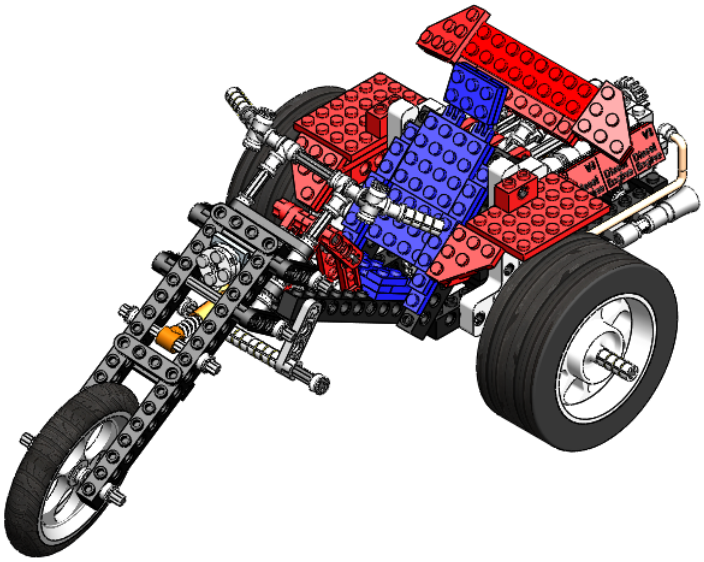
SolidWorks Building Blocks Tutorial

Trike



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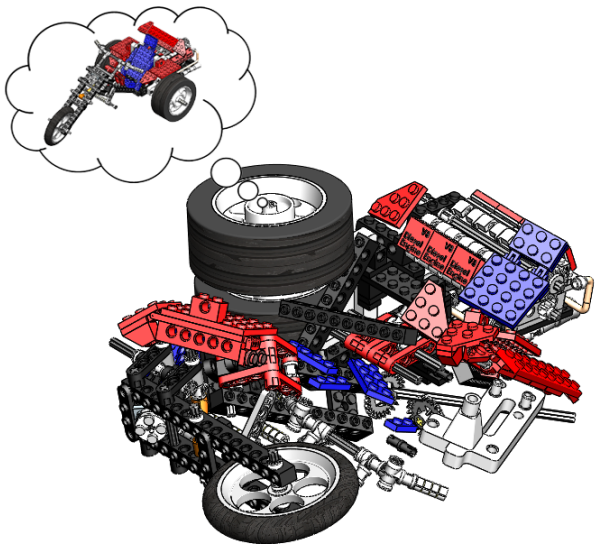
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Document Number:

Trike

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!

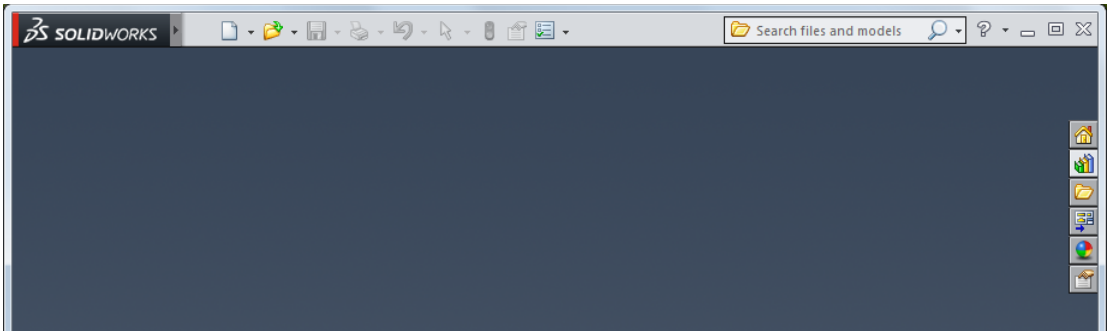
1 Start SolidWorks:



To do so, double-click the shortcut icon on the desktop.

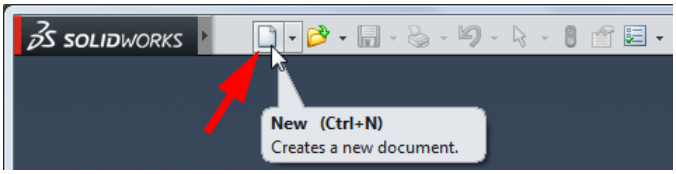
If it's not on your desktop, ask your teacher for help!

2 If all goes well, the drawing application will open. It will look as in the illustration below.



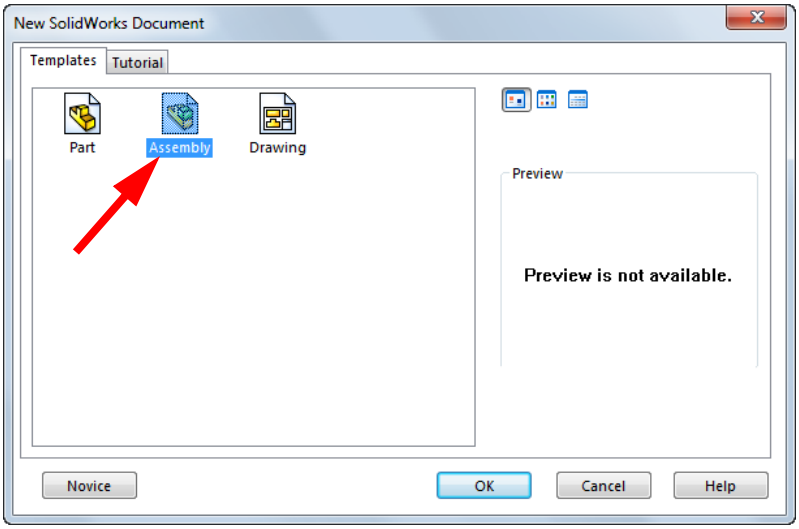
3 You are now going to open the assembly environment and will build your first model.

To do so, click the first button on the toolbar: **New**.



4 When the menu is displayed, double click: Assembly.

Assembly is a synonym of ‘to build’ or ‘to construct’.



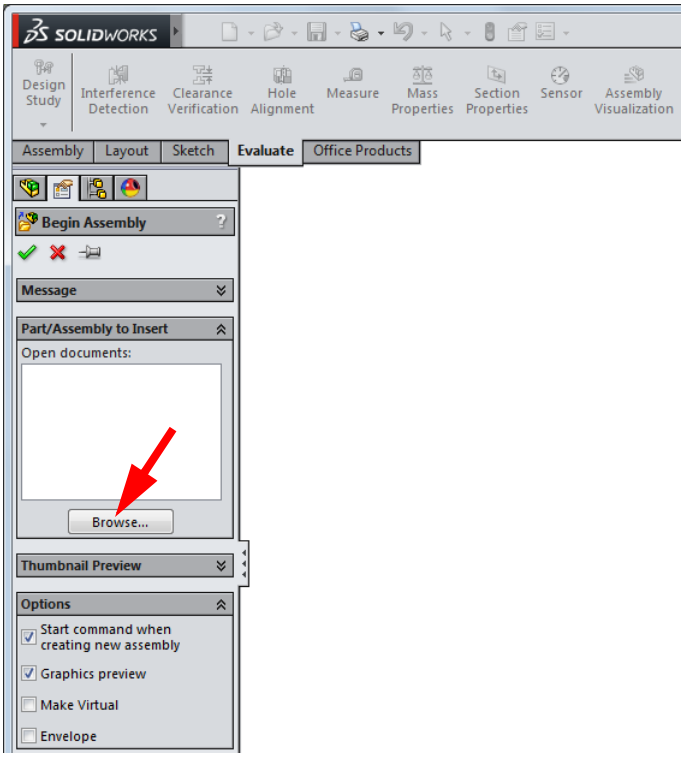
5 If all has gone well again, the screen will look as displayed opposite.

That’s where we will build our Trike.

We’ll start with the chassis.

It’s already built, but it is still in the warehouse.

To have a look in the warehouse, click **Browse**.



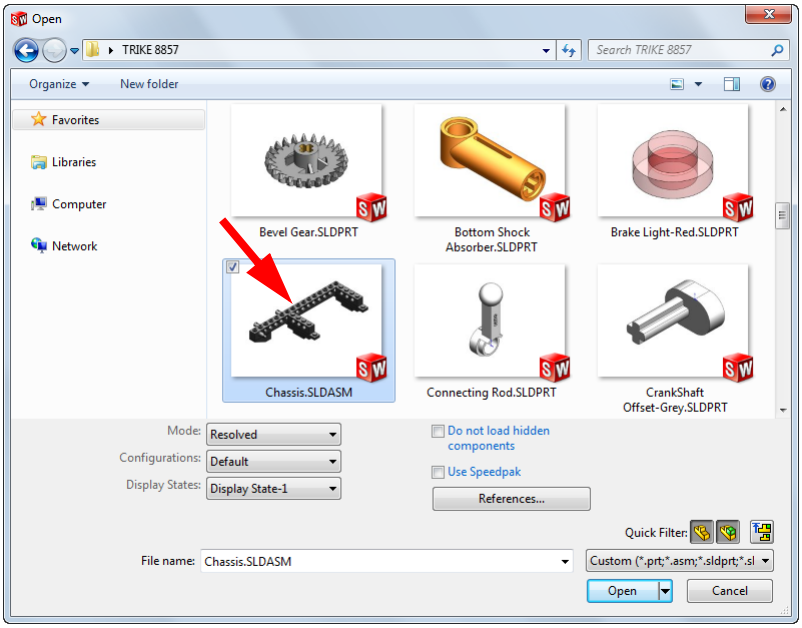
6 Locate the folder:TRIKE 8857.

All the parts we need will now be displayed on screen.

Locate the Chassis.sldasm.



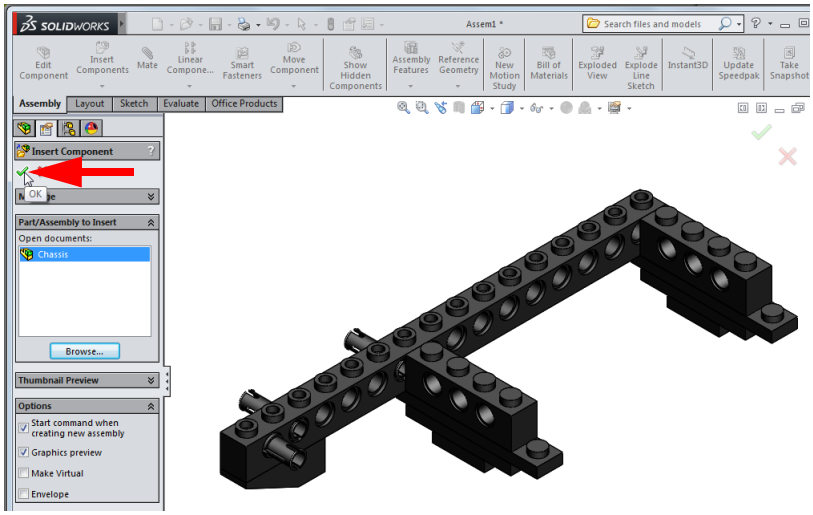
Double-click the icon.



7 The chassis will now be displayed on screen, but it still sticks to your mouse!

So you'll have to release it!

Click **OK**.

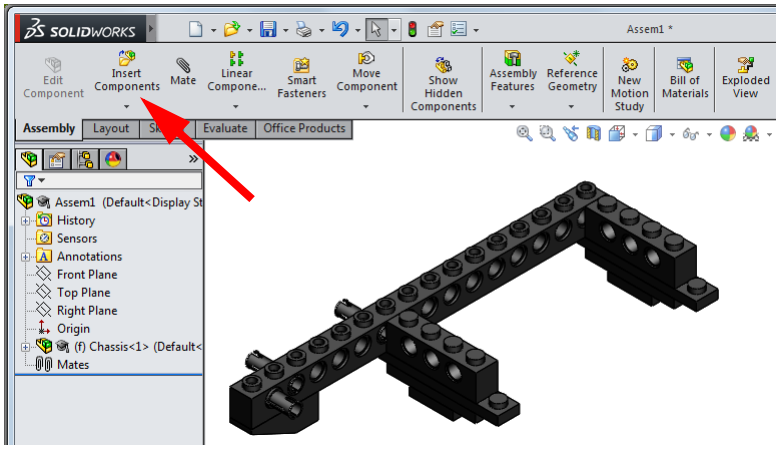


8 Once you've done that, the chassis is positioned exactly in the middle of the screen.

We can now continue our construction (assembly).

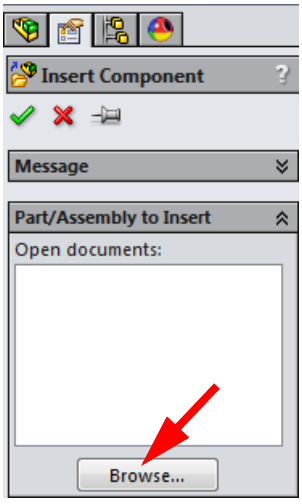
We're going back to the warehouse to retrieve the new parts.

Press the left mouse button on **Insert Components**!



9 To have a look in the warehouse, we click **Browse...**

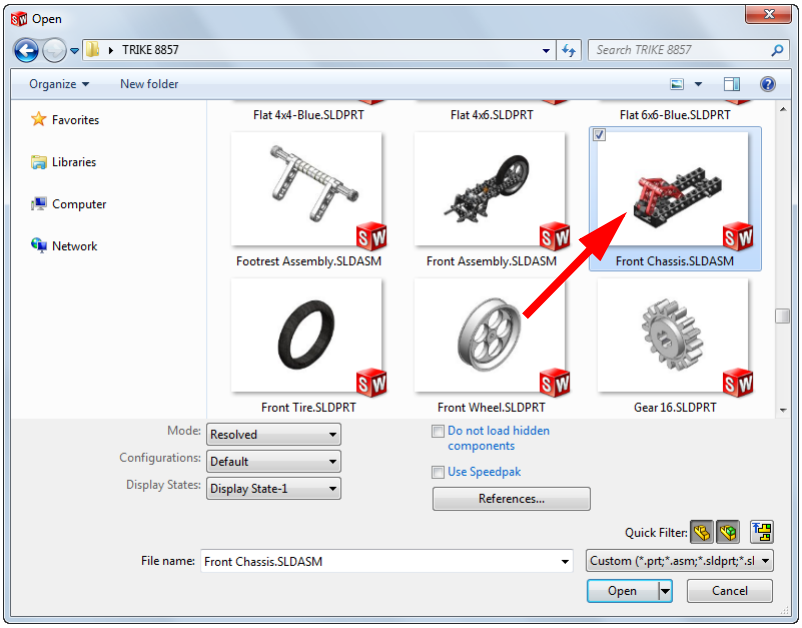
We'll now return to the warehouse for new parts.



10 We're looking for:



Locate the file: **Front Chassis.sldasm** and double click the icon!

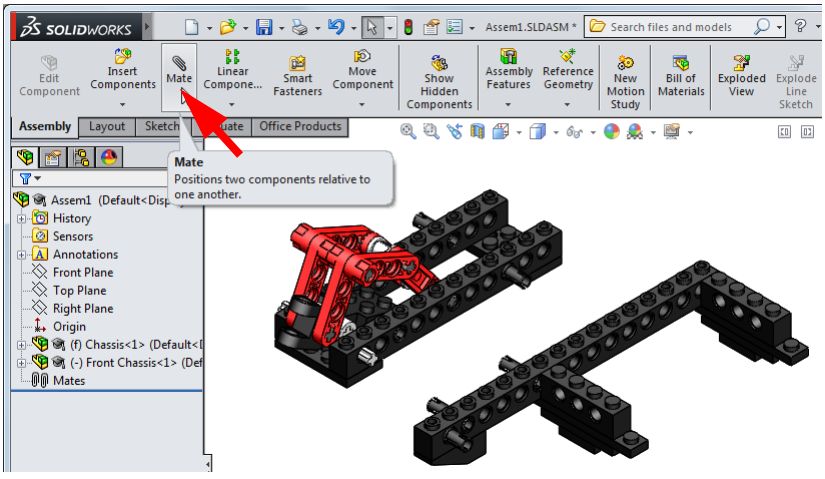


11 We will now connect the two parts together!

Click **Mate**: 

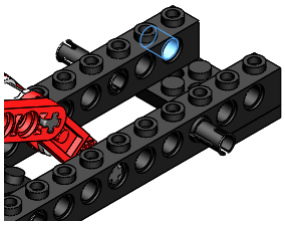
The icon looks like a paperclip.

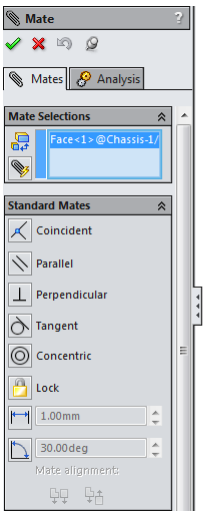
This command allows you to connect building blocks.

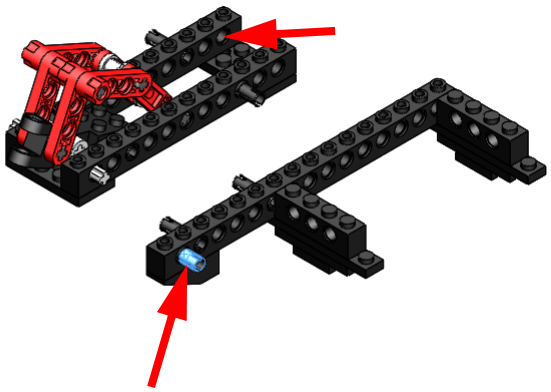


12 Click the outside of the pin and it will turn blue.

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



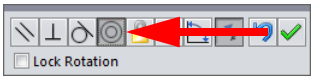




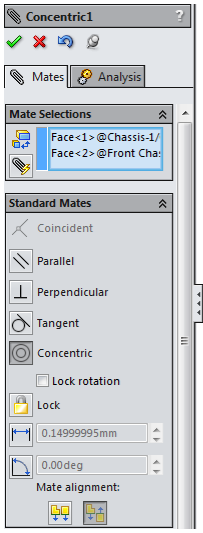
Tip: If you don't see things clearly, use the scroll wheel to zoom in or out.

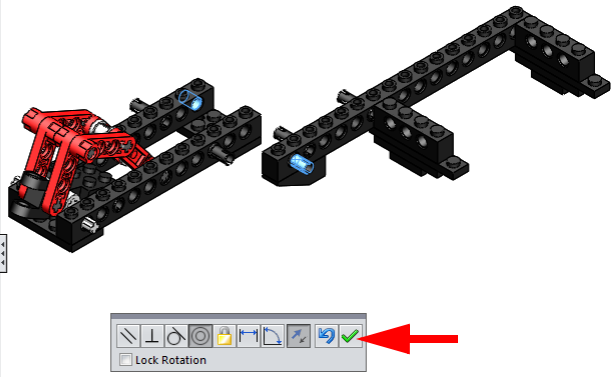
13 You'll now see both parts lie flush.

Here's the proof!



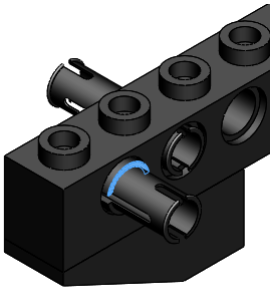
To confirm this, click **OK** .

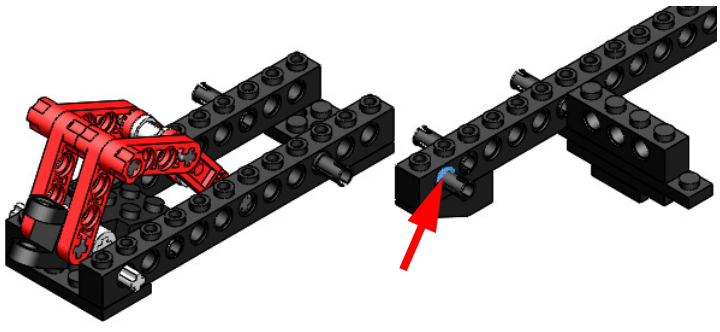




14 We're still in the **Mate** environment, so we'll simply continue!

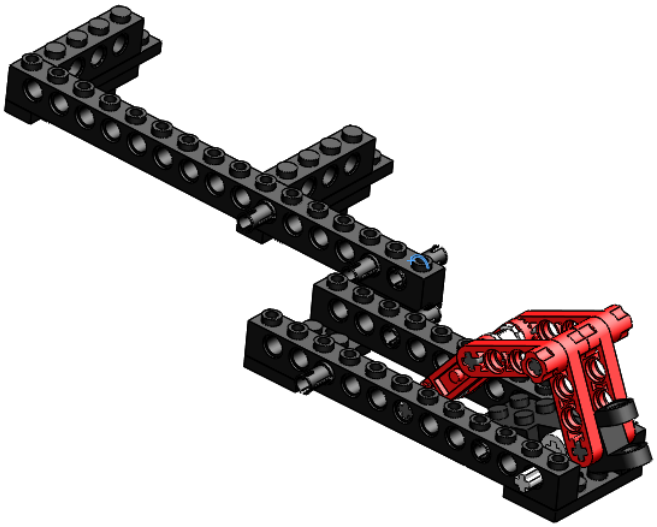
Click this edge:





Tip: If you don't see things clearly, use the scroll wheel to zoom in or out.

15 Press and hold the mouse's scroll wheel. Rotate and move the mouse until the assembly is positioned as illustrated.



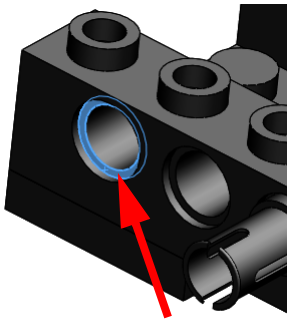
Tip: You may accidently turn or rotate the scroll wheel too much and possibly lose sight of everything. Don't worry.

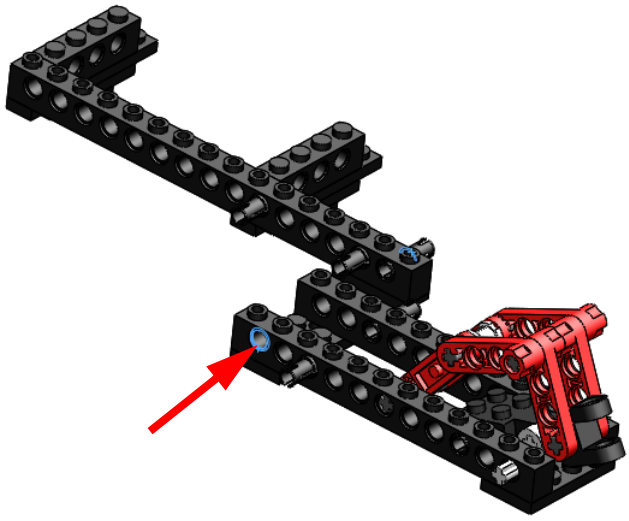
Click **Zoom to Fit**.



The parts will be back again.

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

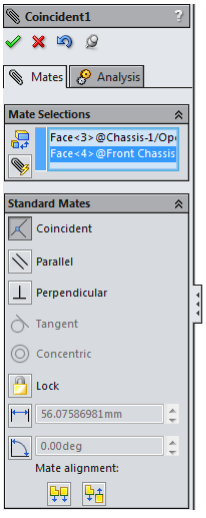


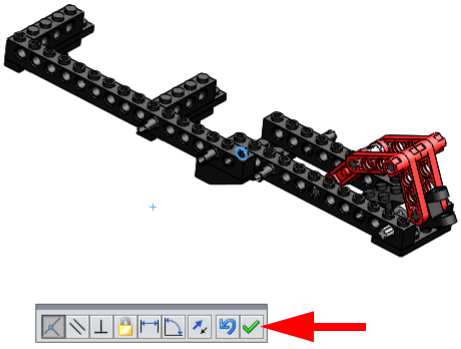


17 As you can see, the two parts are properly positioned.

A coincident mate is created .

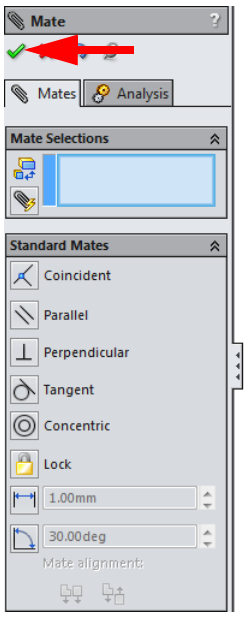
To confirm this, click **OK** .

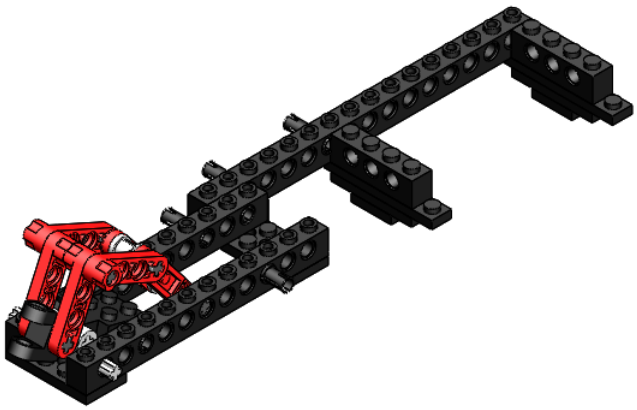




18 Close the **Mate** function.

Click **OK** ✔.

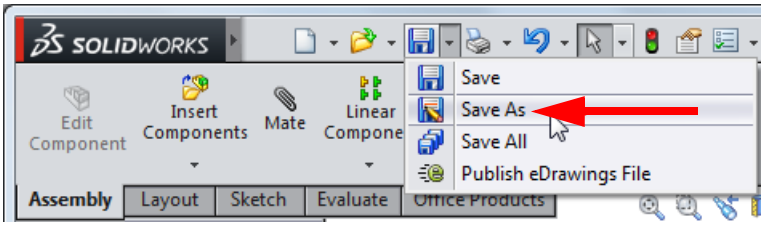




19 Let's save our data!

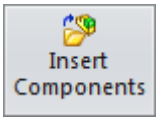
Click **Save As.**

Name the file: **My Trike**.

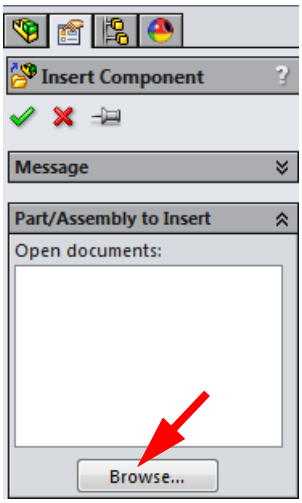


20 We'll go back to the warehouse to see if we can find gears and axles.

Press the left mouse button on **Insert Component**.



Press the left mouse button on **Browse...**

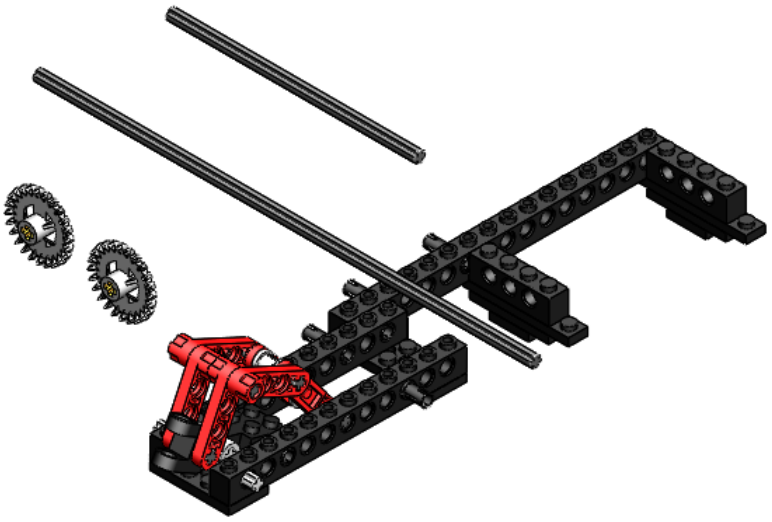


21 Insert the following:

1x 

1x 

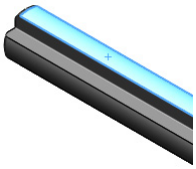
2x 



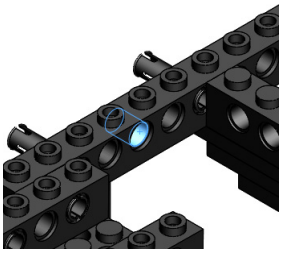
22 Click **Mate** 

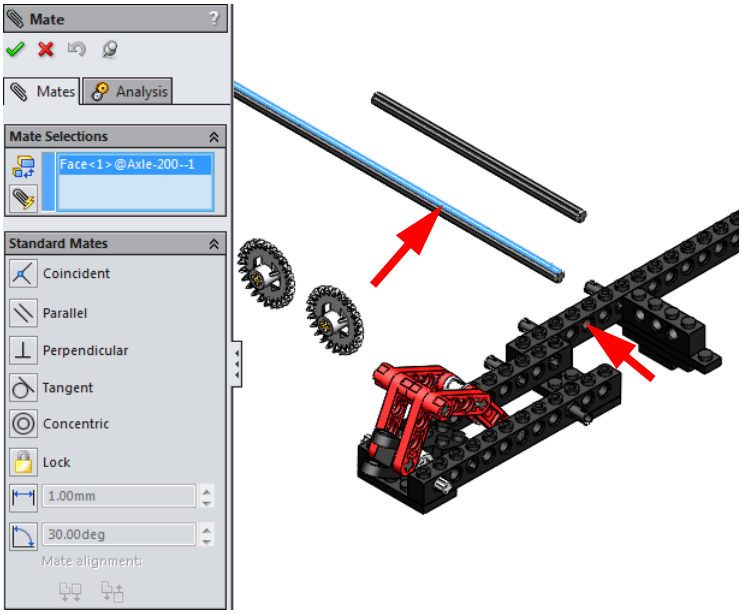
.

Click on the outside of Axle-200-.



Click on the inside of the hole. It will turn blue again.



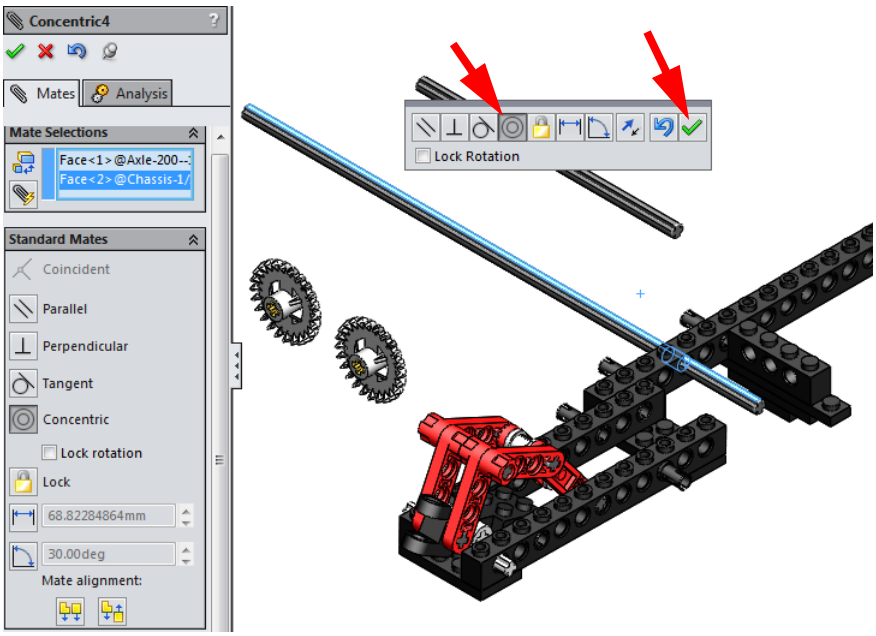


Tip: Zoom in if necessary!

23 The axle will fit into the hole!

If all went well, a concentric mate will be created.

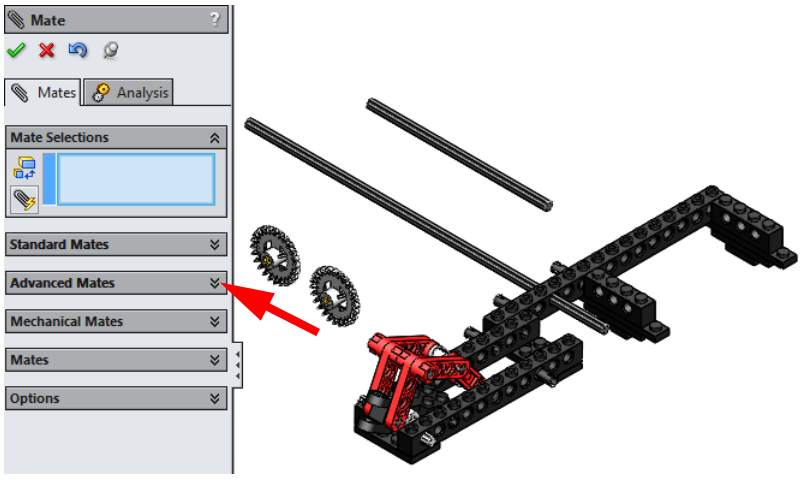
Click **OK** .



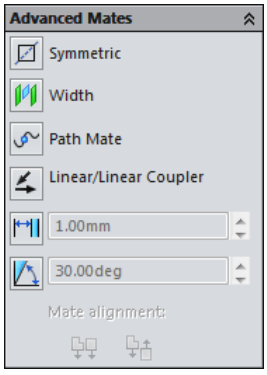
24 We'll now put the axle in the middle of the chassis. Therefore we need a different type of mate function.

Open: **Advanced Mates**

Click:

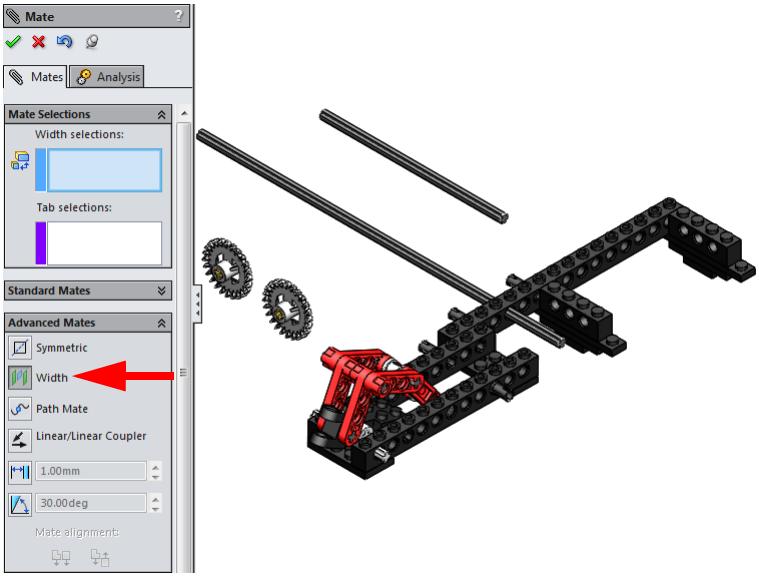


25 This is the new mate list!



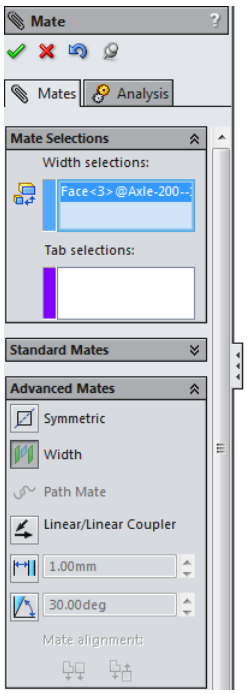
Use the **Width Mate**.

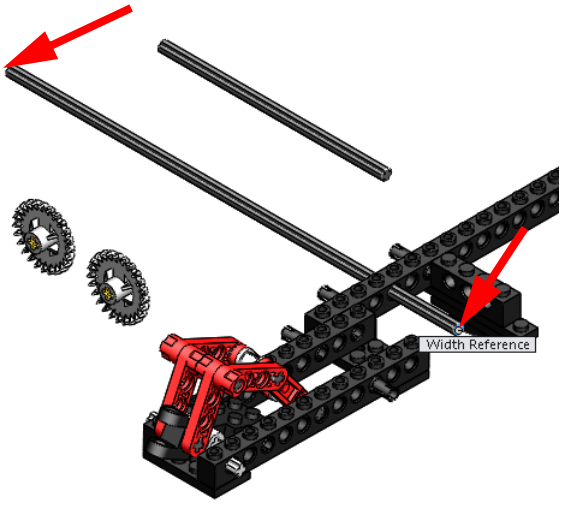
Click:



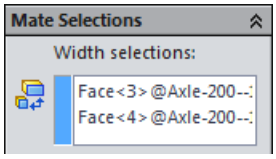
26 Click both ends of the axle.

For the second side, press the scroll wheel and move the mouse in order to rotate the model.

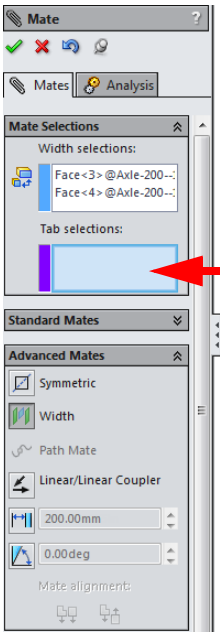


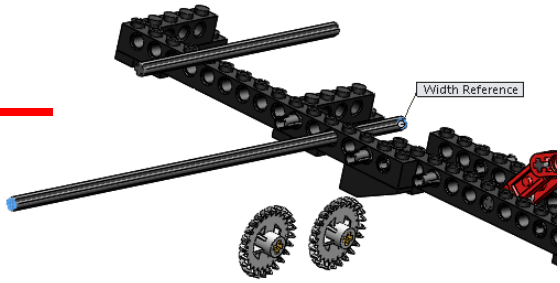


27 If all went well, this screen now displays the two selections.



Click on the next field if not already selected.

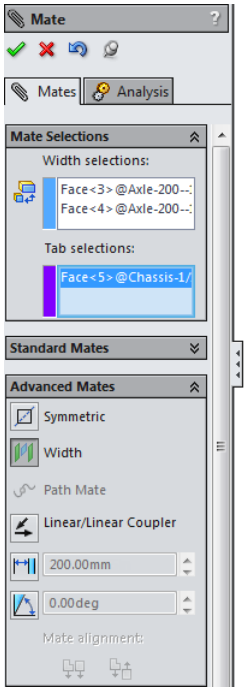


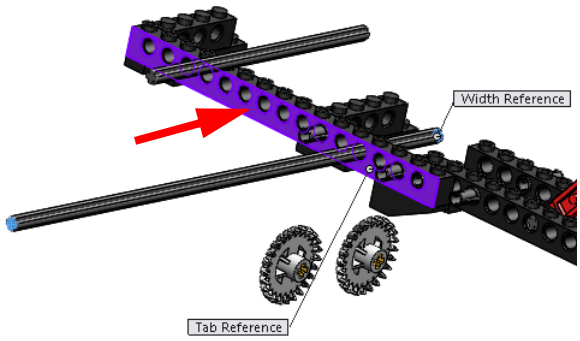


28 Click on the side of the chassis as indicated, it will turn purple.

The side is now displayed in the field.

For side two, press the scroll wheel and move the mouse in order to rotate the model.



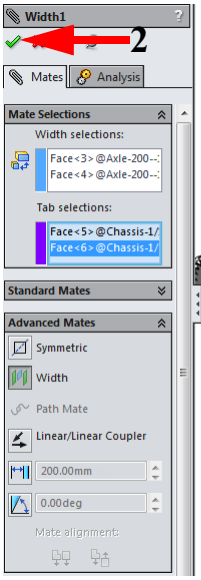


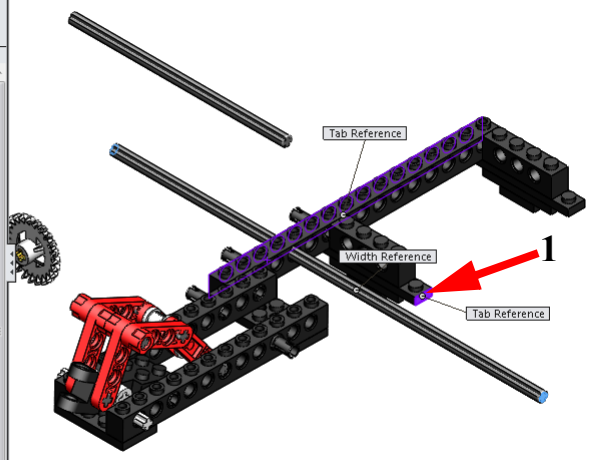
29 Click on the side of the chassis as indicated, it will turn purple.

This side is now displayed in the field.

The axle is now set at a fixed position in the middle of the chassis!

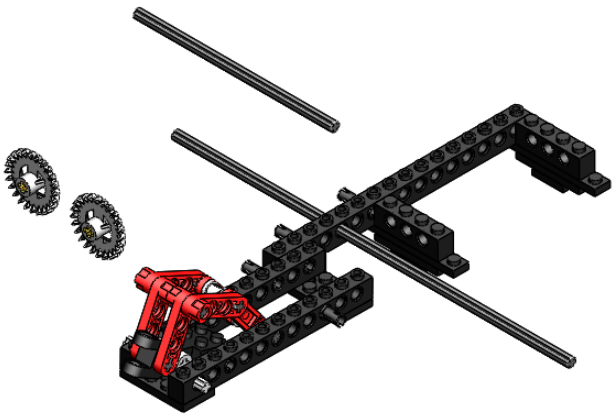
Click **OK** .





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

Click **Save**:

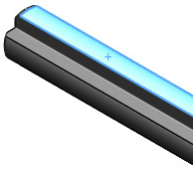


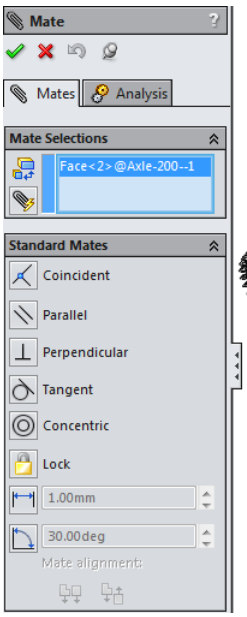
31 We're going to build again.

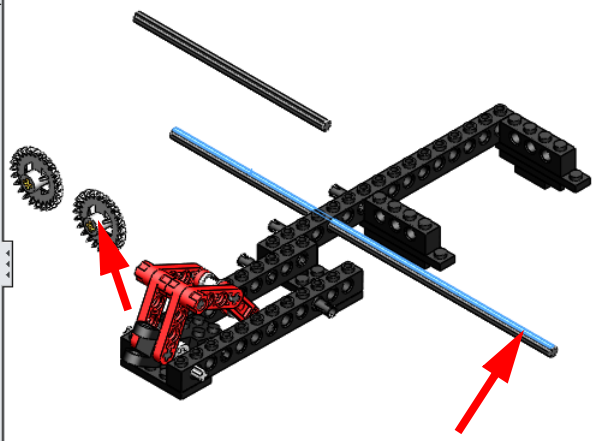
Click **Mate**  .

We'll mount the gear!

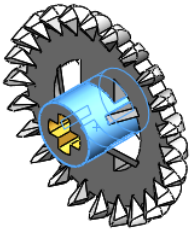
Click the outside of the axle.







Click the outside of the gear.

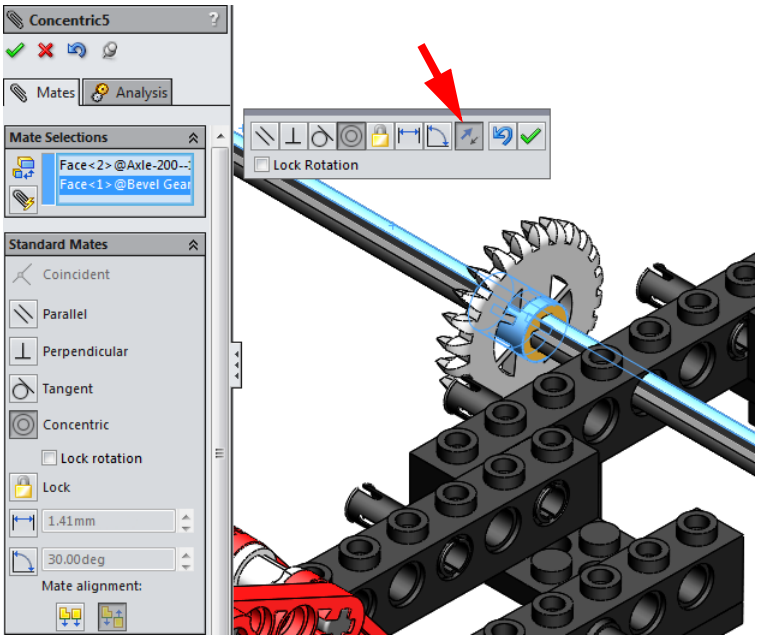


32 As a result, the gear and the axle will be aligned.

A concentric mate is created.

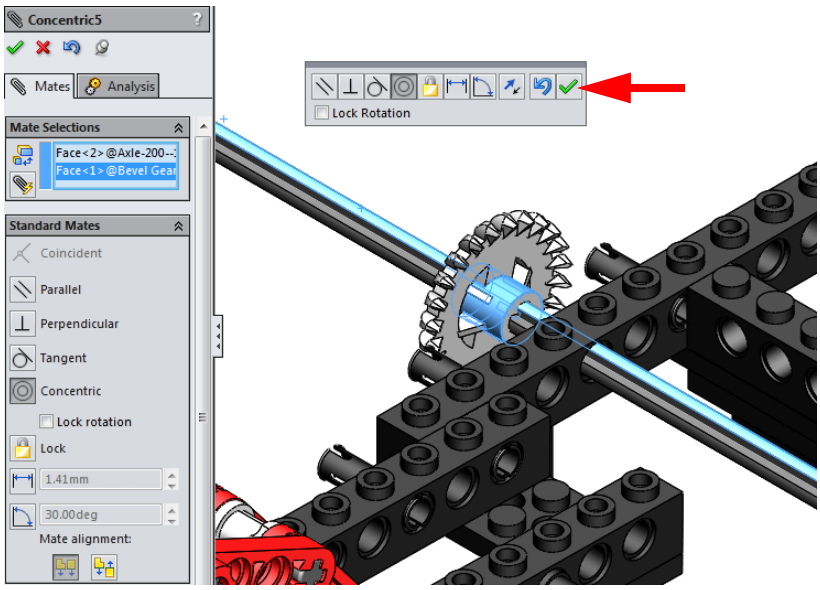
There's a fair chance the part is not correctly positioned!

Therefore, click: 

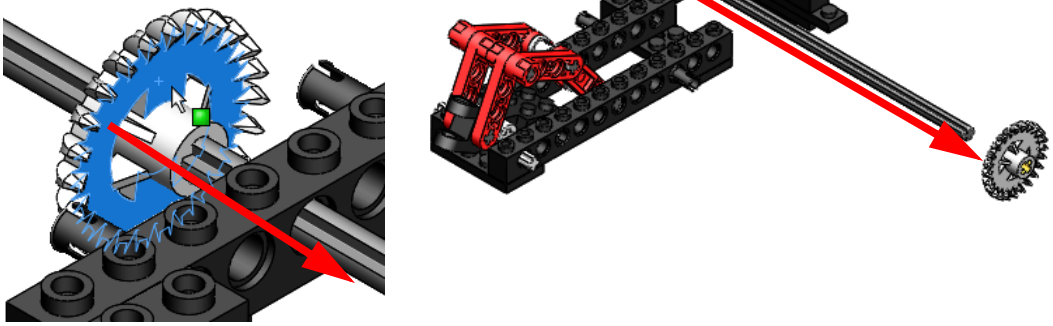


33 You can see opposite, that the part is now correctly positioned.

Click **OK** ✓.

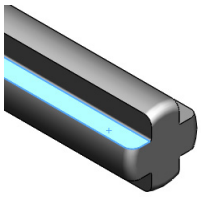


34 Click and drag the gear using the left mouse button and move it approximately to the end of the axle.

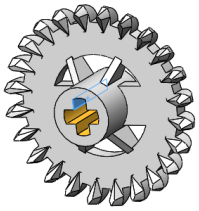


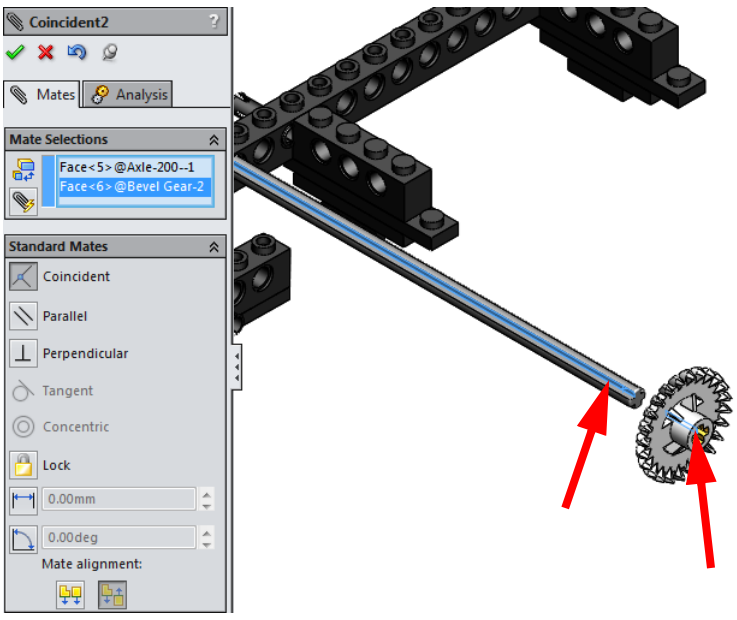
35 We'll now mate the gear on the axle.

Click on the side of the axle.



Click on the inside of the gear.

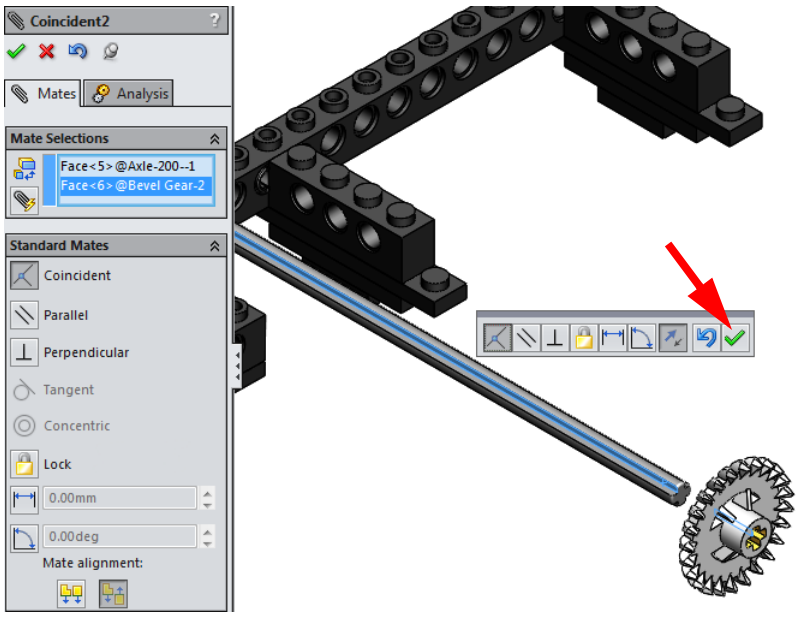




36 The gear and the axle are now well aligned with respect to each other.

A coincident mate is created.

Click **OK** .



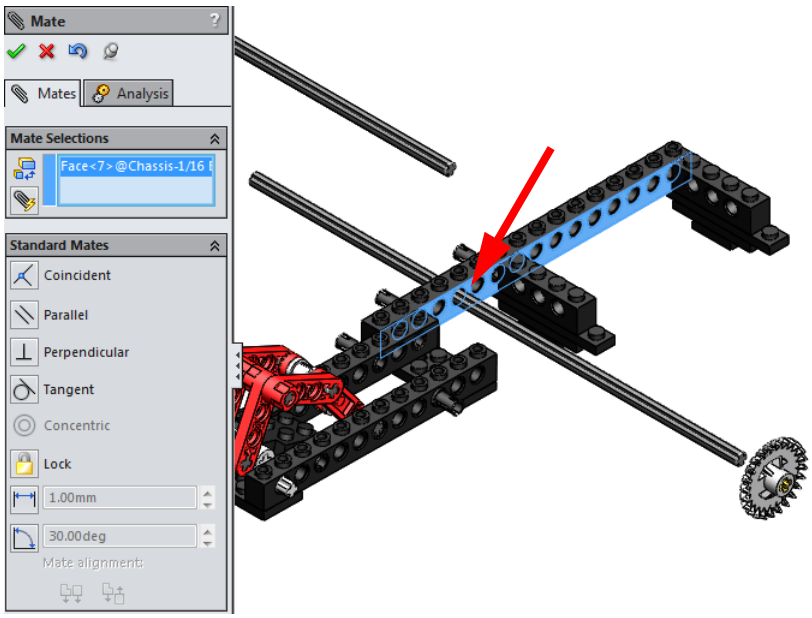
37 We're still working within the environment of the **Mate** function, so we simply continue.

We'll now put the gear in its place.

Click:

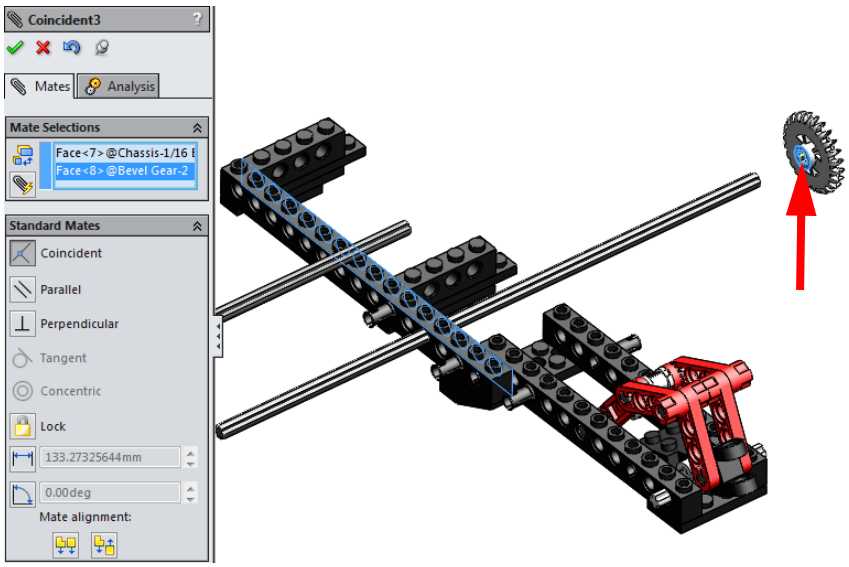


Press and hold the mouse's scroll wheel. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.



