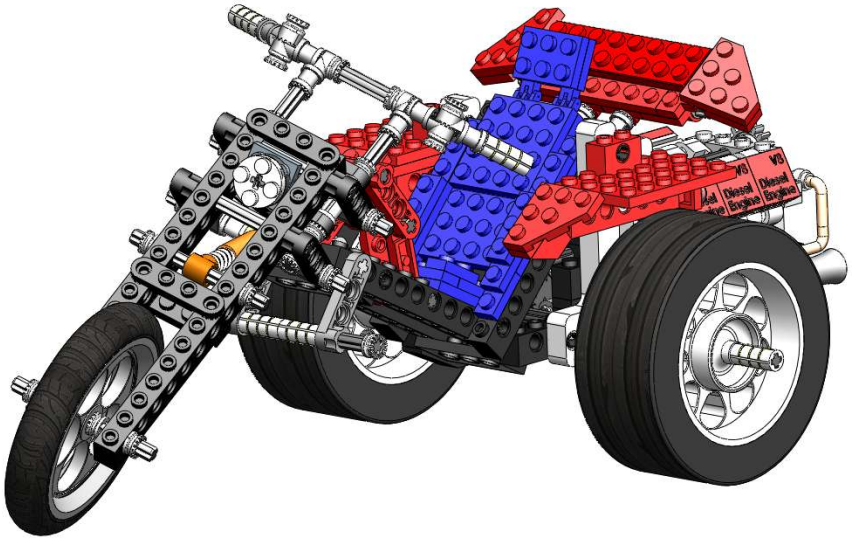
Click Save:



318

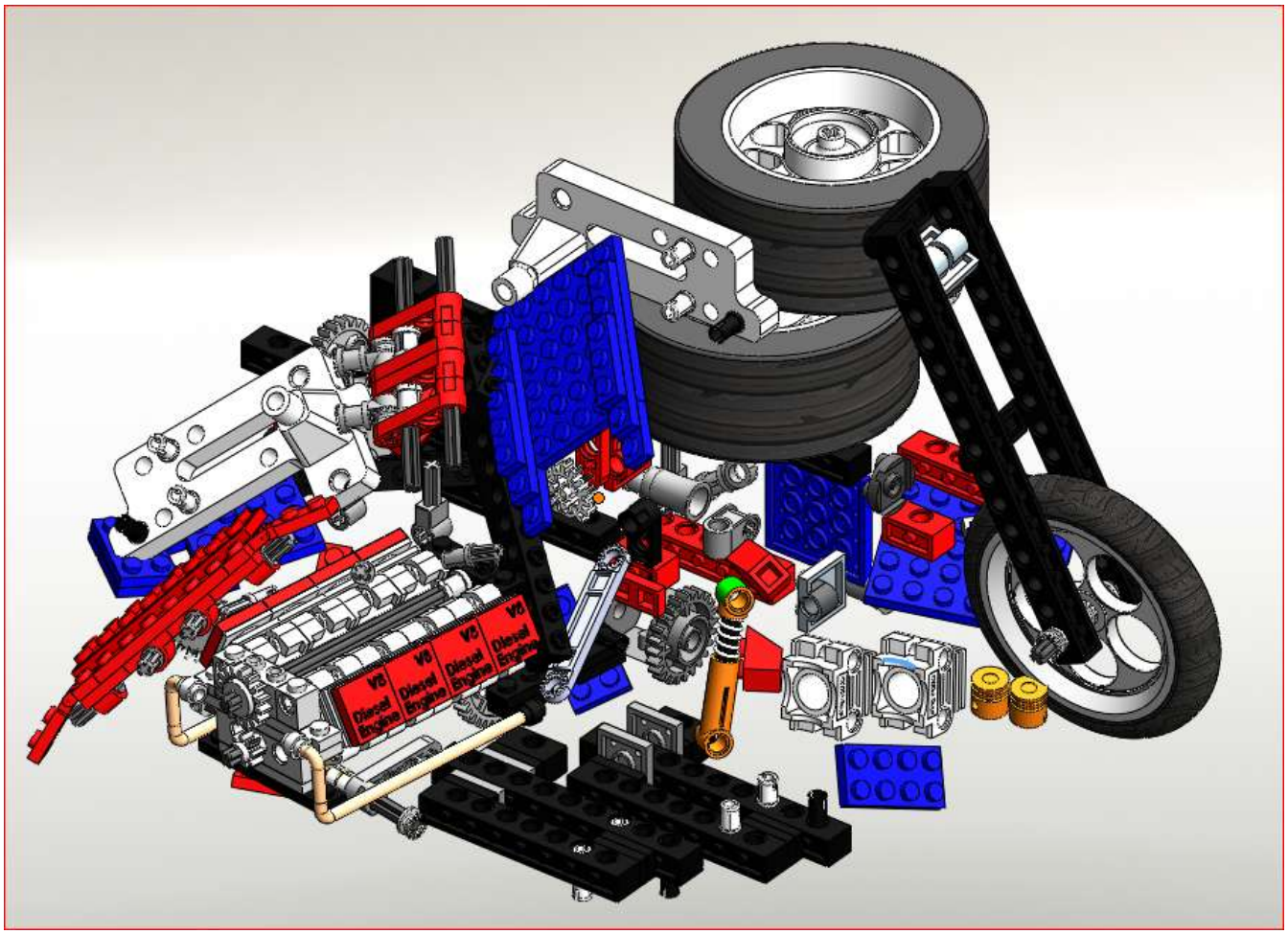
Fantastic!

You have successfully completed your second building blocks assembly using 3D software by SolidWorks®.



Did you like this tutorial?

If you would like to use it with your students to prepare them for the future, you'll need the required models (parts). (The SolidWorks Parts and Assemblies)



For use with SolidWorks® Educational Release 2011-2012

To acquire the 3D models for use with this Tutorial in combination with SolidWorks ®, please contact Jack van den Broek, the author of this Tutorial.
j.vandenbroek@vakcollege.nl