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

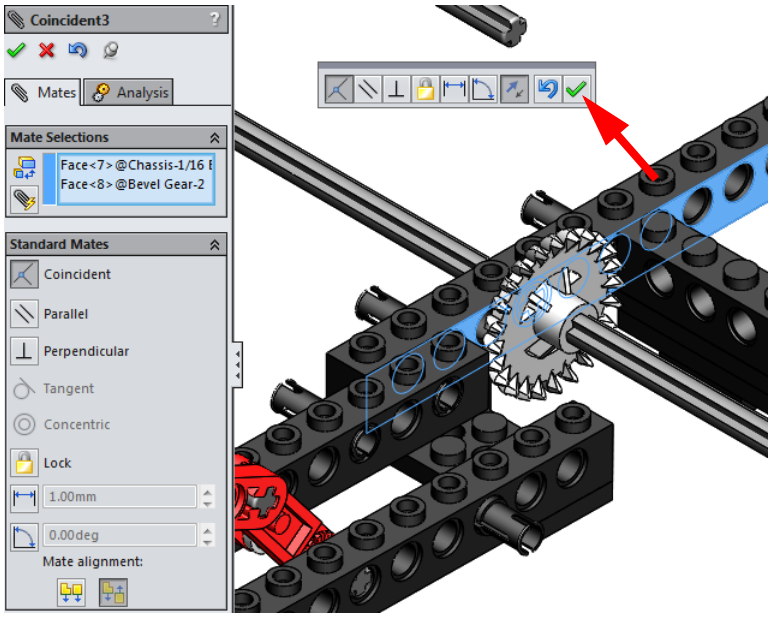




Press and hold the mouse's scroll wheel. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.

39 A coincident mate is created.

Click **OK** .



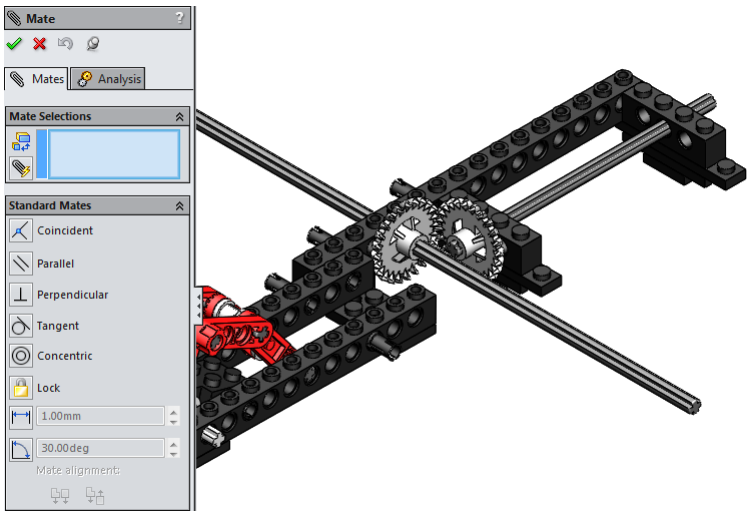
40 Make sure the model is positioned on screen as illustrated.

If not, press and hold the mouse's scroll wheel and move the mouse.

Do the same with the second axle and gear.

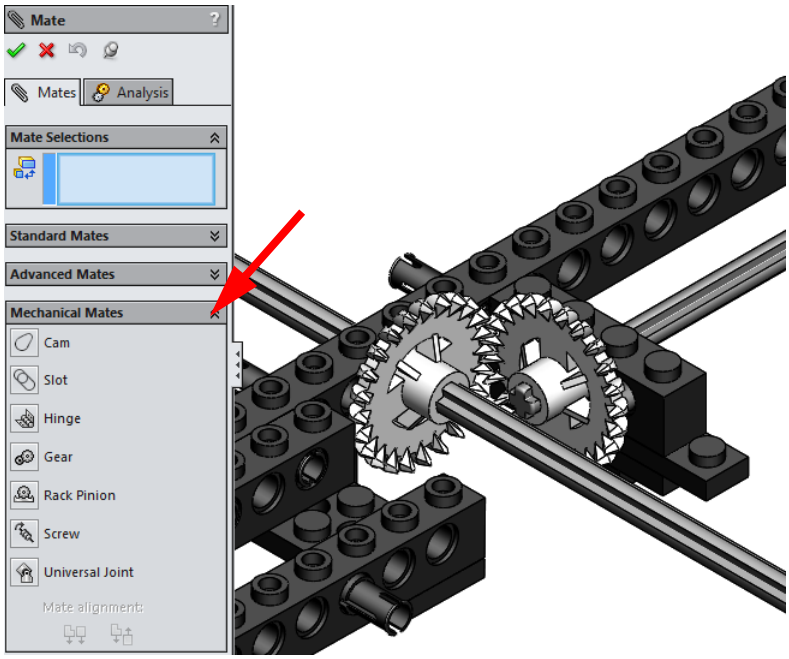
Make sure it's the same as the last one!

Tip: You don't remember how? Repeat steps 22 through 39.



41 We're now going to make the connection between the two gears. Therefore, we use mechanical mates.

Click **Mechanical Mates**.

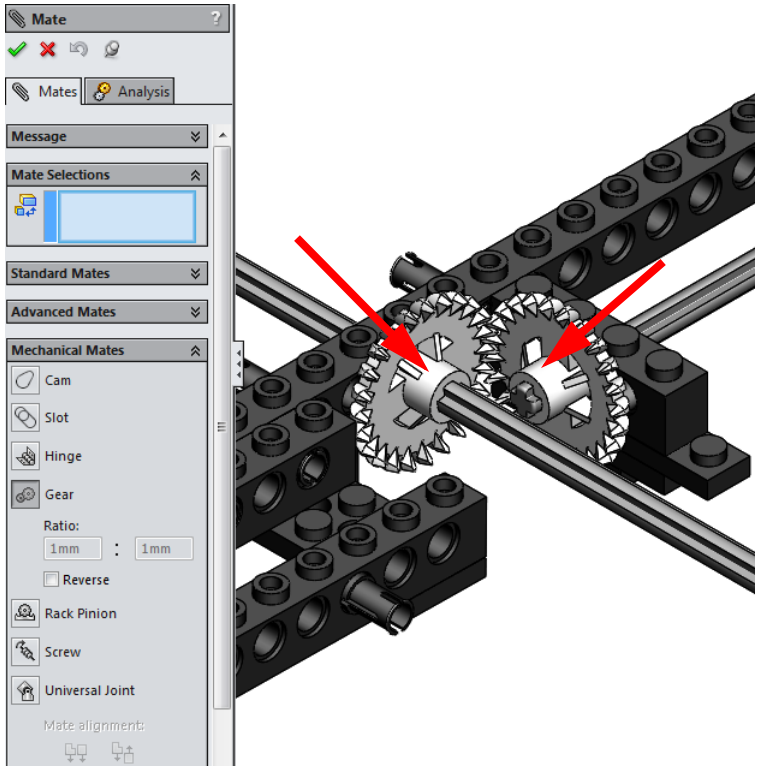


42 Click:



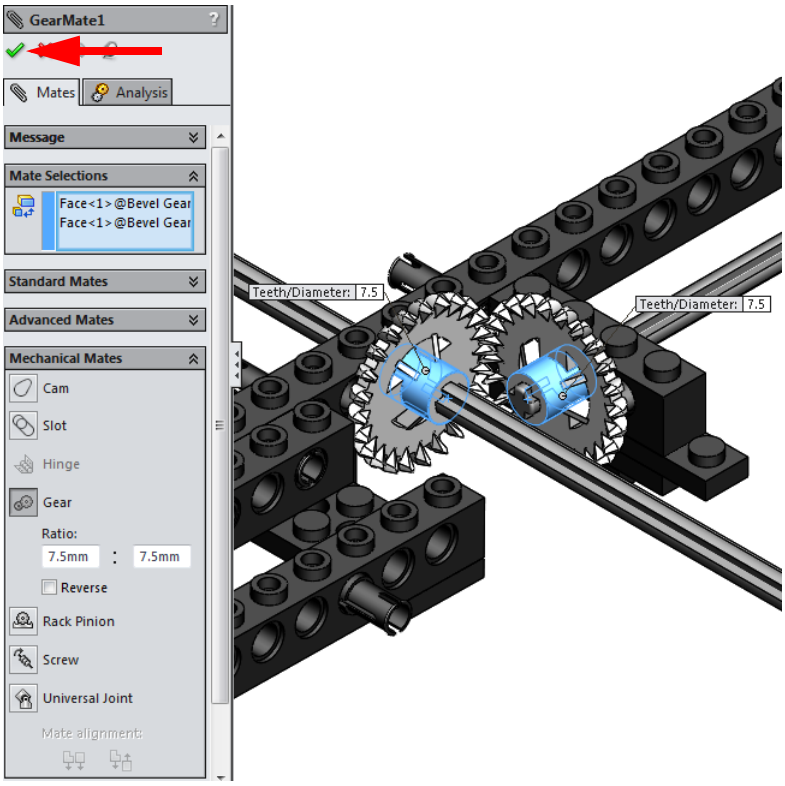
Click the cylinder of gear 1.

Click the cylinder of gear 2.



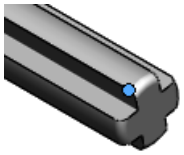
43 The selected ratio for both gears is OK!

Click **OK** .



44 We will now test if one gear turns what does the second gear do.

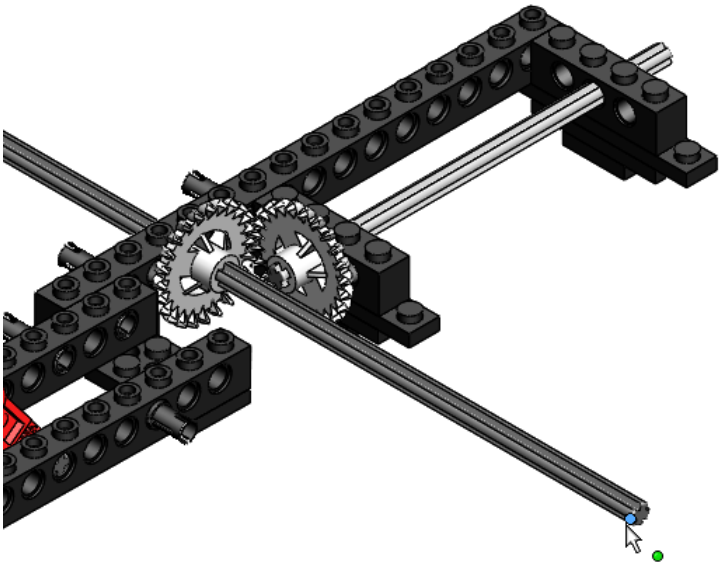
Pick this point on the axle.



Hold your left mouse button down and make a turn clockwise.

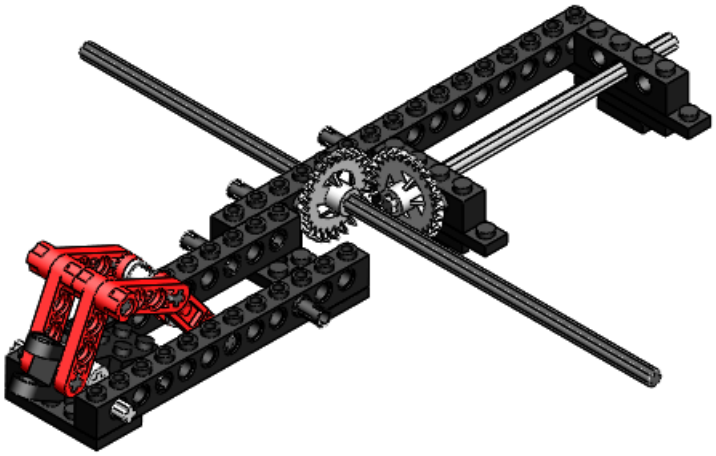
If the second axle turns, it will be the proof.

Click **OK** to close the **Mate** function.



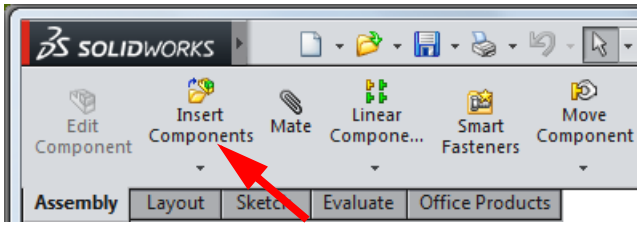
45 Let's save our data once again for safety!

Click **Save**.

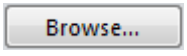


46 We'll go back again to the warehouse to see if we can find one long black brick and a gear.

Press the **Insert Components** icon with the left mouse button.



Press the left mouse button on:



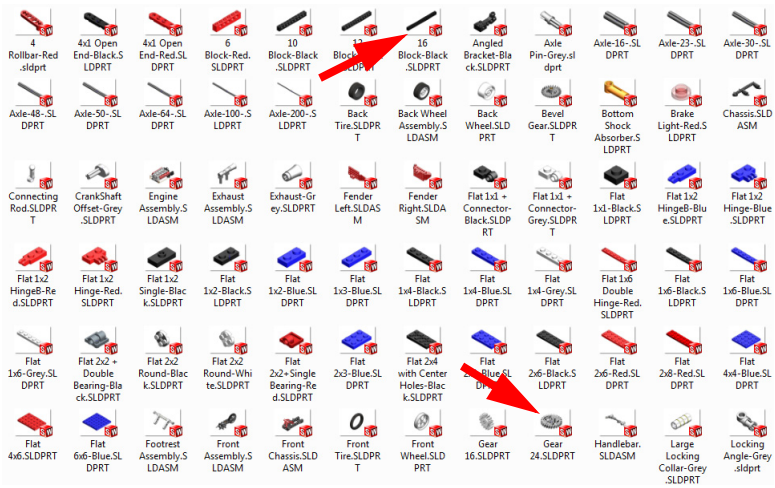
47 We're looking for:

1x



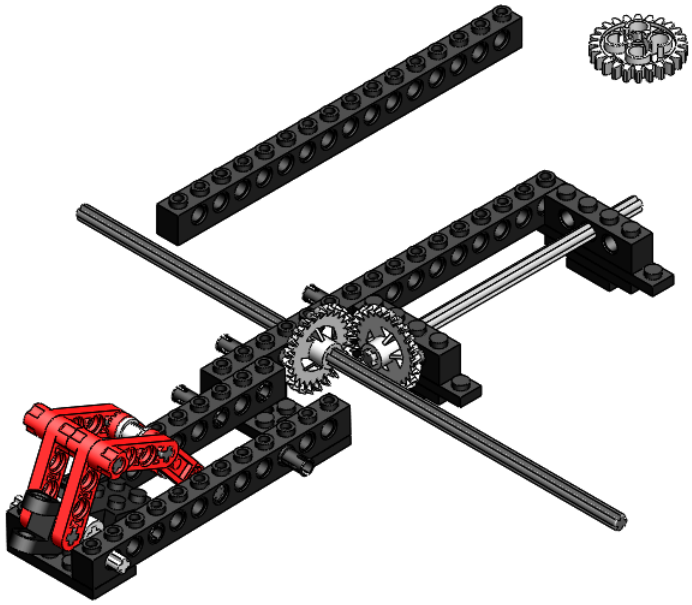
1x





48 Double click each icon to insert the parts.

Position the parts as illustrated.



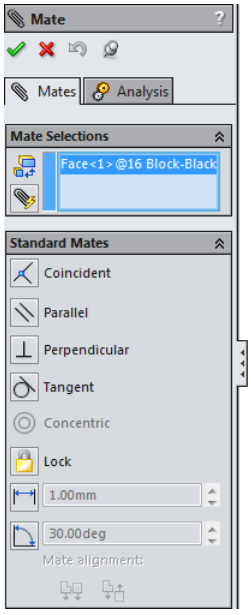
49 We're going to build again!

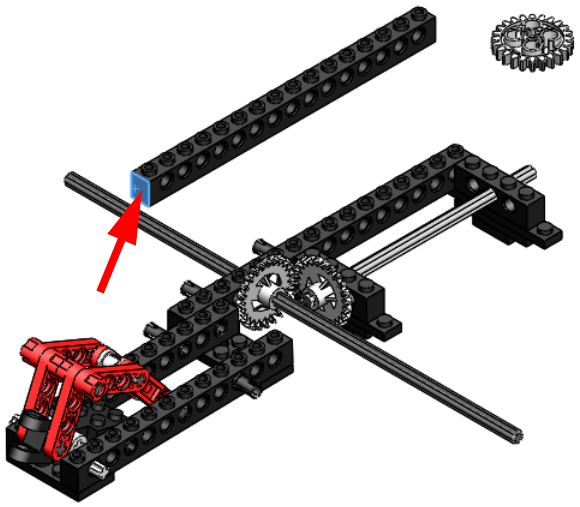
Click **Mate** 

.

We'll now put the brick in place. Be sure you are working with the Standard Mates!

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

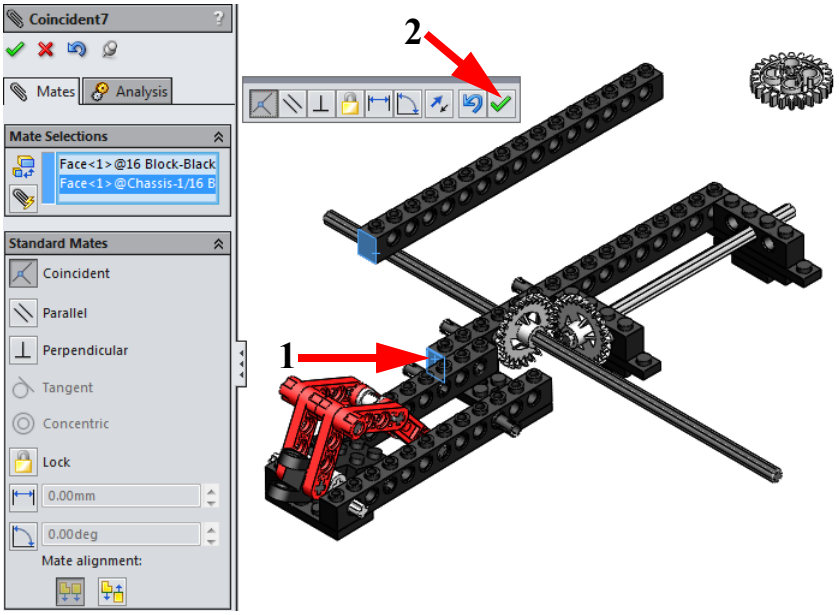




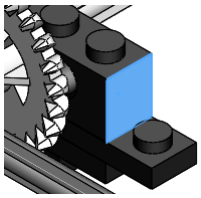
50 Click the front side of the chassis and it will turn blue as well.

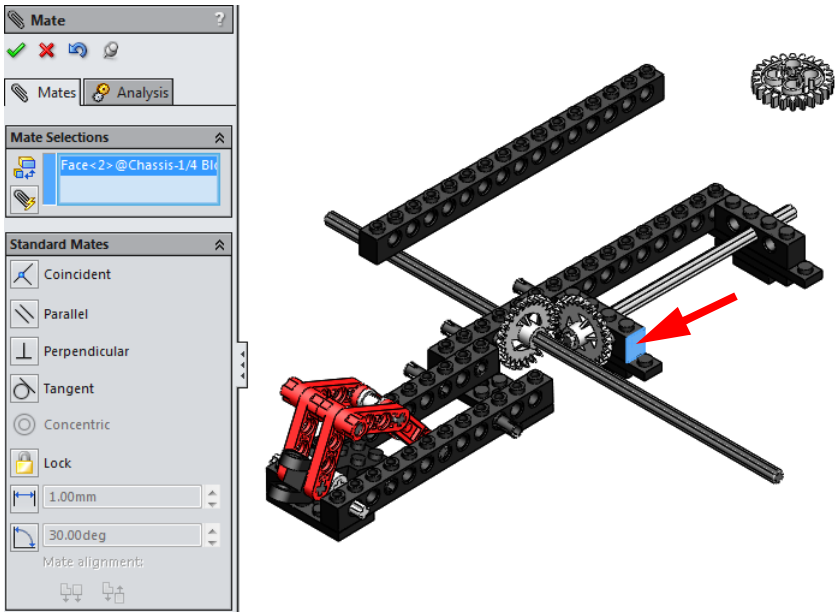
These front faces now lie flush. A coincident mate is created.

To confirm this, click **OK** ✔.



51 Click the front side of the brick shown below and it will turn blue.



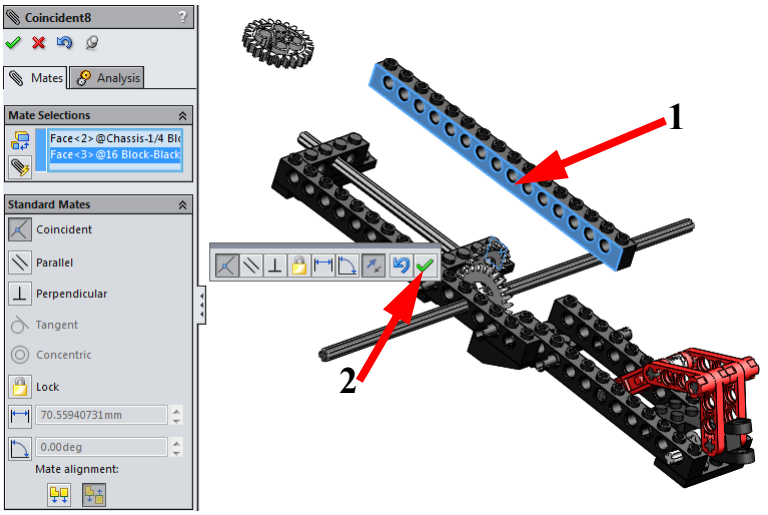


52 Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

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

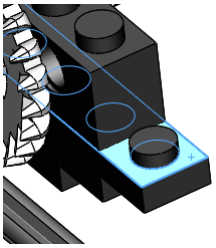
Their front faces now lie flush.

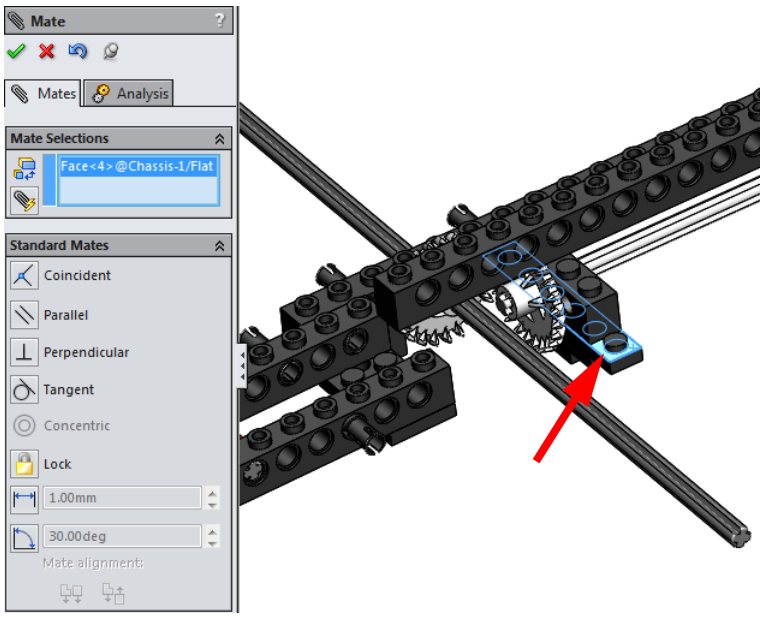
To confirm this, click **OK** ✔.



53 Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

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

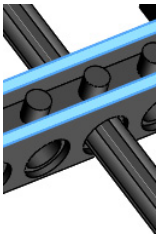


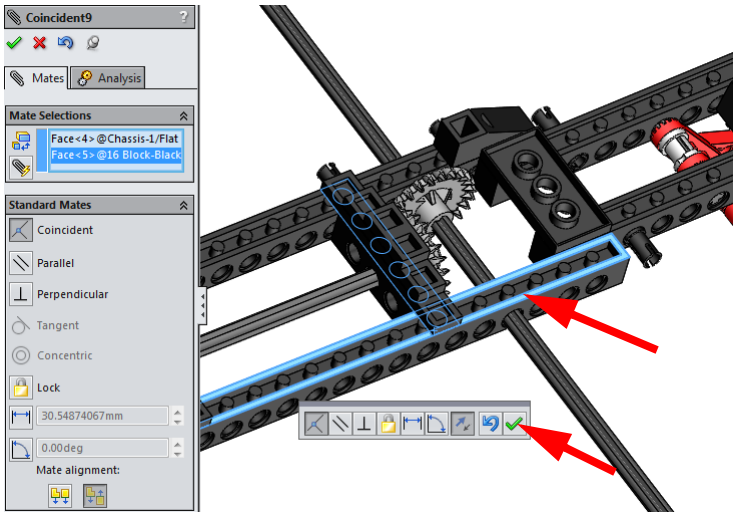


54 Press and hold the mouse's scroll wheel and move the mouse.

Try to put everything upside down as illustrated!

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





To confirm this, click **OK** ✔.

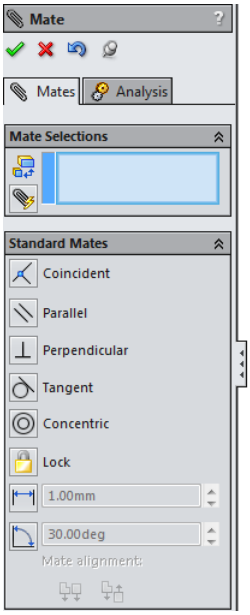
55 Use the scroll wheel and zoom in until the assembly is positioned as illustrated.

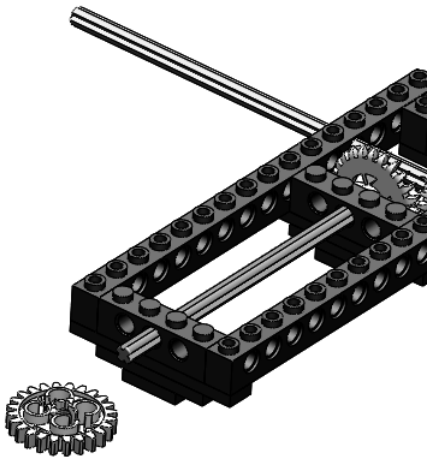
Now we will mate the gear to the axle.

Try it yourself!

Use the skills you have learned.

When done, click **OK** ✔.





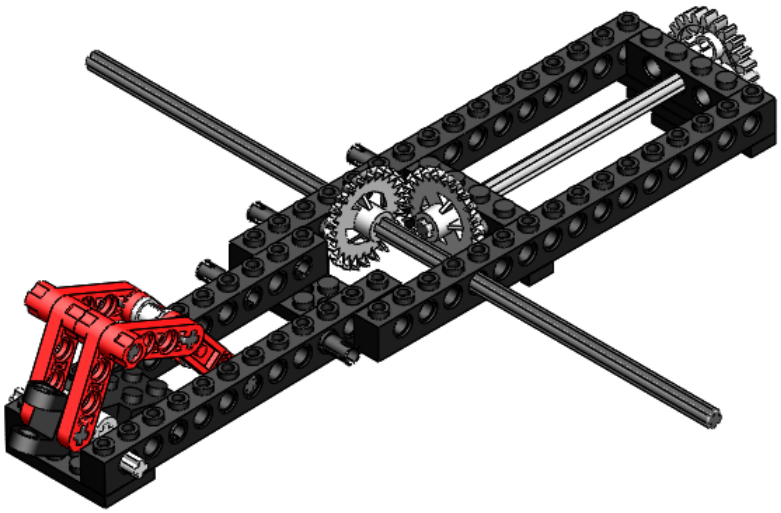
Tip: You don't remember how? Repeat steps 31 through 39.

56 Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

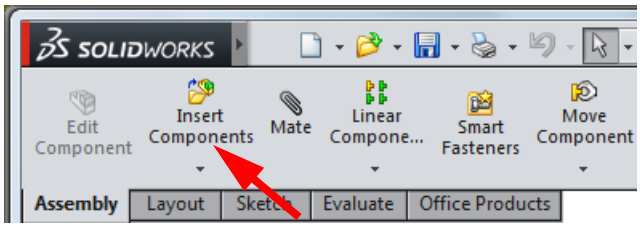
If all went well, your screen now displays the frame, the two axles, and the three gears as illustrated opposite.

Let's save our data once again for safety!

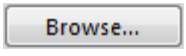
Click **Save** 💾.



57 We'll go back again to the warehouse. Press the **Insert Components** icon with the left mouse button.



Click on

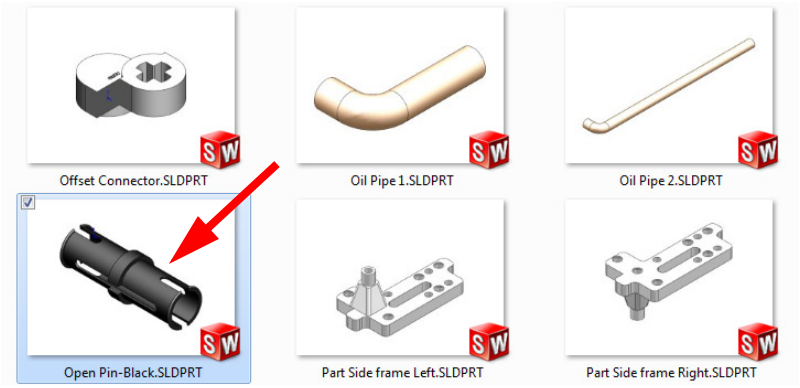


We'll go back again to the warehouse to see if we can find two black connectors.

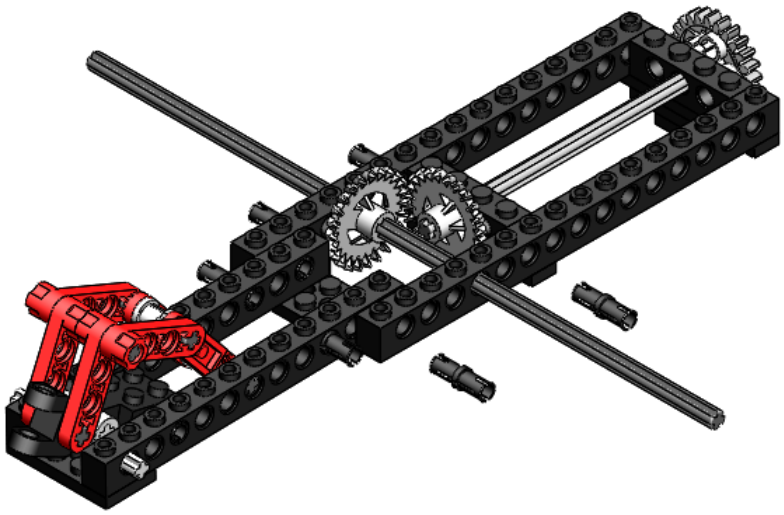
58 We're looking for:

2x 

Position the parts as illustrated in the next step by clicking the left mouse button.



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



60 We're going to build again!

Click **Mate** 

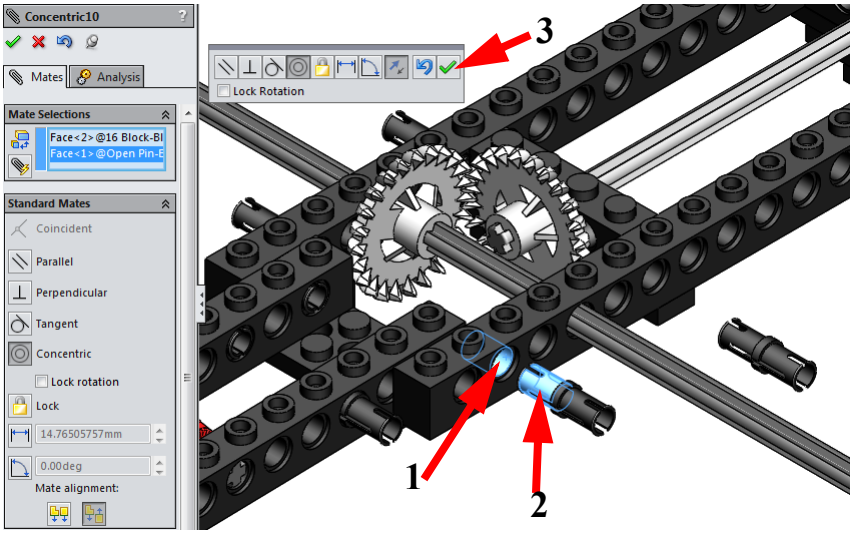
.

Click the inside of the second hole in the lower brick. It will turn blue.

Click the outside of the connector and it will also turn blue.

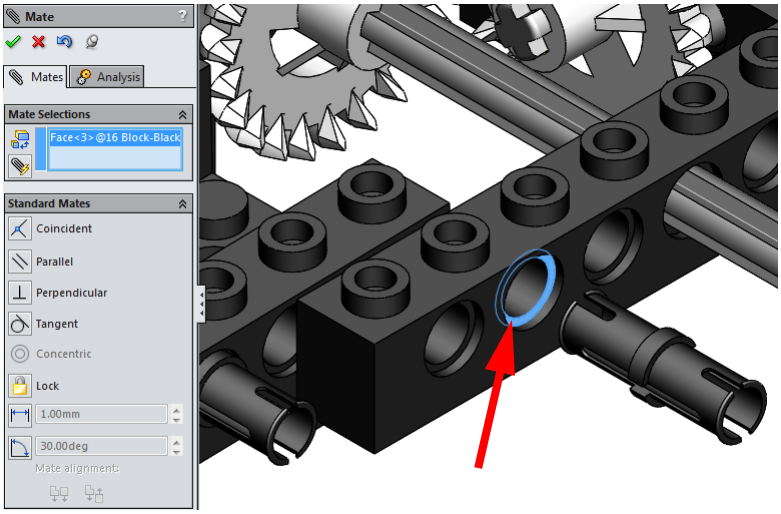
You'll now see that both parts are concentric.

Click **OK** ✓.



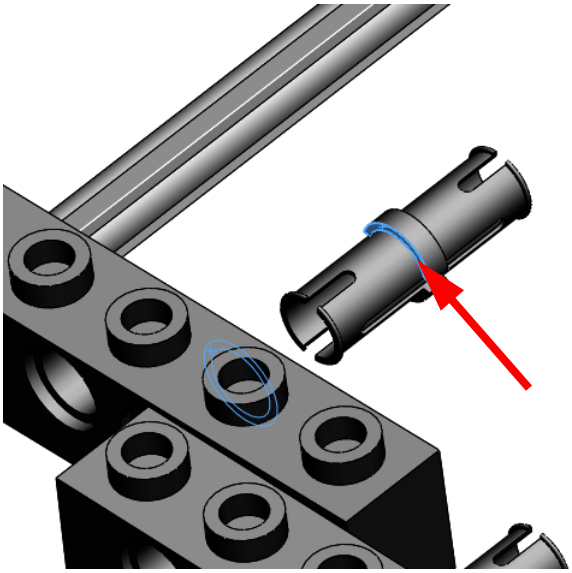
61 Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

Click the inside flange of the hole in the lower brick. It will turn blue.



62 Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

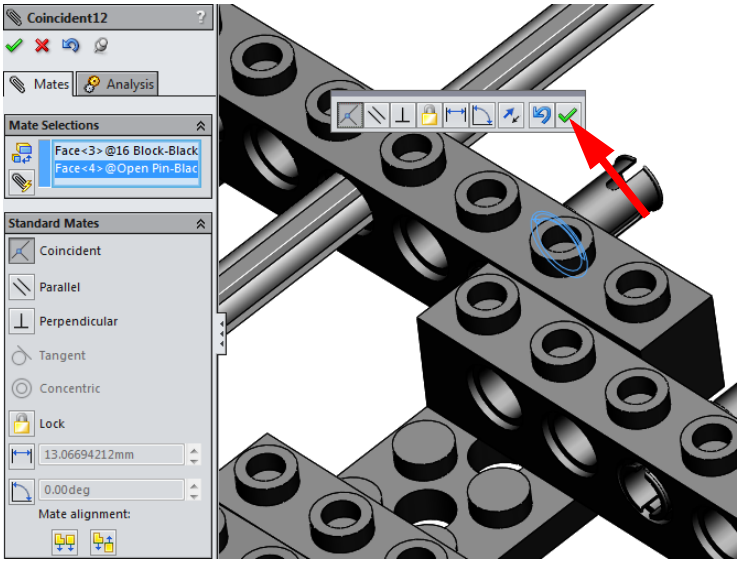
Click the outside flange of the connector. It will turn blue.



63 As you can see, the parts are properly positioned.

A coincident mate is created.

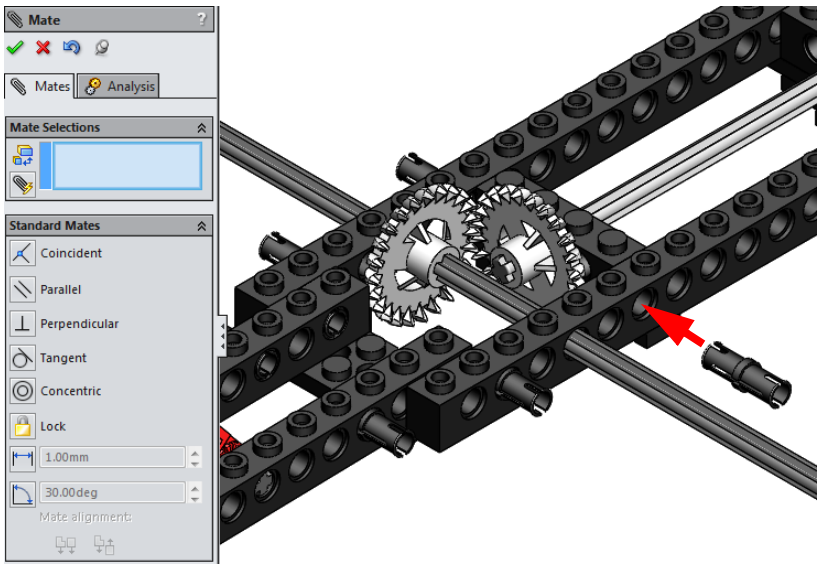
Click **OK** .



64 Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

Do the same by yourself with the next connector part.

Refer to the example and use your knowledge from steps 60 through 63.

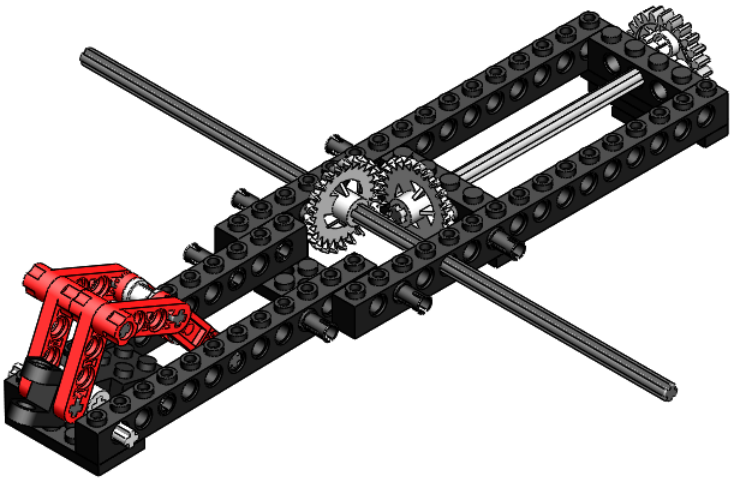


65 Next, we'll continue the assembly process.

Press the 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** .



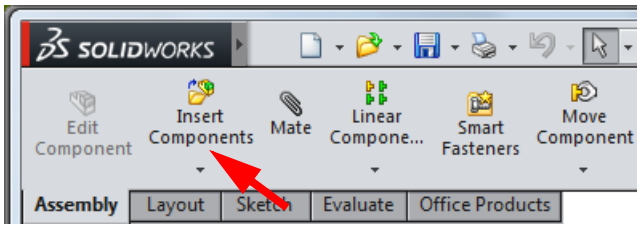
66 Let's move on!

We'll now return to the warehouse for new parts.

Click **Insert Components**.

Click:

Browse...



67 We're looking for:

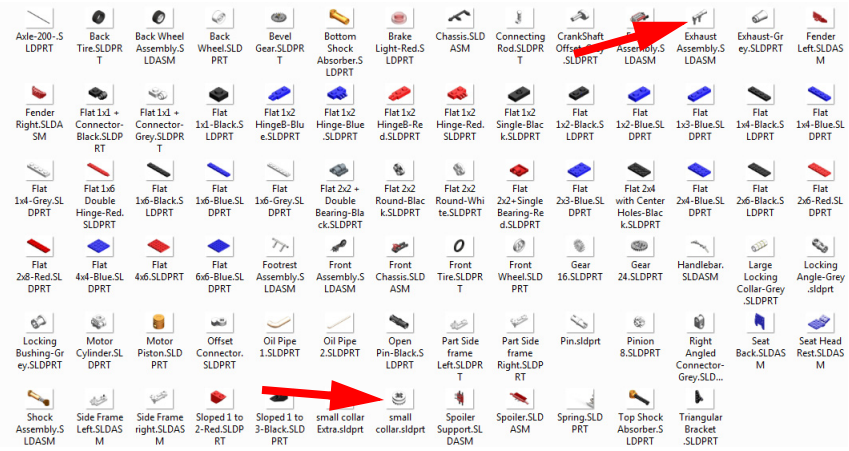
2x



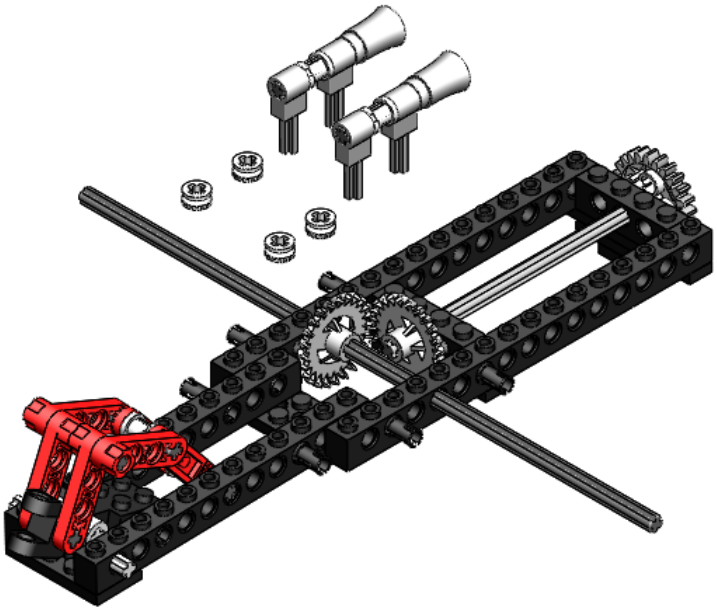
4x



Double click each icon to insert the parts.



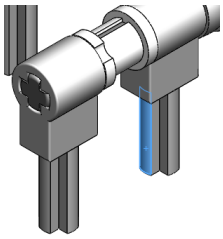
68 Position the parts as illustrated.



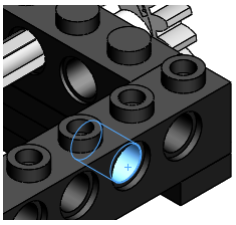
69 We're going to build again!

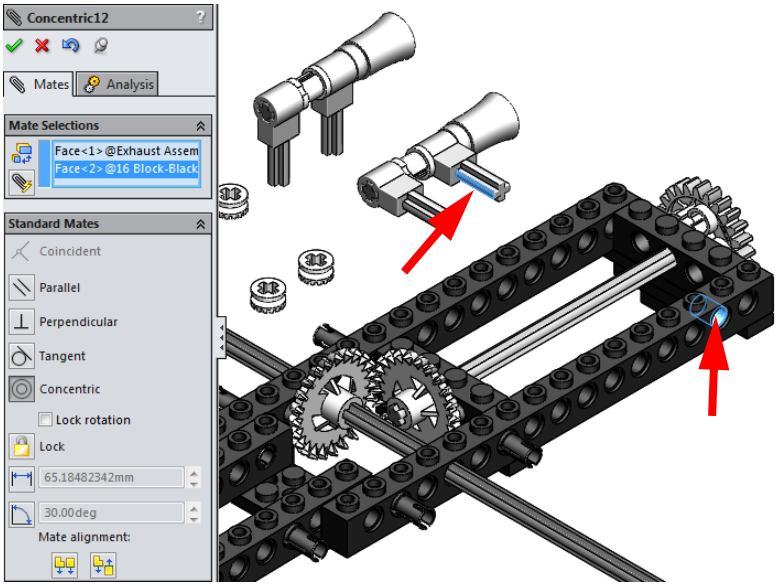
Click **Mate**  .

Click the outside of the axle as illustrated.



Click the inside of the second hole in the lower brick. It will turn blue.





70 There's a chance the part is not correctly positioned.

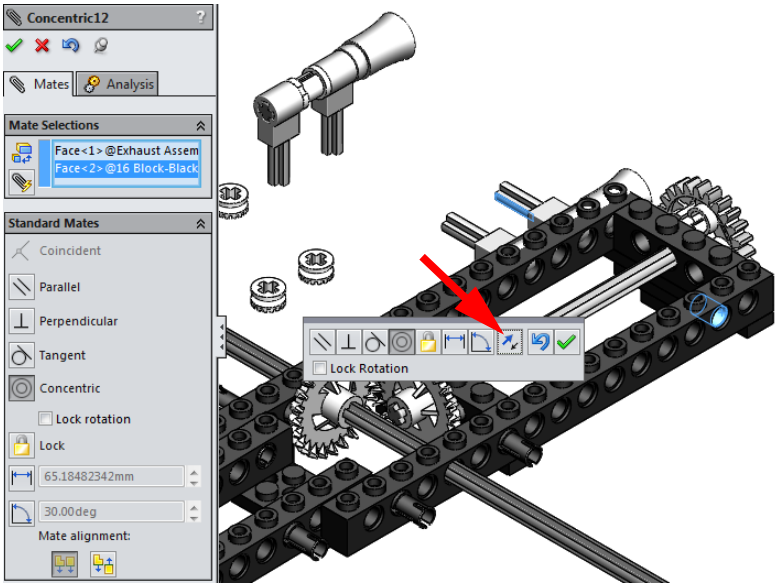
Therefore, click 

You can see below the part is now correctly positioned!

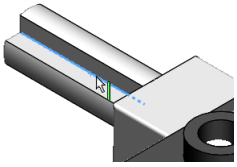
It may also happen that the part goes straight through another part!

Don't worry!

We'll handle this in the next steps.

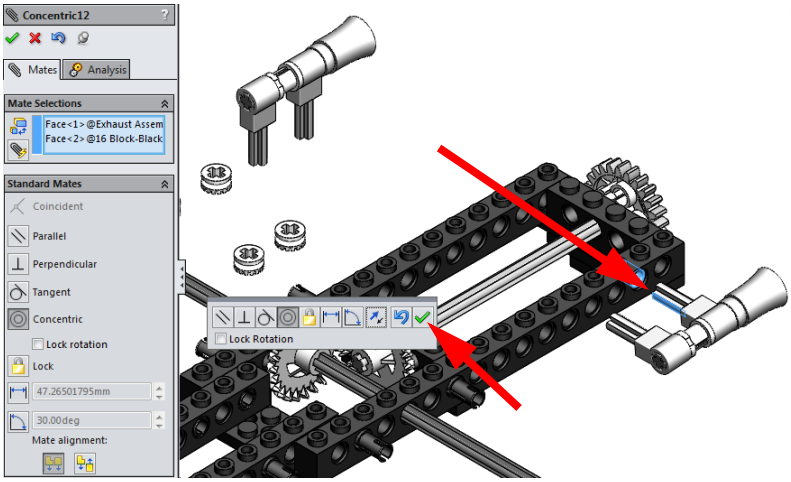


71 Click and hold on to this edge with your left mouse button.



Move the mouse to position the part as illustrated.

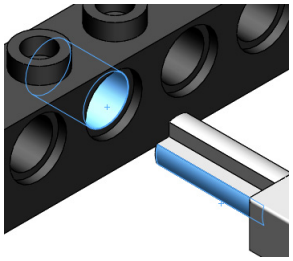
Click **OK** ✔.

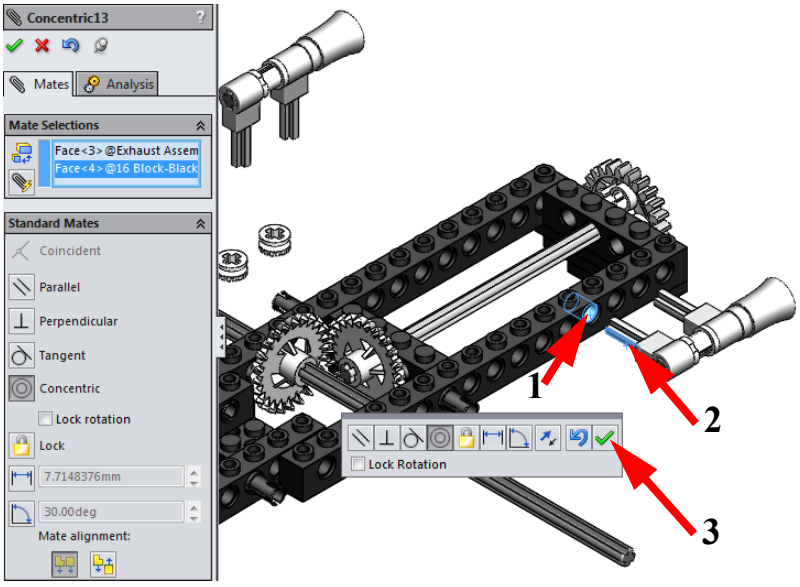


72 We're still in the **Mate** environment, so we'll simply continue.

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

Click the outside of the axle and it will also turn blue.



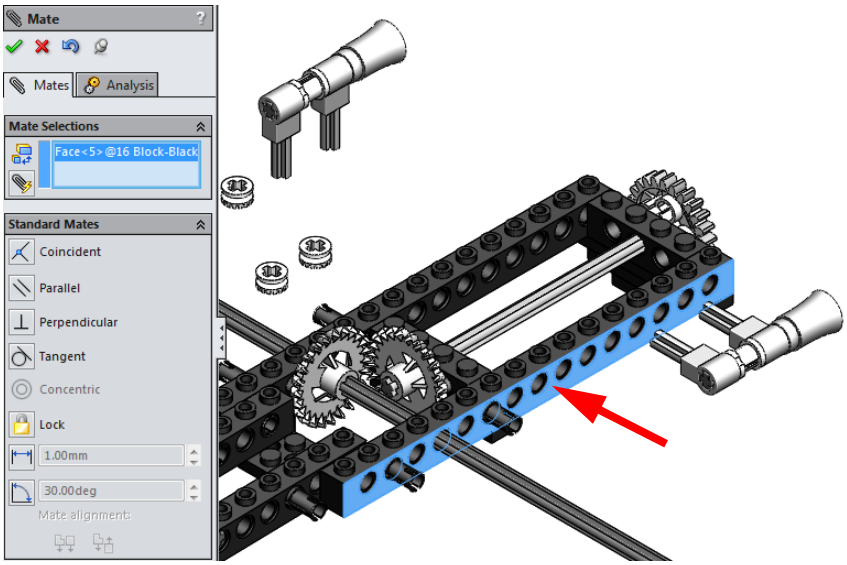


You should see the part is positioned correctly.

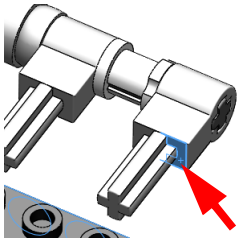
Click **OK** ✔.

73 Click the outside of the brick. It will turn blue.

Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.

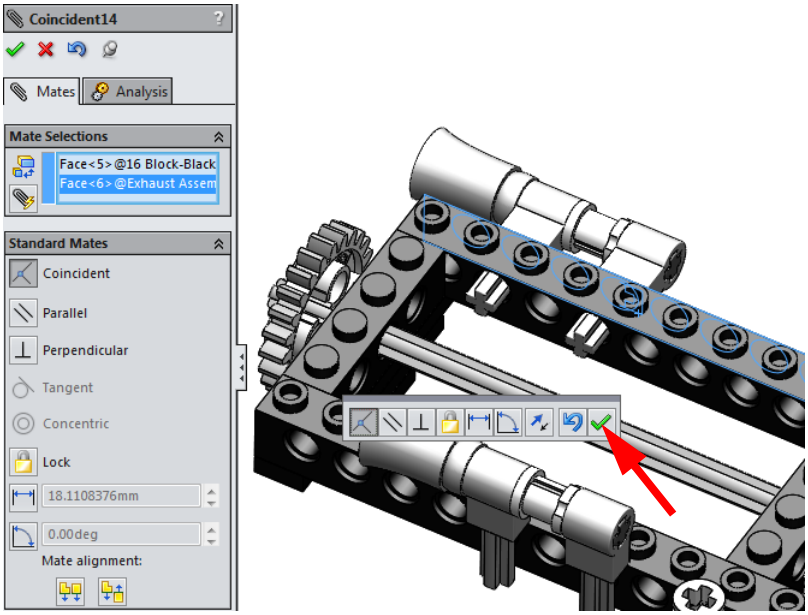


74 Click the outside of the brick as illustrated.



You will see the part is positioned correctly.

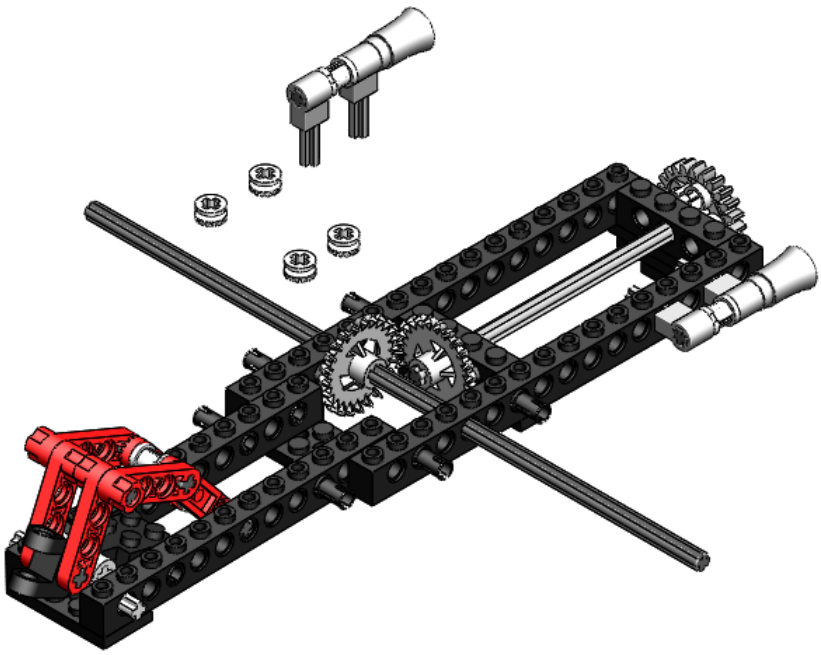
Click **OK** .



75 Let's save our data once again for safety!

Click **Save** .

Press the scroll wheel down and move the mouse until the part is positioned as illustrated in the next step.



76 We're going to build again!

Click **Mate** 

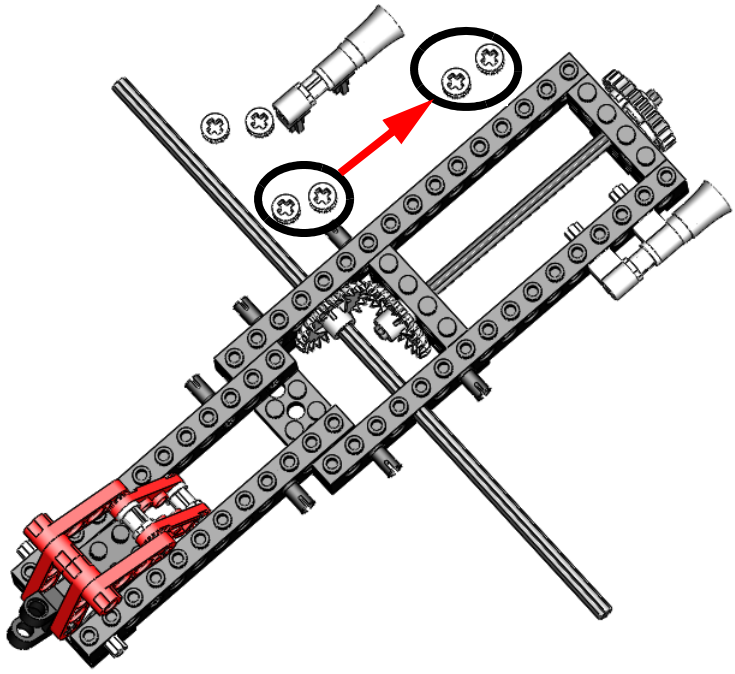
.

Pick up two of the collars and move both parts as illustrated.

Rotate the parts using the right mouse button.

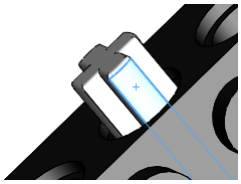




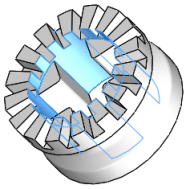


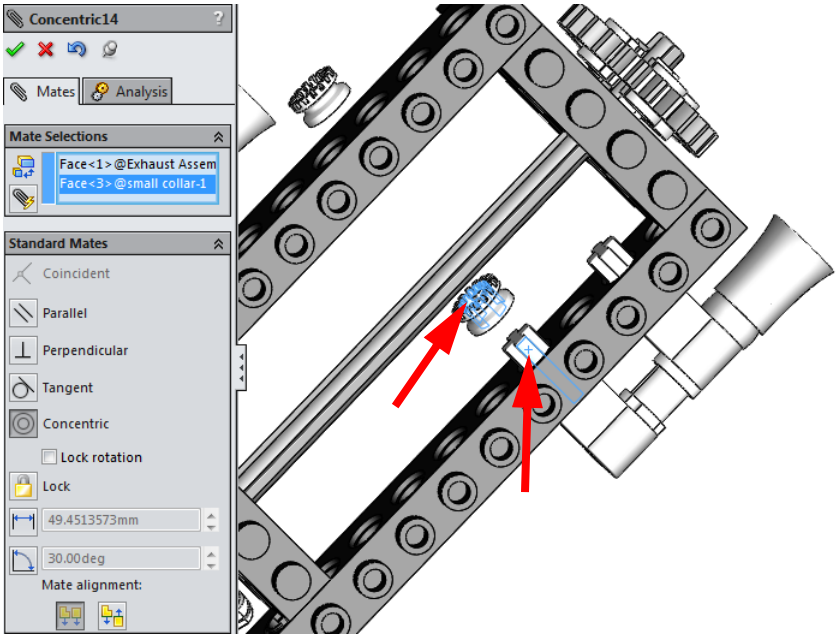
77 Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

Click:



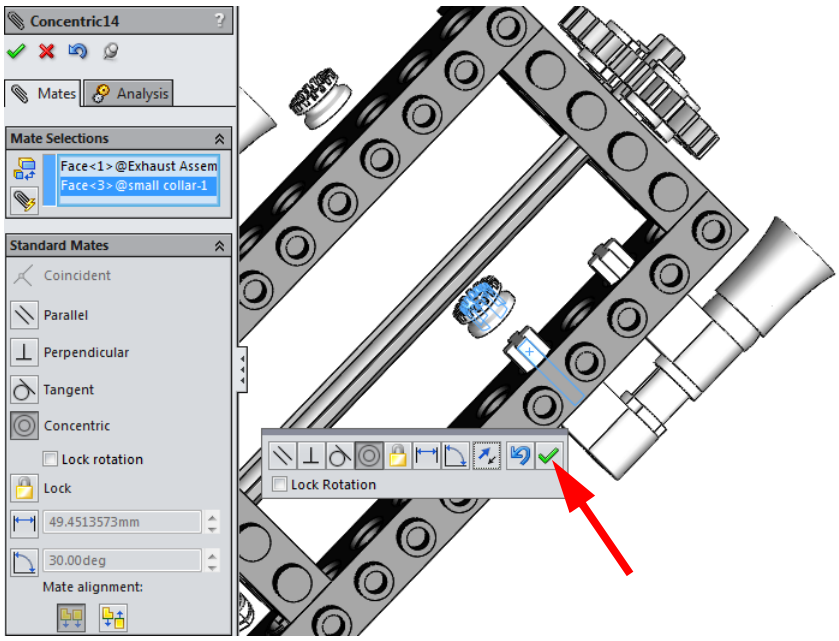
Click:



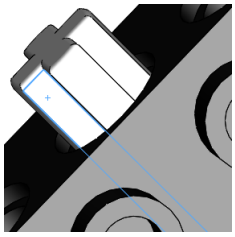


78 You'll see that both parts are now concentric.

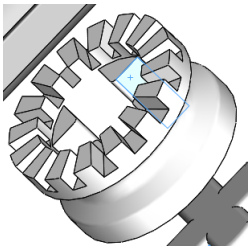
Click **OK** .

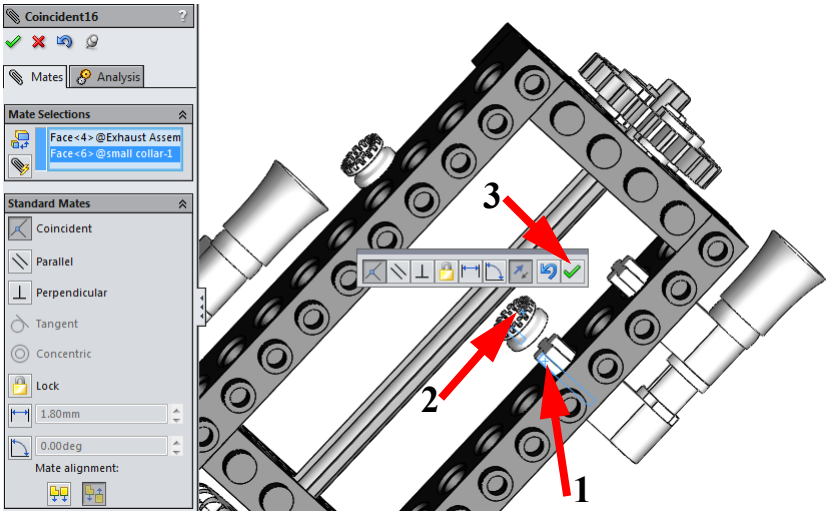


79 Click:



Click:





The keyway now is correctly positioned.

A coincident mate is created.

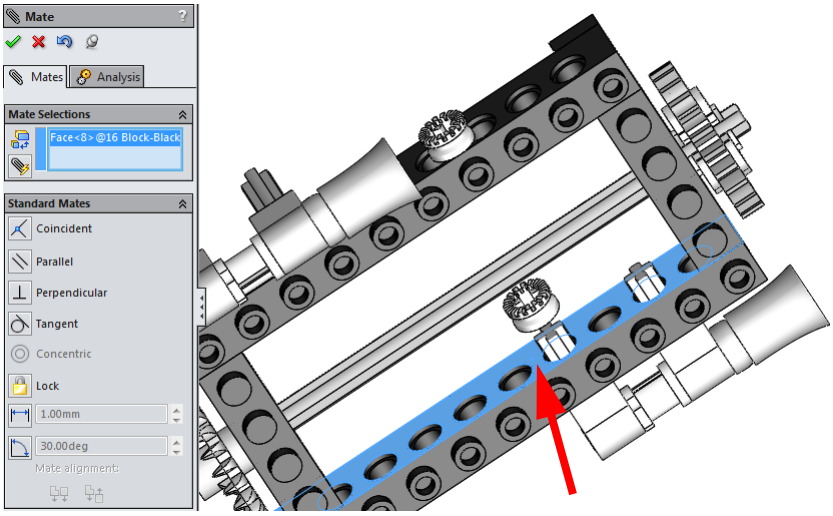
Click **OK** .

80 We're still in the **Mate** environment, so we'll simply continue.

Click the outside of the brick. It will turn blue.

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

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



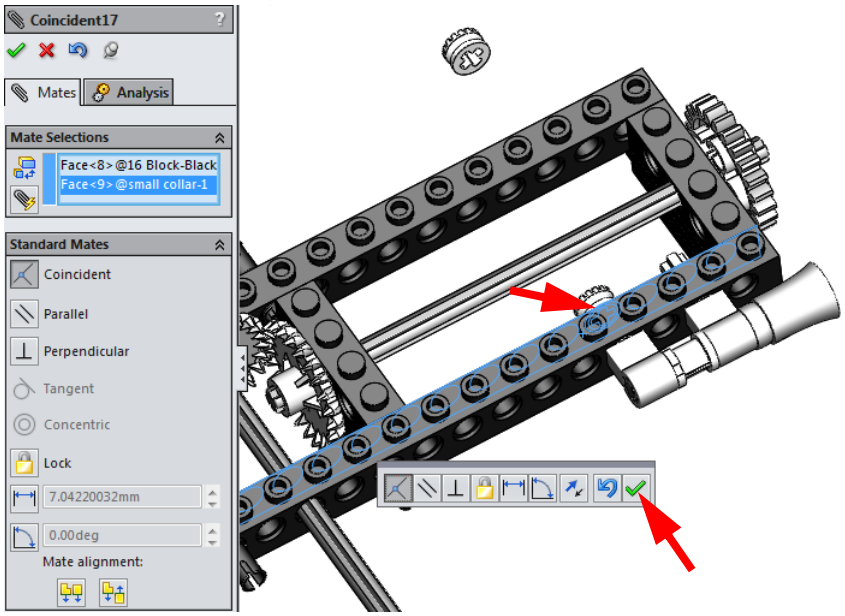
81 Click:



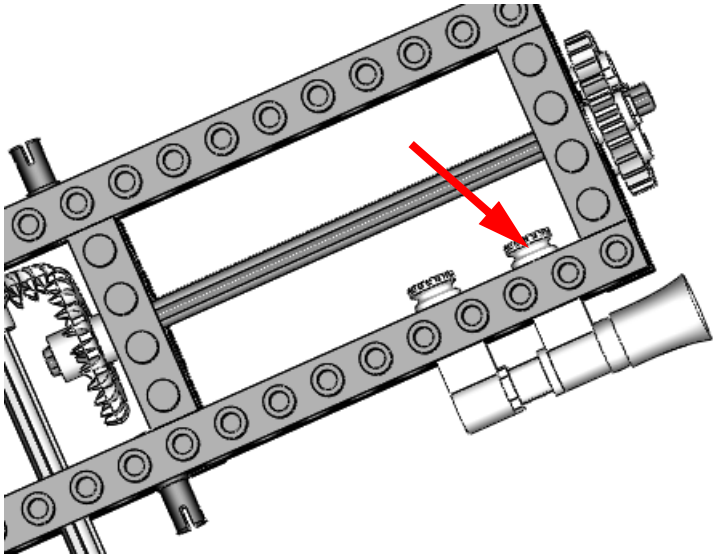
If everything goes well you'll see that both parts are nicely connected together.

Click **OK** ✔.

Next we'll continue with the assembly process.



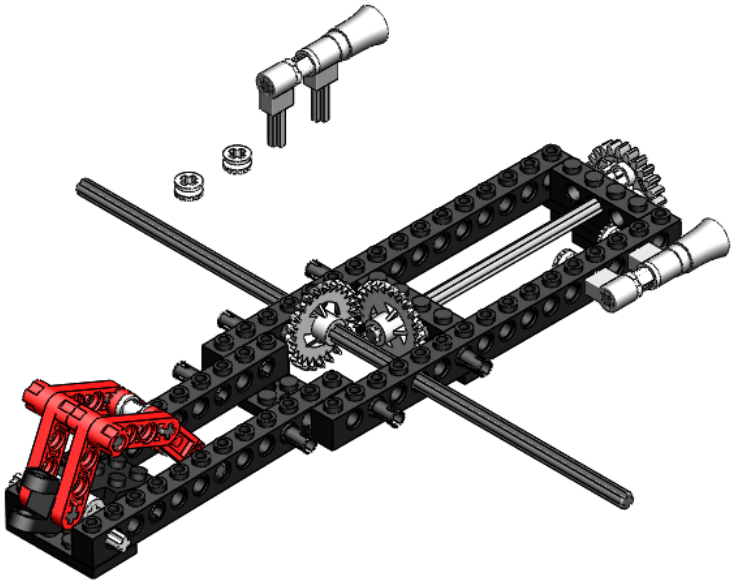
82 Do the same by yourself with the next small collar part. Refer to the example and use your knowledge from steps 76 through 81.



83 Press the scroll wheel down. Rotate and move the mouse until the model is positioned as illustrated.

Do the same by yourself with the next sub-assembly. Refer to the example and use your knowledge from steps 69 through 76.

Do the same by yourself with the two small collars. Refer to the example and use your knowledge from steps 76 through 81.

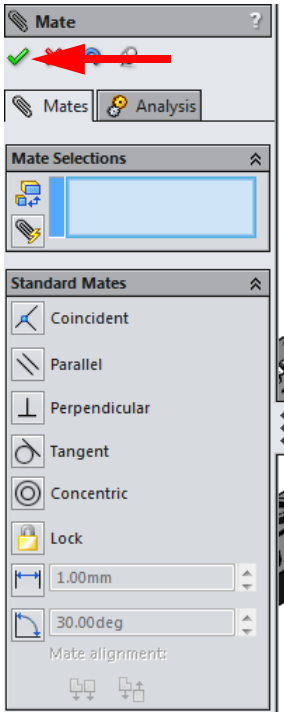


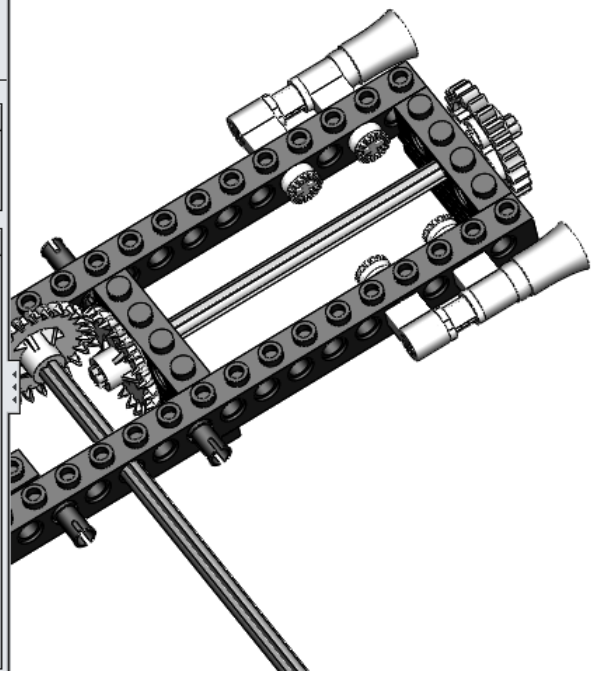
84 The results must be as illustrated.

If they are, click **OK** .

Let's save our data once again for safety!

Click **Save** .



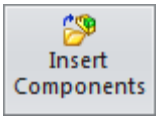


85 Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

Let's move on!

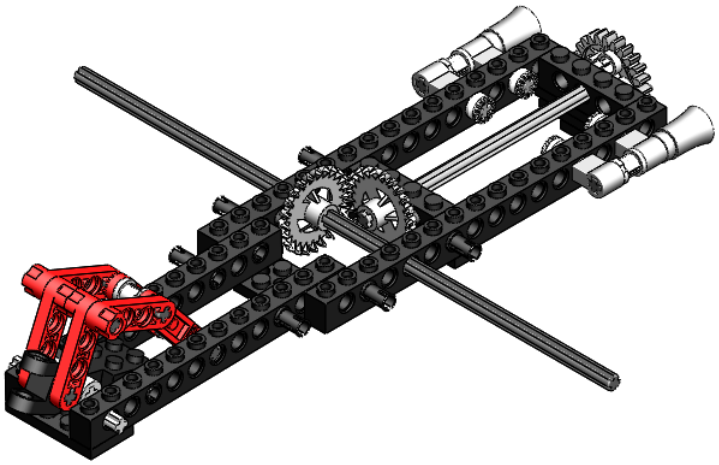
We'll now return to the warehouse for new parts.

Click:

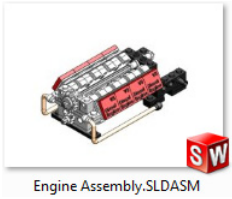


Click:

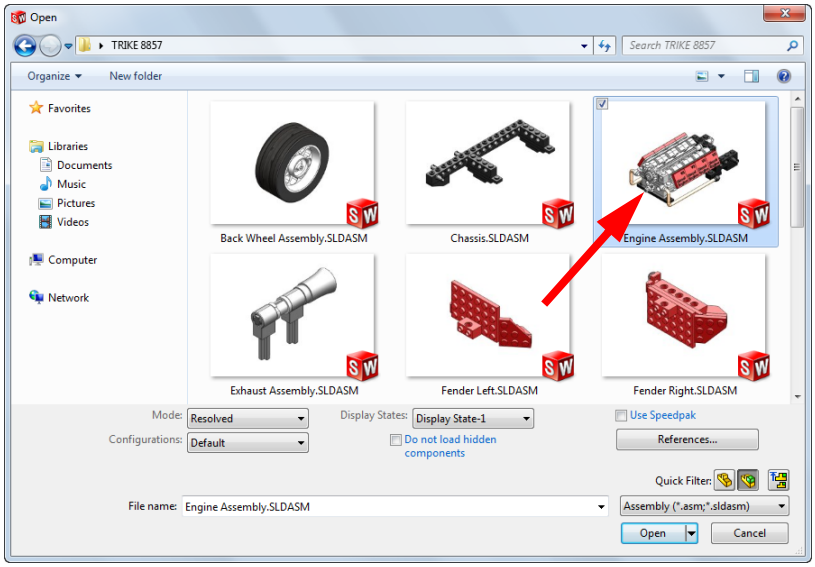




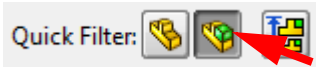
86 We're looking for the heart of the Trike: the engine!



Double click the icon: Engine Assembly.SLDASM.

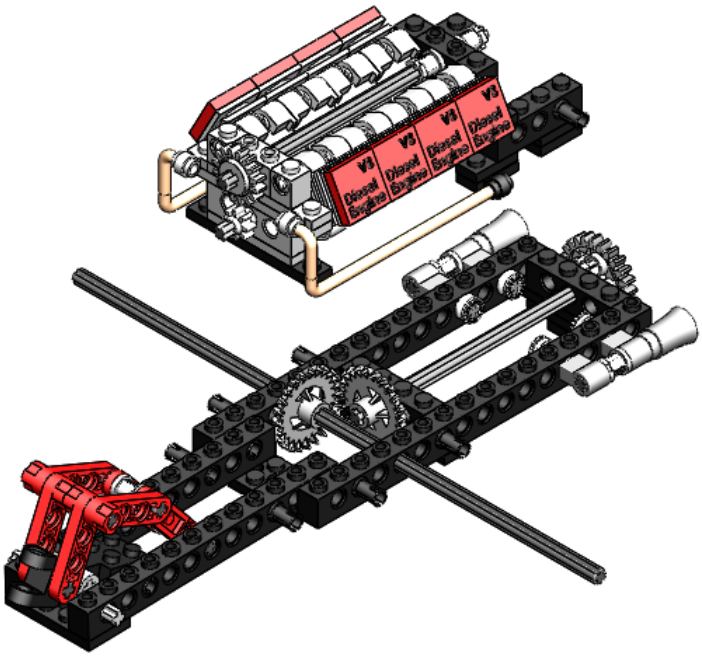


Tip: Use the assembly filter to find the engine assembly faster.



87 Position the engine as illustrated and click the left mouse button.

Press the right mouse button down somewhere on the engine. Hold the button down and rotate and move the mouse until the engine is positioned as illustrated in the next step.

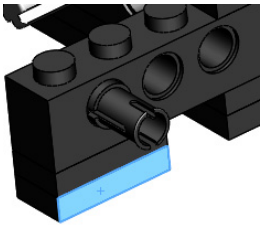


88 We're going to build again!

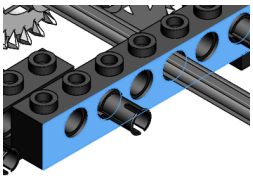
Click **Mate** 

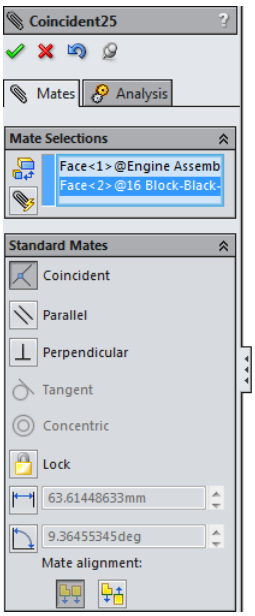
.

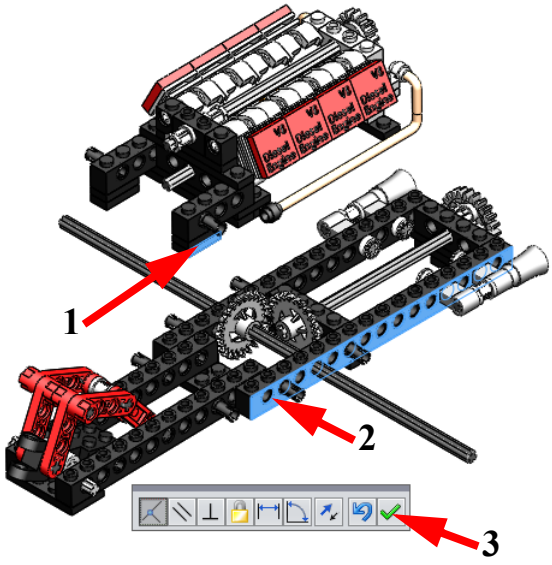
Click on:



Click on:





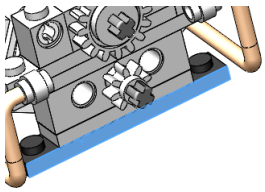


You'll now see that both sides lie flush.

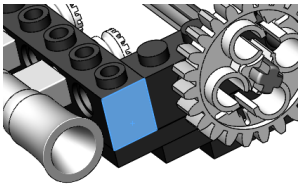
Click **OK** 
.

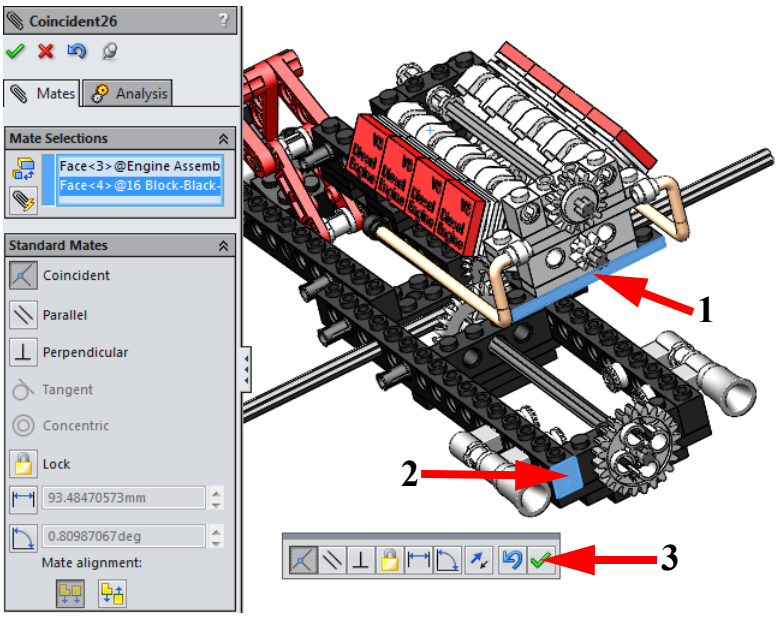
89 Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

Click on:



Click on:



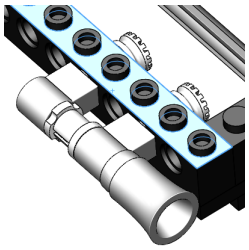


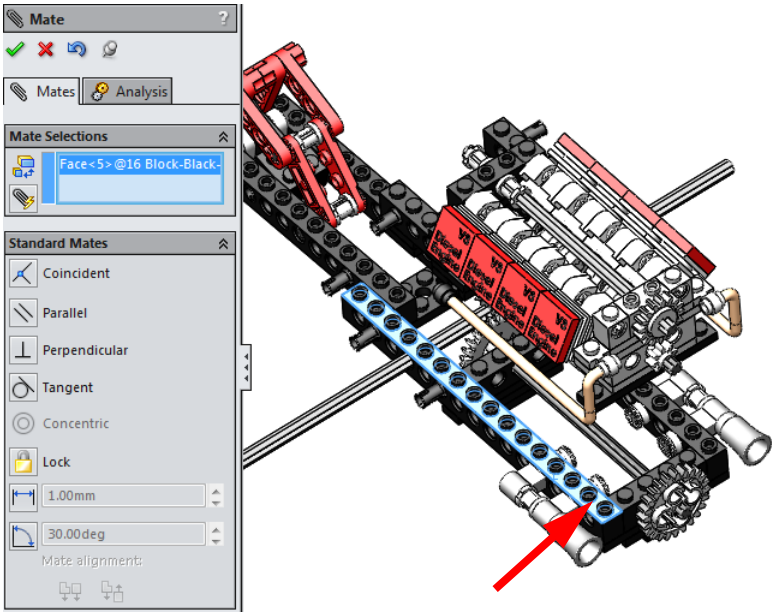
You'll now see that both sides lie flush.

Click **OK** .

90 Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

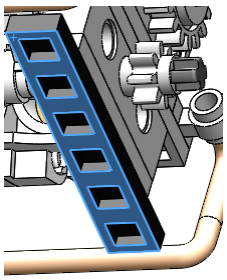
Click on:

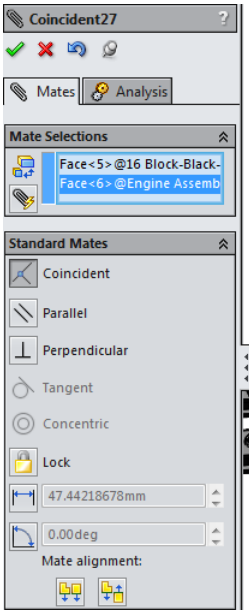


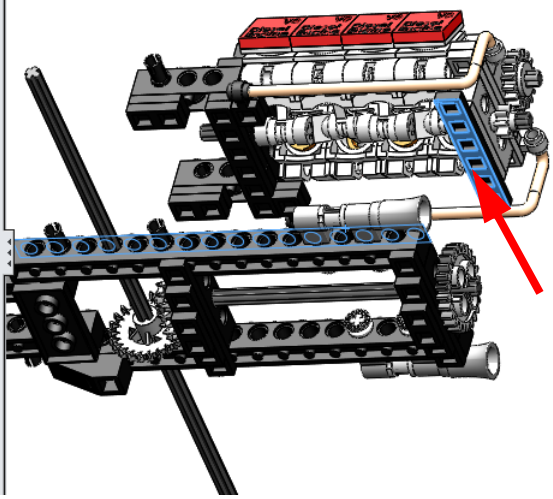


91 Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

Click on:



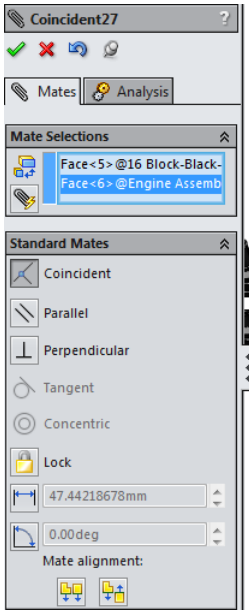


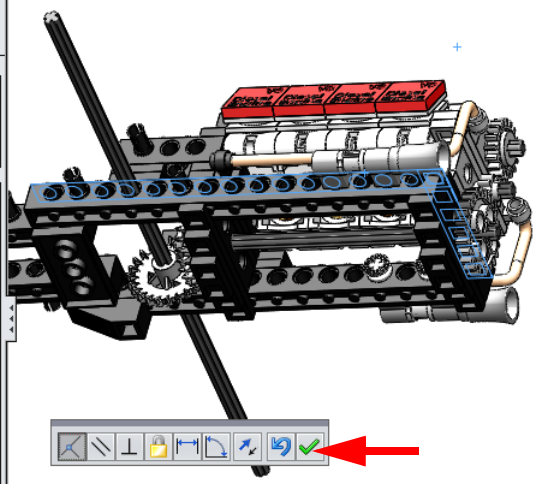


92 If everything goes well, you'll see that both parts are nicely connected together.

A coincident mate is created .

Click **OK** .

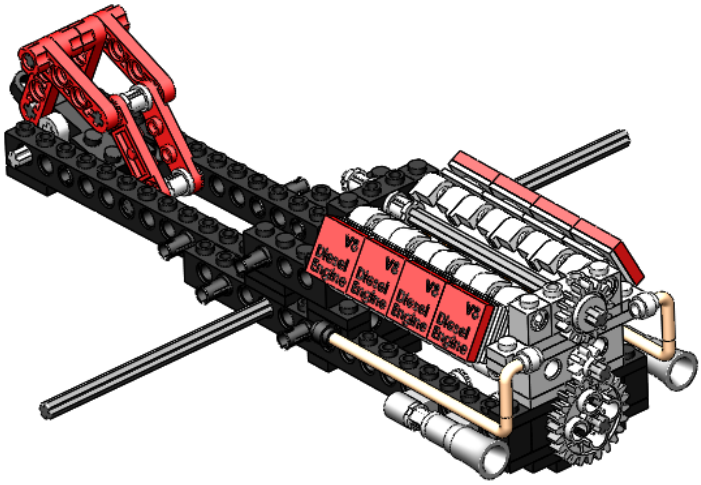




93 Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

Let's save our data once again for safety!

Click **Save** .

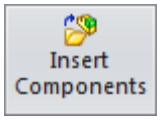


94 Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

Let's move on!

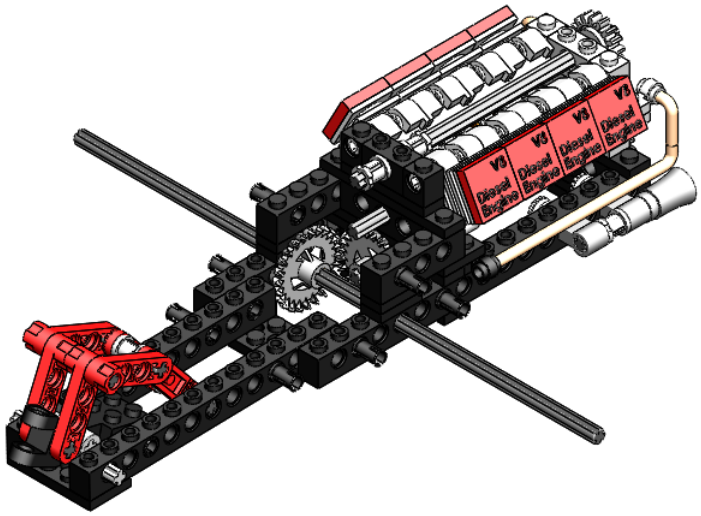
We'll now return to the warehouse for new parts.

Click:



Click:

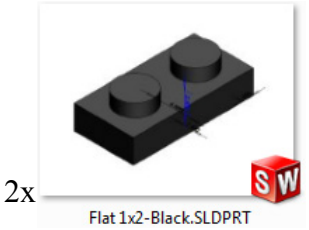


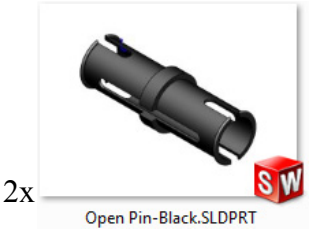


95 We're looking for:









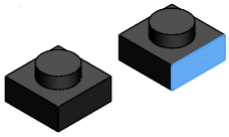
96 Position the parts as illustrated and click the left mouse button.

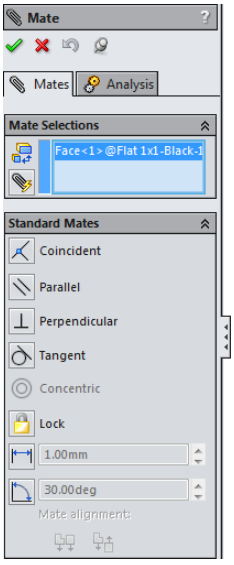
We're going to build again!

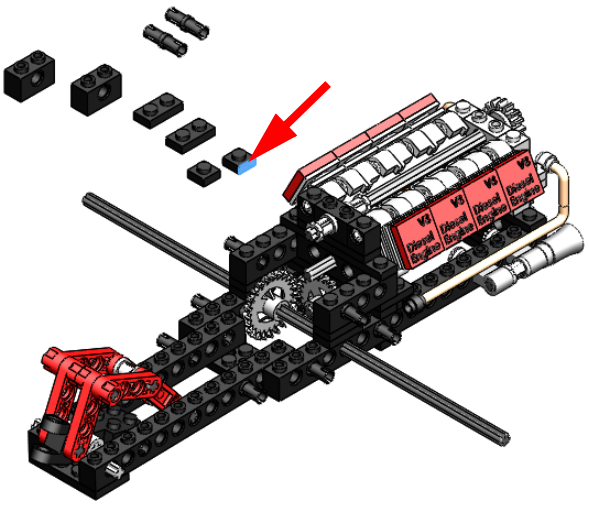
Click **Mate** 

.

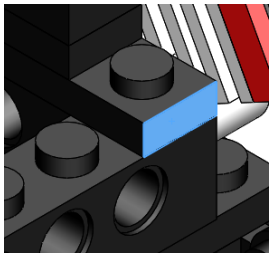
Click on:







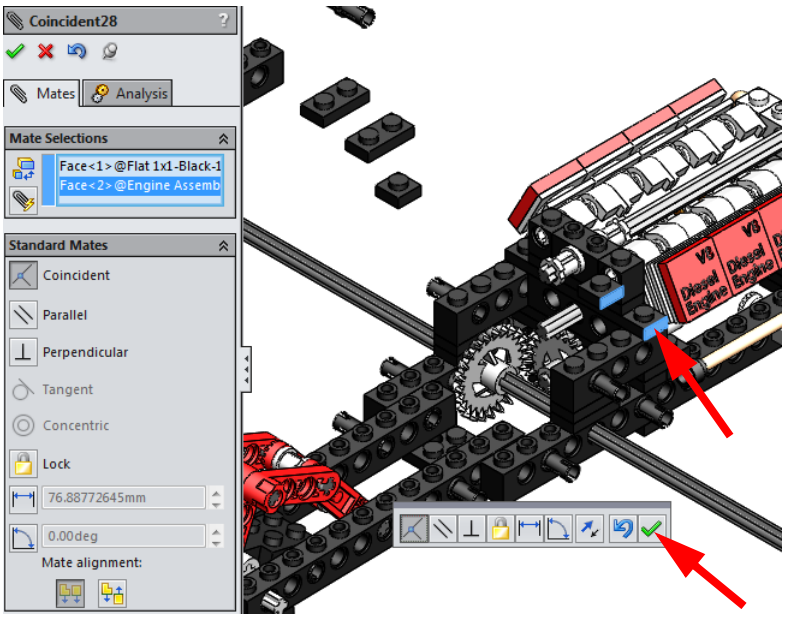
97 Click on:



You'll see that both sides lie flush.

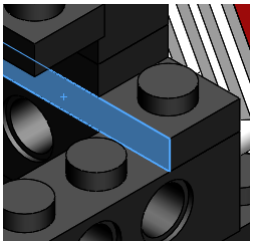
A coincident mate is created .

Click **OK** .

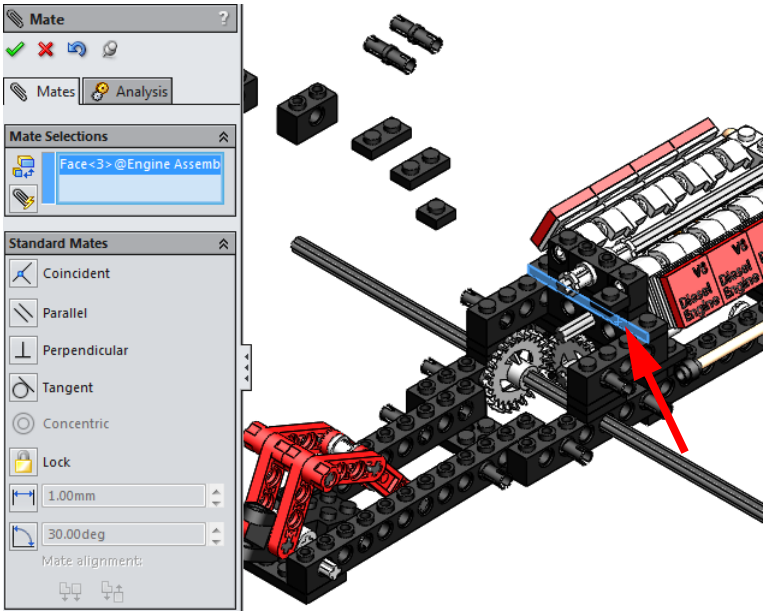


98 We're still in the **Mate** environment, so we'll simply continue!

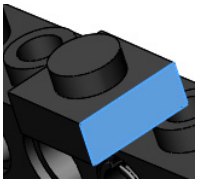
Click on:



Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.



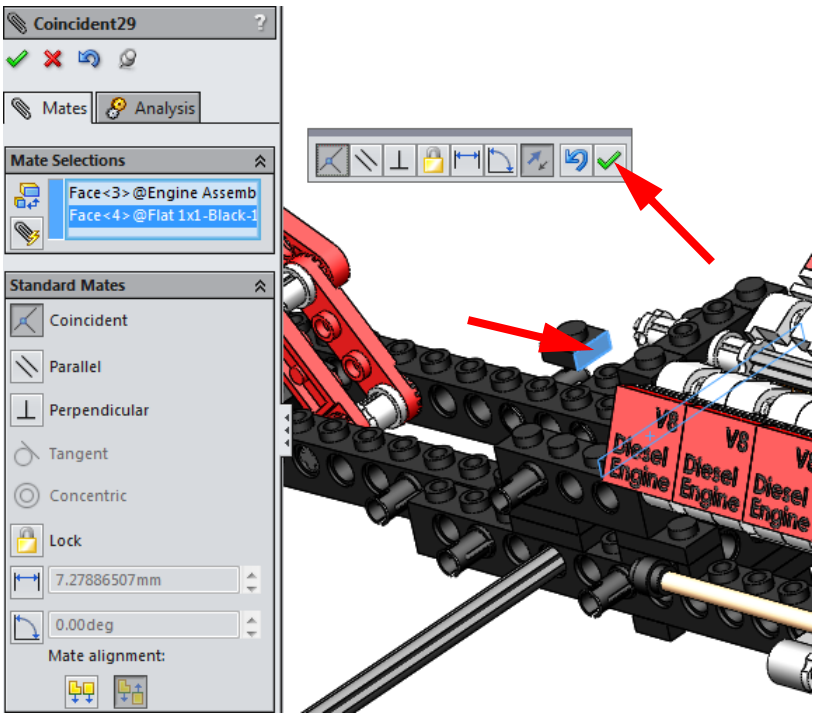
99 Click on:



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

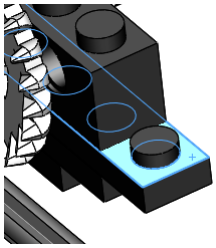
A coincident mate is created.

Click **OK** ✔.

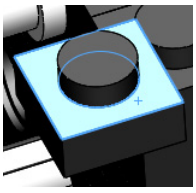


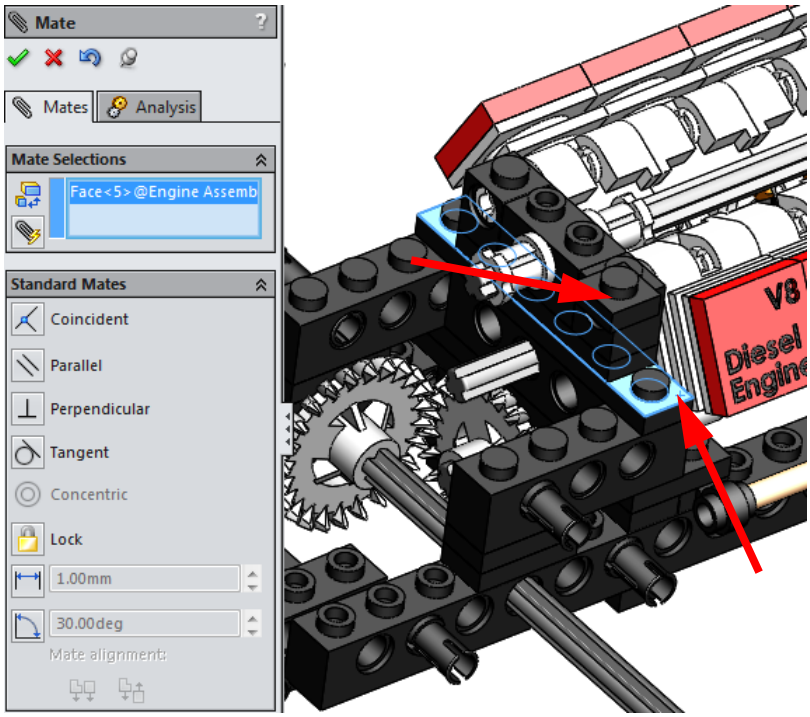
100 Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

Click on:



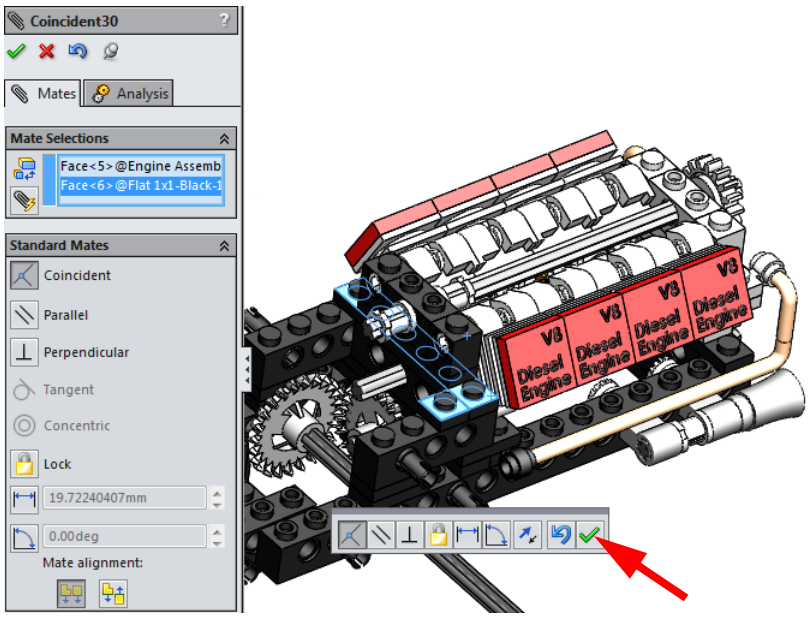
Click on:





101 If everything goes well, you'll see that both parts are nicely connected together.

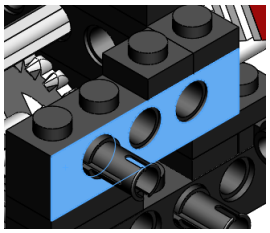
Click **OK** ✔.

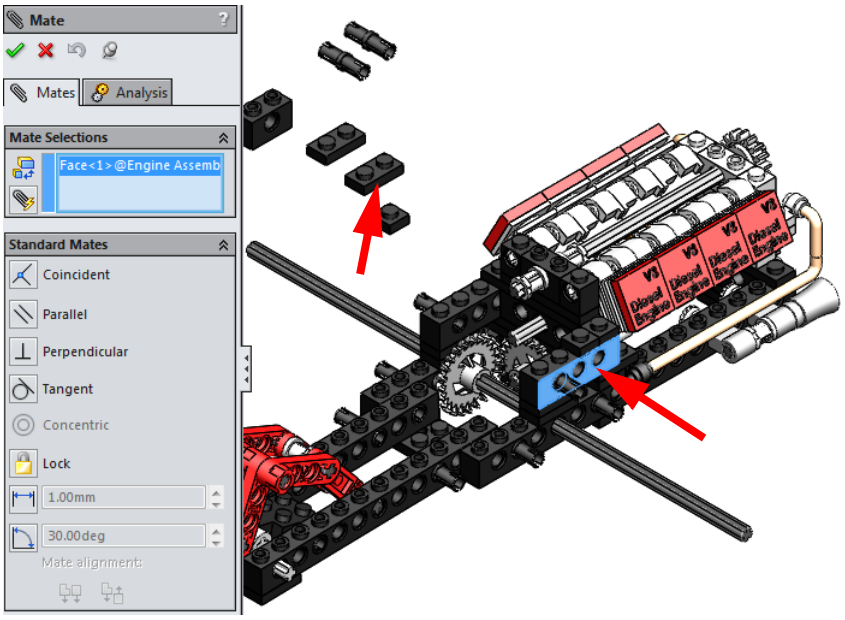


102 We're still in the **Mate** environment, so we'll simply continue.

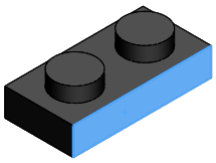
Press the scroll wheel down! Rotate and move the mouse until the assembly is illustrated.

Click on:





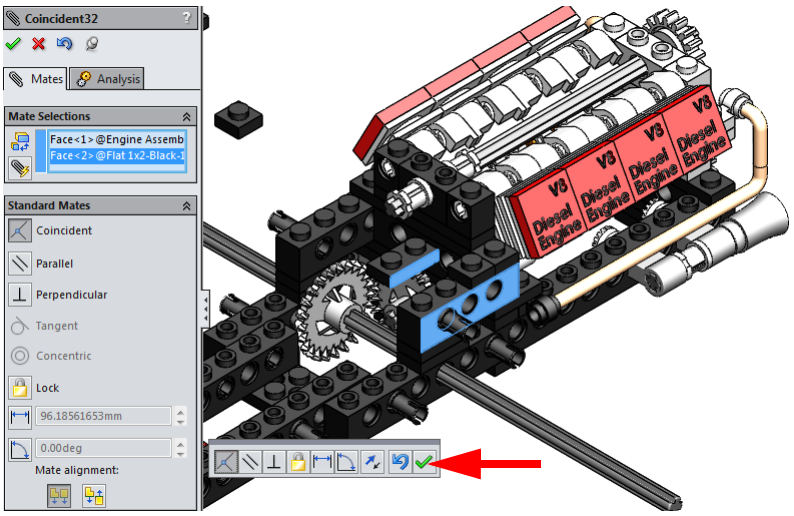
Click on:



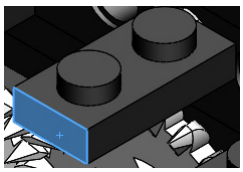
103 Again you'll see that both sides lie flush.

A coincident mate is created.

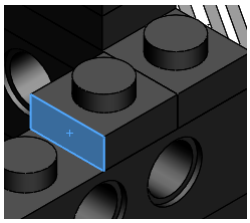
Click **OK** ✓.



104 Click on:

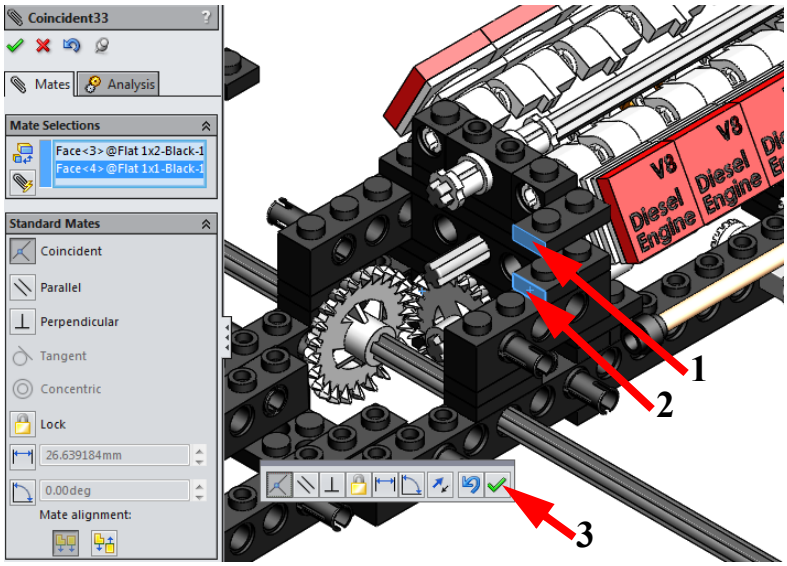


Click on:



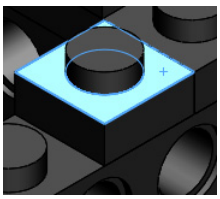
Both sides lie flush!

Click **OK** ✓.

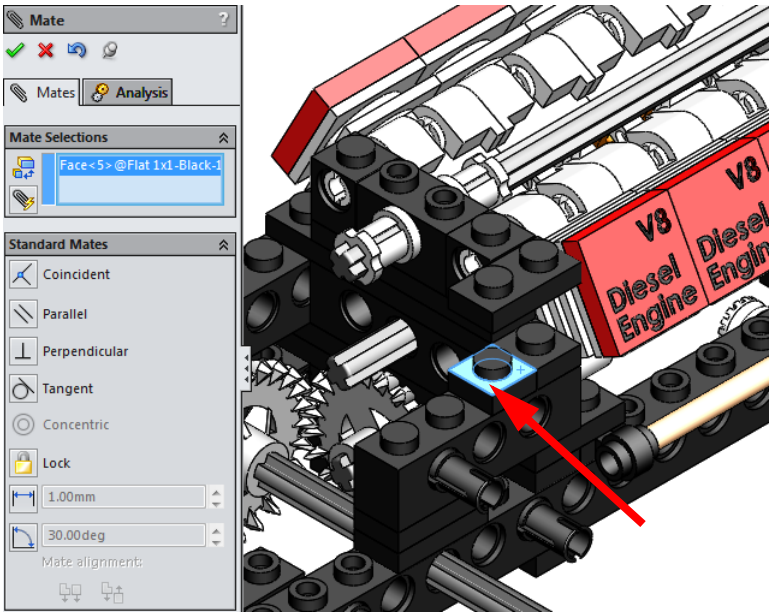


105 Zoom in until the assembly is positioned as illustrated.

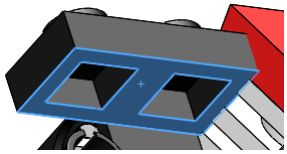
Click on:



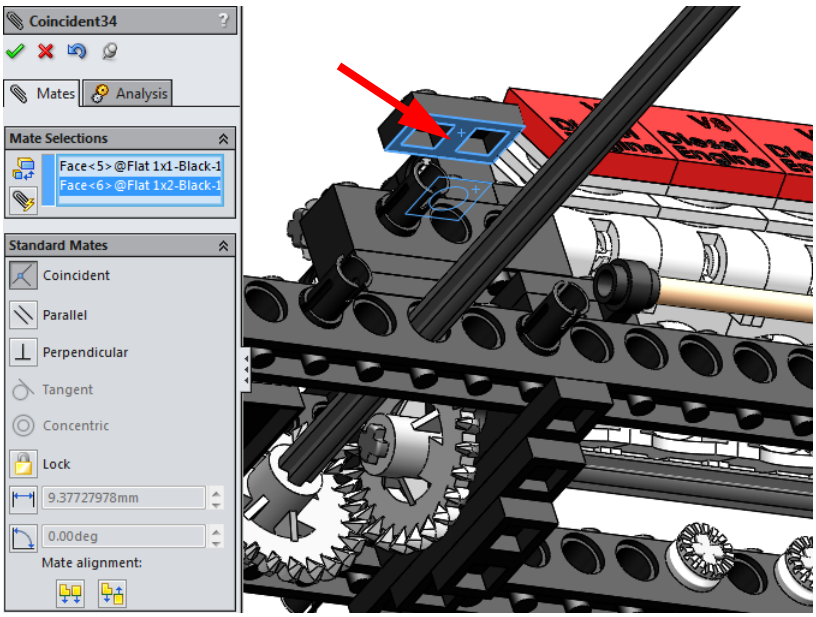
Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.



106 Click on:

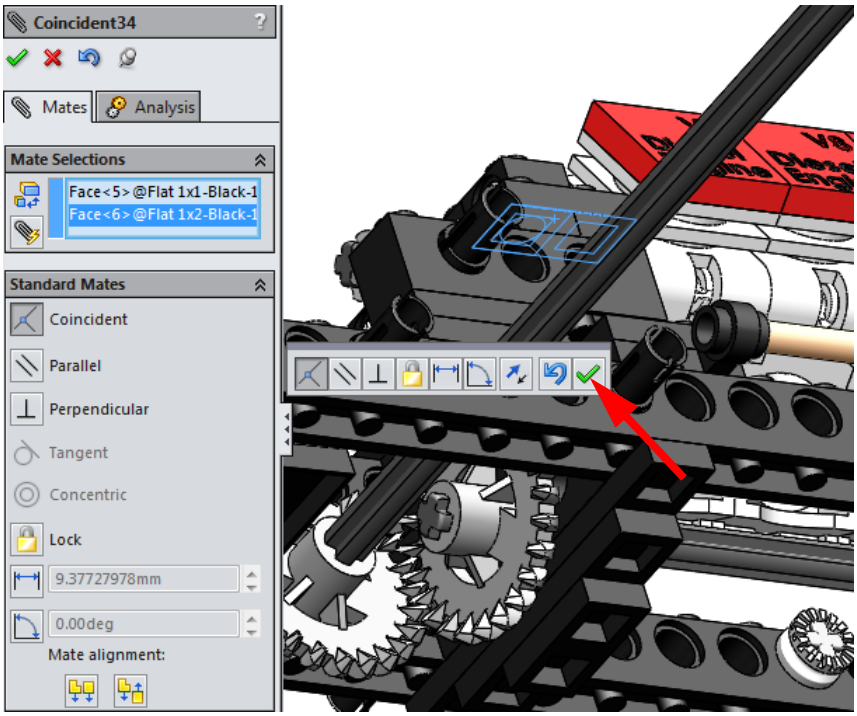


If everything goes well you'll see that both parts are nicely connected.



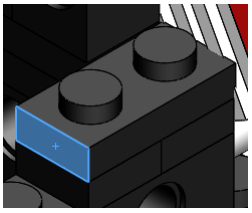
107 A coincident mate is created.

Click **OK** ✓.

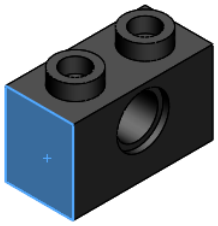


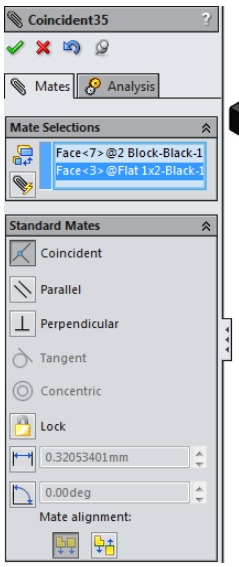
108 Zoom out until the assembly is positioned as illustrated.

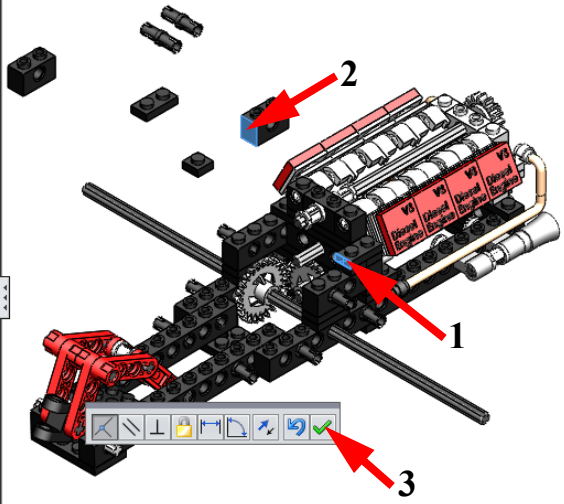
Click on:



Click on:



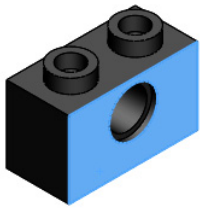




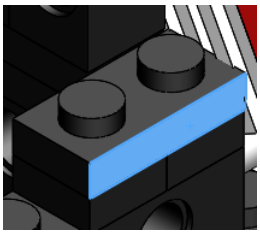
Both sides will lie flush.

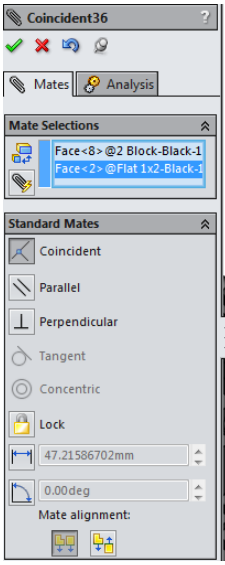
Click **OK** ✔.

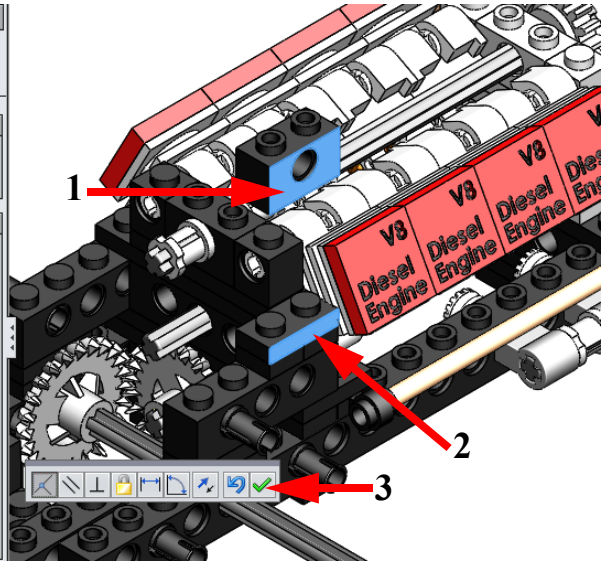
109 Click on:



Click on:





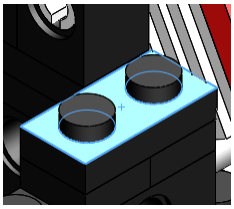


Again you'll see that both sides lie flush.

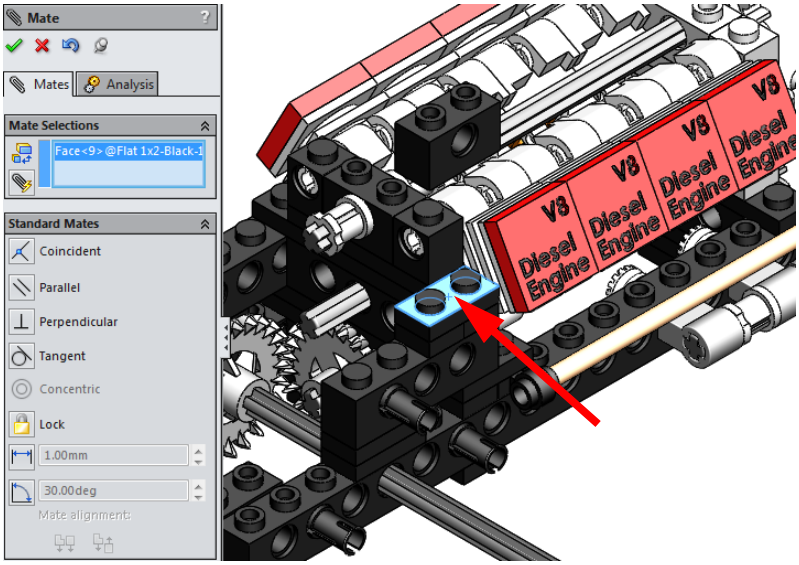
Click **OK** ✔.

110 Zoom in until the assembly is positioned as illustrated.

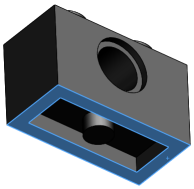
Click on:



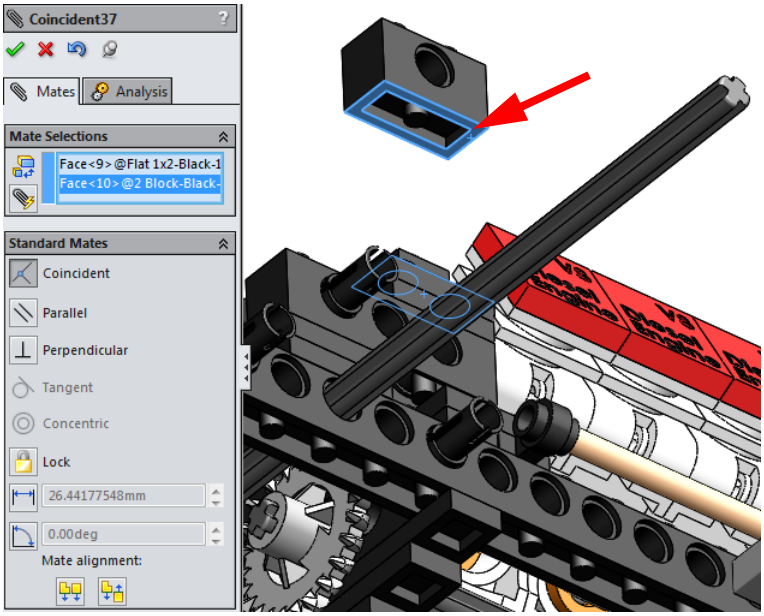
Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.



111 Click on:



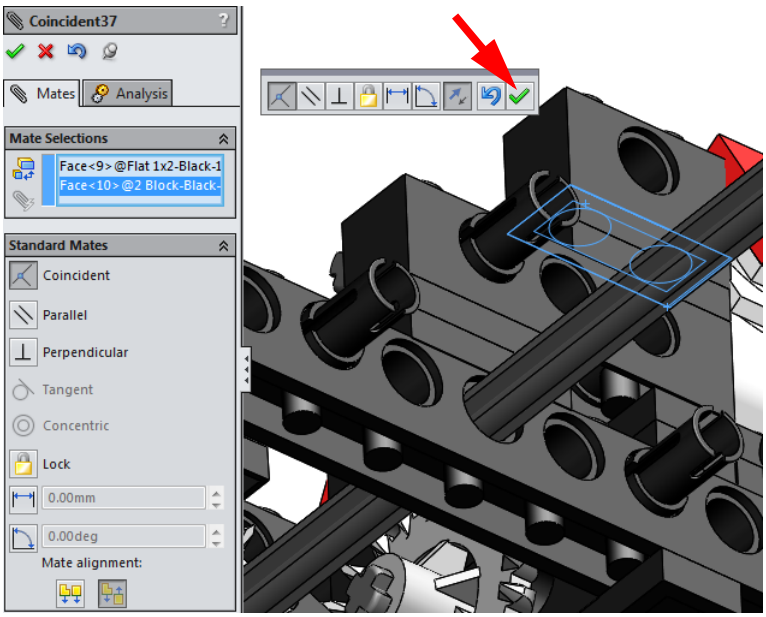
If everything goes well you'll see that both parts are nicely connected together.



112 A coincident mate is created.

Click **OK** .

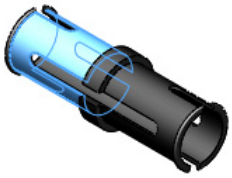
Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.



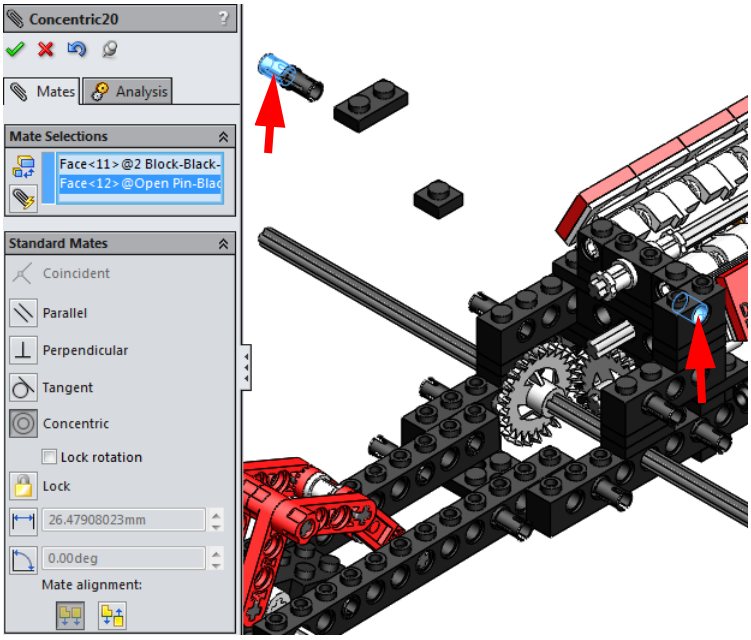
113 Click on:



Click on:



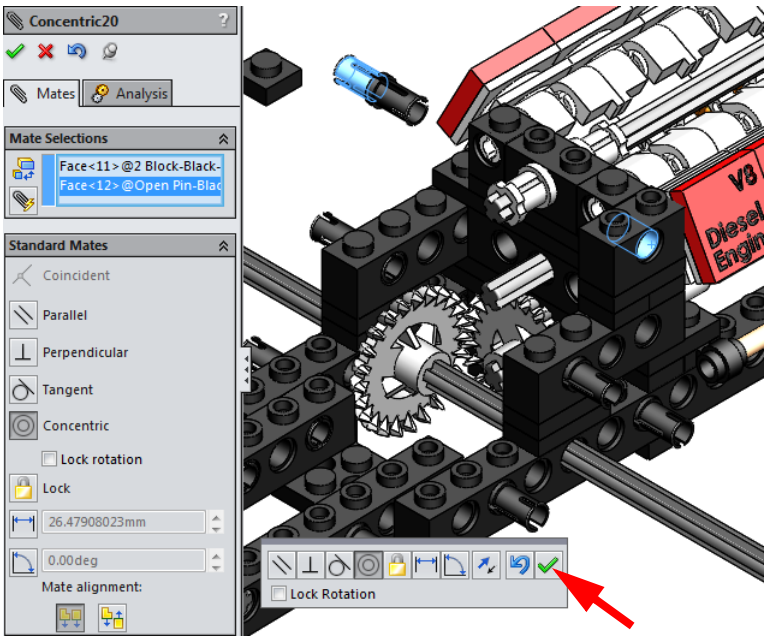
If necessary Zoom In!



114 You'll now see that both holes are aligned.

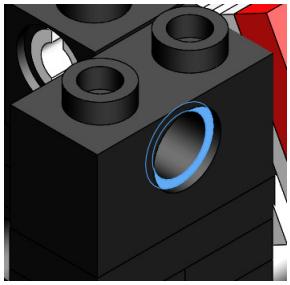
A concentric mate is created .

Click **OK** .

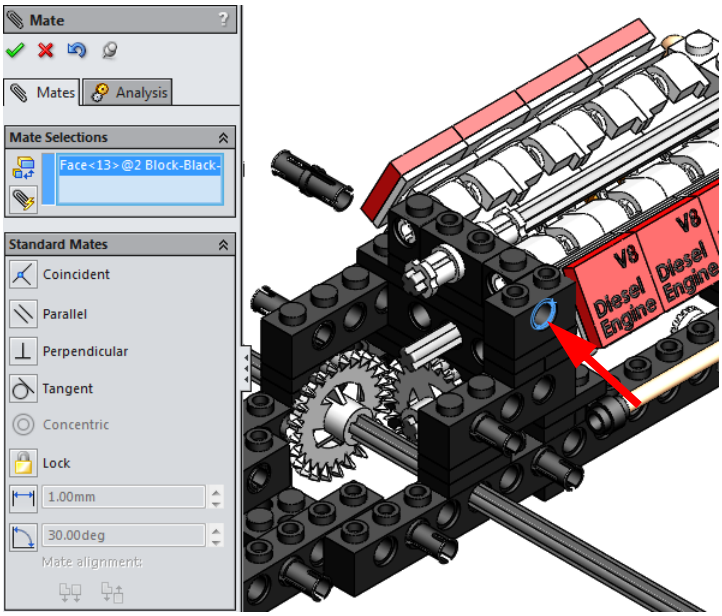


115 Zoom in until the assembly is positioned as illustrated.

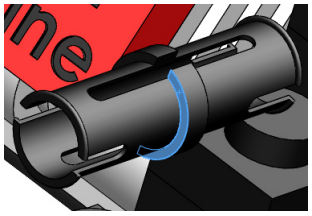
Click on:



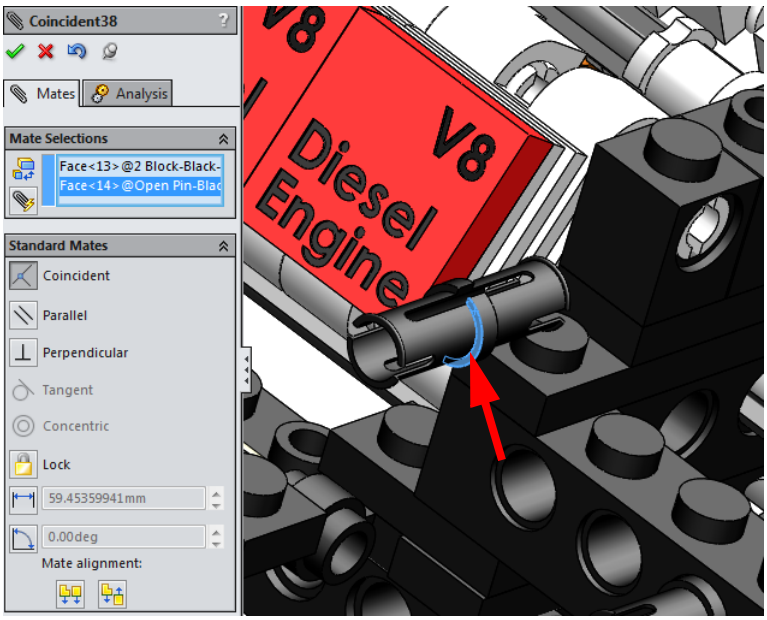
Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.



116 Click on:



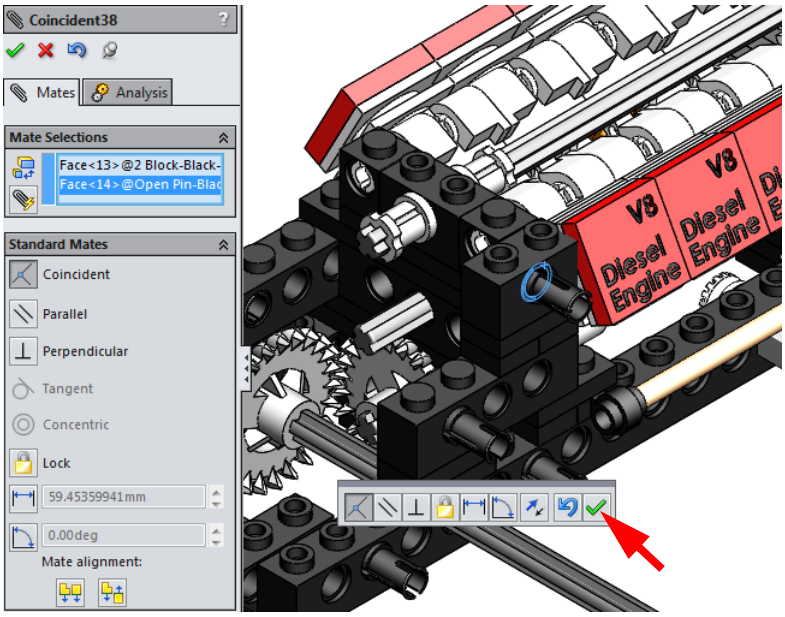
If everything goes well you'll see that both parts are nicely connected together.



117 A coincident mate is created.

Click **OK** .

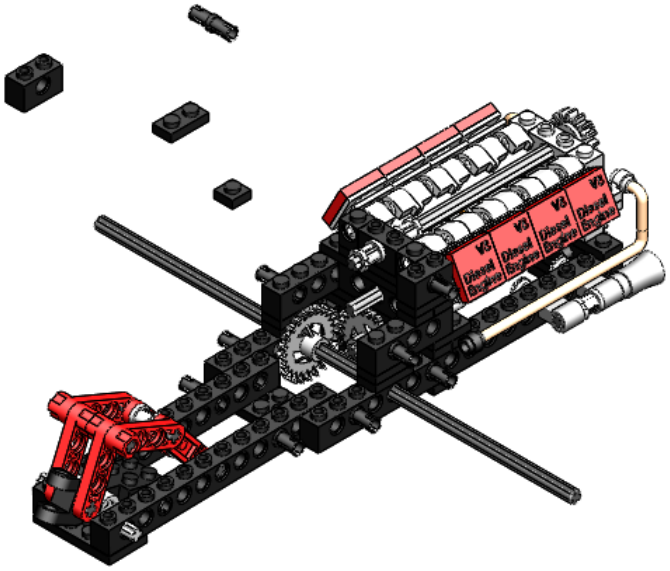
Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.



118 Let's save our data once again for safety!

Click **Save** .

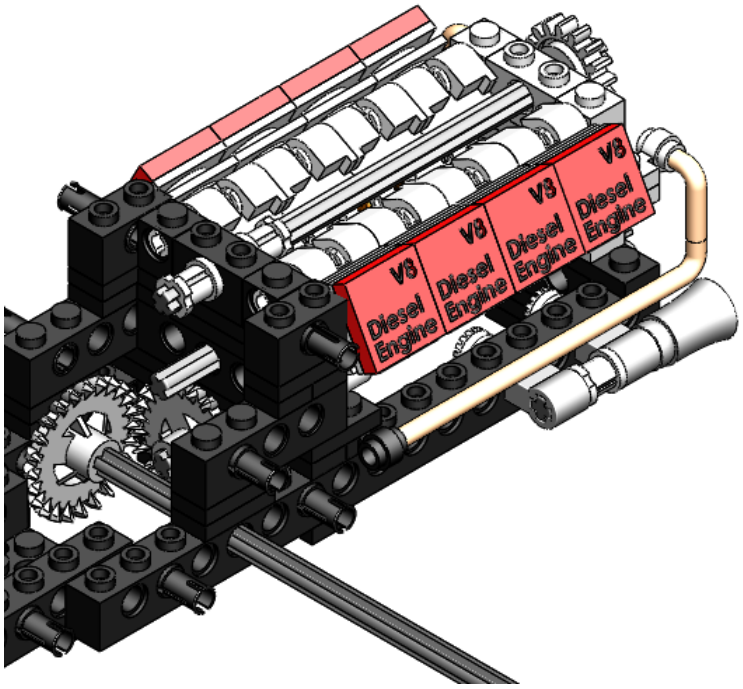
Do the same yourself with the next four parts! Refer to the example and use your knowledge from steps 96 through 117.



119 If you did well, it will be as illustrated.

Let's save our data once again for safety!

Click **Save** .

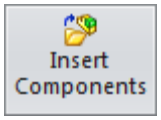


120 Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

Let's move on!

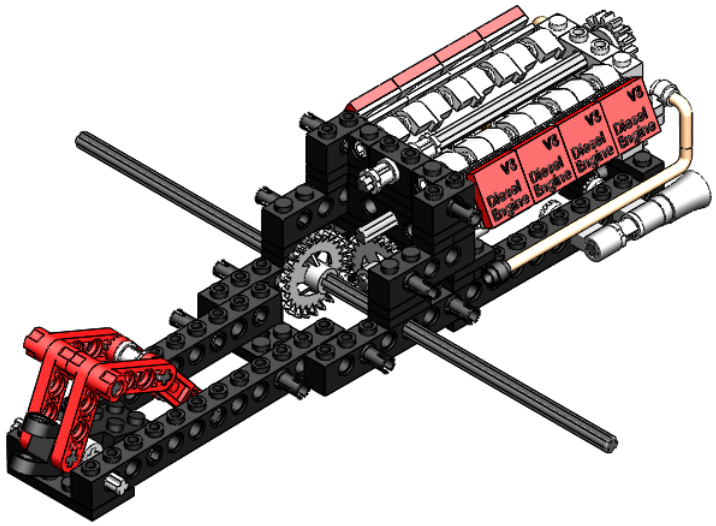
We'll now return to the warehouse for new parts.

Click:

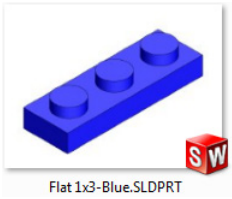


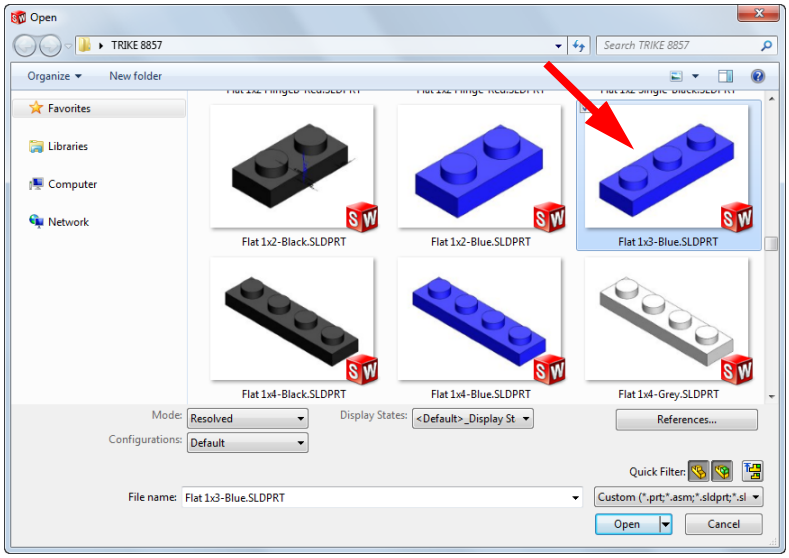
Click:





121 We're looking for:

2x 



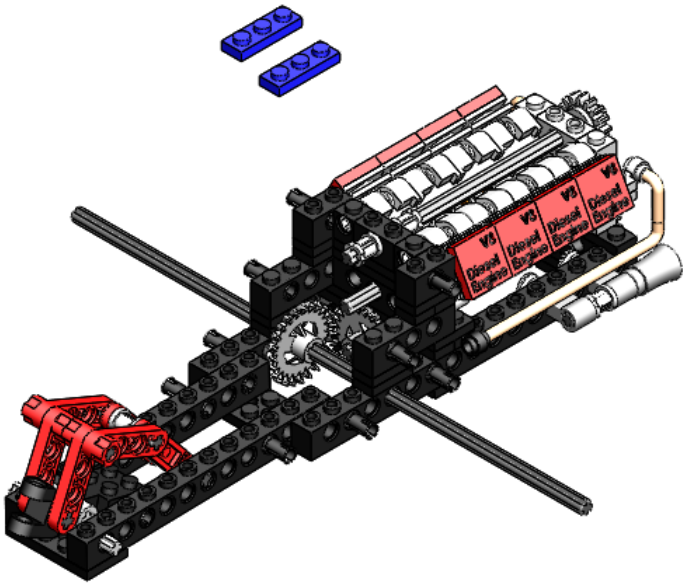
122 Position the parts as illustrated.

We're going to build again!

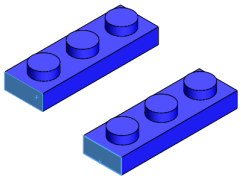
Click **Mate** 

.

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

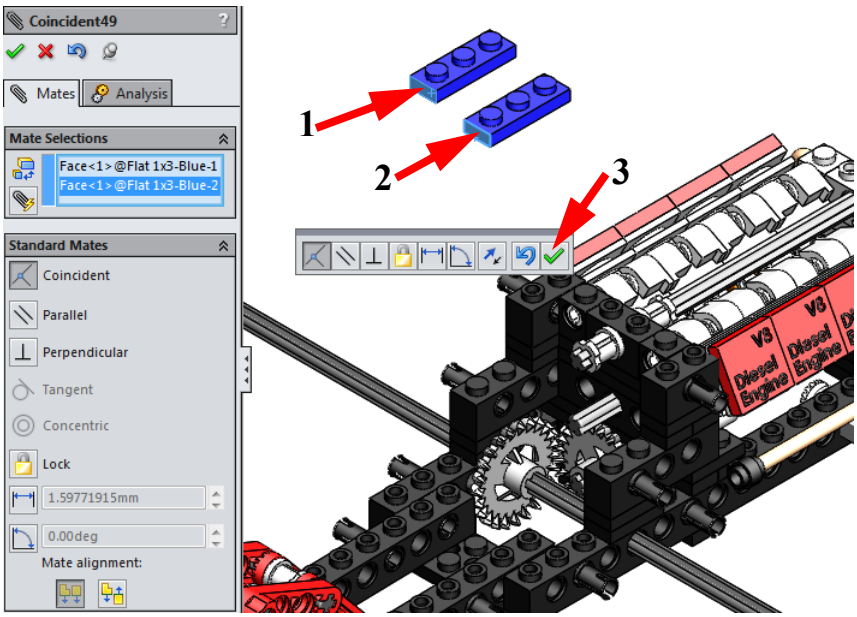


123 Click on:



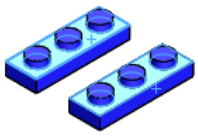
Both sides lie flush.

Click **OK** ✔.



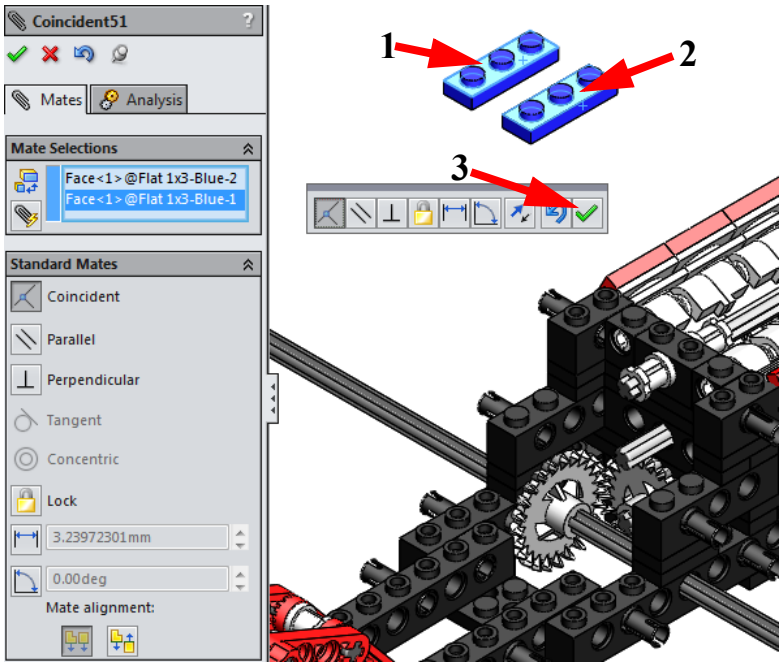
124 Zoom in until the assembly is positioned as illustrated.

Click on:



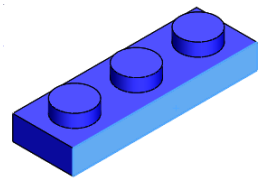
Both sides lie flush.

Click **OK** ✔.

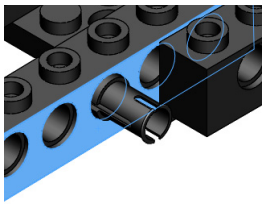


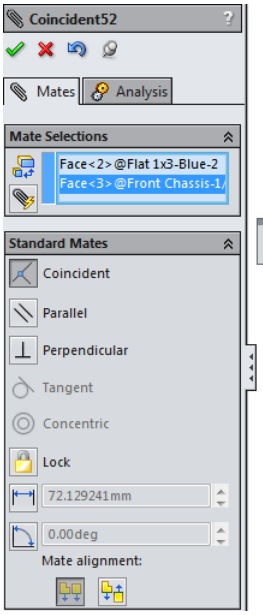
125 Zoom out until the assembly is positioned as illustrated.

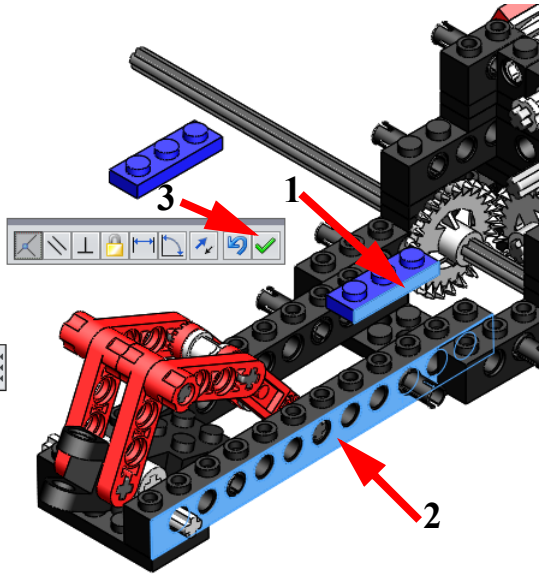
Click on:



Click on:





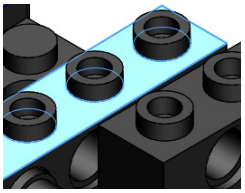


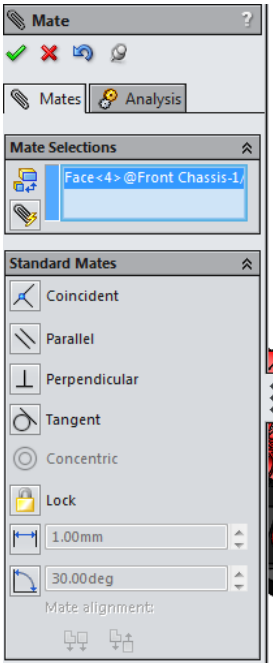
Both sides lie flush.

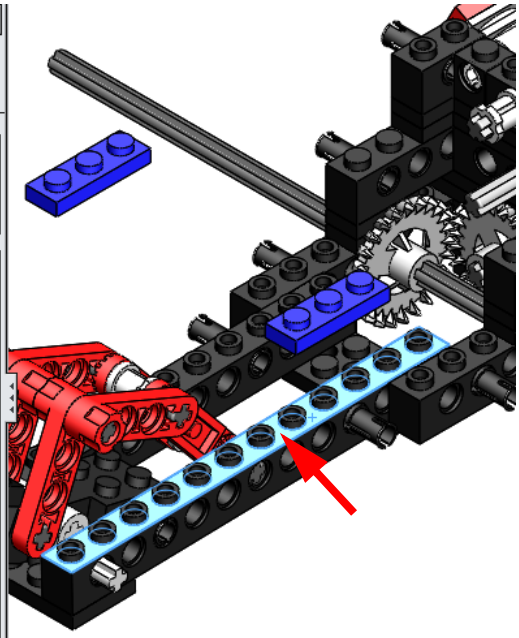
Click **OK** ✔.

126 If necessary Zoom in!

Click on:

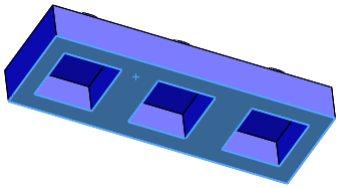


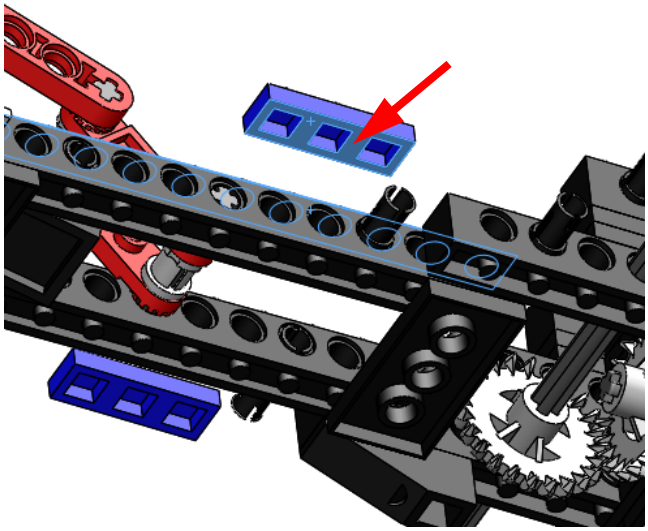




127 Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

Click the bottom of this part.

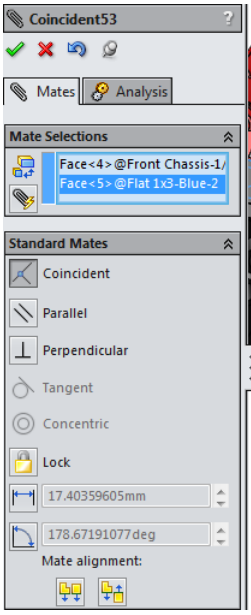


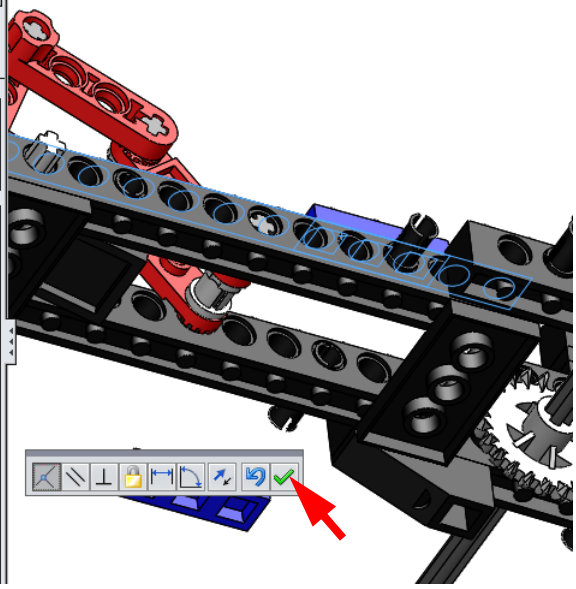


128 If everything goes well you'll see that both parts are nicely connected together.

A coincident mate is created .

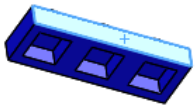
Click **OK** .

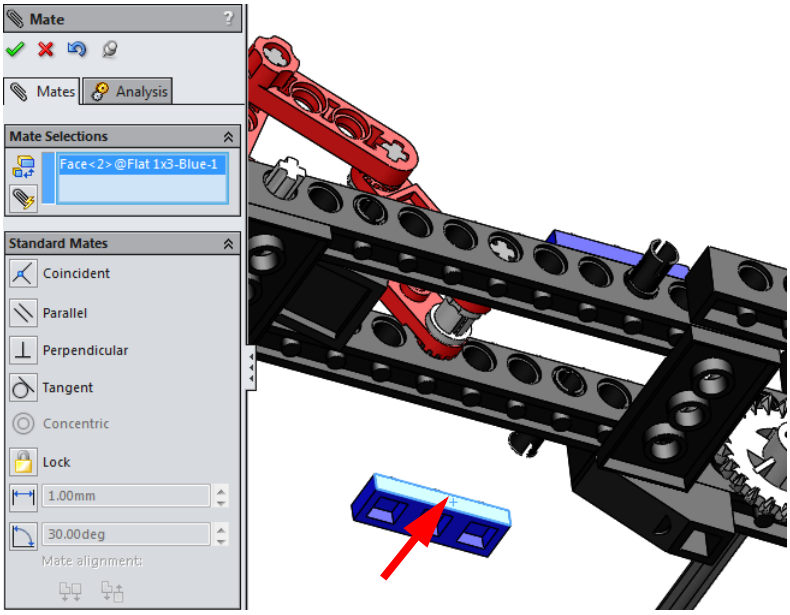




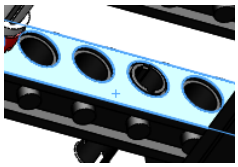
129 We'll now position the second part in the correct place on the chassis.

Click on:





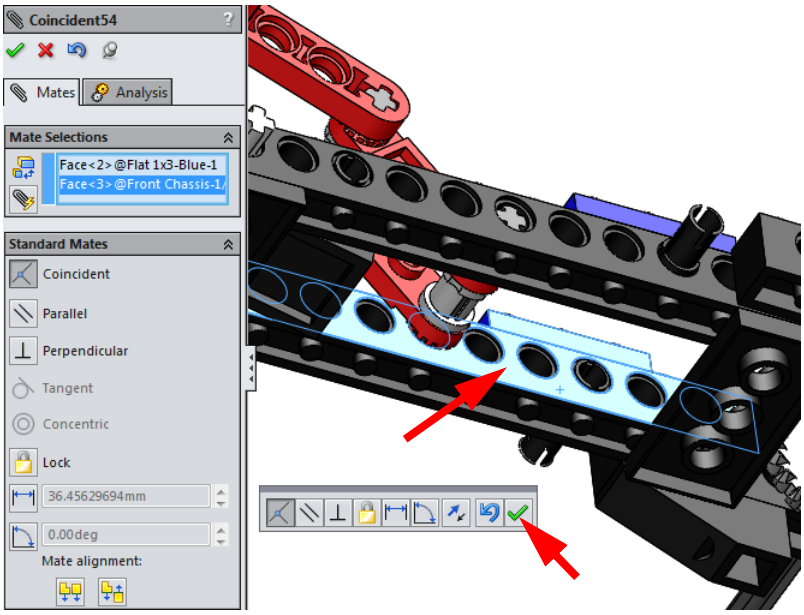
130 Click on:



If everything goes well, you'll see that both parts are nicely connected together.

A coincident mate is created.

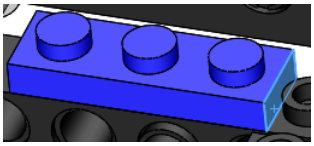
Click **OK** ✔.

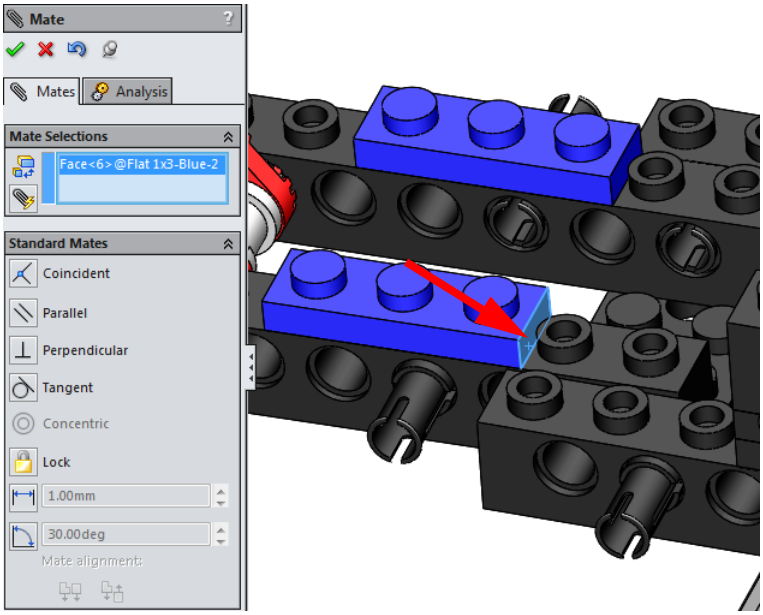


131 We'll now position the parts at the correct distance on the chassis.

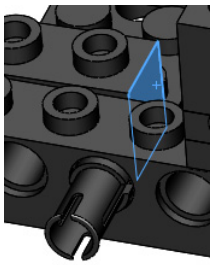
Zoom in until the assembly is positioned as illustrated. Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

Click on:





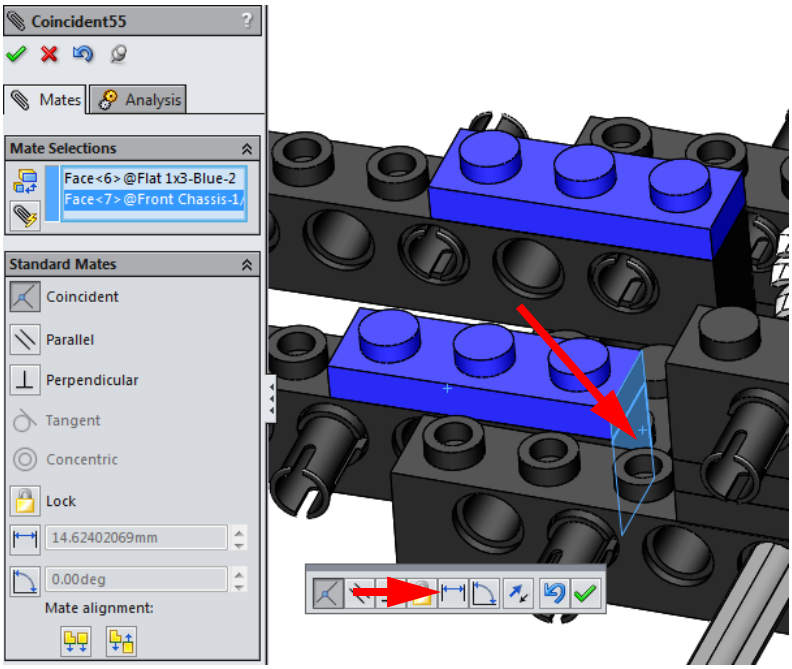
132 Click on:



If everything goes well, you'll see that both parts are nicely connected together.

However, this is in the wrong place.

Click **Distance**  .



133 This is the current distance.

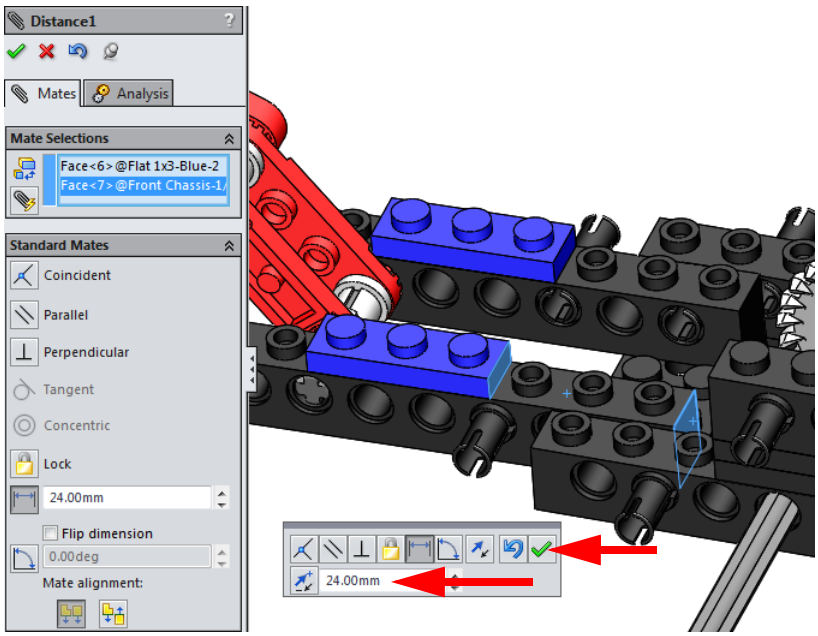
14.62402069mm

Wrong! It must be 24 mm.

Change the wrong distance to the right one!

24.00mm

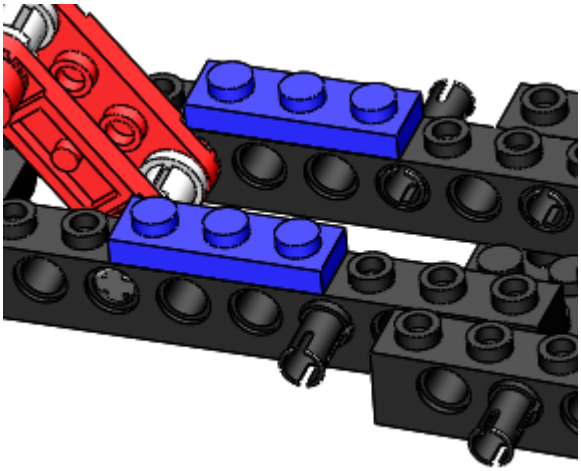
Click **OK** ✔.



134 If everything goes well, you'll see that both parts are nicely connected together and at the correct place on the chassis as illustrated.

Let's save our data once again for safety.

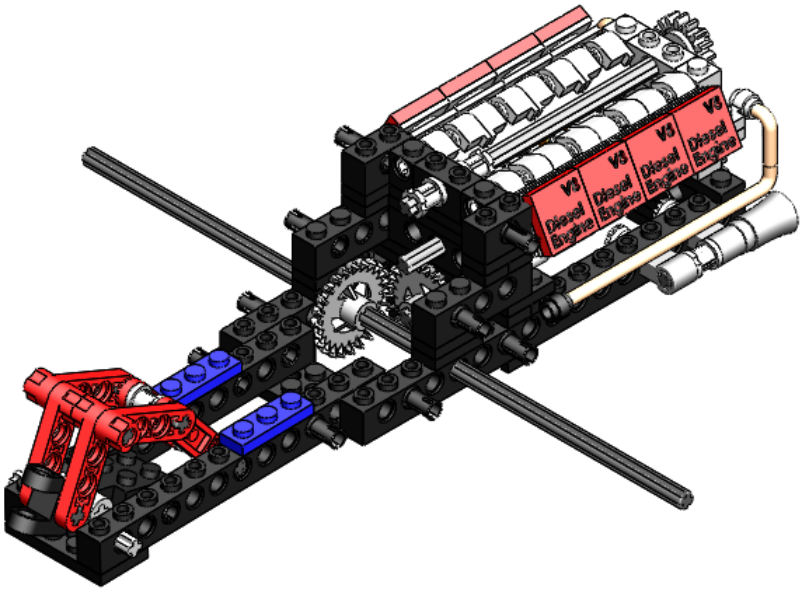
Click **Save** 💾.



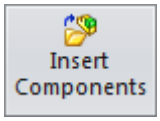
135 Zoom out until the assembly is positioned as illustrated. Press and hold the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

Let's move on!

We'll now return to the warehouse for new parts.

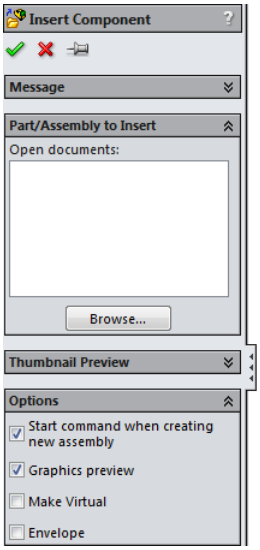


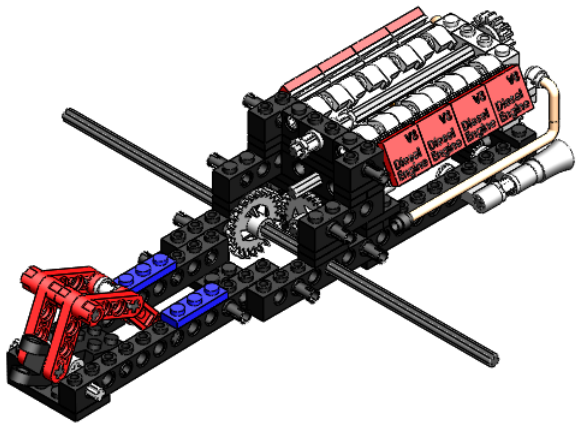
136 Click:



Click:

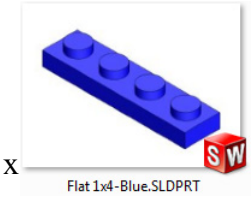






137 We're looking for:

1x



1x





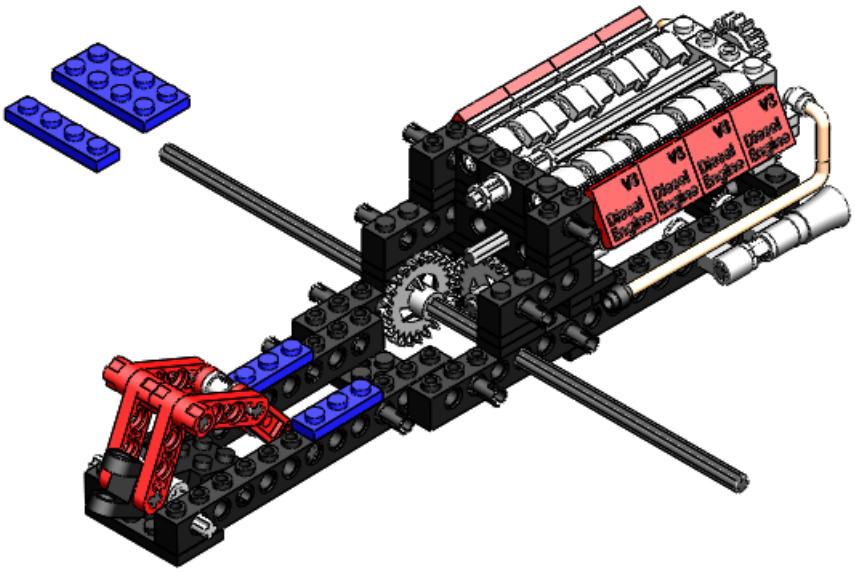
138 Position the parts as illustrated and click the left mouse button.

We're going to build again!

Click **Mate** 

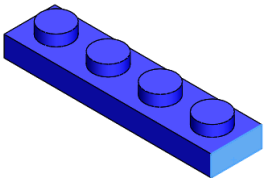
.

Again we'll now assemble two parts at the same time on the chassis.

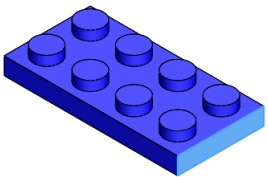


139 Zoom in!

Click on:

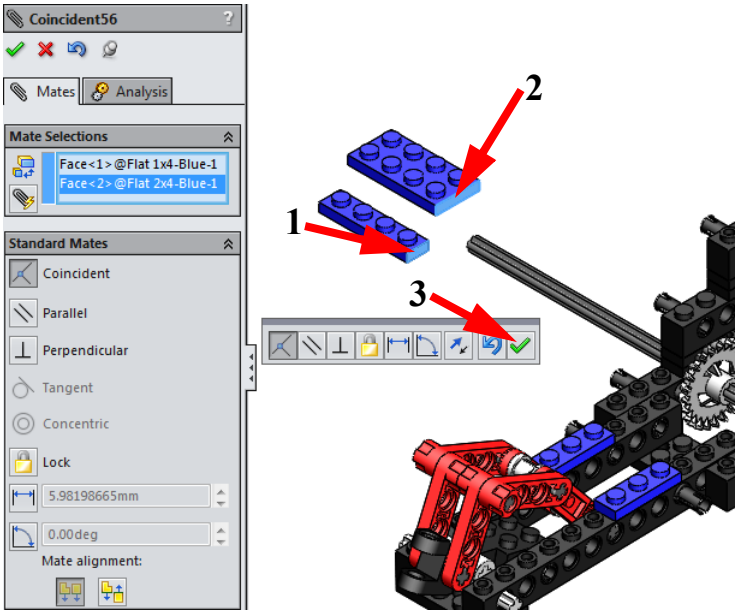


Click on:

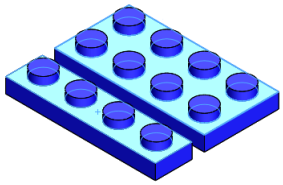


Both sides lie flush.

Click **OK** ✔.

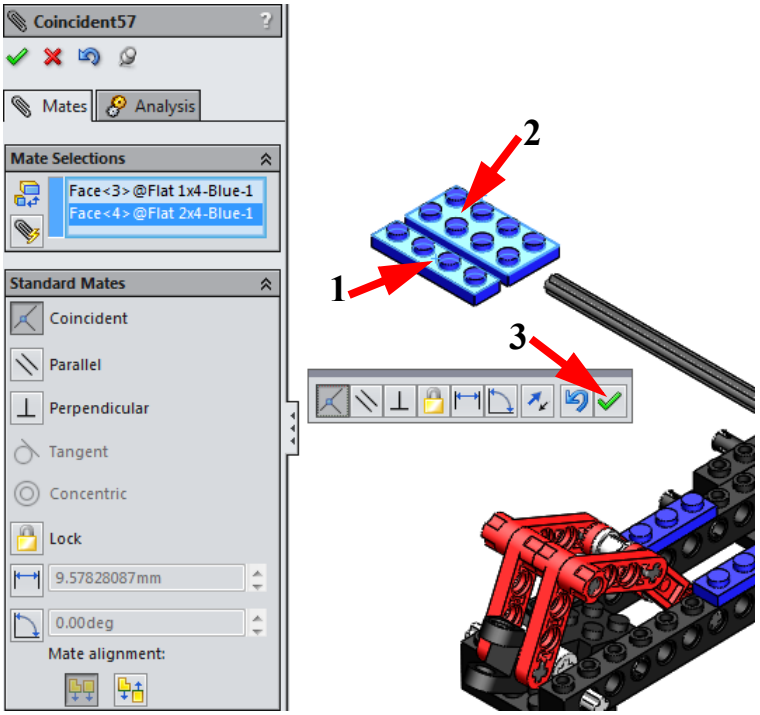


140 Click on:

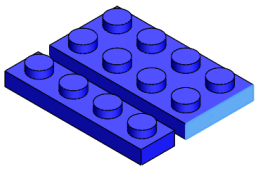


Both sides lie flush.

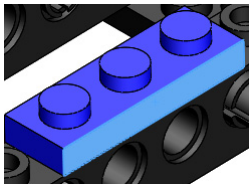
Click **OK** ✔.



141 Click on:

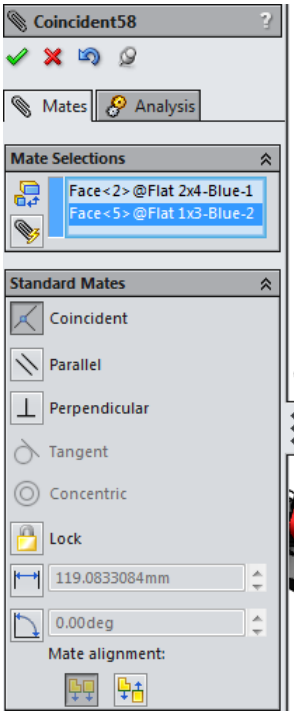


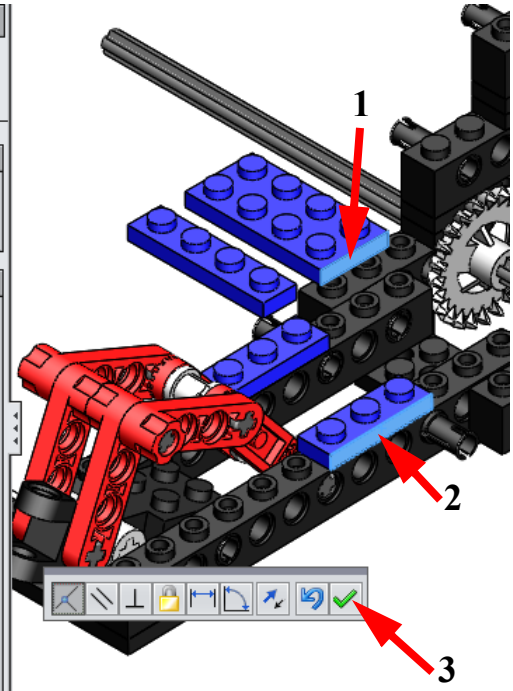
Click on:



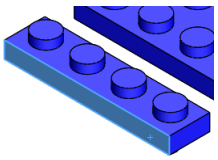
Both sides lie flush again.

Click **OK** ✔.

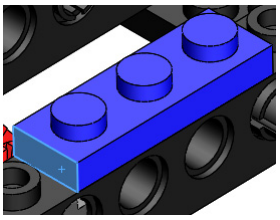




142 Click on:

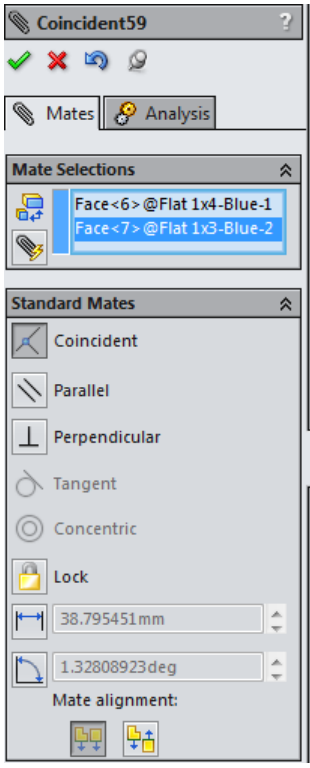


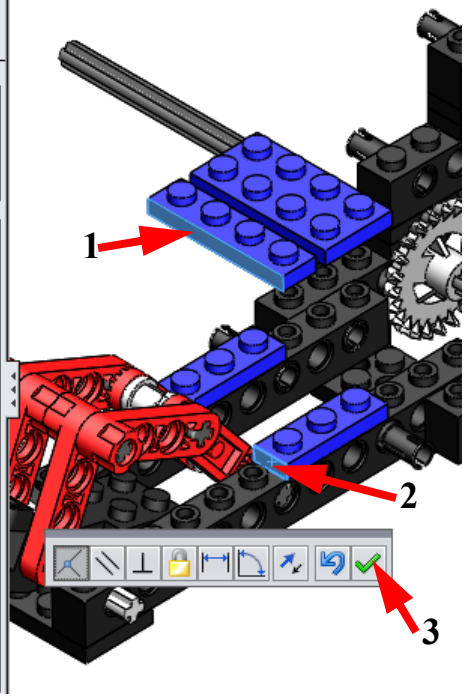
Click on:



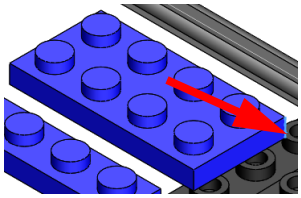
Both sides lie flush.

Click **OK** ✔.

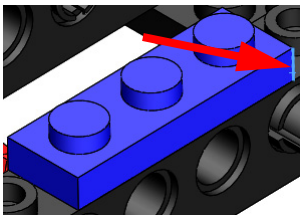




143 Click on the edge and it will turn blue.

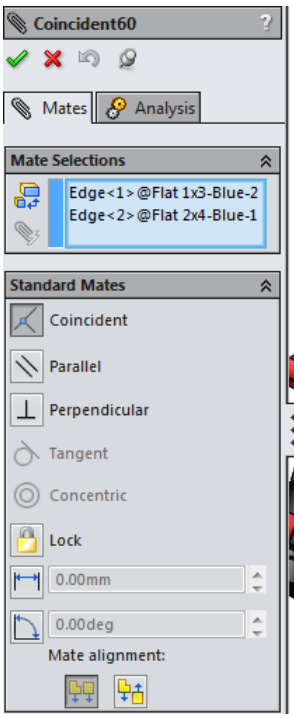


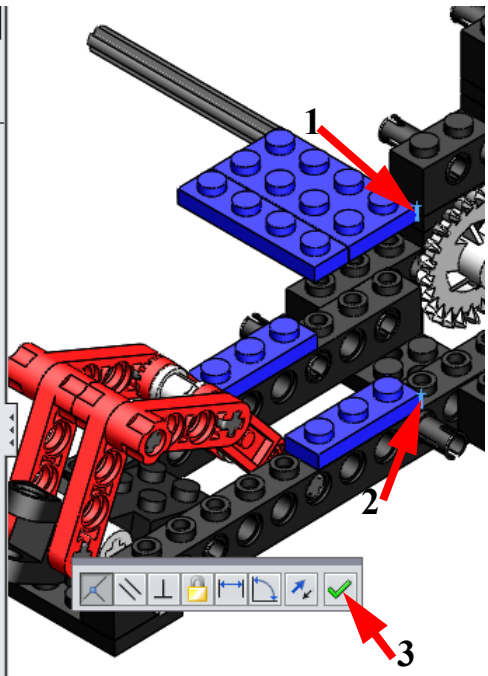
Click on this edge as well.



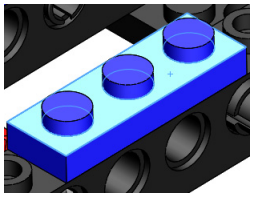
Both edges lie flush.

Click **OK** ✔.

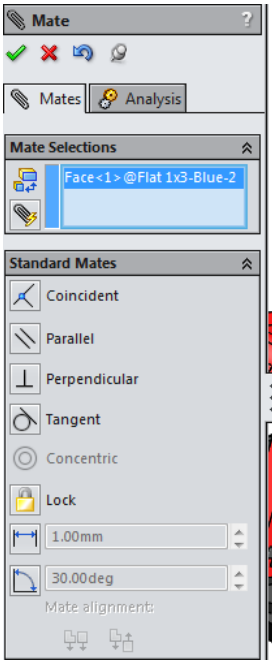


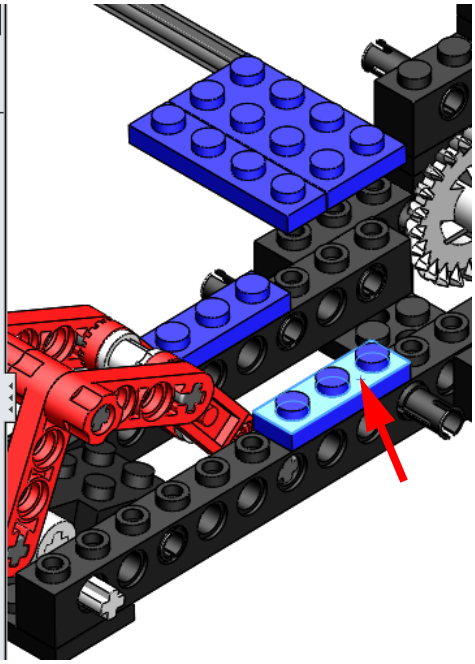


144 Click on:

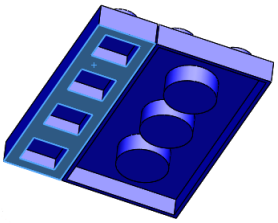


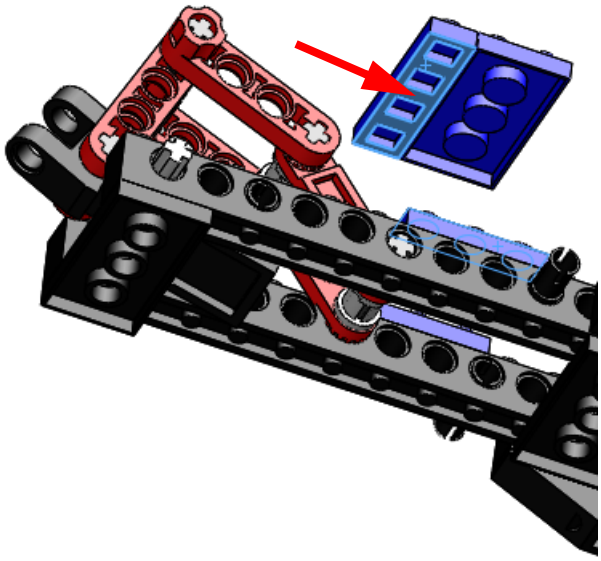
Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.





145 Click on:

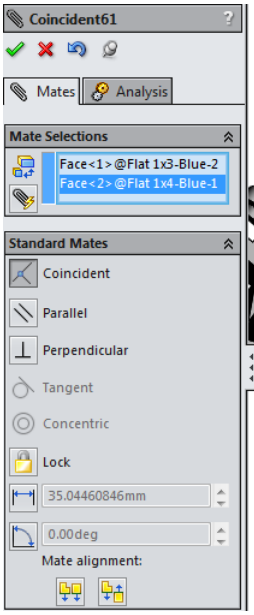


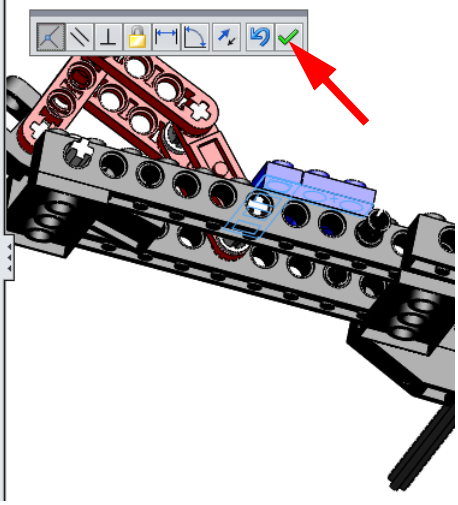


146 You'll now see that both parts are nicely connected together.

A coincident mate is created.

Click **OK** ✔.

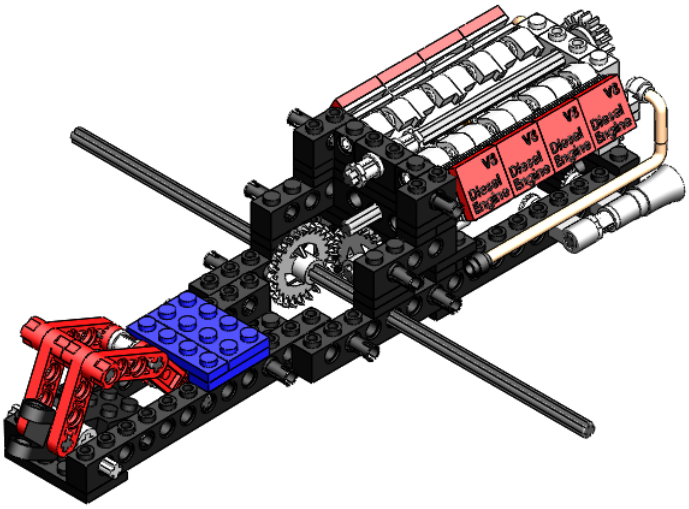




147 Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

If everything goes well, you'll see that both parts are nicely connected and at the correct place on the two other bricks as illustrated.

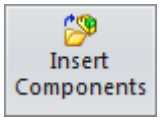
Let's save our data once again for safety!



148 Let's move on!

We'll now return to the warehouse for new parts.

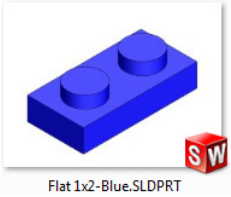
Click:



Click:



We're looking for:



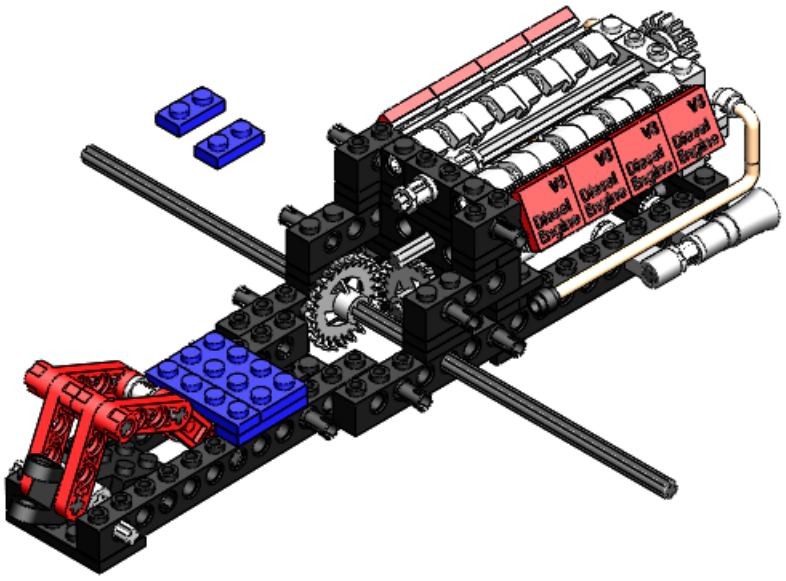


149 Position the parts as illustrated.

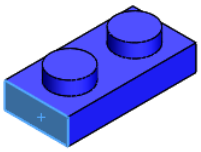
We're going to build again!

Click **Mate** 

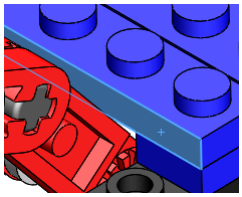
.



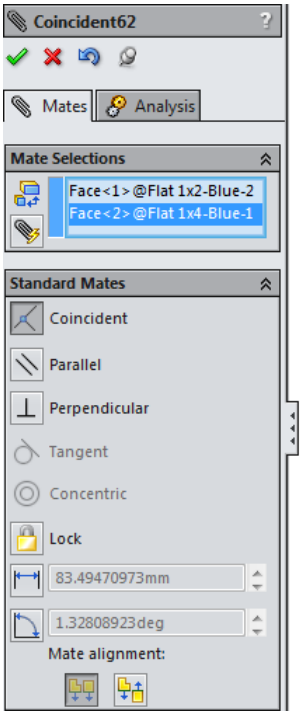
150 Click on:

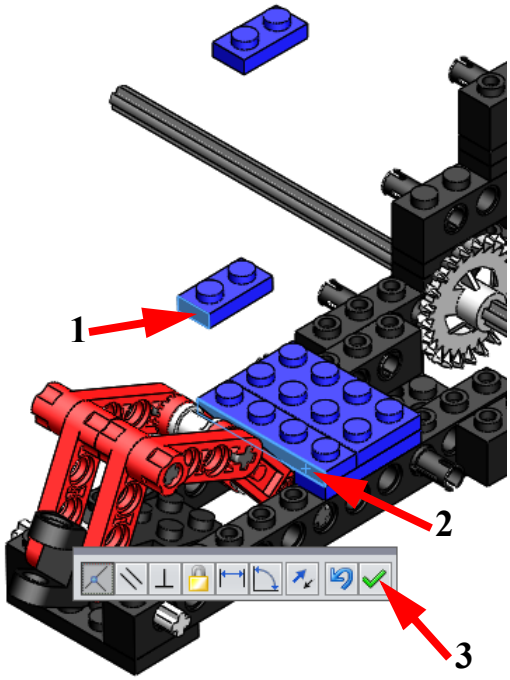


Click on:

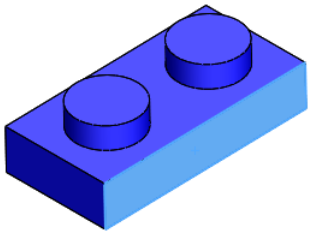


Click **OK** ✔.

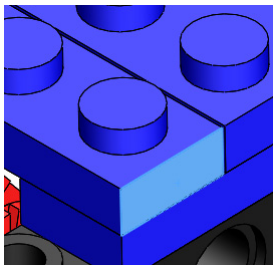




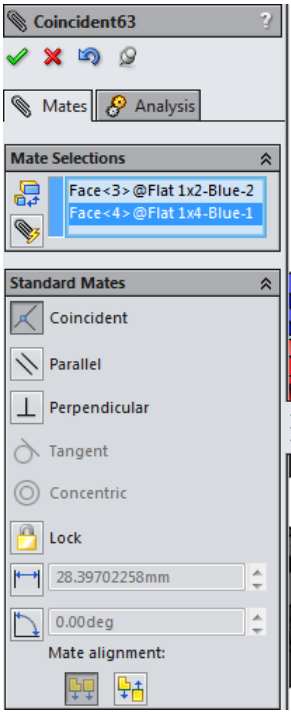
151 Click on:

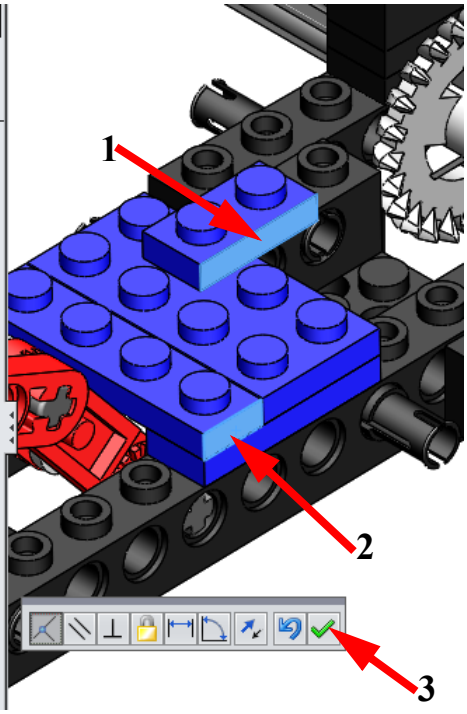


Click on:

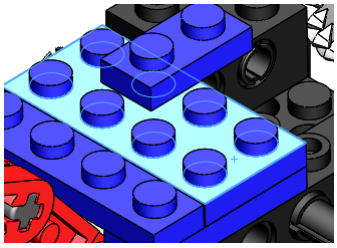


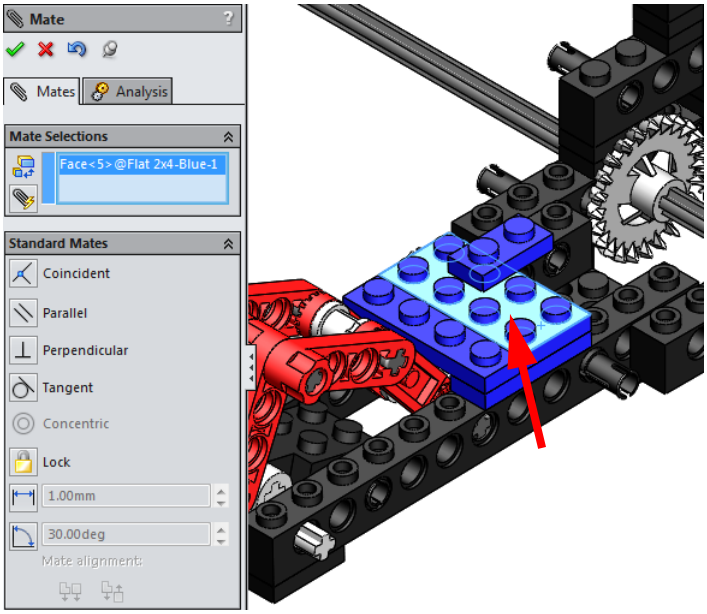
Click **OK** ✔.





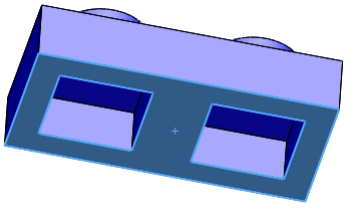
152 Click on:

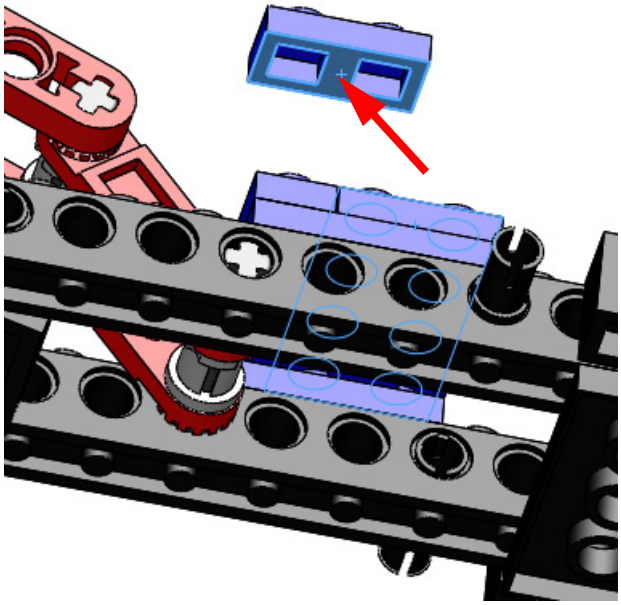




153 Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

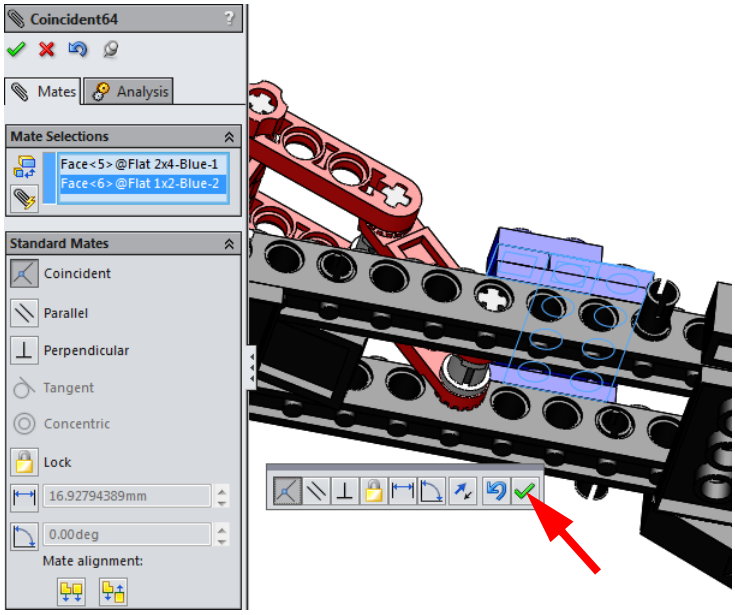
Click on:



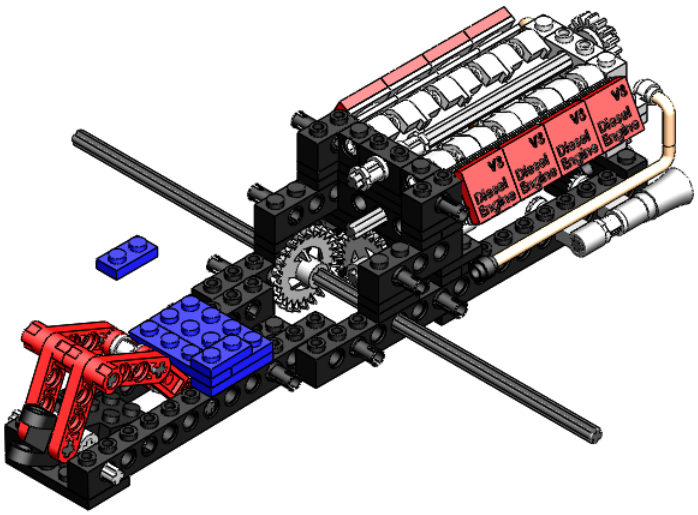


154 If everything goes well, you'll see that the part will be nicely connected and at the correct place on the other bricks as illustrated.

Click **OK** ✔.



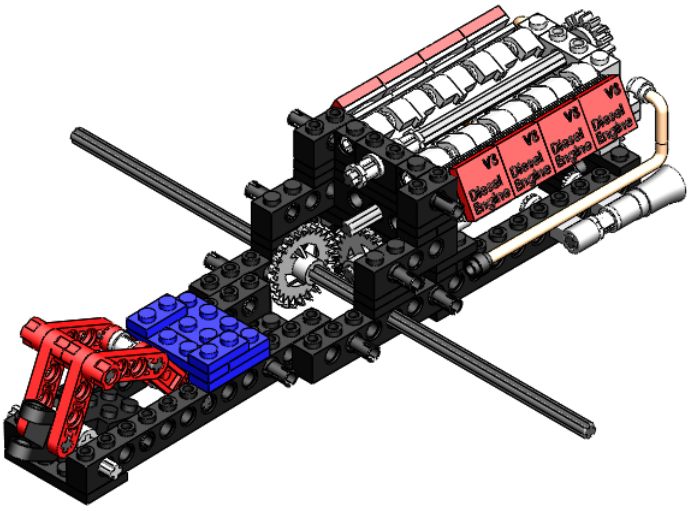
155 Do the same yourself with the next part! Refer to the example and use your knowledge from steps 150 through 154.



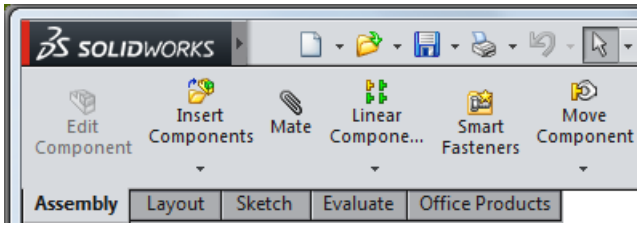
156 If you did well, it will be as illustrated.

Let's save our data once again for safety!

Click **Save** 💾.

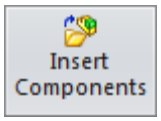


157 Let's move on!

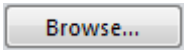


We'll now return to the warehouse for new parts.

Click:



Click:



158 We're looking for:

2x 

2x 

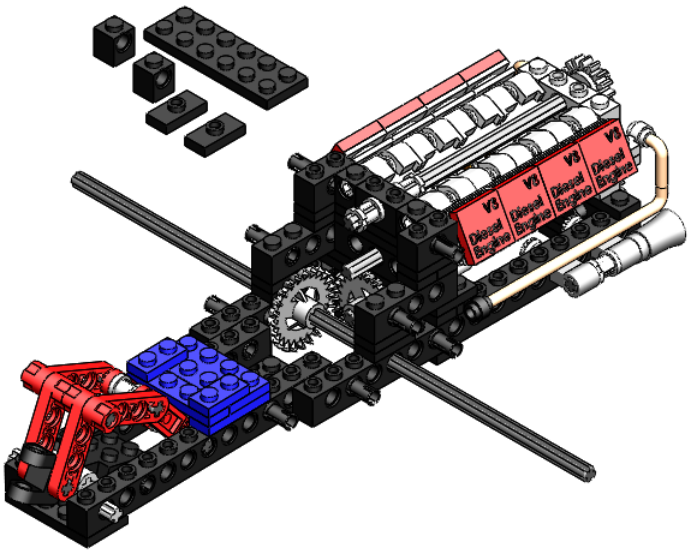
1x 

159 Position the parts as illustrated.

We're going to build again!

Click **Mate** 

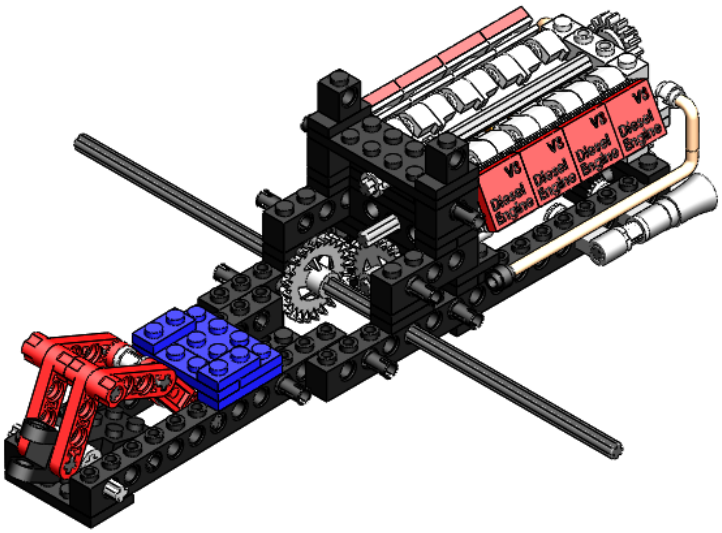
.



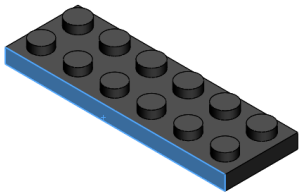
160 What do you think? Can you make this by yourself, using you knowledge from the last steps?

If everything goes well you'll see that the parts will be nicely connected and in the correct places on the other bricks as illustrated.

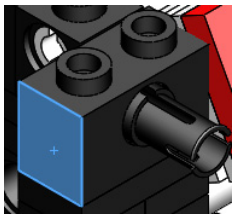
If not, follow steps 161 through 177.



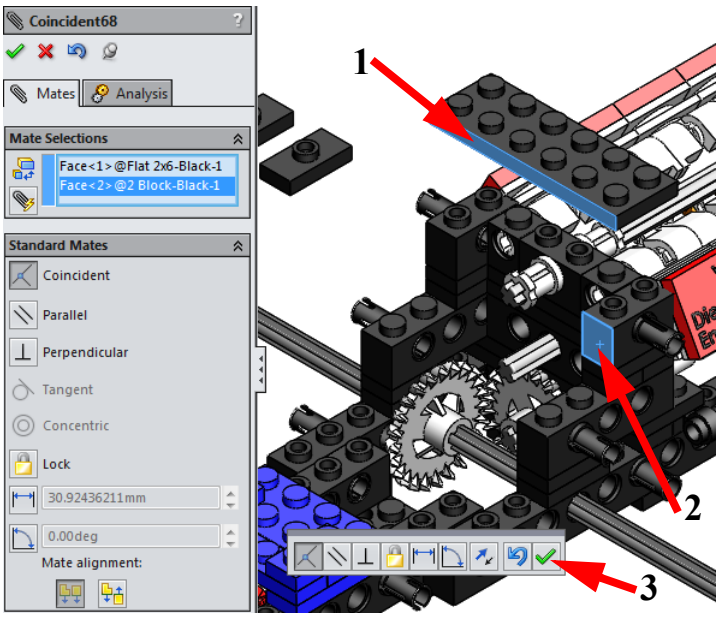
161 Click on:



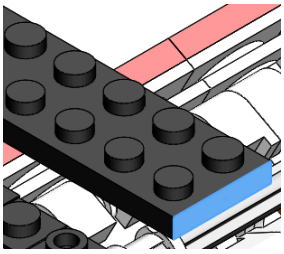
Click on:



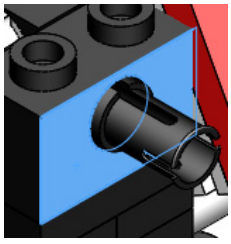
Click **OK**  .



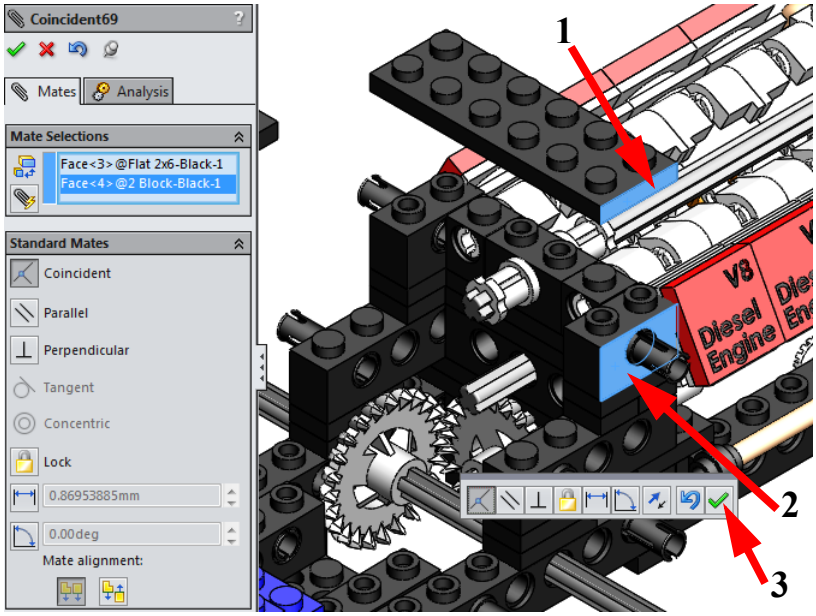
162 Click on:



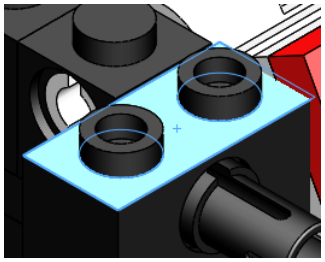
Click on:

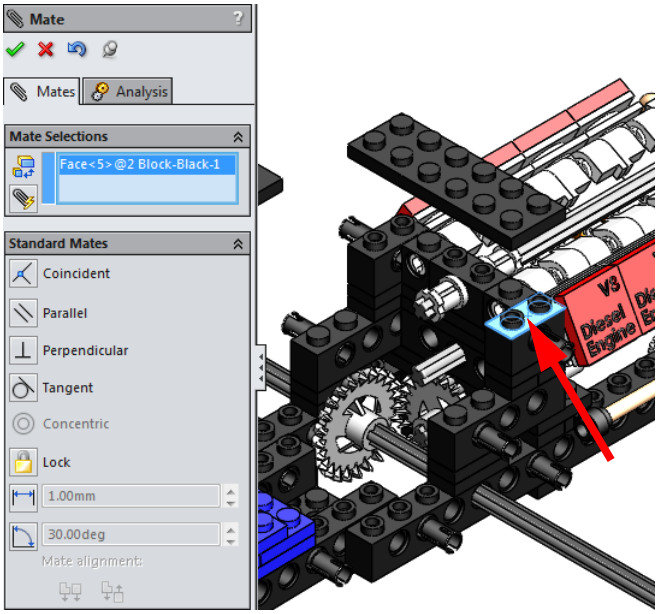


Click **OK**  .



163 Click on:

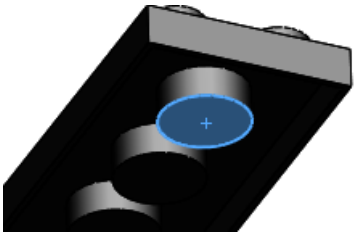


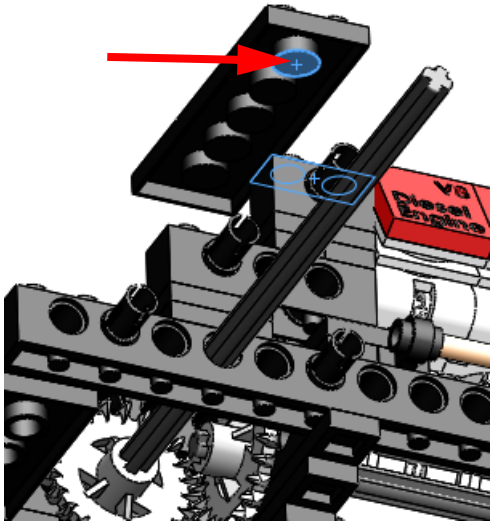


Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.

164 Zoom in!

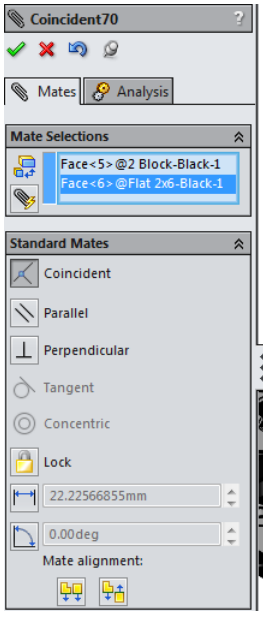
Click on:

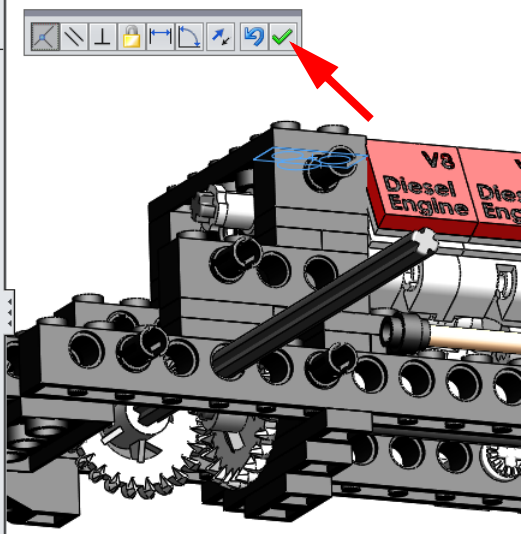




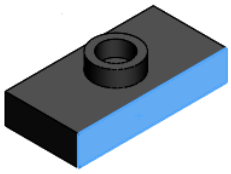
165 You'll now see that both parts are nicely connected together.

Click **OK** ✔.

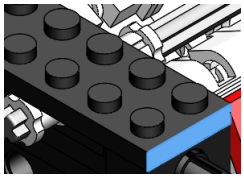




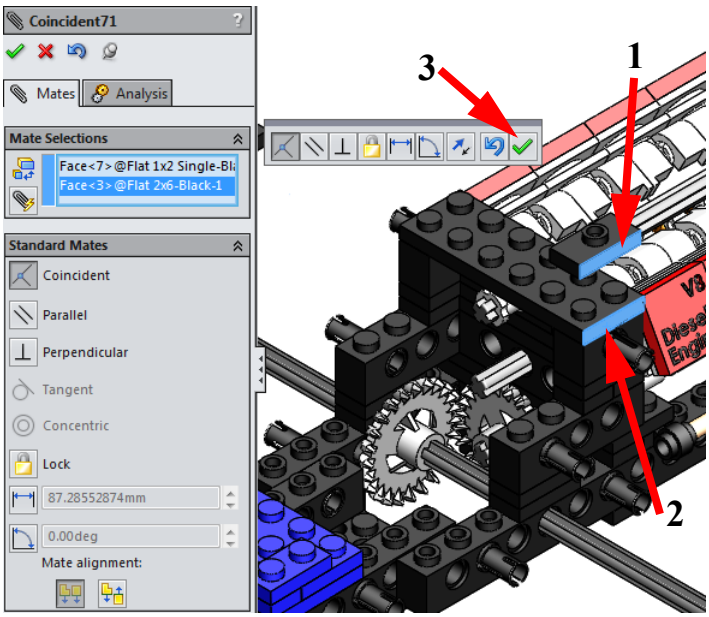
166 Click on:



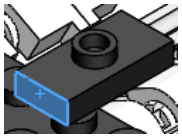
Click on:



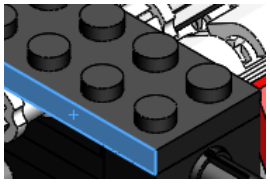
Click **OK** ✔.



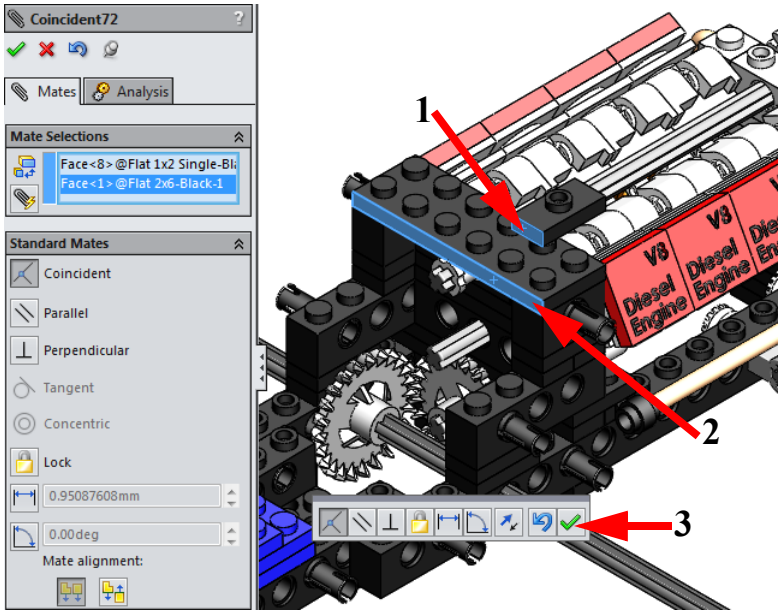
167 Click on:



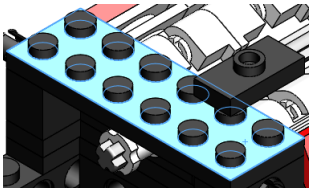
Click on:



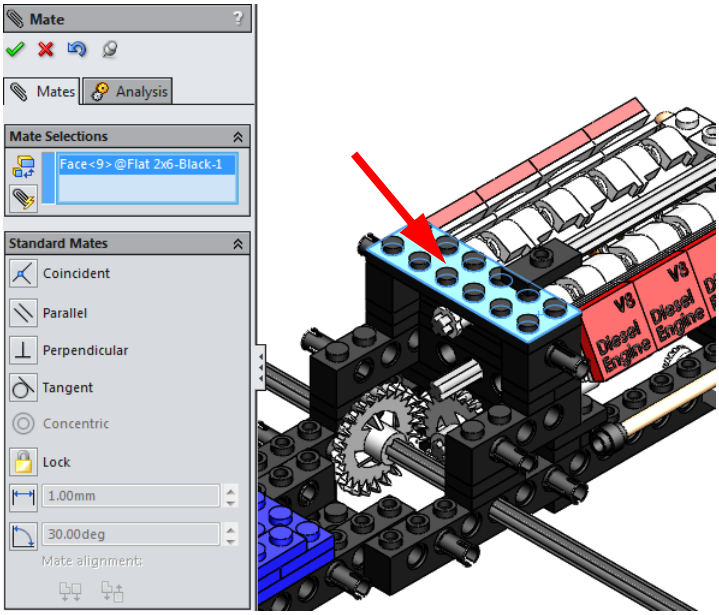
Click **OK** ✔.



168 Click on:

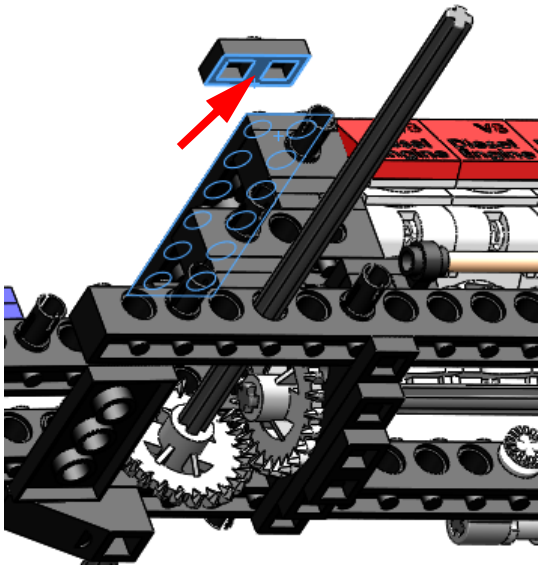


Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.



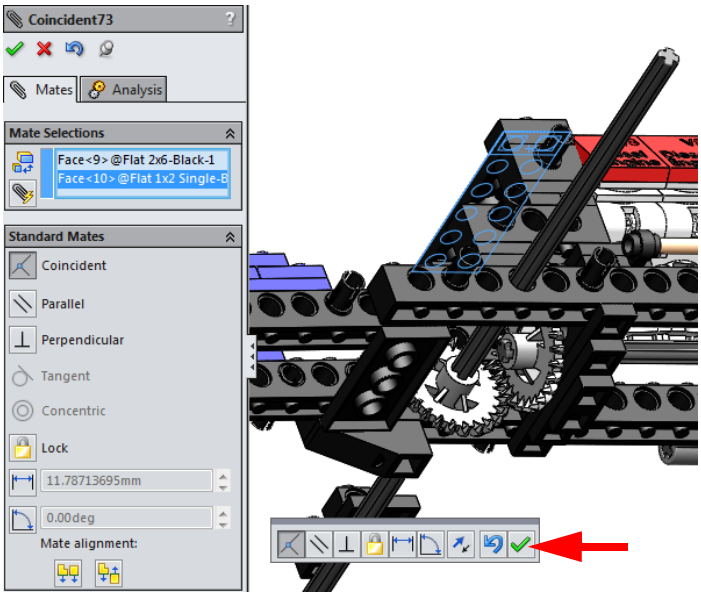
169 Click on:



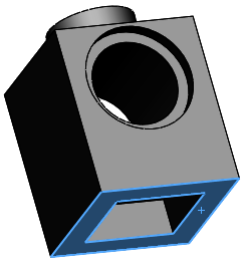


170 You'll now see that both parts are nicely connected together.

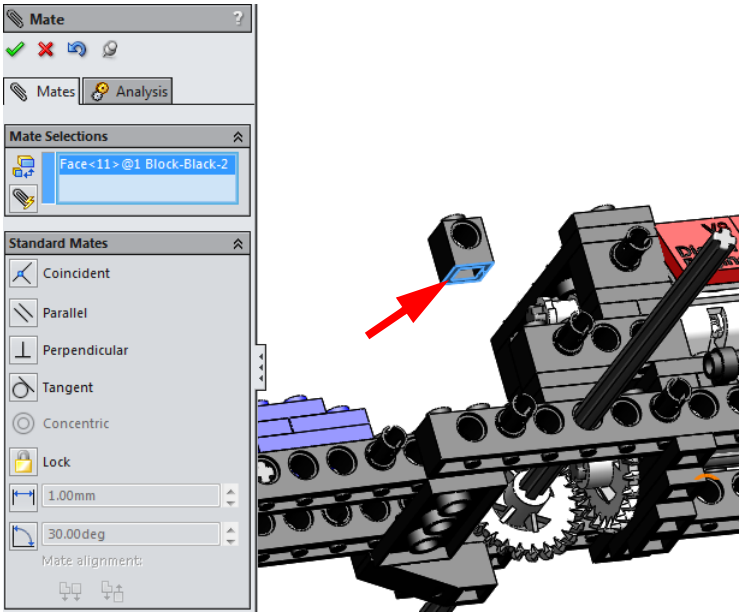
Click **OK** ✔.



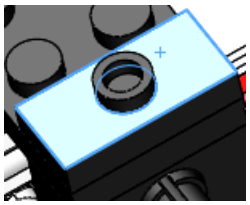
171 Click on:



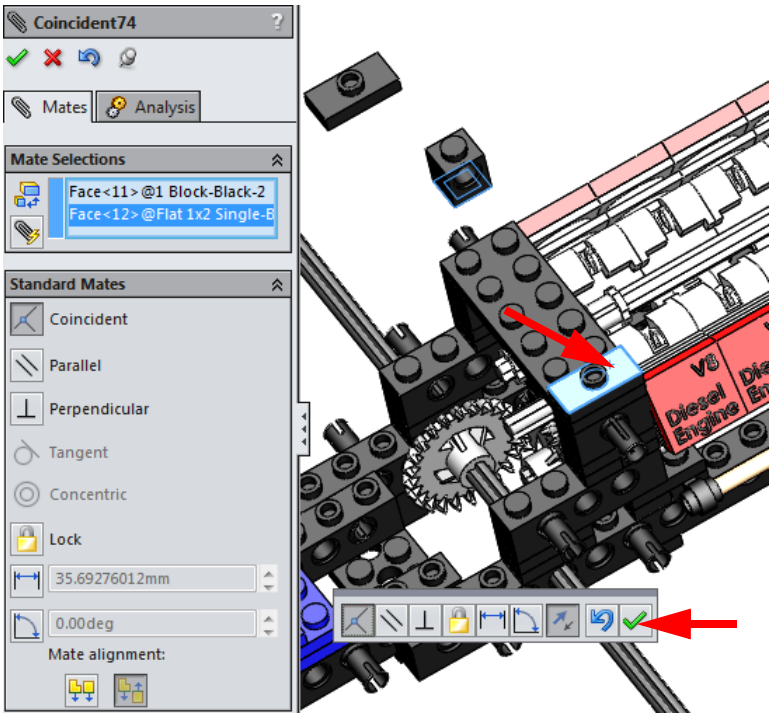
Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.



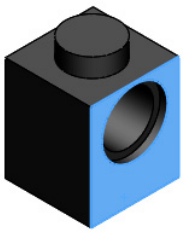
172 Click on:



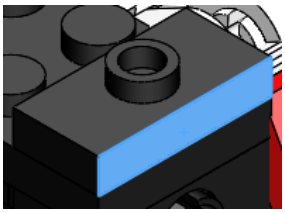
Click **OK** .



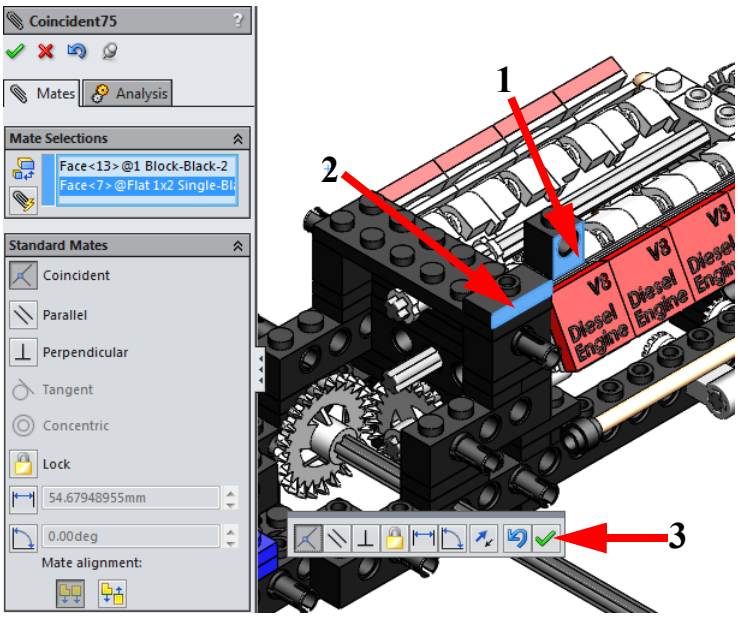
173 Click on:



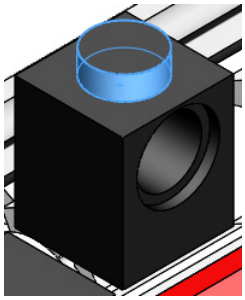
Click on:

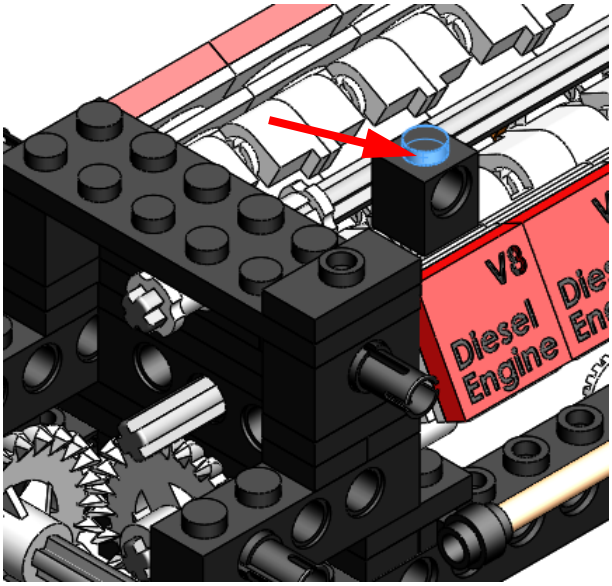


Click **OK** ✔.

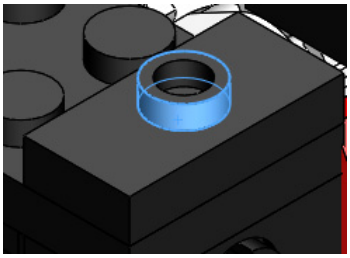


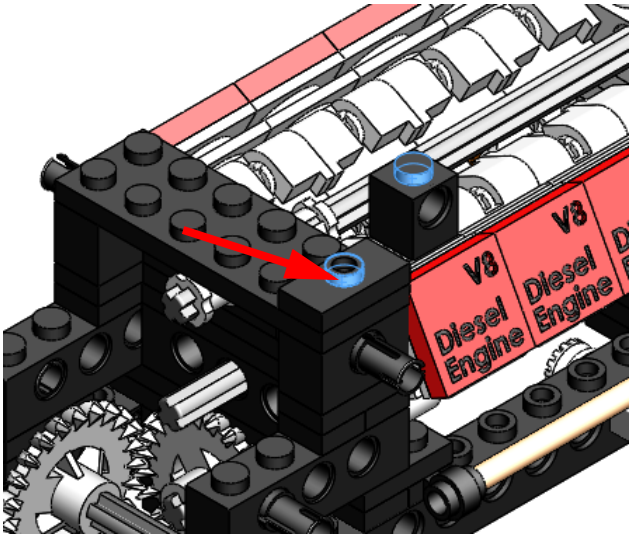
174 Click on:





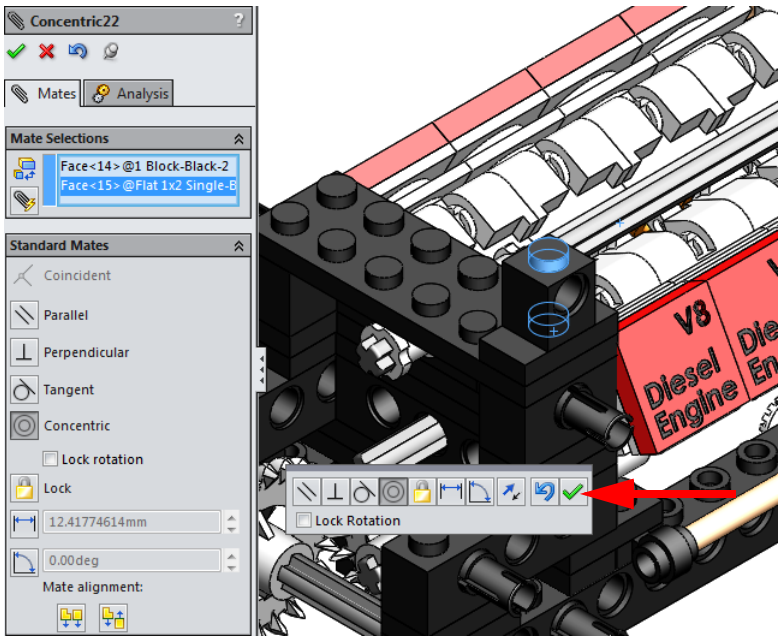
175 Click on:





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

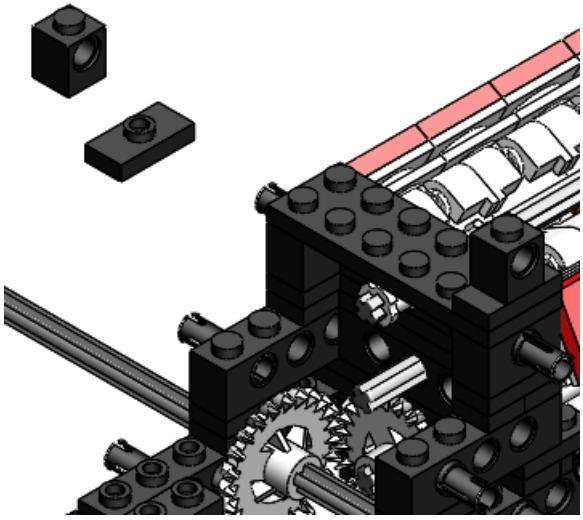
Click **OK** .



177 Zoom out!

Do the same yourself with the next two parts! Refer to the example and use your knowledge from steps 166 though 176.

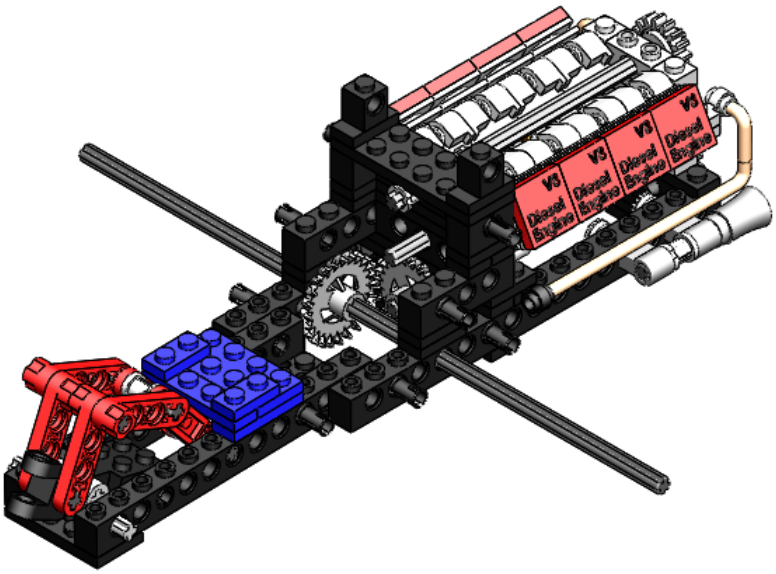
Good Luck!



178 If you did well, it will look as illustrated.

Let's save our data once again for safety!

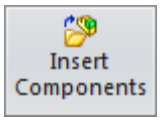
Click **Save** .



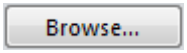
179 Let's move on!

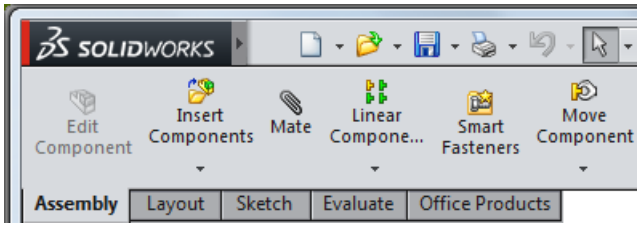
We'll now return to the warehouse for new parts.

Click:



Click:

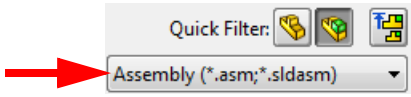


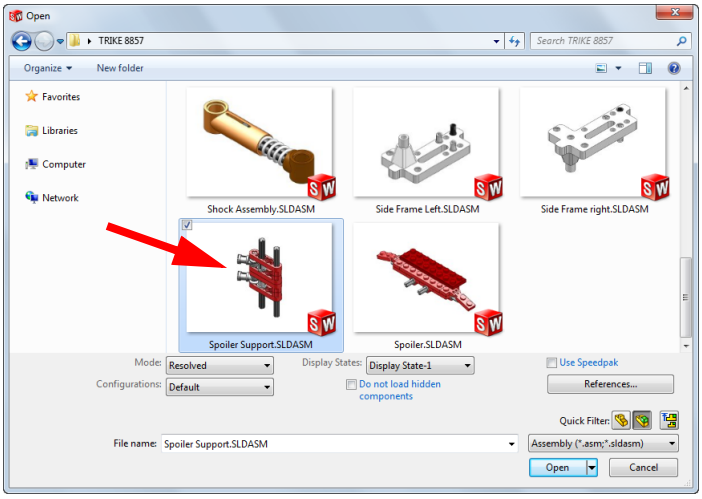


180 We're looking for:

1x 

Be sure you are looking in:





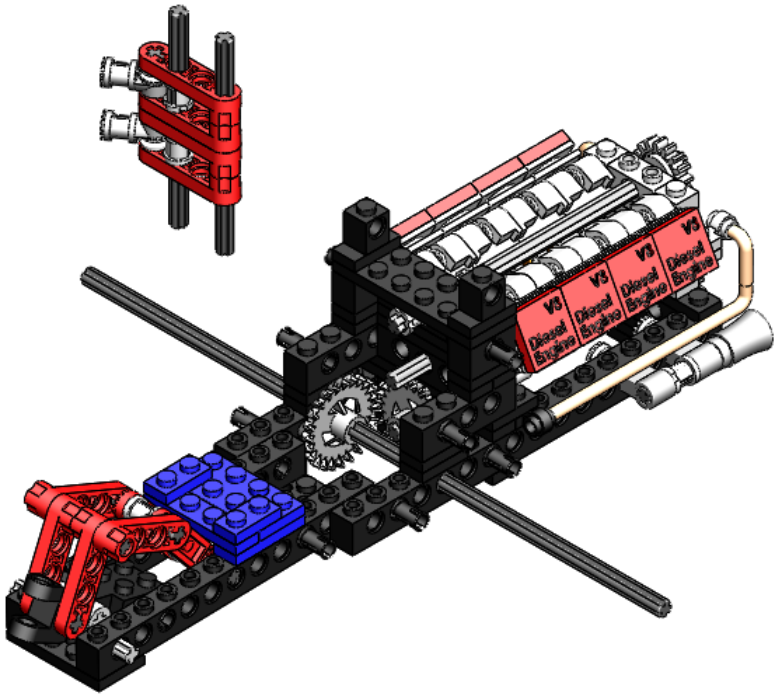
181 Position the assembly as illustrated.

We're going to build again!

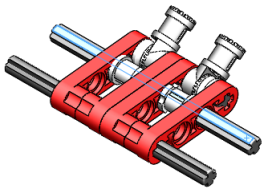
Click **Mate** 

.

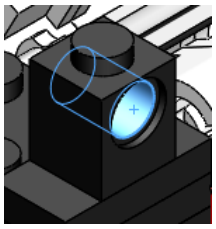
Press the right mouse button down on the Spoiler Support. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.



182 Click on:



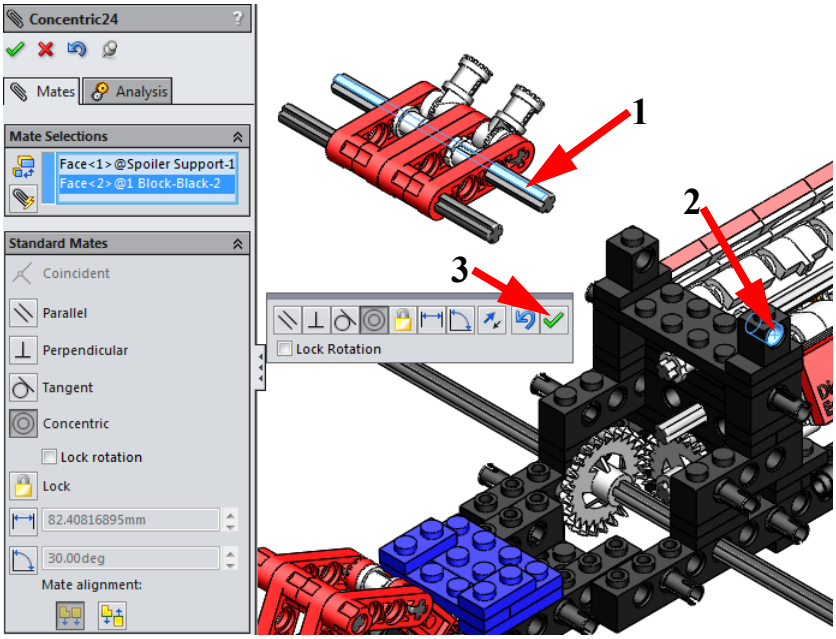
Click on:



You'll now see that both parts are aligned.

A concentric mate is created  .

Click **OK**  .



183 We'll now put the subassembly in the middle of the chassis.

Therefore we need a different type of mate function.

Open: **Advanced Mates**

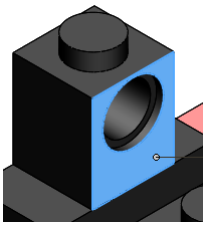
Click: 

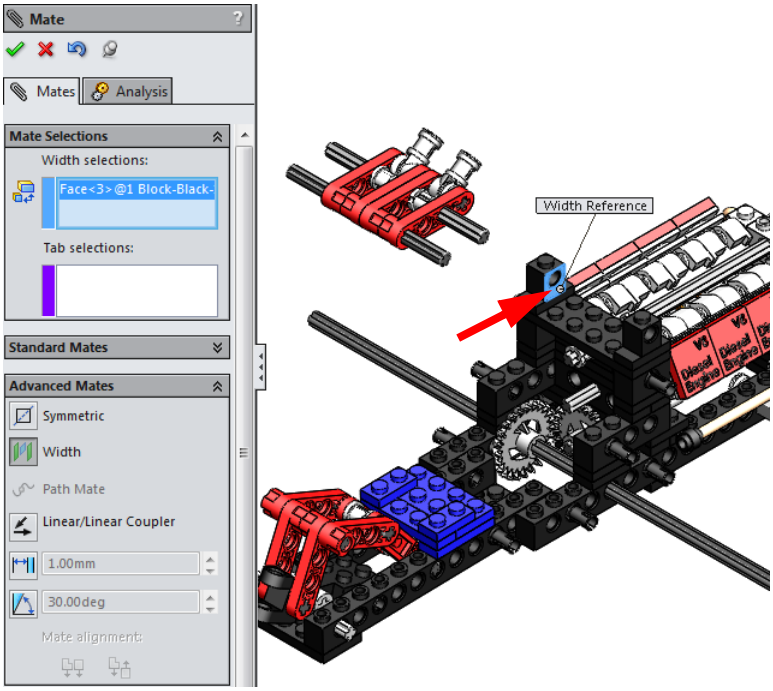
The Width Mate.

Click:

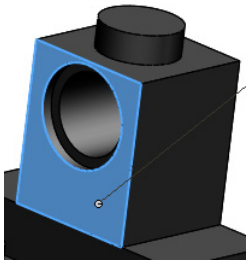


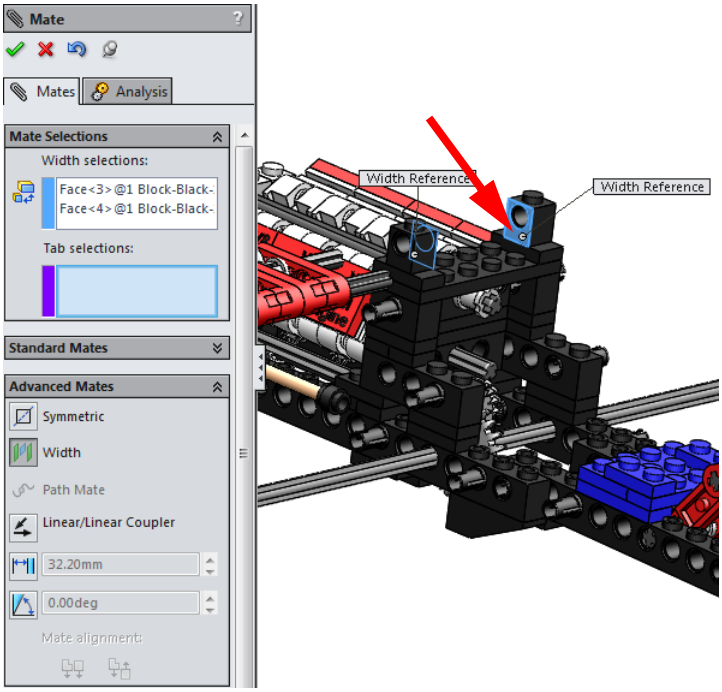
Click on:



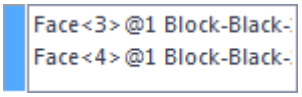


184 Click on:



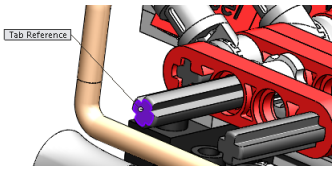


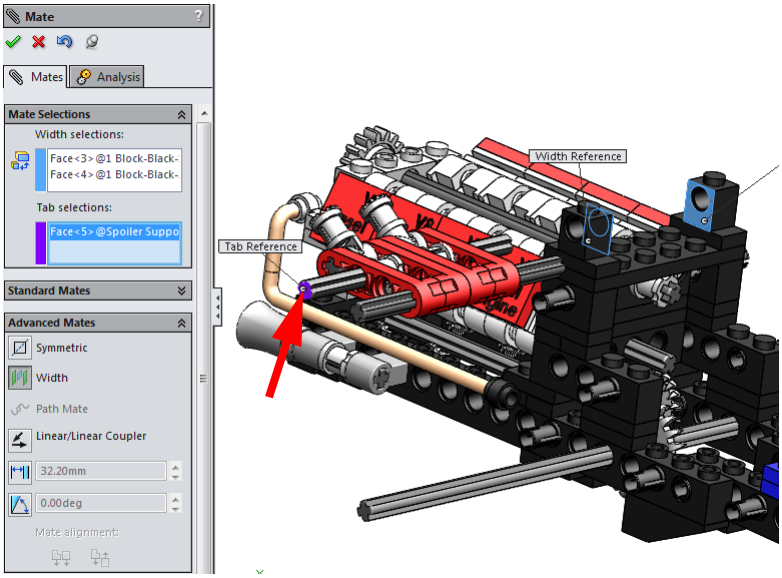
Your first two selections!



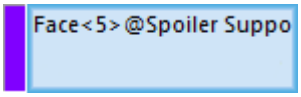
The Tab selection field will now turn blue.

185 Click on the axle front. It will turn purple.

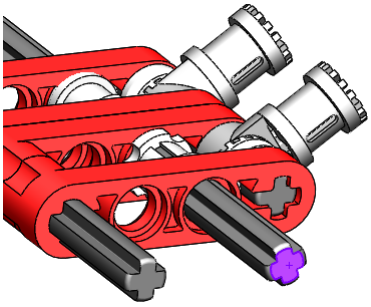




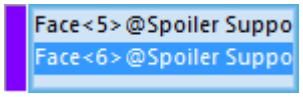
Your first selection!

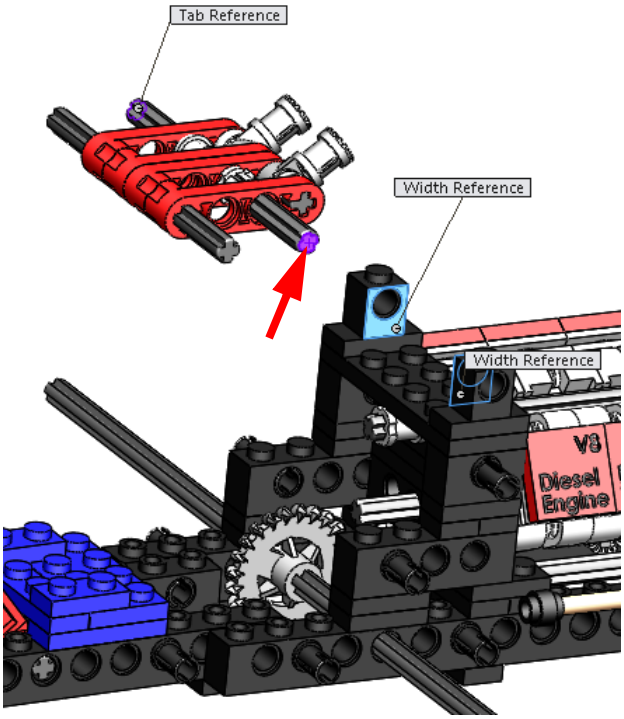


186 Click on the second axle front. It will again turn purple.



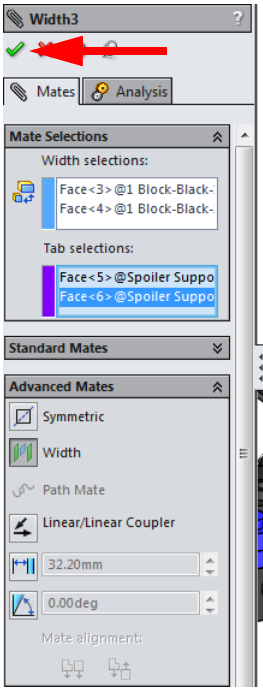
Your last two selections!

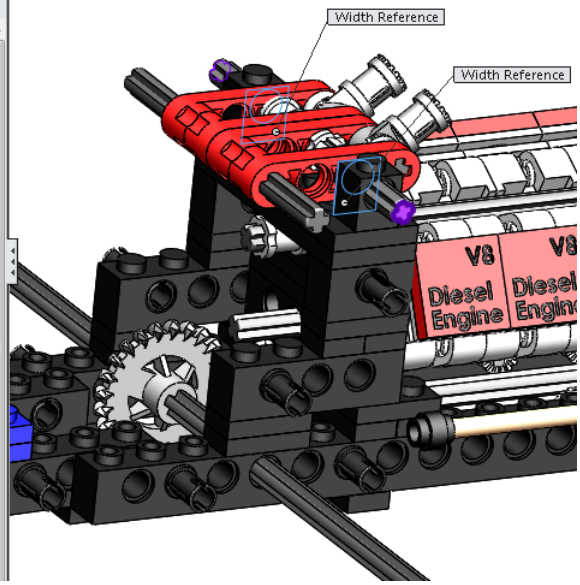




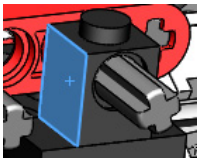
187 The Spoiler Support will now have a position in the middle of the chassis.

Click **OK** ✔.





188 Click on:

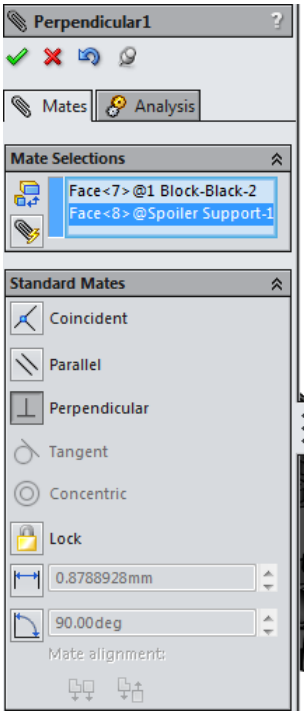


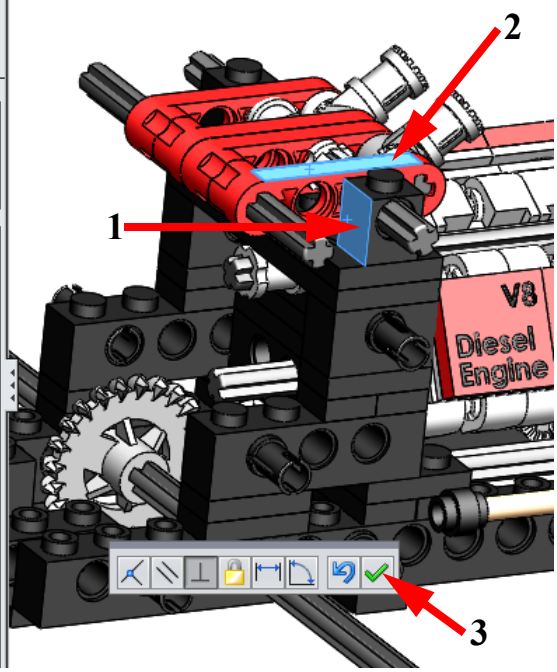
Click on:



The two are now nicely connected at a 90 degree angle.

Click **OK** ✔.



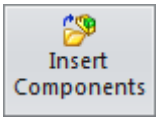


189 Zoom out!

If you did well, it will be as illustrated.

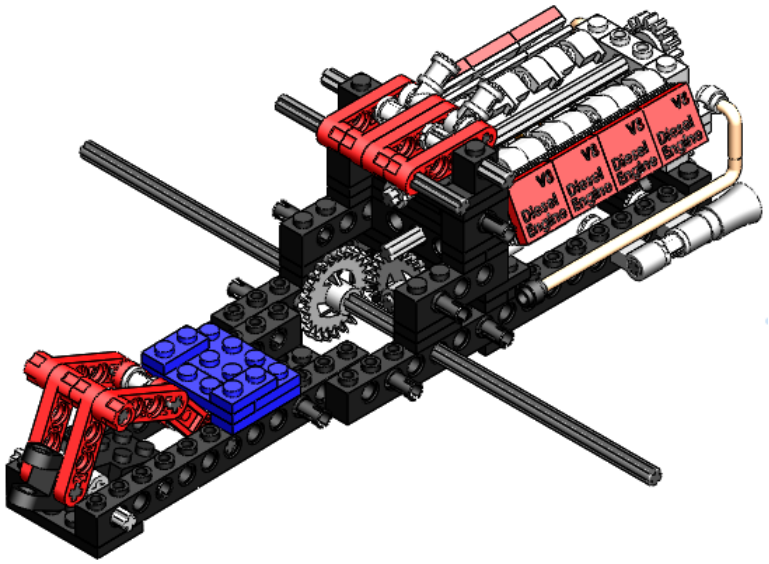
We'll now return to the warehouse for new parts.

Click:



Click:

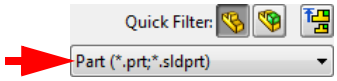


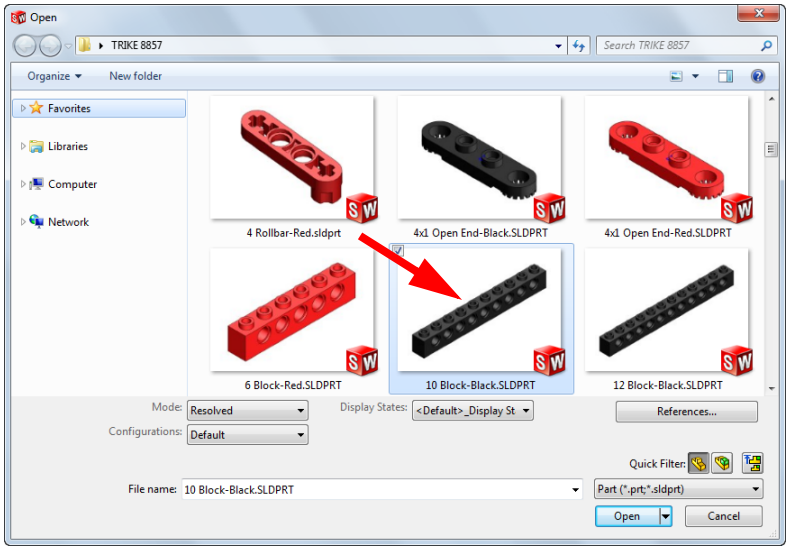


190 We're looking for:

2x 

Be sure you are look in:





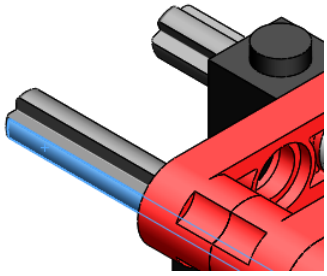
191 Position the parts as illustrated.

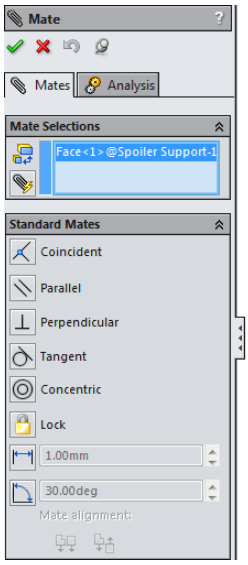
We're going to build again!

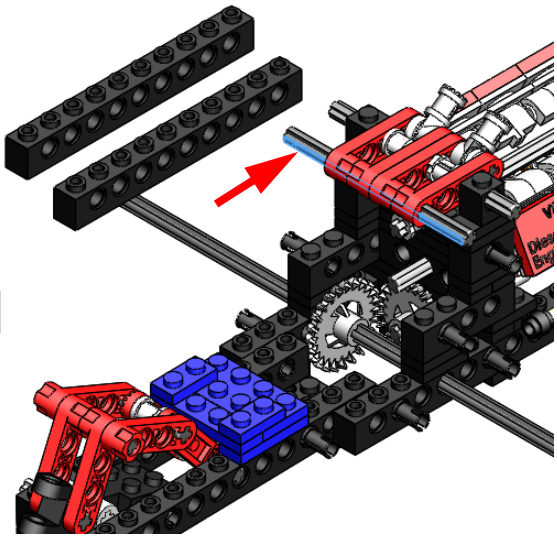
Click **Mate** 

.

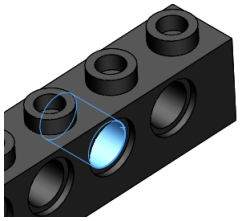
Click on the outside of the axle.





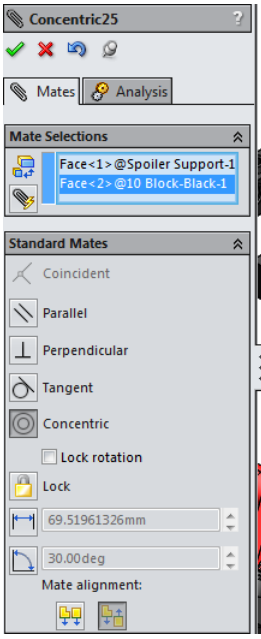


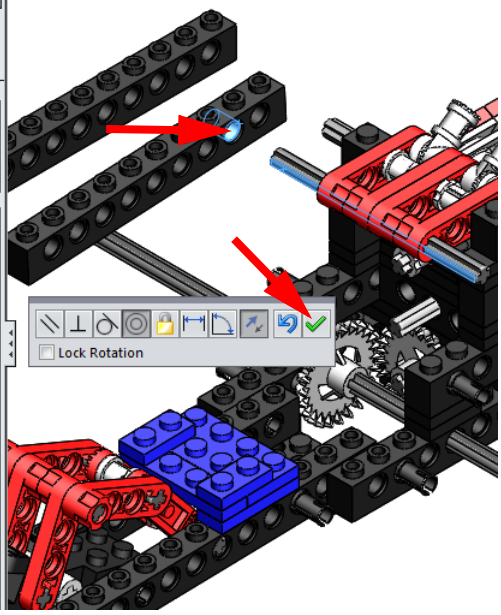
192 Click on the second hole.



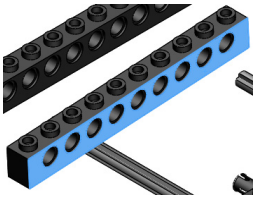
You'll now see that both selected parts are aligned.

Click **OK** ✔.

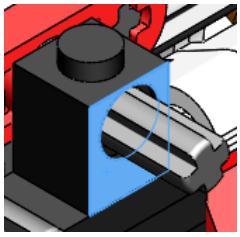




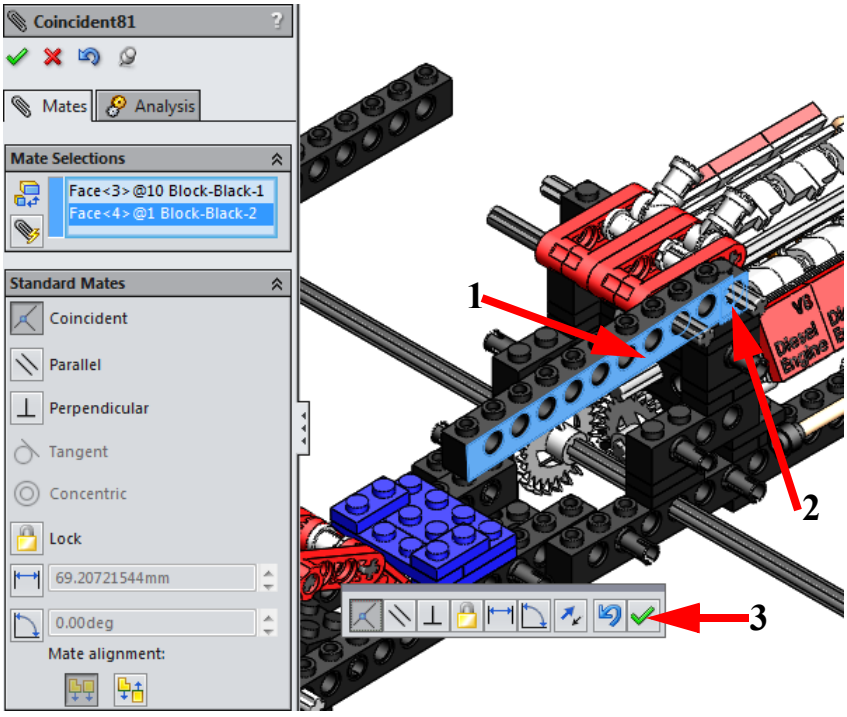
193 Click on:



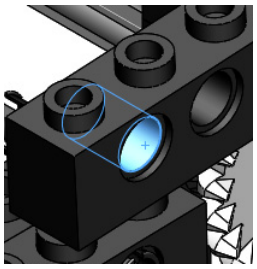
Click on:



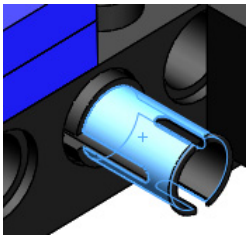
Click **OK** ✔.



194 Click on the inside hole.

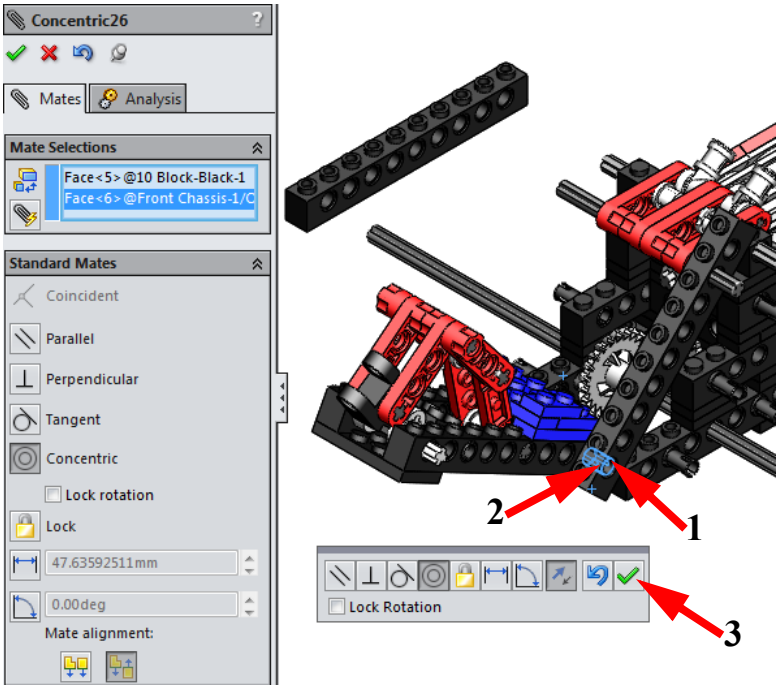


Click on the outside of the pin.



The two parts are now nicely connected.

Click **OK** ✔.

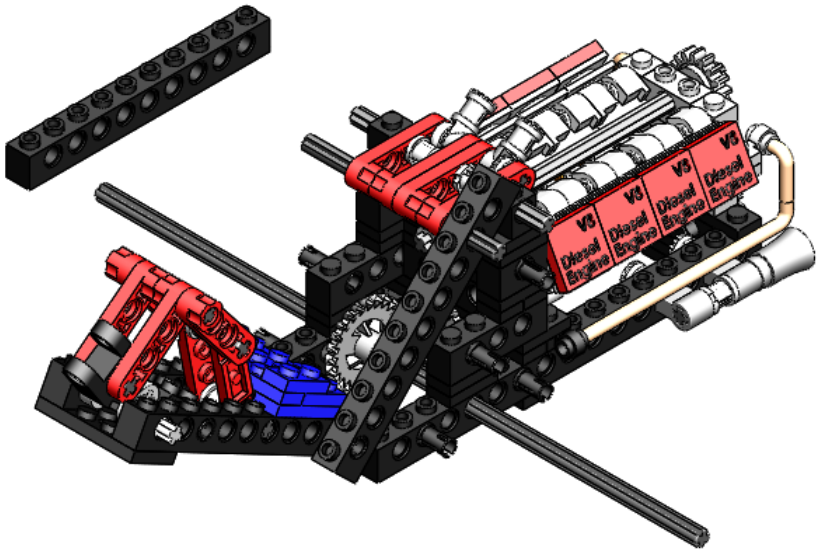


195 Zoom out!

If you did well, it will be as illustrated.

Let's save our data once again for safety!

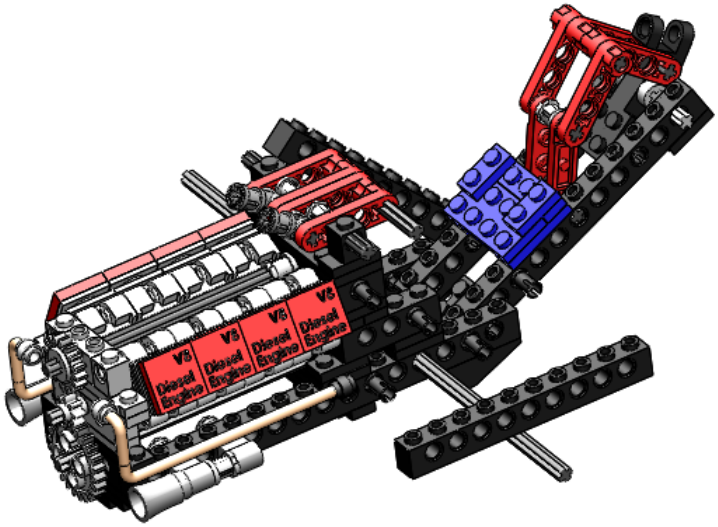
Click **Save** .



196 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 191 through 194.

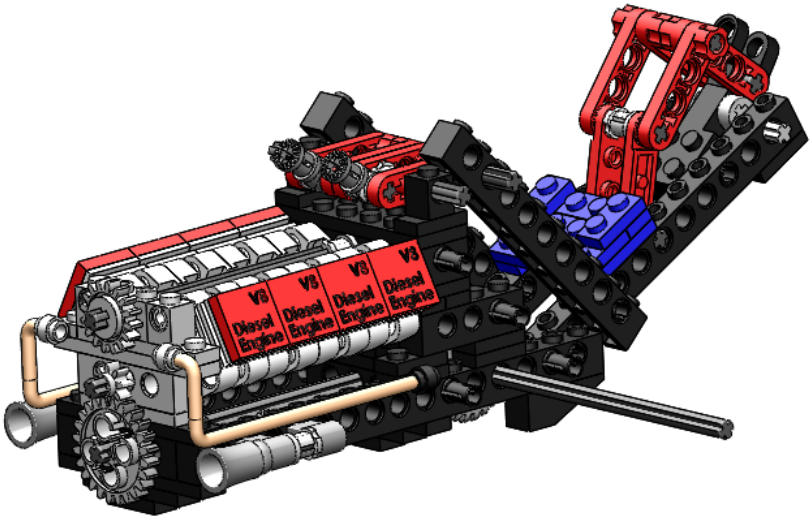
Good Luck!



197 The results much be as illustrated.

Let's save our data once again for safety!

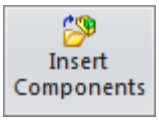
Click **Save** .



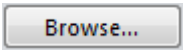
198 Let's move on!

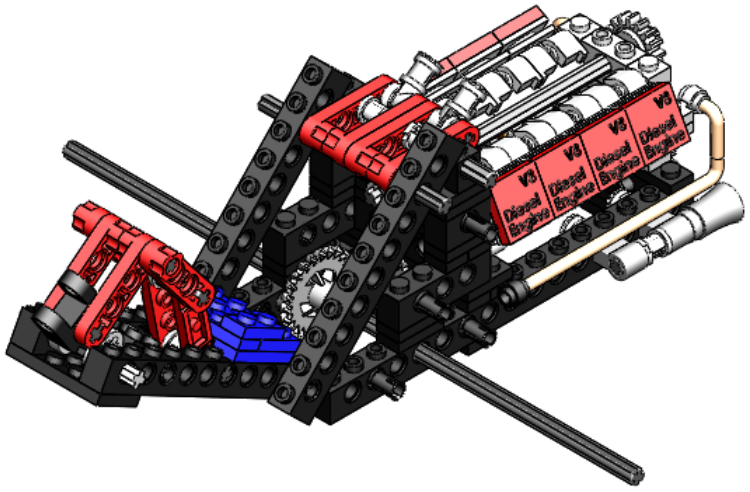
We'll now return to the warehouse for new parts.

Click:



Click:

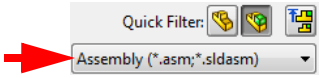


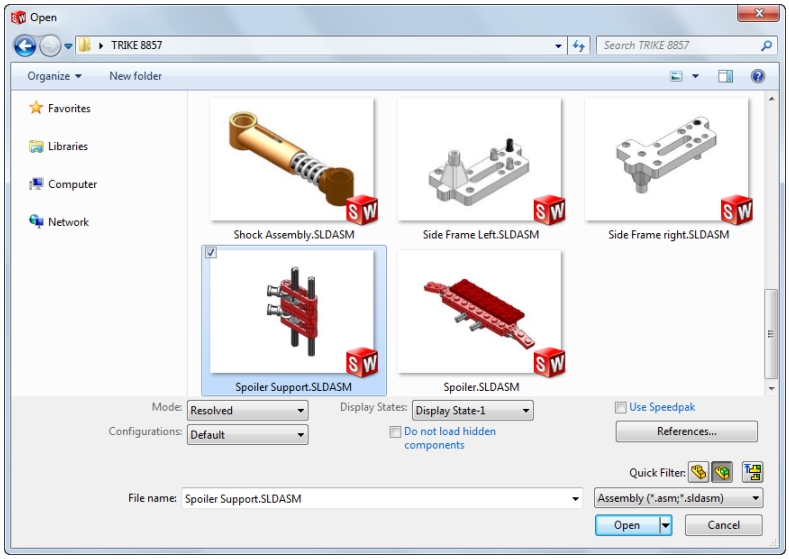


199 We're looking for:

1x 

Be sure you are looking in:



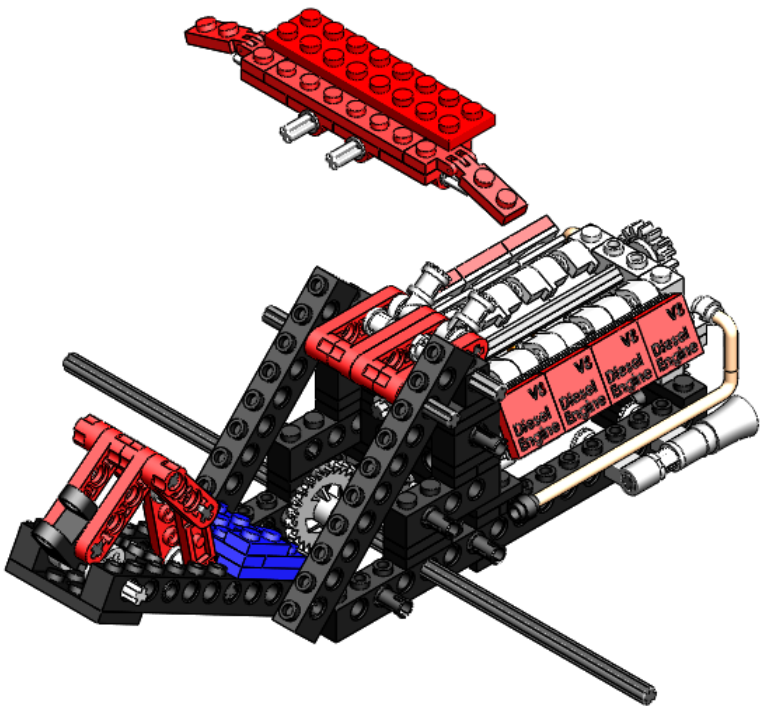


200 Position the assembly as illustrated.

We're going to build again!

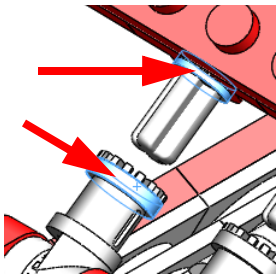
Click **Mate** 

.



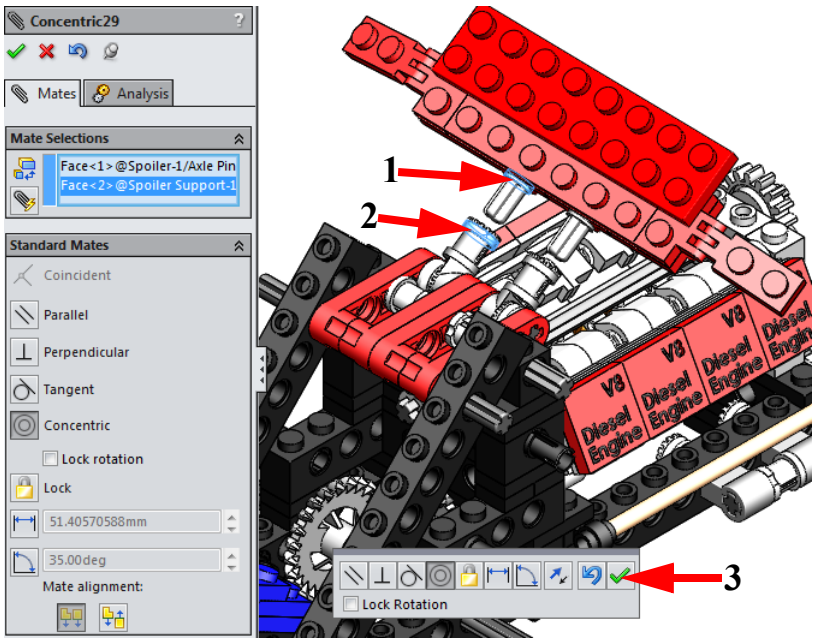
201 Zoom in!

Click on these two faces.

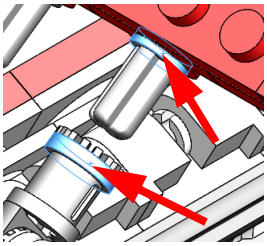


You'll now see that both selected parts are aligned.

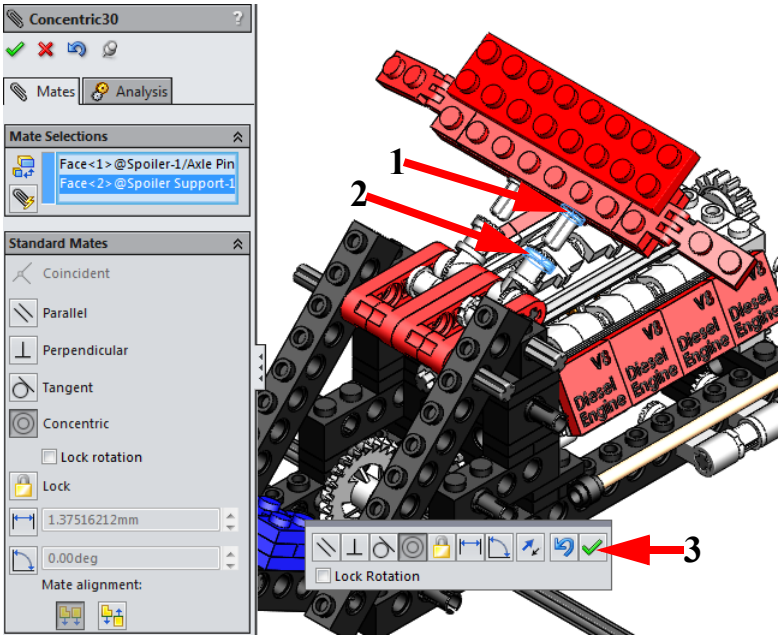
Click **OK** ✔.



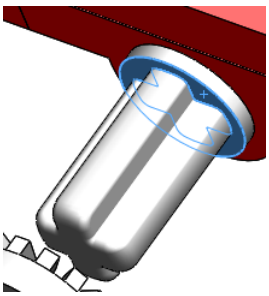
202 Click on these two faces.

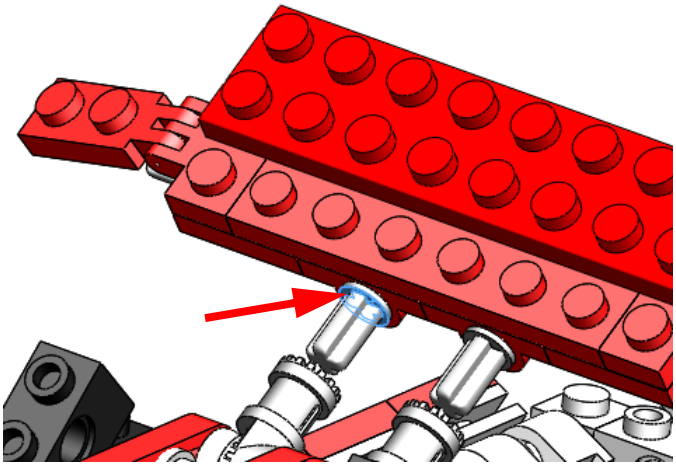


Click **OK** ✔.



203 Click on:

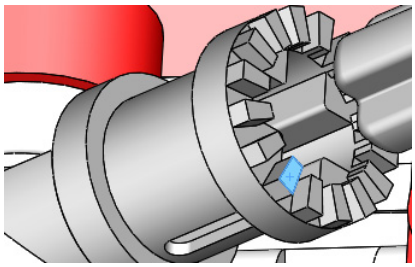


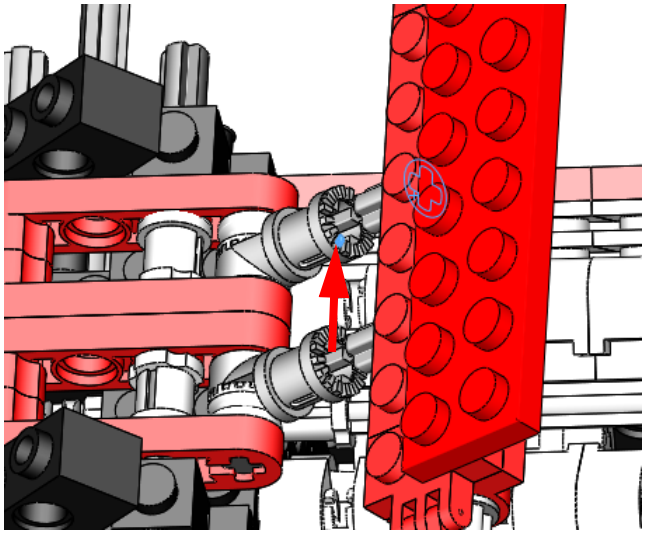


204 Zoom in!

Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

Click on:

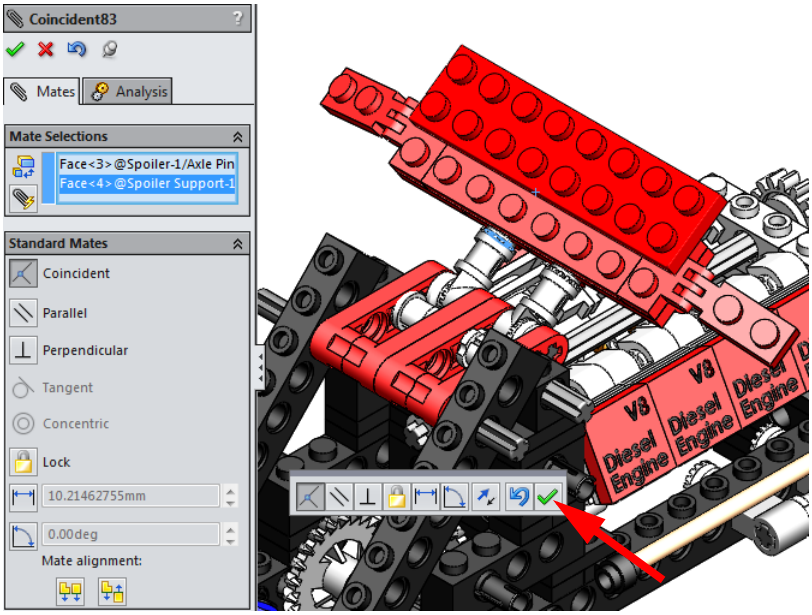




205 The two parts are now nicely connected.

A coincident mate is created.

Click **OK** .

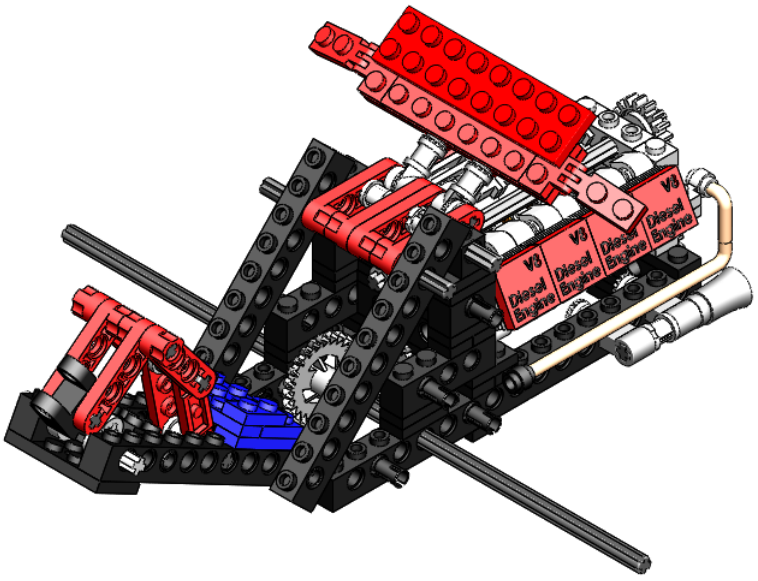


206 Zoom out!

If you did well, it will be as illustrated.

Let's save our data once again for safety!

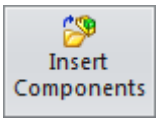
Click **Save** .



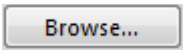
207 The spoiler is not complete.

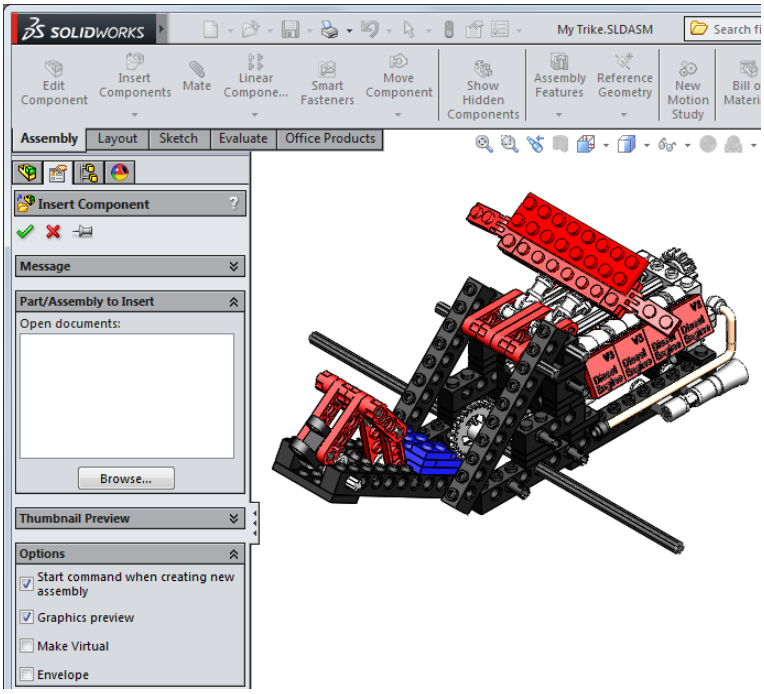
We'll go back to the warehouse to search for the missing parts.

Click:

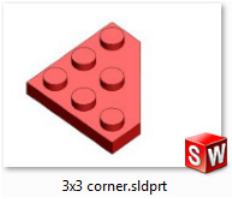


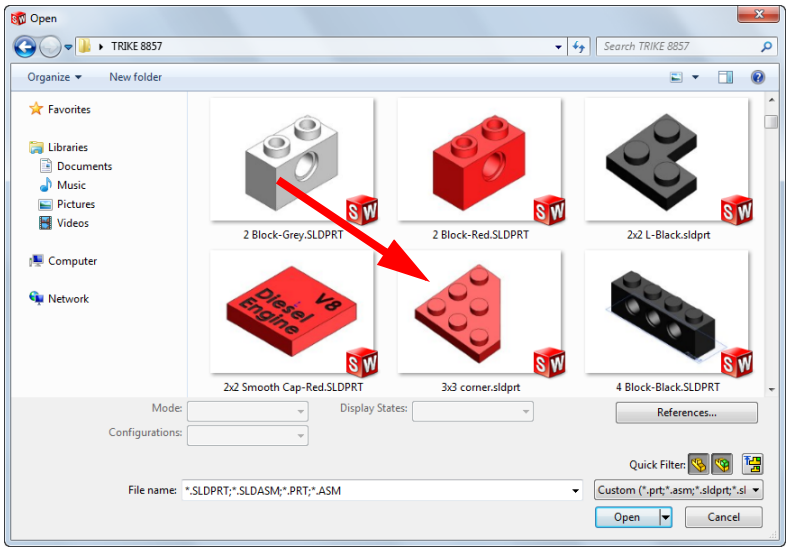
Click:





208 We're looking for:

2x 

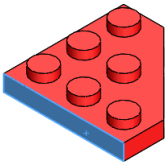


209 Position the assembly as illustrated.

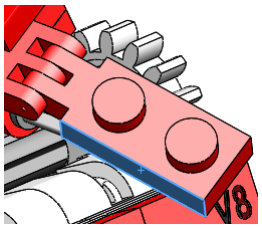
We're going to build again!

Click **Mate** Mate.

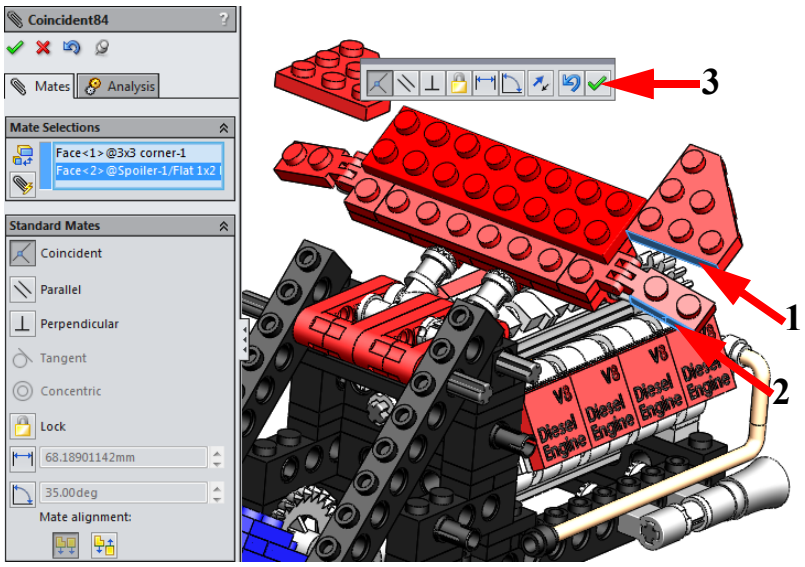
Click on:



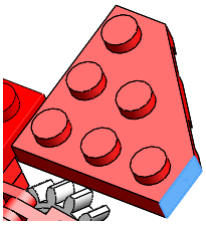
Click on:



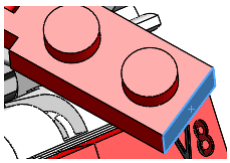
Click **OK** ✔.



210 Click on:

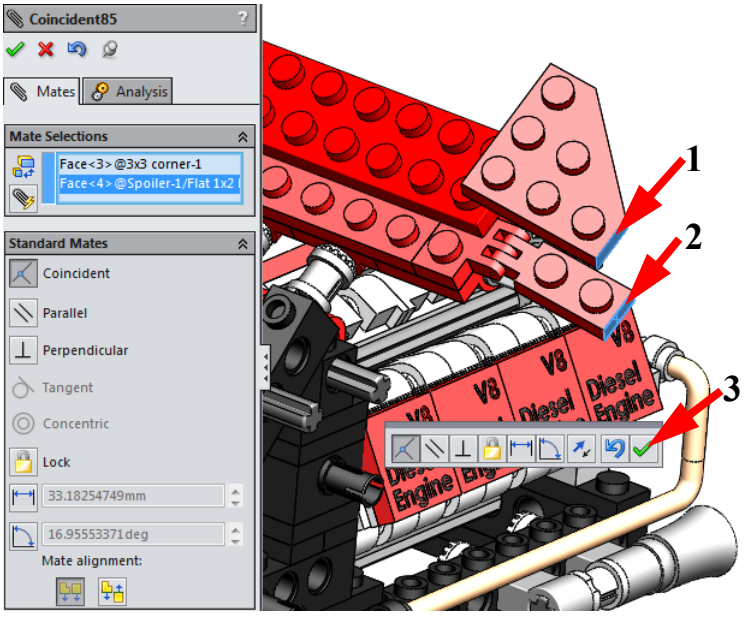


Click on:

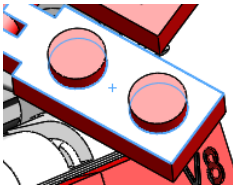


Both sides will lie flush.

Click **OK** ✔.



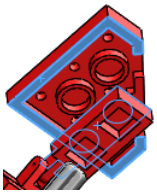
211 Click on:

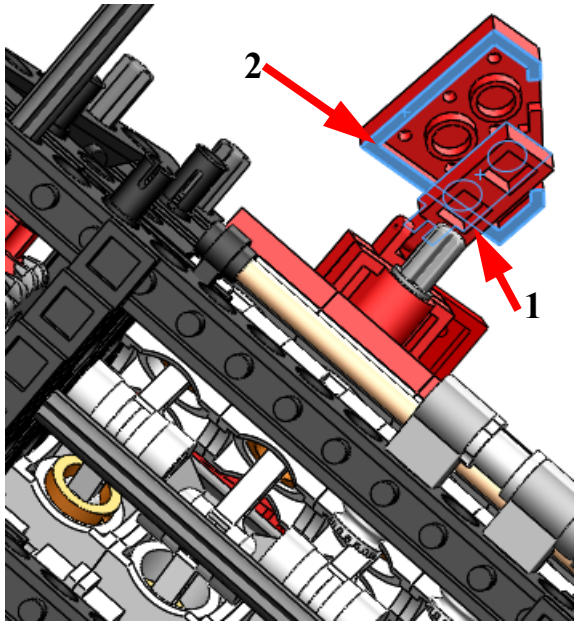


Press the scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

Zoom in!

Click on:

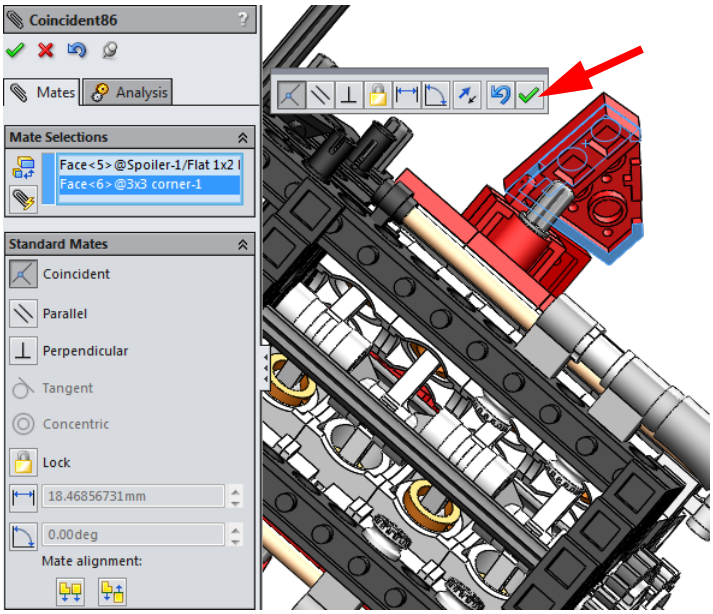




212 You'll now see that both parts are nicely connected together.

Click **OK** .

Press the mouse's scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.

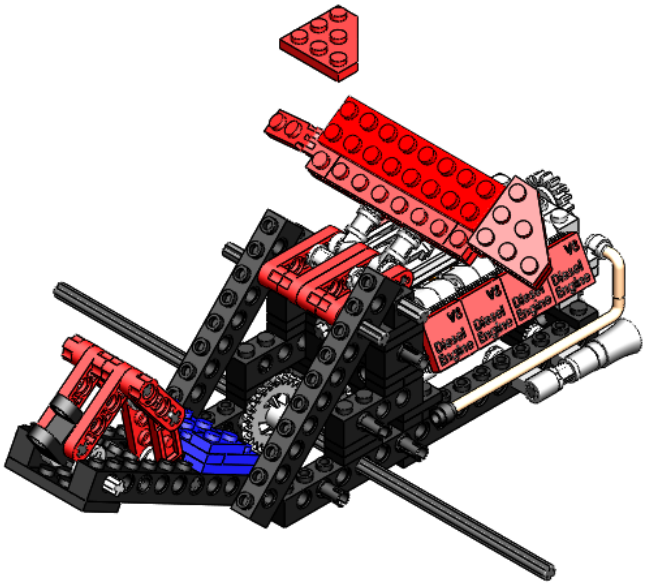


213 Let's save our data once again for safety.

Click **Save** .

Do the same yourself with the next part! Refer to the example and use your knowledge from steps 209 through 212.

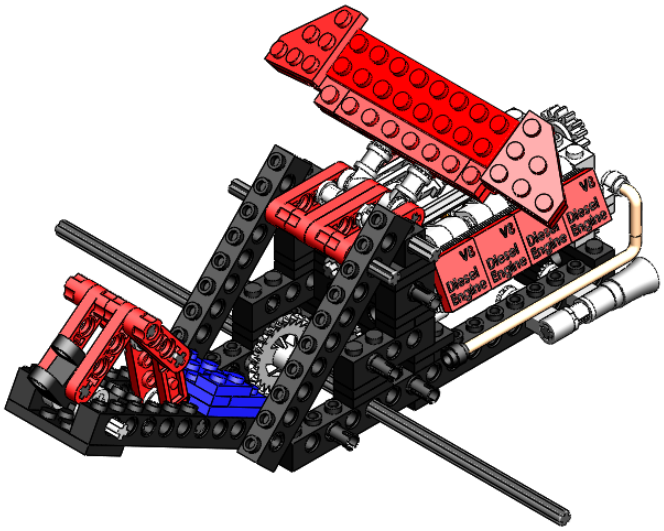
Good Luck!



214 Zoom out!

If you did well, it will be as illustrated.

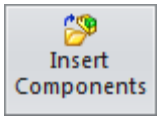
Click **OK** to close the **Mate** function.



215 Press the mouse's scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

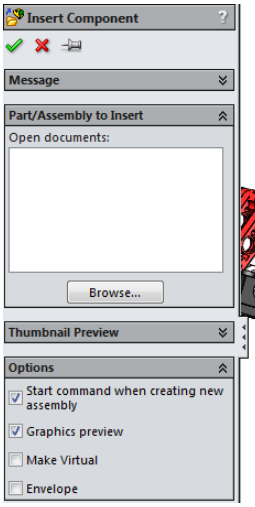
We'll go back to the warehouse for new parts.

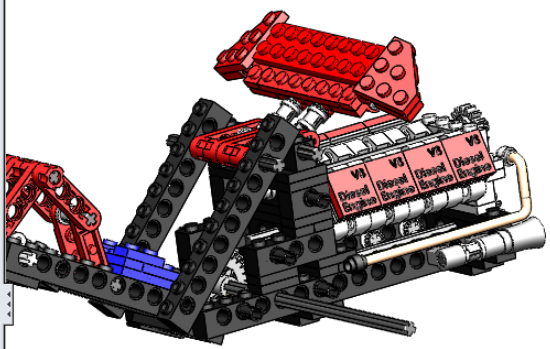
Click:



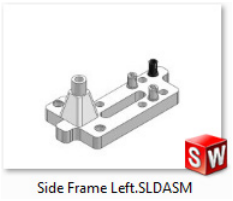
Click:



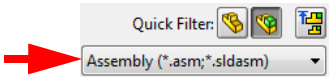


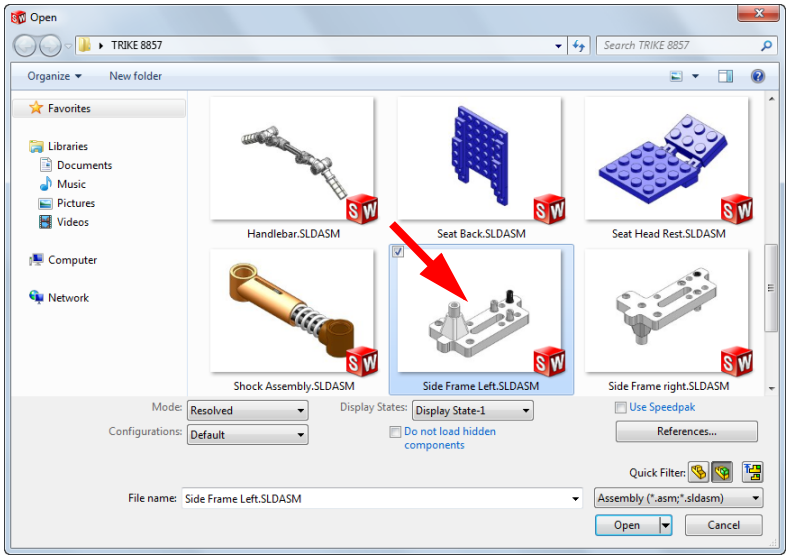


216 We're looking for:

1x 

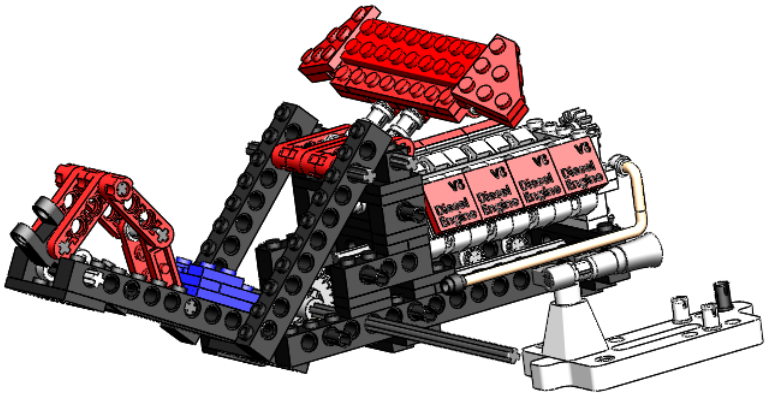
Be sure you are looking in:





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

Press the right mouse button some place on the Side Frame Left. Rotate and move the mouse until the Side Frame Left is positioned as illustrated in the next step.

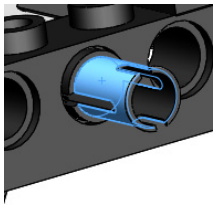


218 We're going to build again!

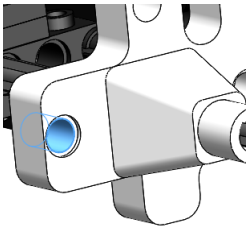
Click **Mate** 

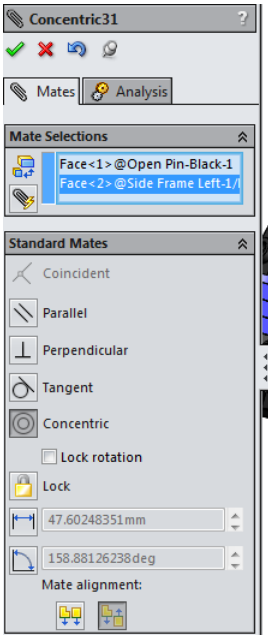
.

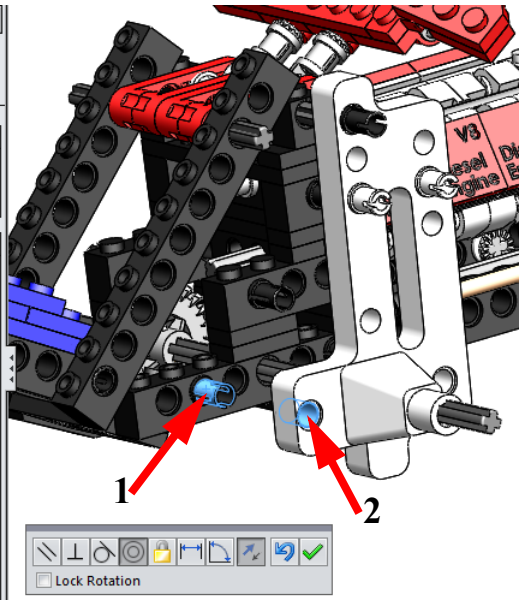
Click on the outside of the pin.



Click on the inside hole.



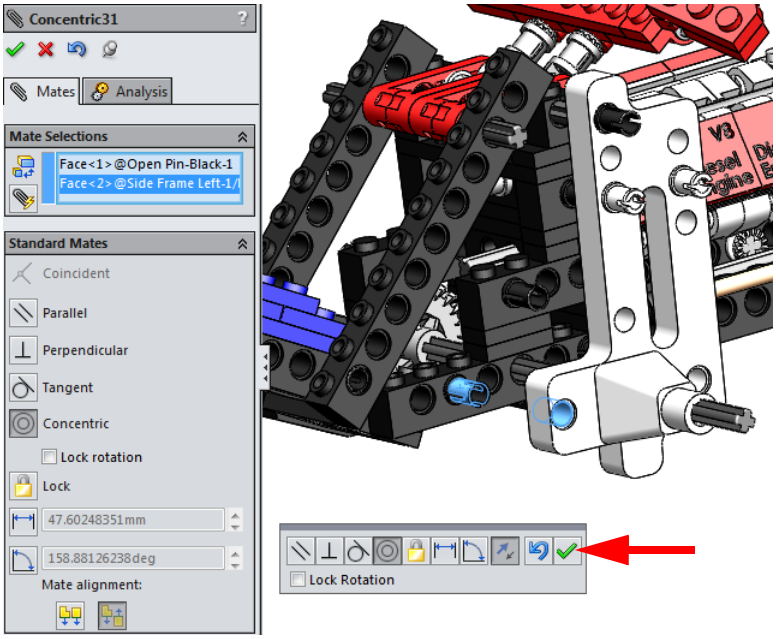




219 You'll now see that both selections are aligned.

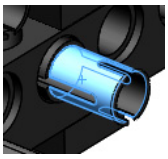
A concentric mate is created.

Click **OK** ✔.

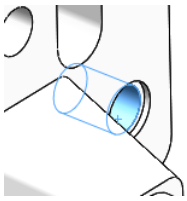


220 Press the mouse's scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

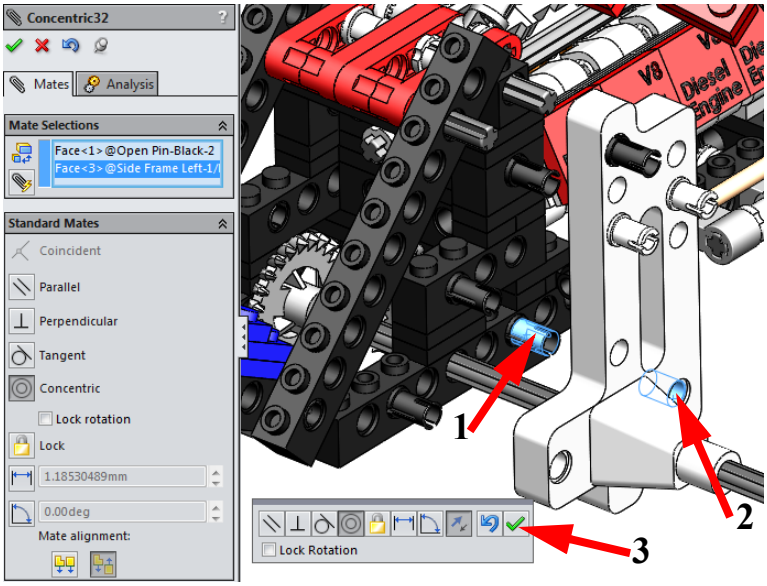
Click on the outside of the pin.



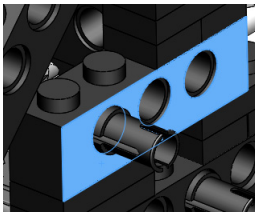
Click on the inside hole.



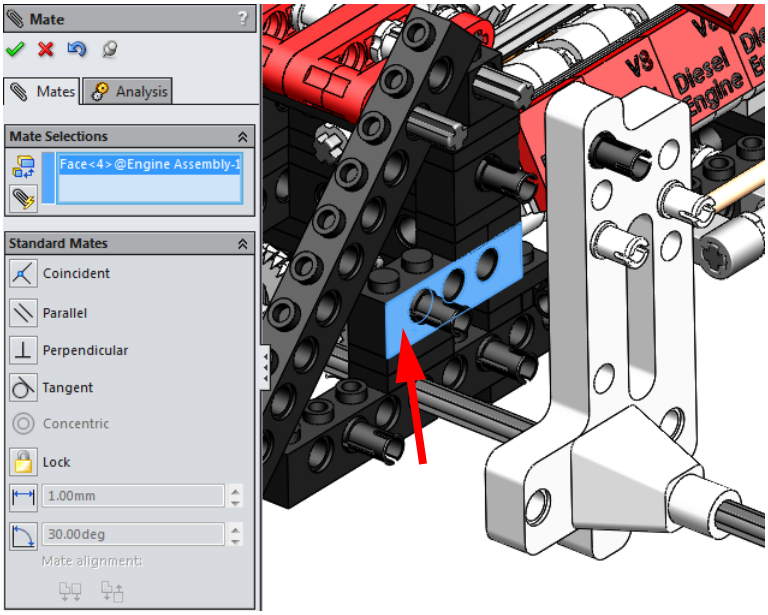
Click **OK** ✔.



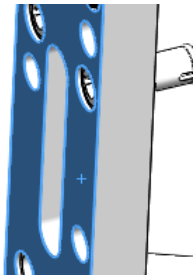
221 Click on the outside brick.

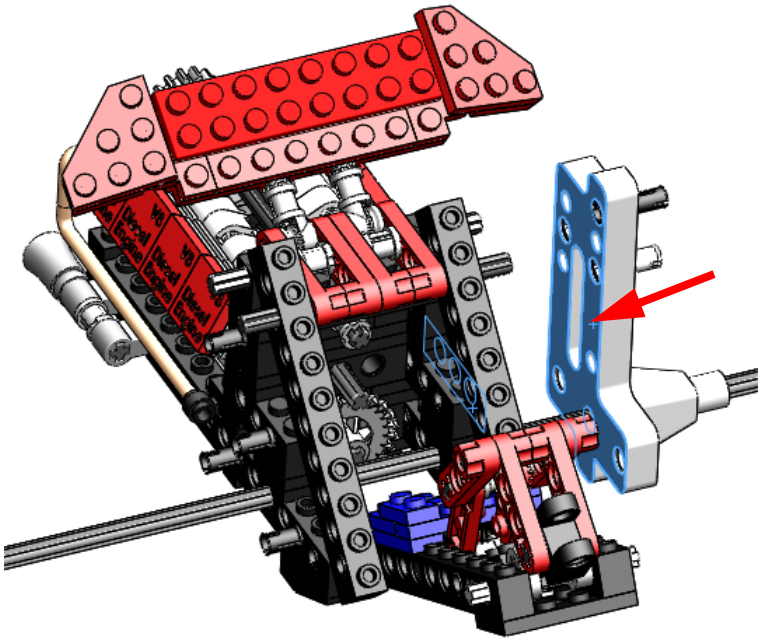


Press the mouse's scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.



222 Click on the back of the Side Frame Left.



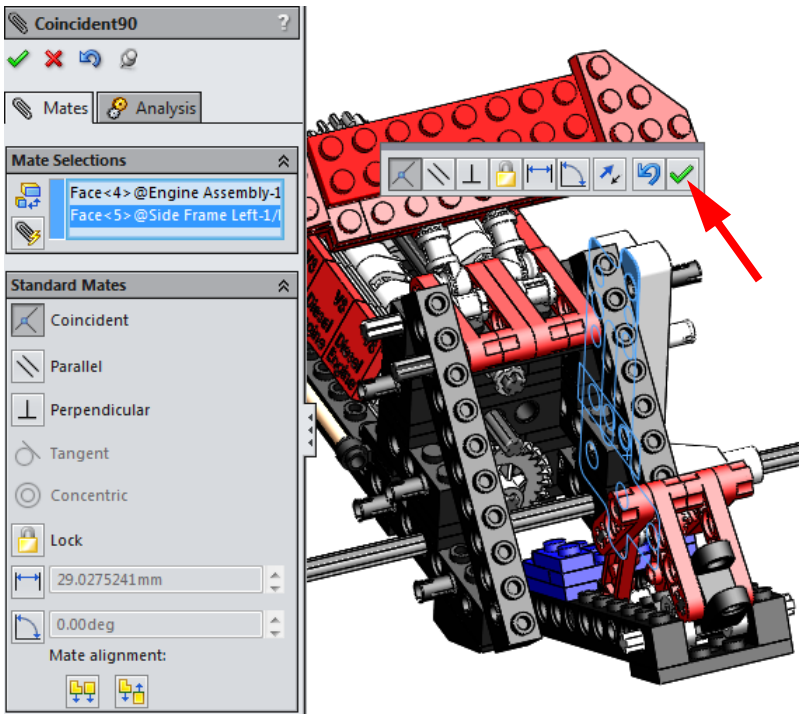


223 Zoom out!

If you did well, it will be as illustrated.

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

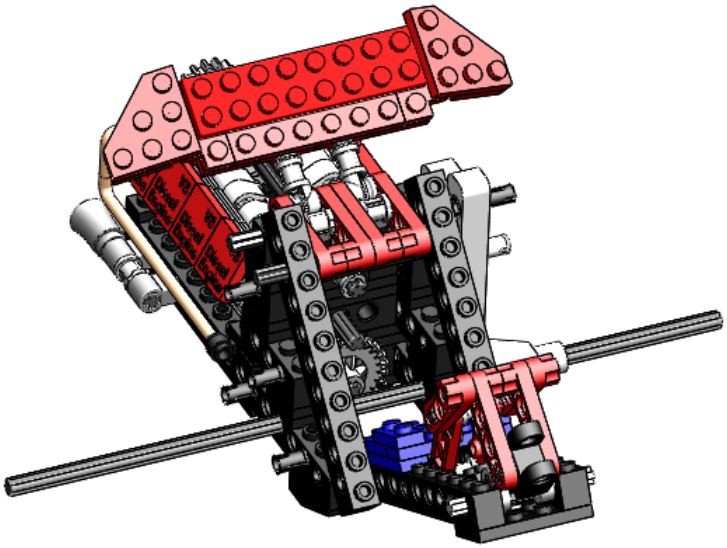
Click **OK** ✔.



224 Click **OK** ✔ to close the **Mate** function.

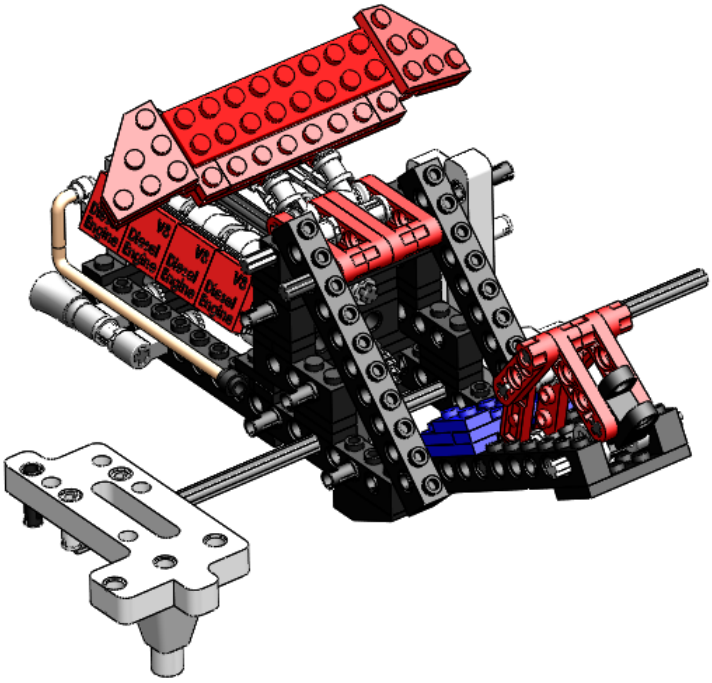
Let's save our data once again for safety!

Click **Save** 💾.



225 Do the same by yourself with the Side Frame Right assembly. Refer to the example and use your knowledge from 217 through 223.

Good Luck!

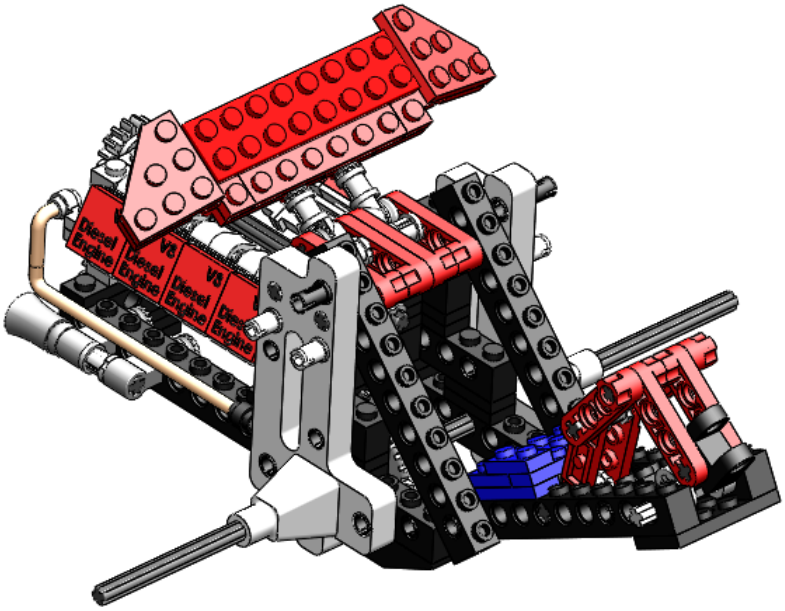


226 Zoom out!

If you did well, it will be as illustrated.

Let's save our data once again for safety.

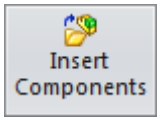
Click **Save** .



227 Let's move on!

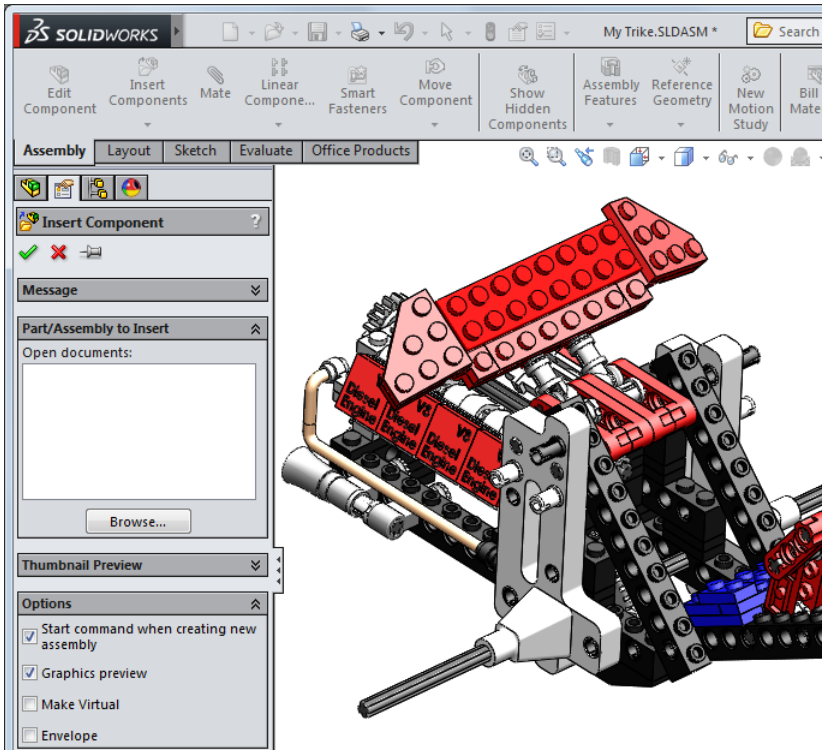
We'll now return to the warehouse for new parts.

Click:



Click:

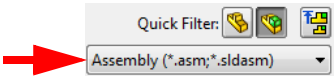


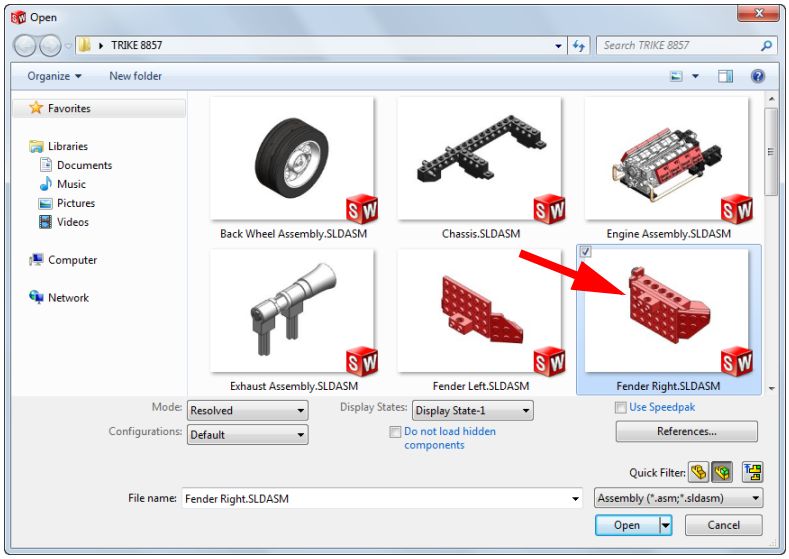


228 We're looking for:

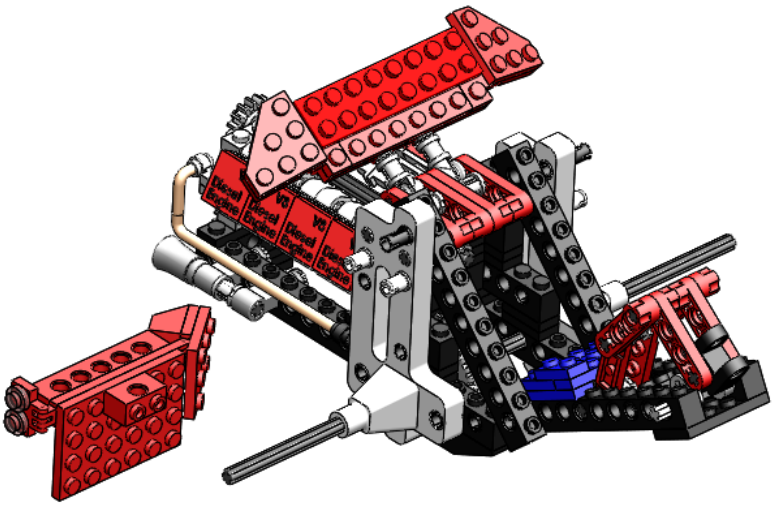
1x 

Be sure you are looking in:

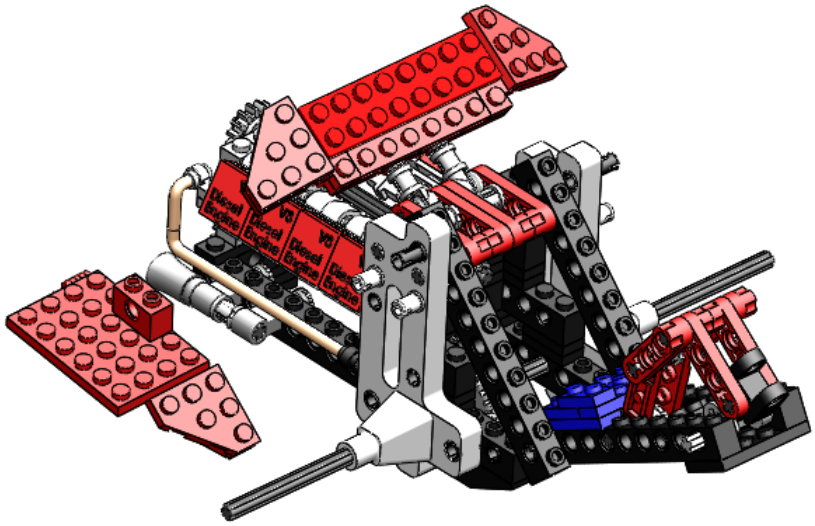




229 Position the Fender Right as illustrated.



230 Press the right mouse button down some place on the Fender Right. Rotate and move the mouse until the fender is positioned as illustrated.



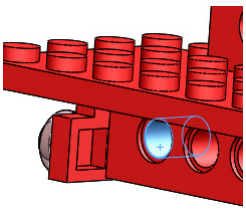
231 We're going to build again!

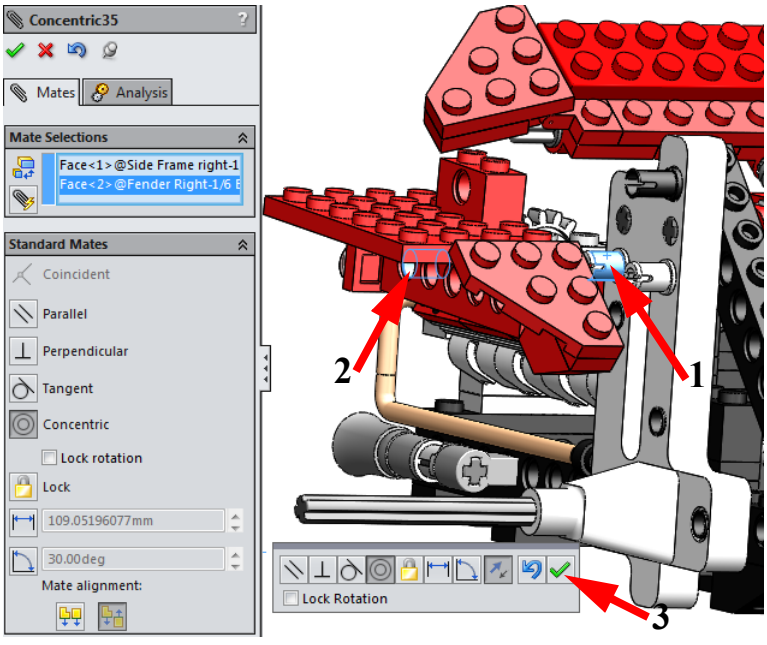
Click **Mate**  .

Click on the outside of the pin.



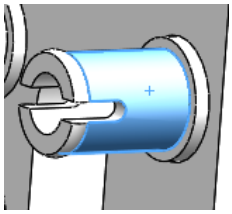
Click on the inside hole.



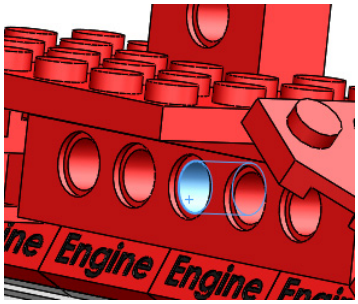


Click **OK**  .

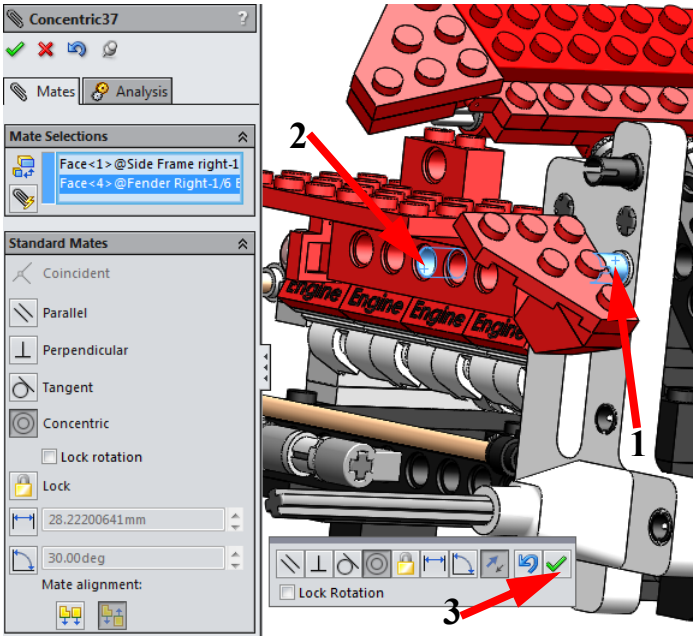
232 Click on the outside of the pin.



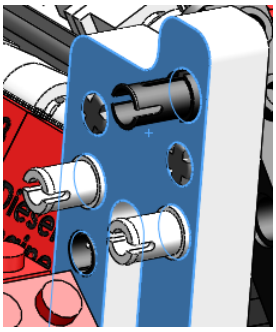
Click on the inside hole.



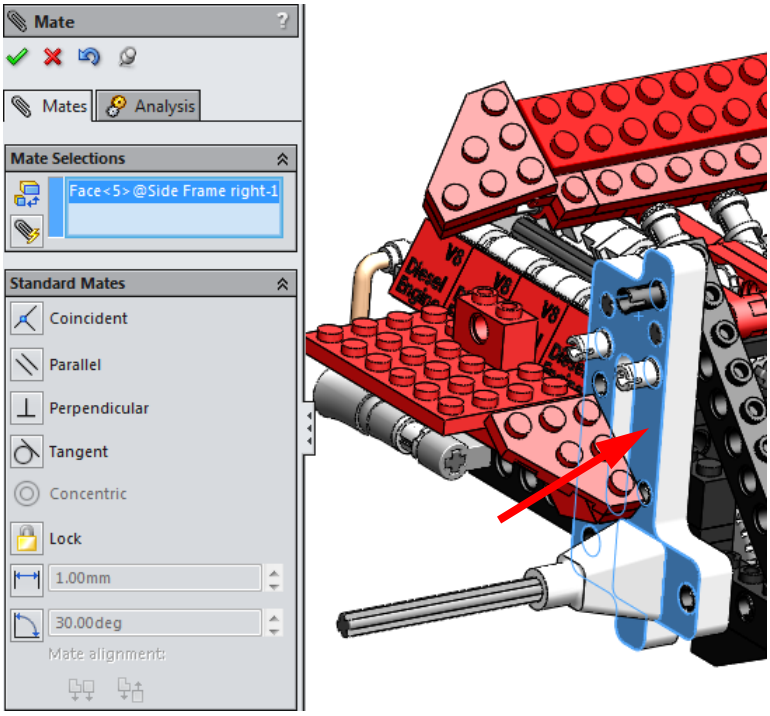
Click **OK** ✔.



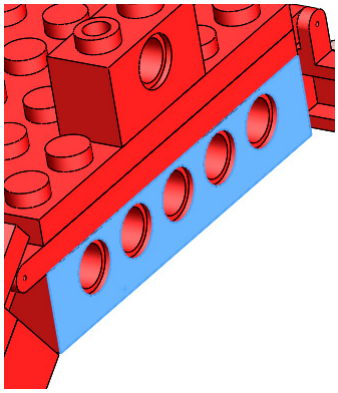
233 Click on the outside of the Side Frame Right.

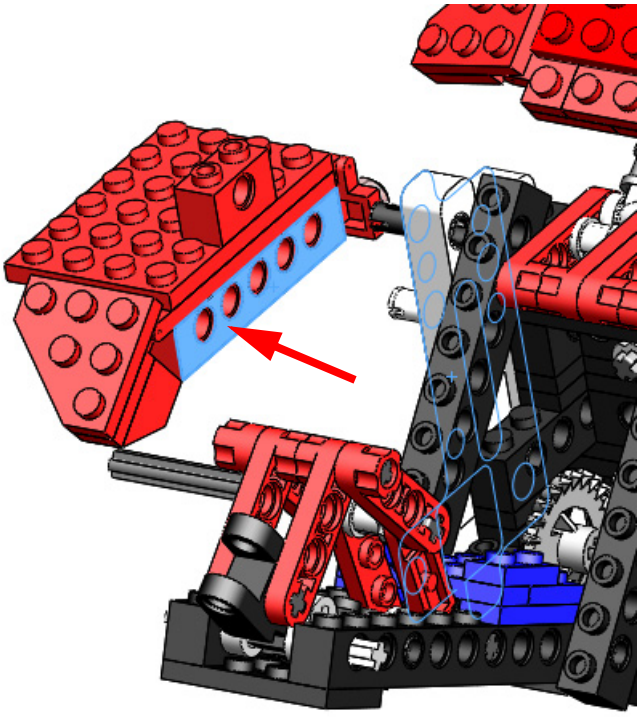


Press the mouse's scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.



234 Click on the outside of the fender.





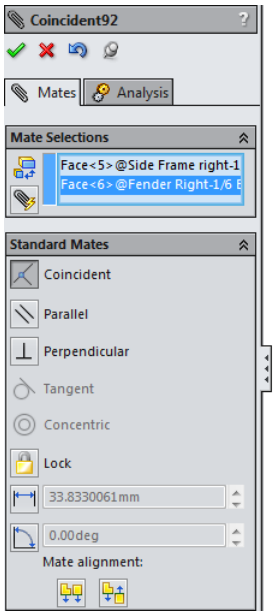
235 Rotate and Zoom out!

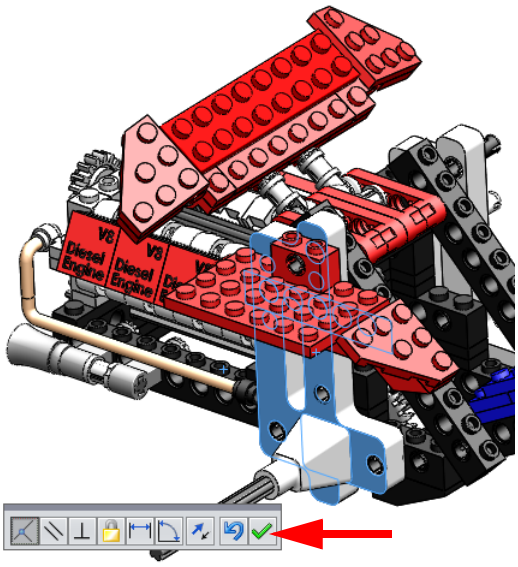
If you did well, it will be as illustrated.

Click **OK** .

Let's save our data once again for safety!

Click **Save** .

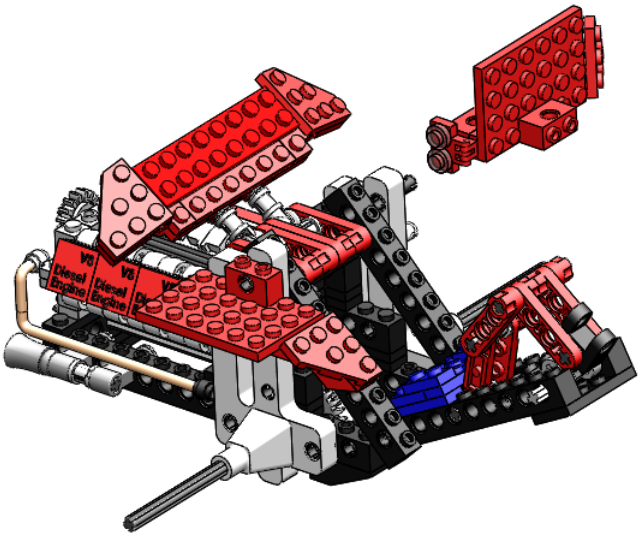




236 Do the same by yourself with the next Fender Left assembly!

Refer to the example and use your knowledge from steps 228 through 235.

Good Luck!

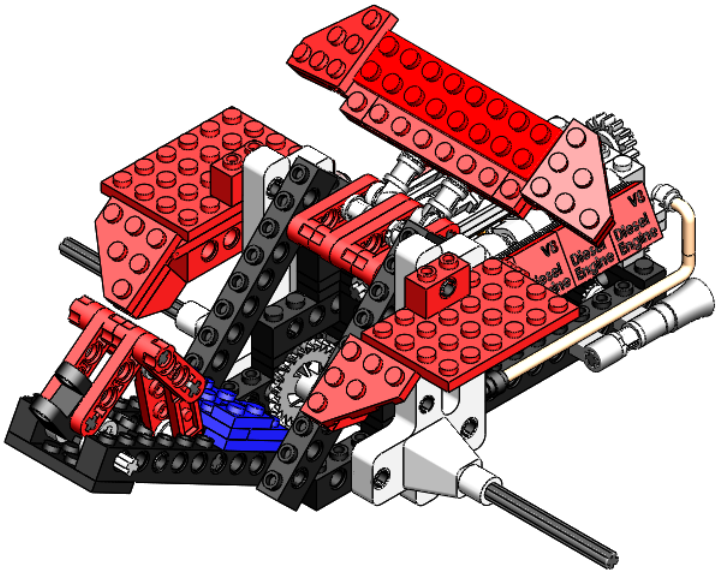


237 Zoom out!

If you did well, it will be as illustrated.

Let's save our data once again for safety.

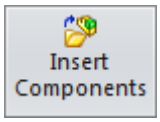
Click **Save** .



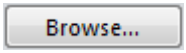
238 Let's move on!

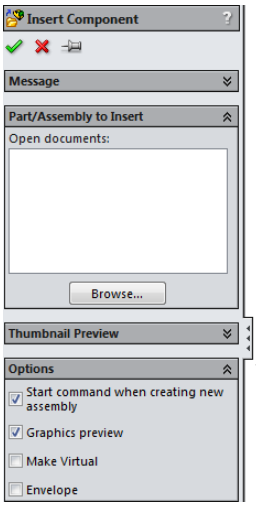
We'll now return to the warehouse for new parts.

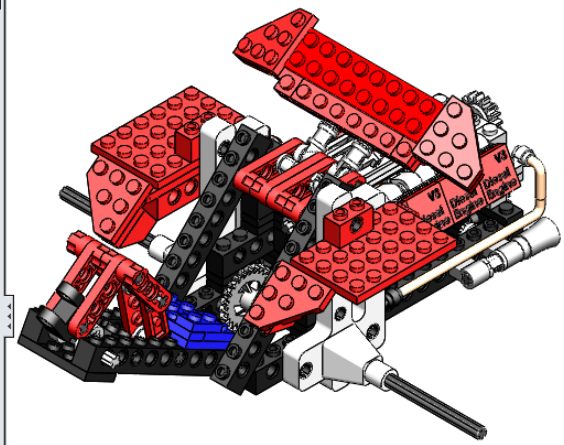
Click:



Click:

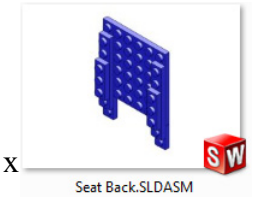






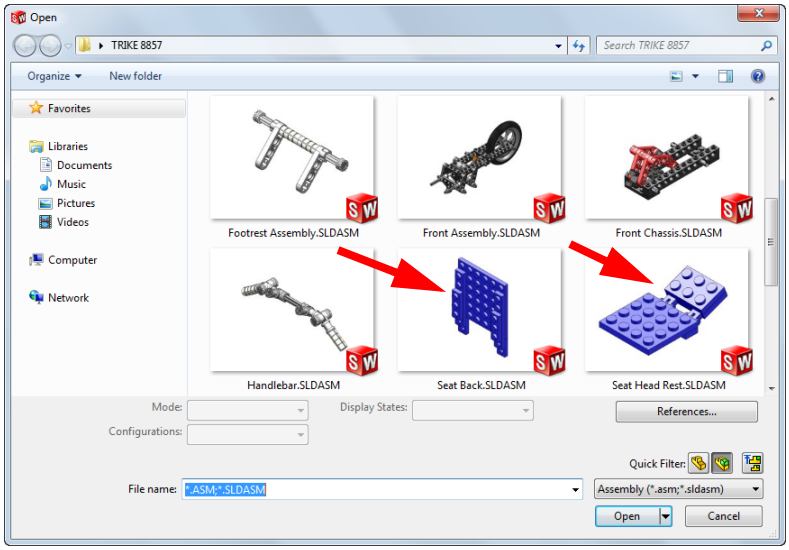
239 We're looking for:

1x



1x



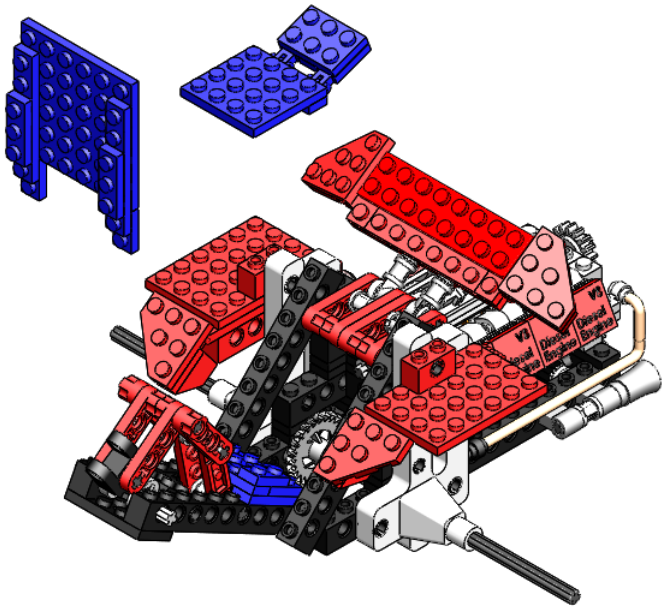


240 Position the two assemblies as illustrated.

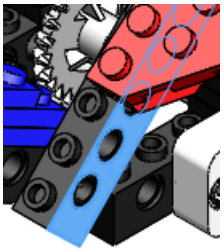
We're going to build again!

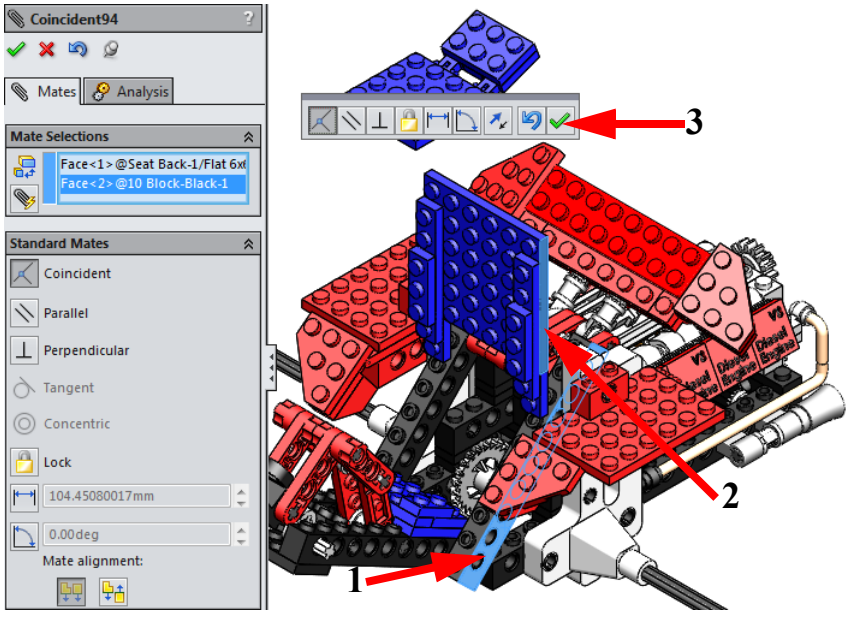
Click **Mate** 

.

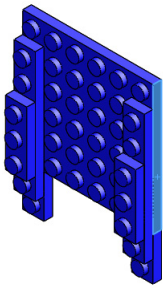


241 Click on:





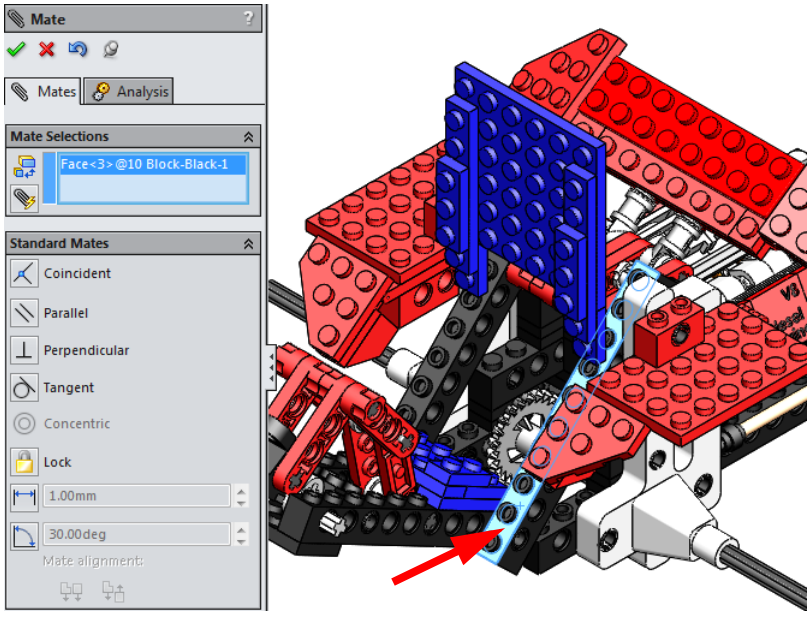
Click on:



Click **OK** ✔.

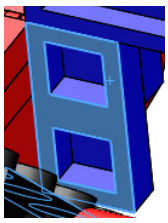
242 Click on the top of the brick.

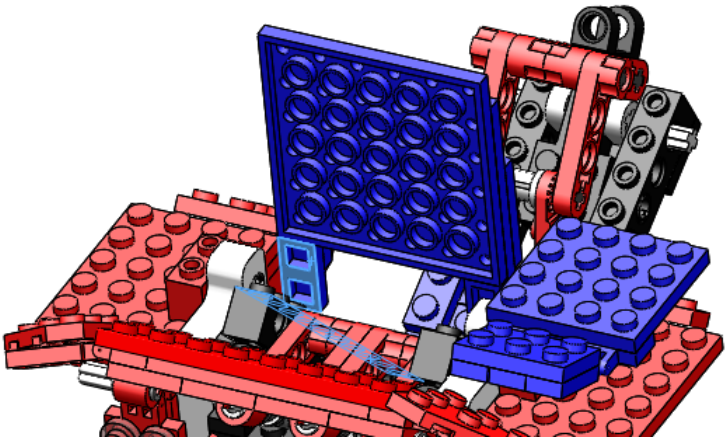




243 Press the mouse's scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

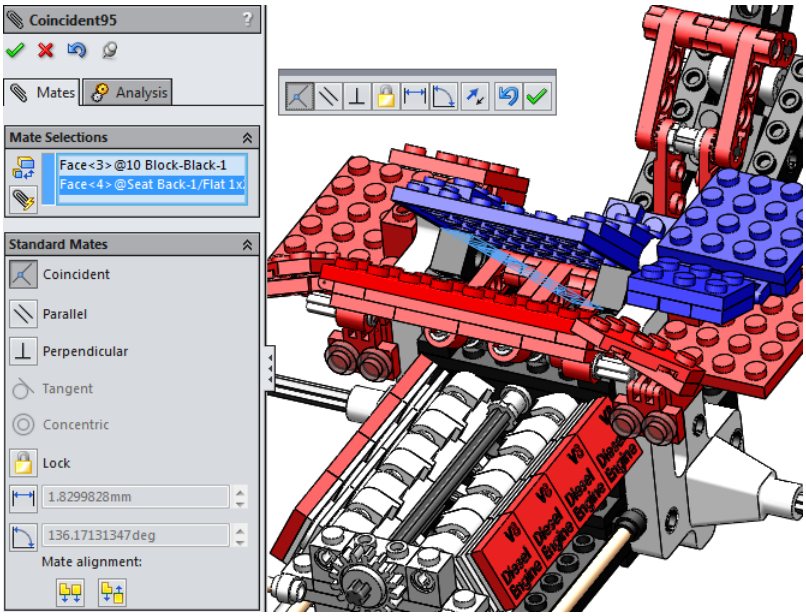
Click on the bottom brick.





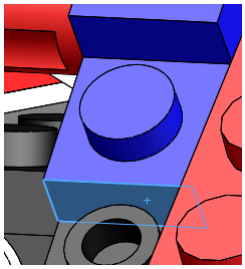
244 You'll now see that both parts are nicely connected together.

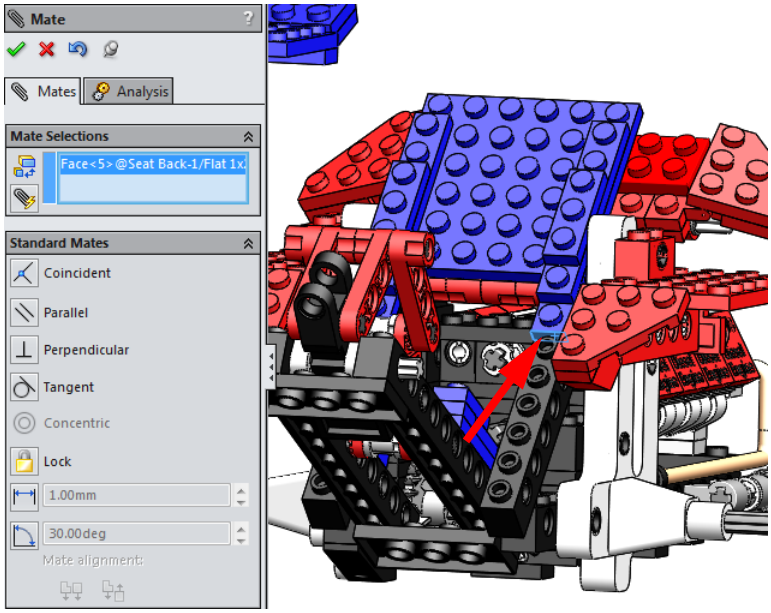
Click **OK** ✔.



245 Press the mouse's scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

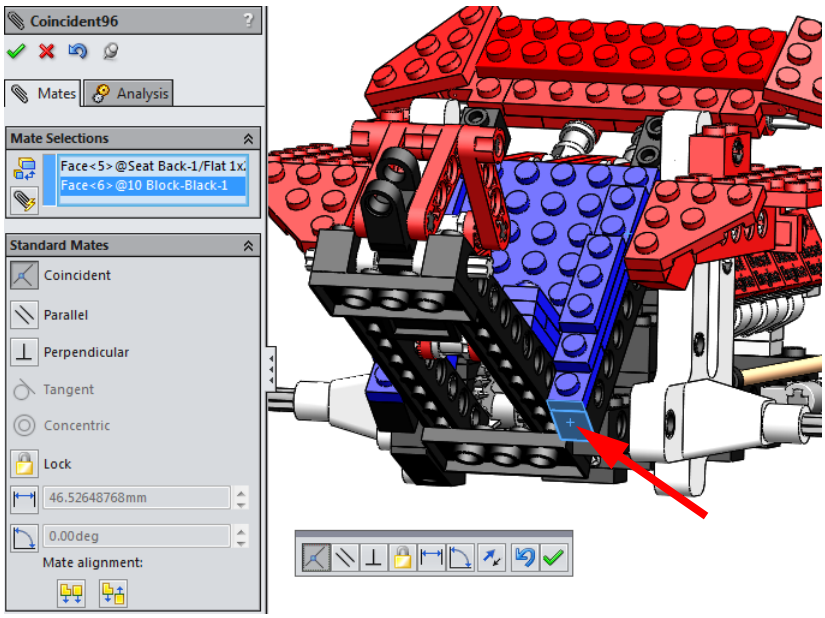
Click on:





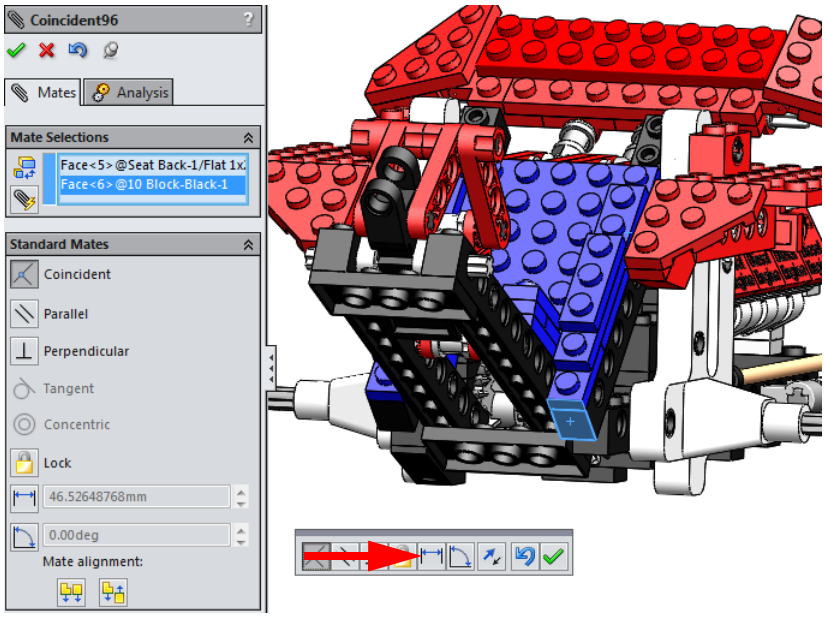
246 Click on:



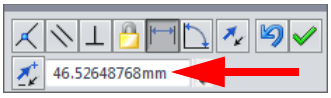


247 You'll now see that both parts are nicely connected together. However, this is wrong.

Click on **Distance**.



248 This is the distance we have from the start!

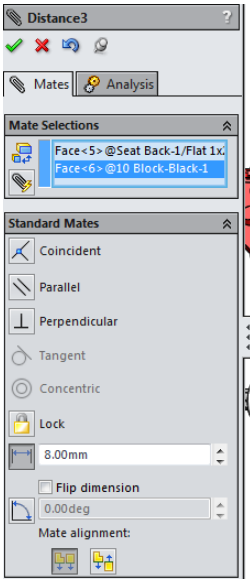


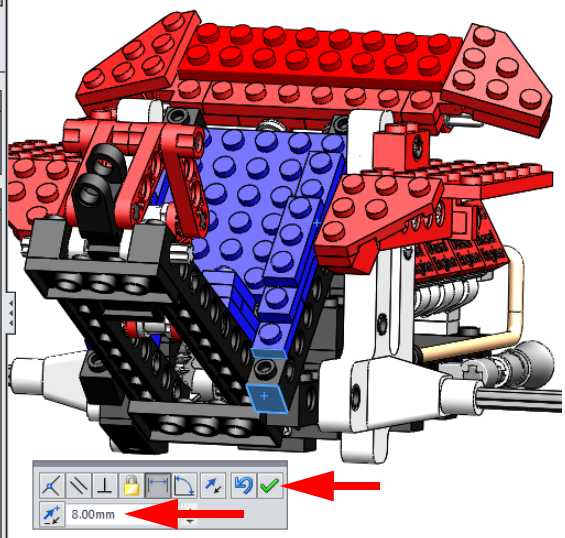
This is the distance we will have!



Fill in the value 8.00 mm.

Click **OK** ✔.



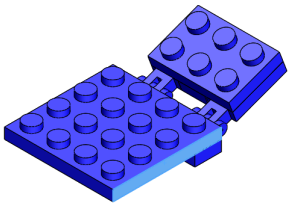


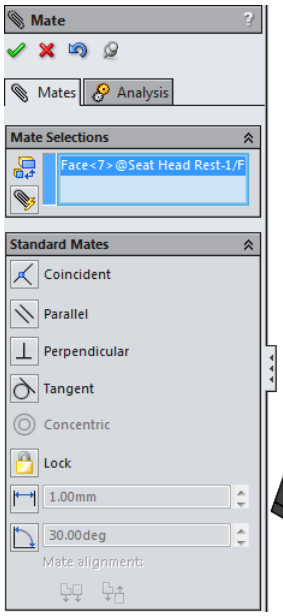
249 Zoom out!

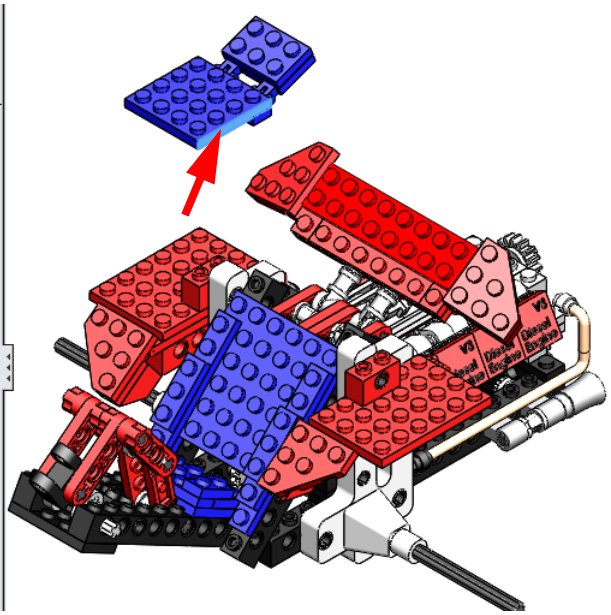
If you did well, it will be as illustrated.

Let's move on!

Click on:

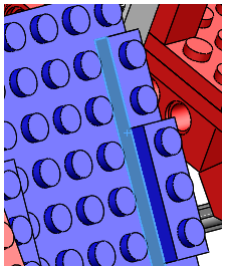




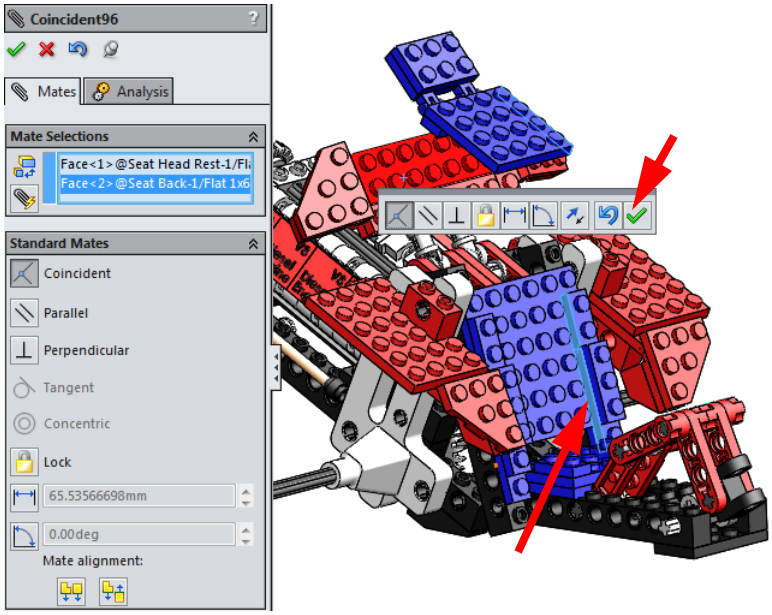


250 Press the mouse's scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

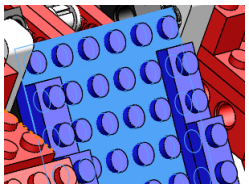
Click on:



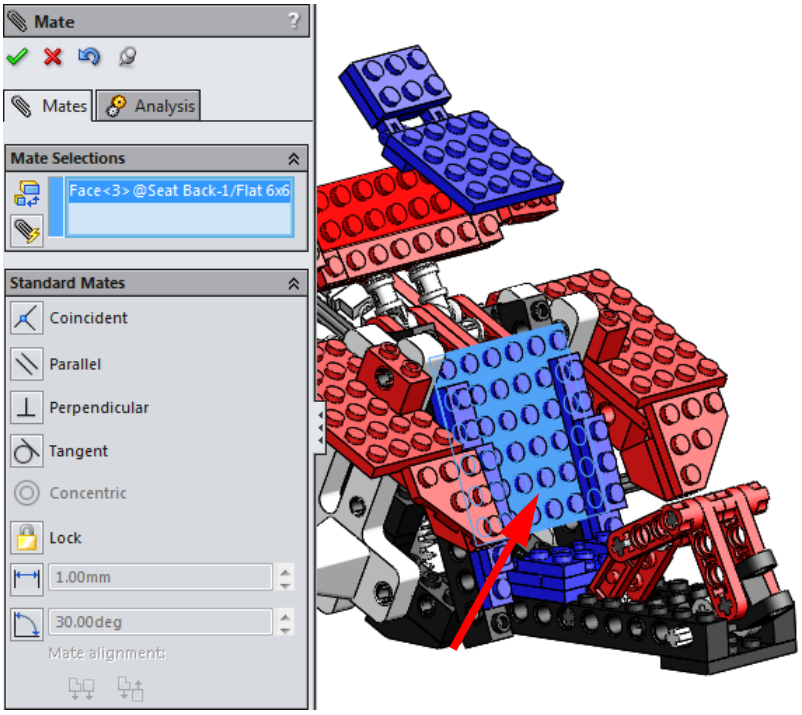
Click **OK** ✓.



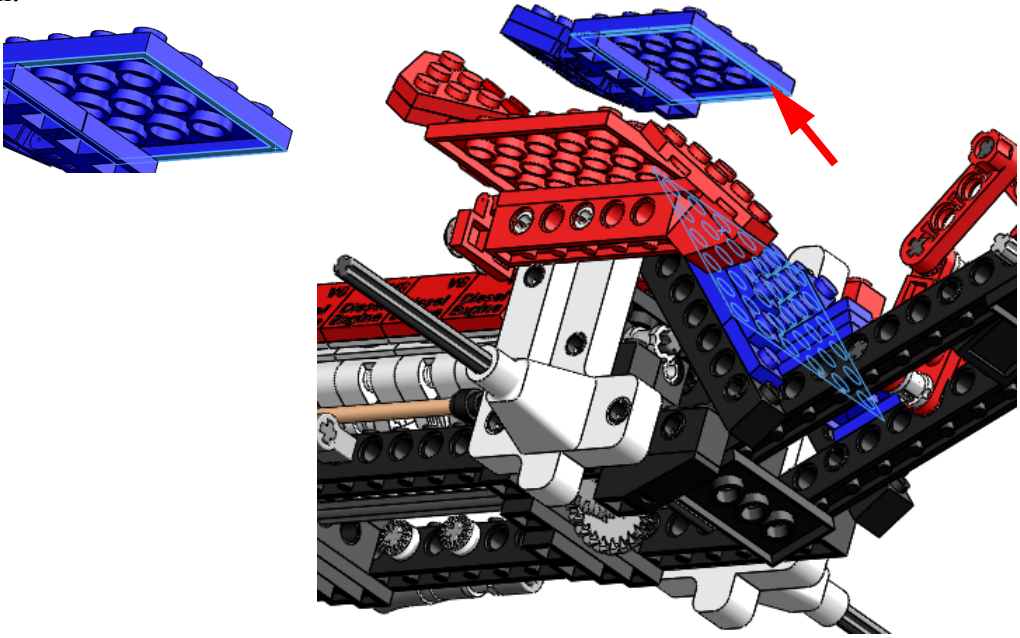
251 Click on the top of the seat.



Press the mouse's scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.



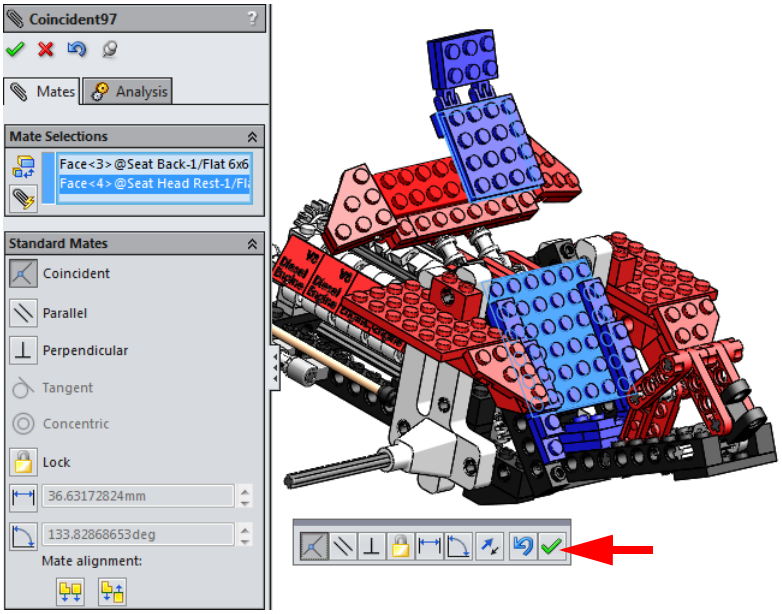
252 Click on:



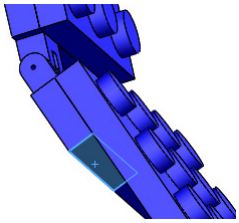
253 You'll now see that both parts nicely lie flush.

Click **OK** ✔.

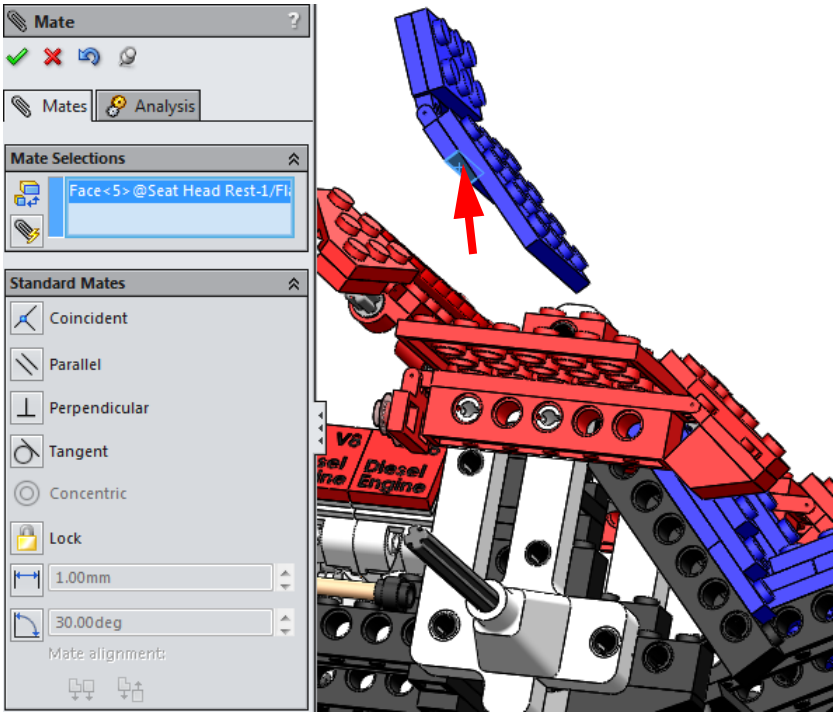
Press the mouse's scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.



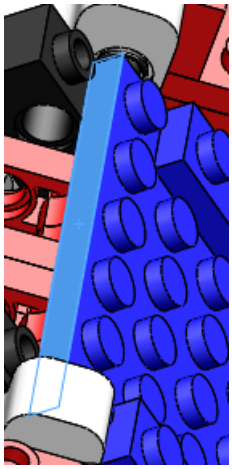
254 Click on:

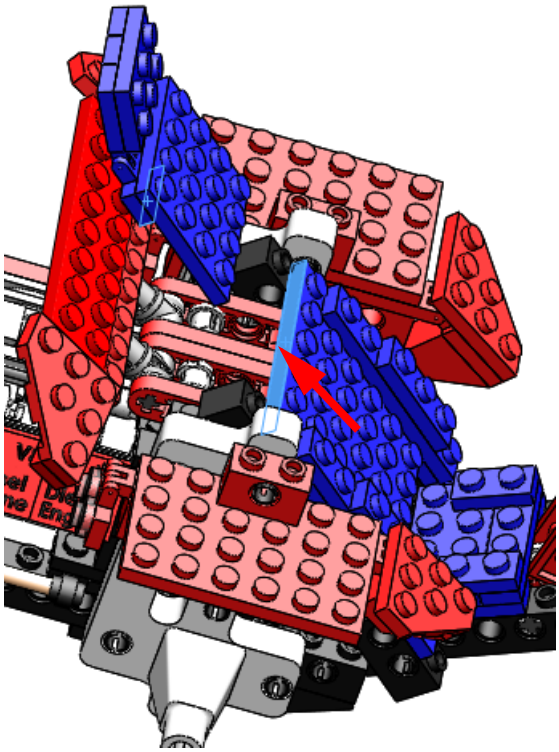


Press the mouse's scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.



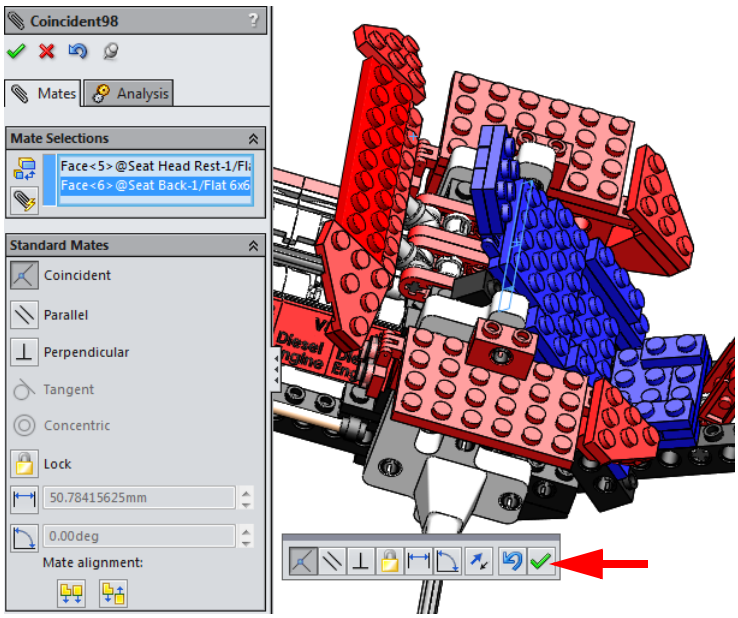
255 Click on:





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

Click **OK** ✔.

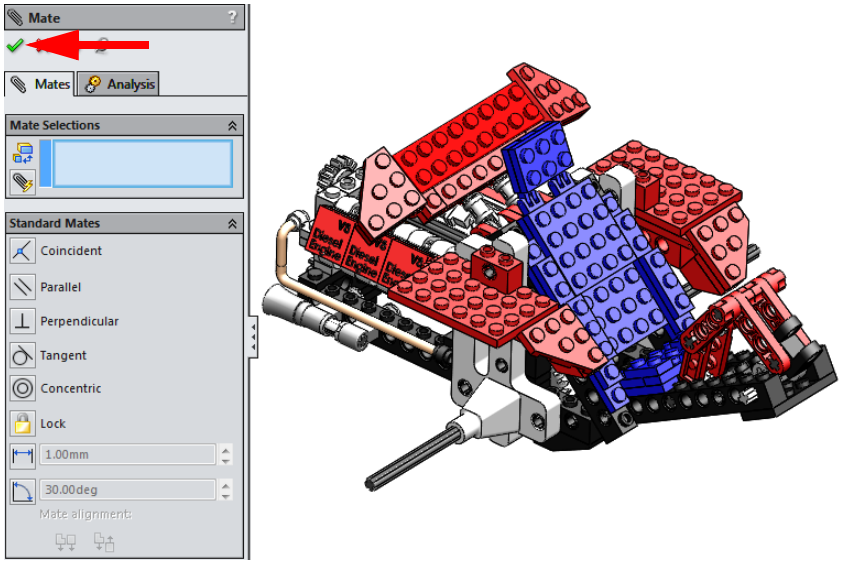


257 Click **OK** ✔ again to close the **Mate** function.

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.

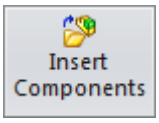
Click **Save** 💾.



258 Let's move on!

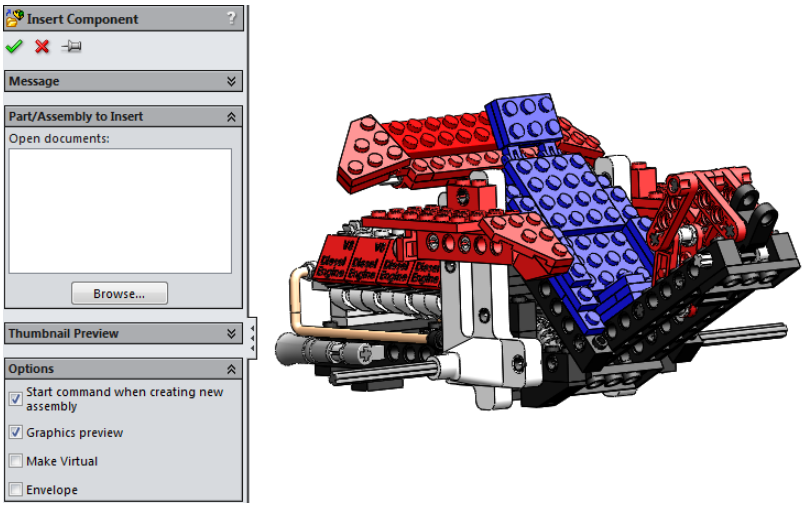
We'll now return to the warehouse for new parts.

Click:



Click:

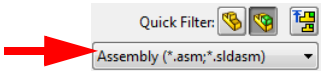


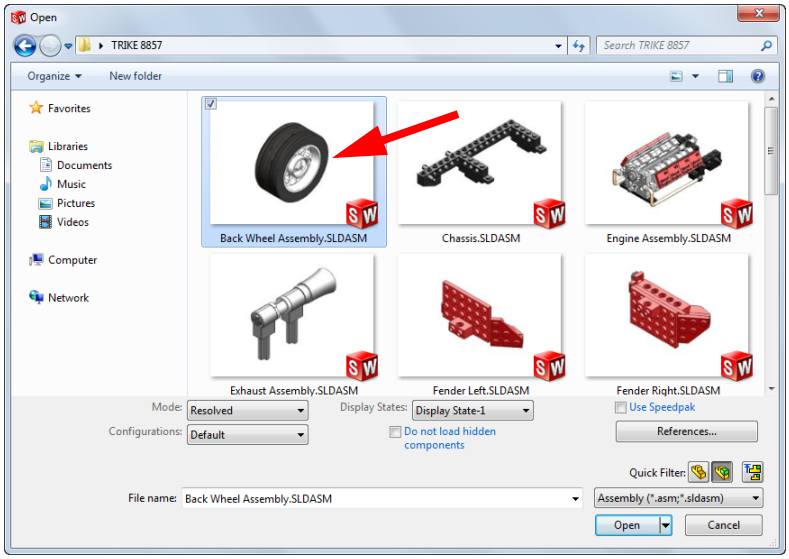


259 We're looking for:

2x 

Be sure you are looking in:



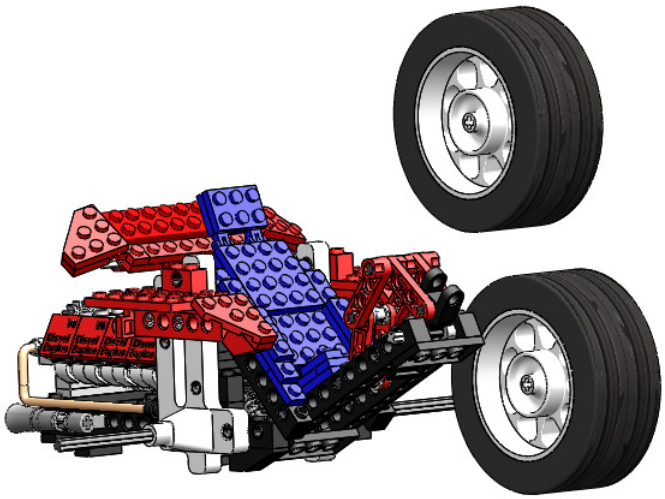


260 Position the rear wheels as illustrated.

We're going to build again!

Click **Mate** 

.



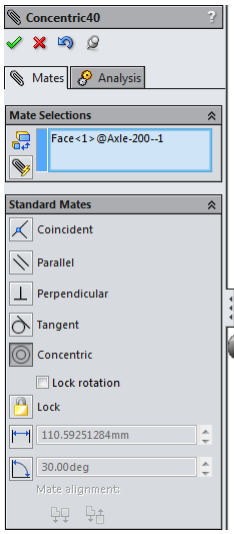
261 Zoom in!

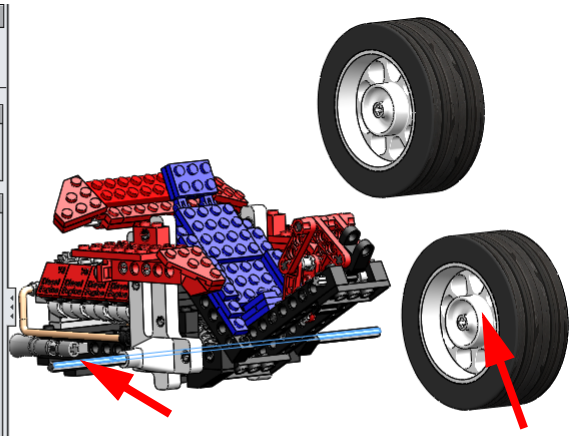
Click on the outside of the axle.



Click on the outside cylinder.



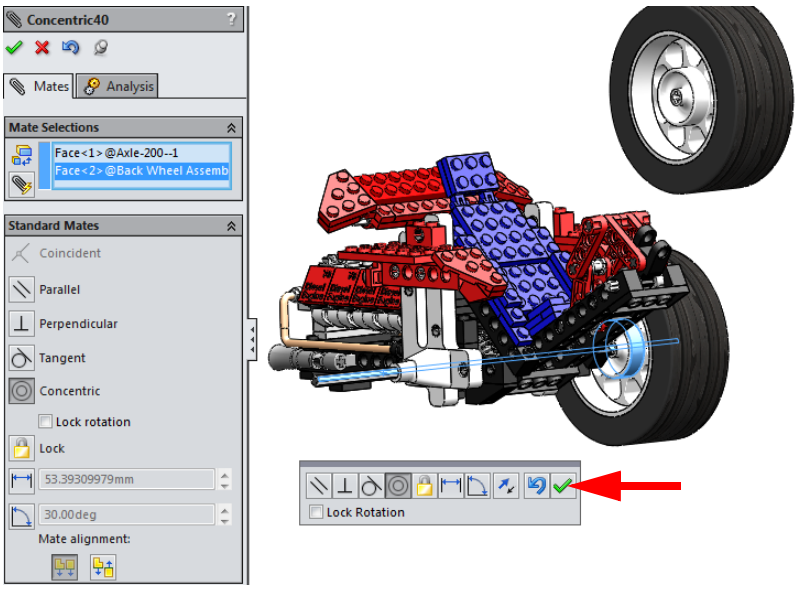




262 You'll now see that both selections are aligned.

A concentric mate is created .

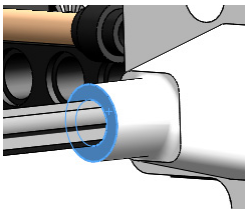
Click **OK** .

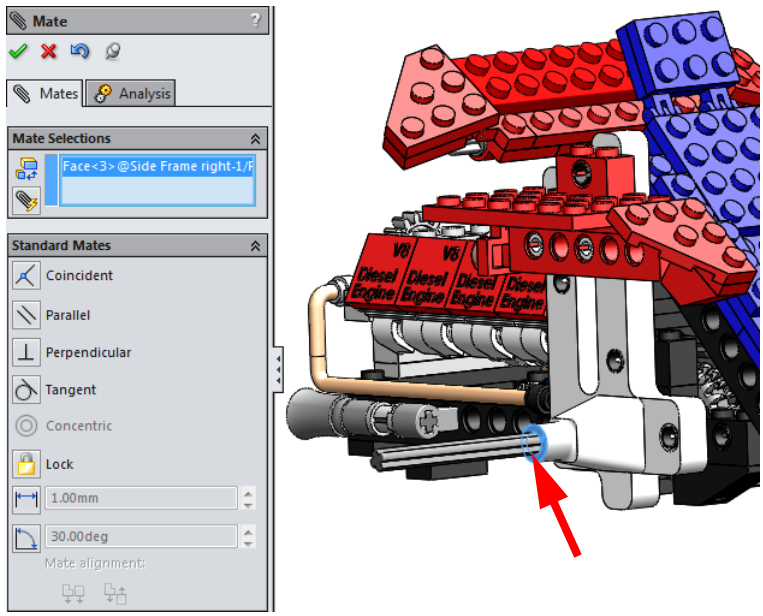


263 Press the mouse's scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

Zoom in!

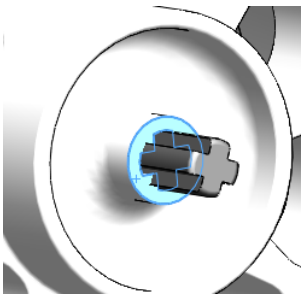
Click on:

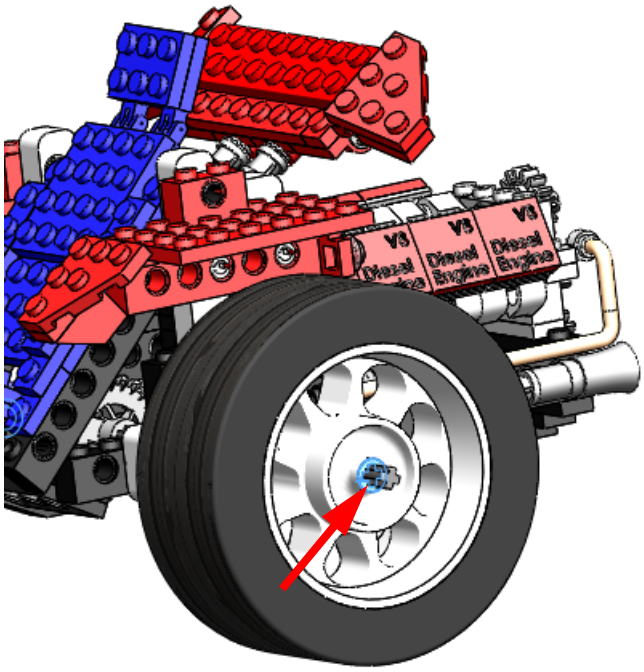




264 Press the mouse's scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

Click on the outside cylinder.



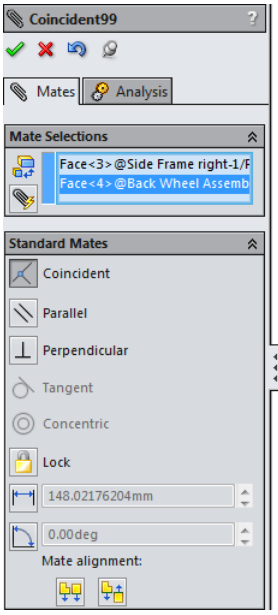


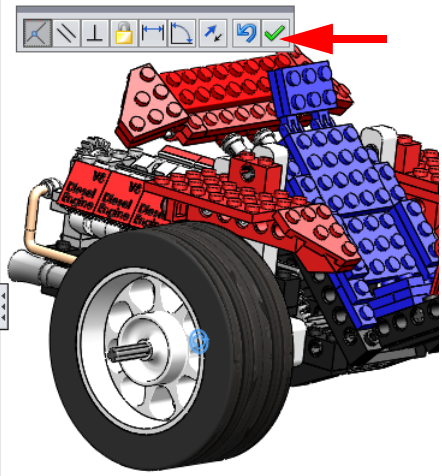
265 Press the mouse's scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

Zoom out!

If you did well, it will be as illustrated.

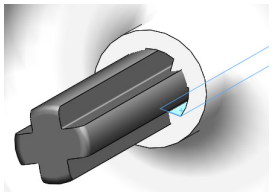
Click **OK** ✔.



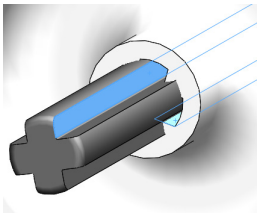


266 Zoom in as illustrated.

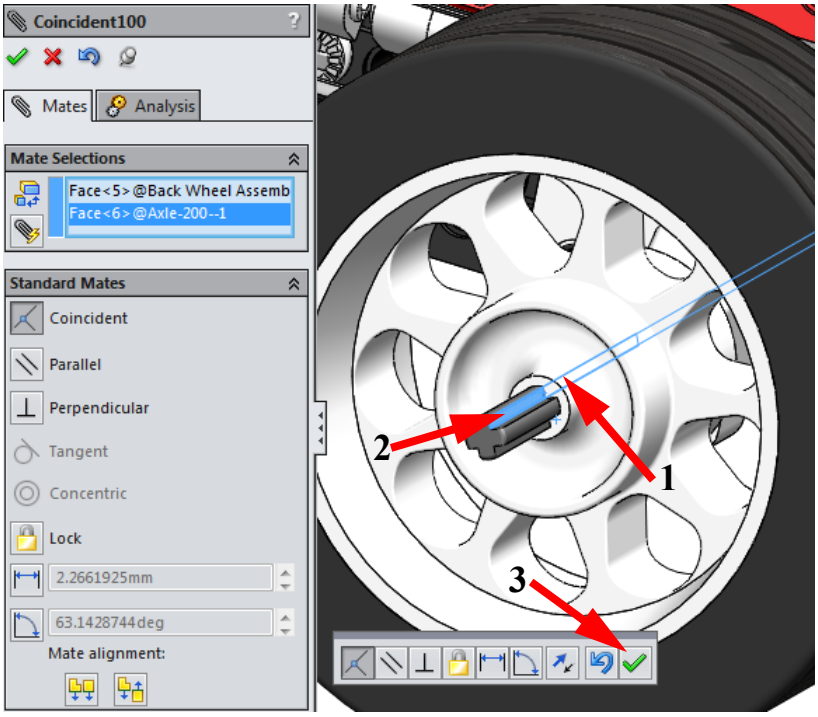
Click on:



Click on:



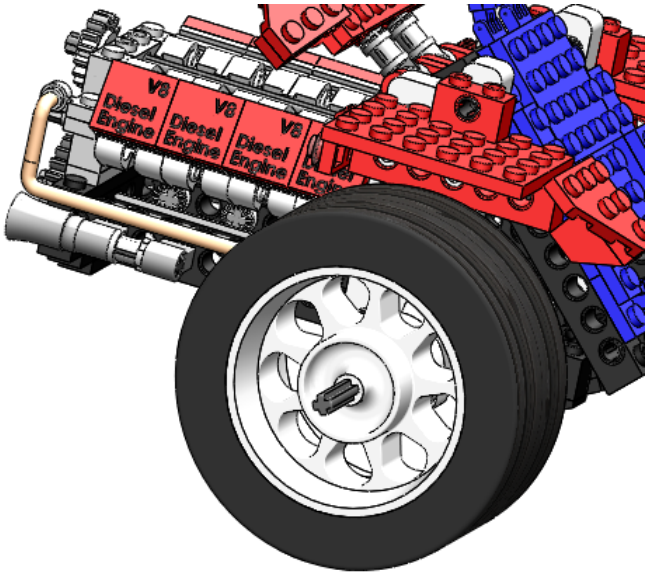
Click **OK** ✔.



267 Zoom out!.

If you did well, it will be as illustrated.

The rear wheel is now connected on the axle.

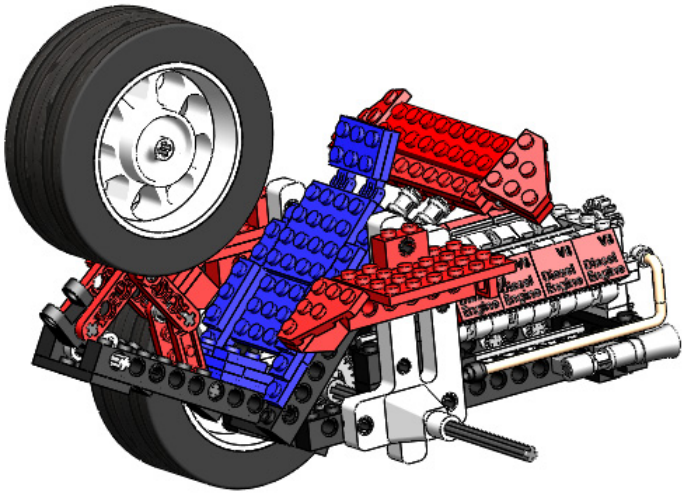


268 Press the mouse's scroll wheel down! Rotate and move the mouse until the assembly is positioned as illustrated.

Do the same by yourself with the next Back Wheel Assembly.

Refer to the example and use your knowledge from steps 261 through 266.

Good Luck!



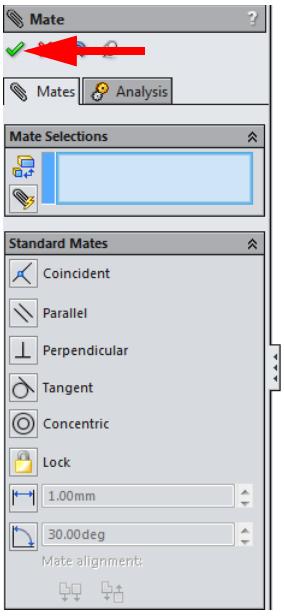
269 Zoom out!

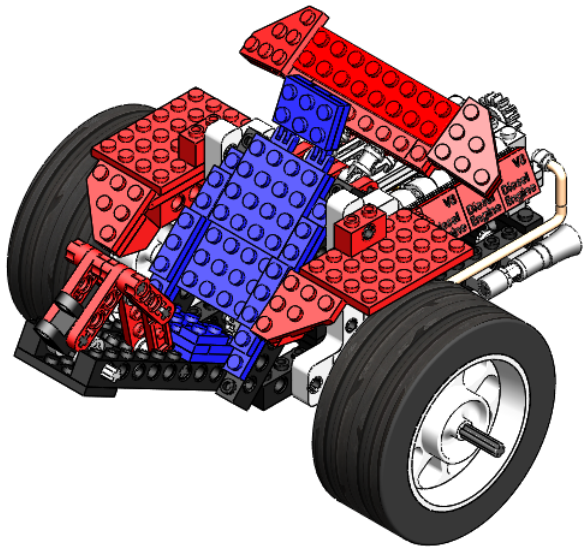
If you did well, it will be as illustrated.

Click **OK** ✔.

Let's save out data once again for safety.

Click **Save** 💾.

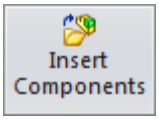




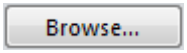
270 Let's move on!

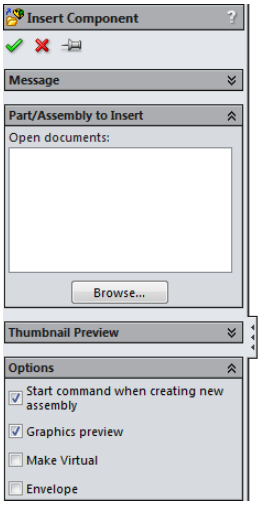
We'll now return to the warehouse for new parts.

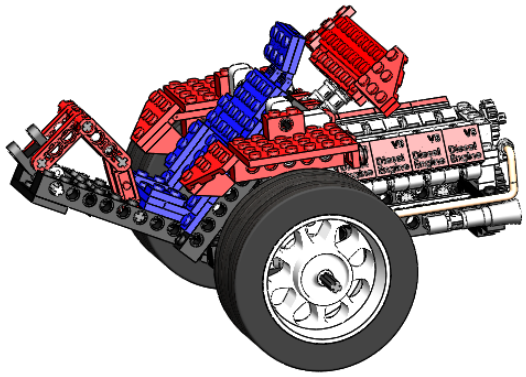
Click:



Click:

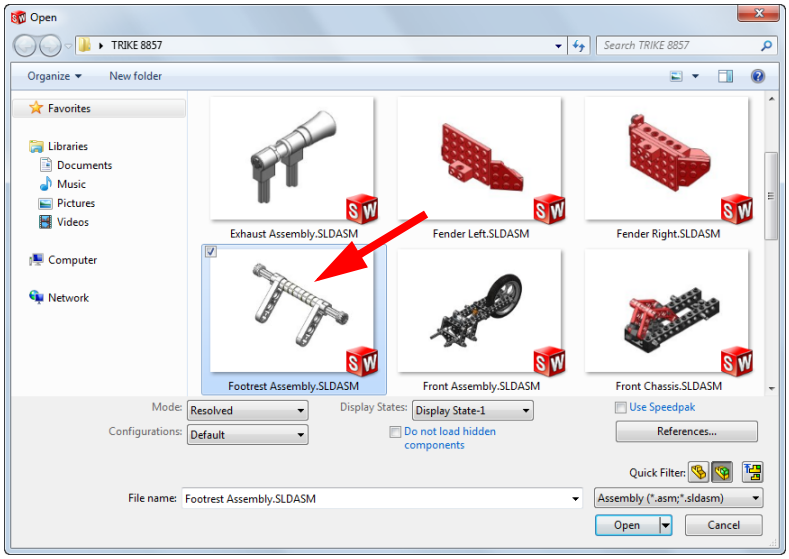






271 We're looking for:

1x 



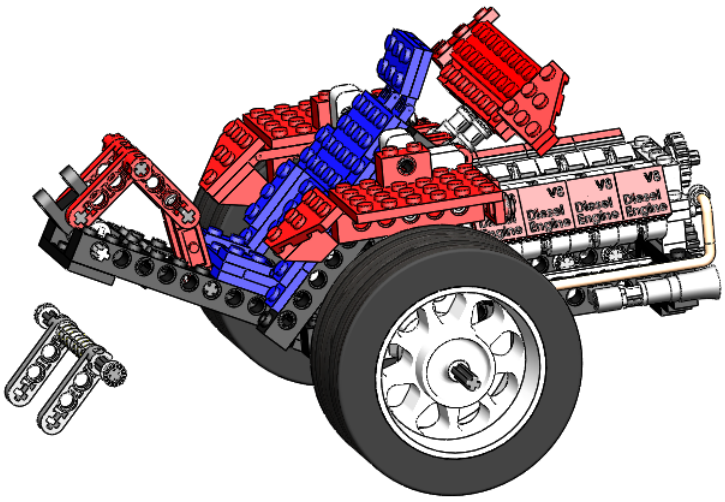
272 Position the Footrest Assembly as illustrated.

We're going to build again!

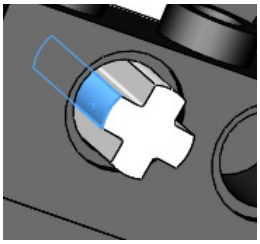
Click **Mate** 

.

Rotate the Footrest Assembly as illustrated in the next step.

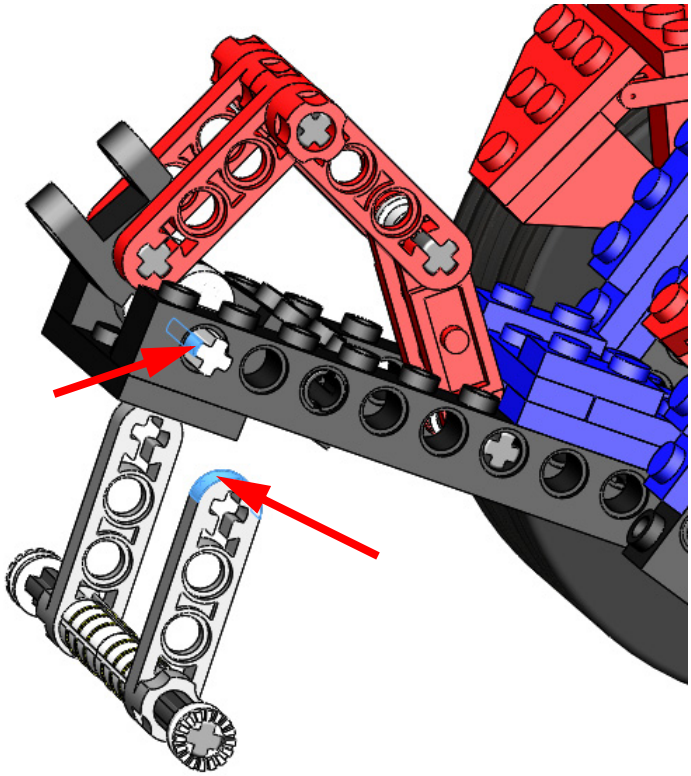


273 Click on the outside of the axle.



Click on the outside of the cylinder.

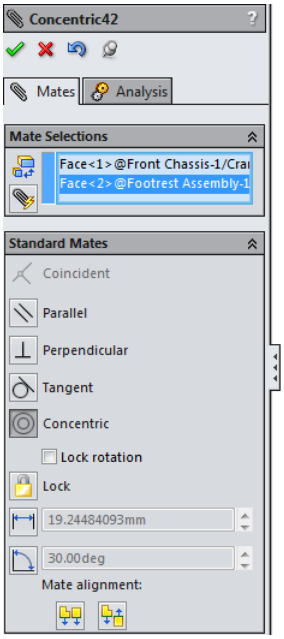


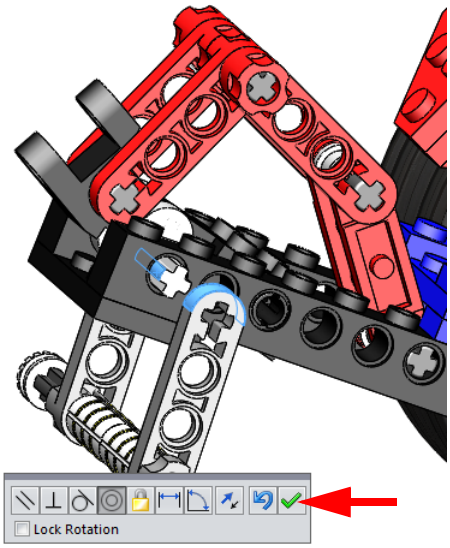


274 You'll now see that both selections are aligned.

A concentric mate is created.

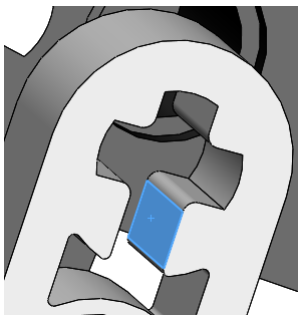
Click **OK** ✔.

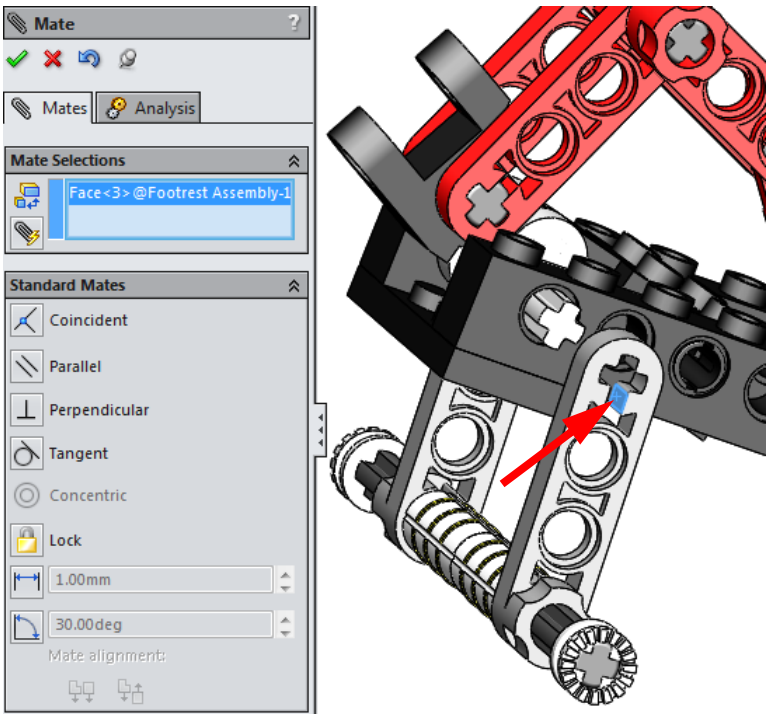




275 Zoom in as illustrated.

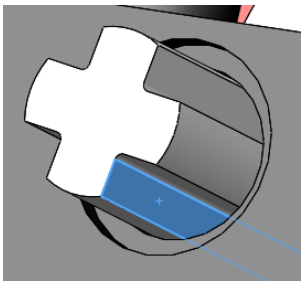
Click on:



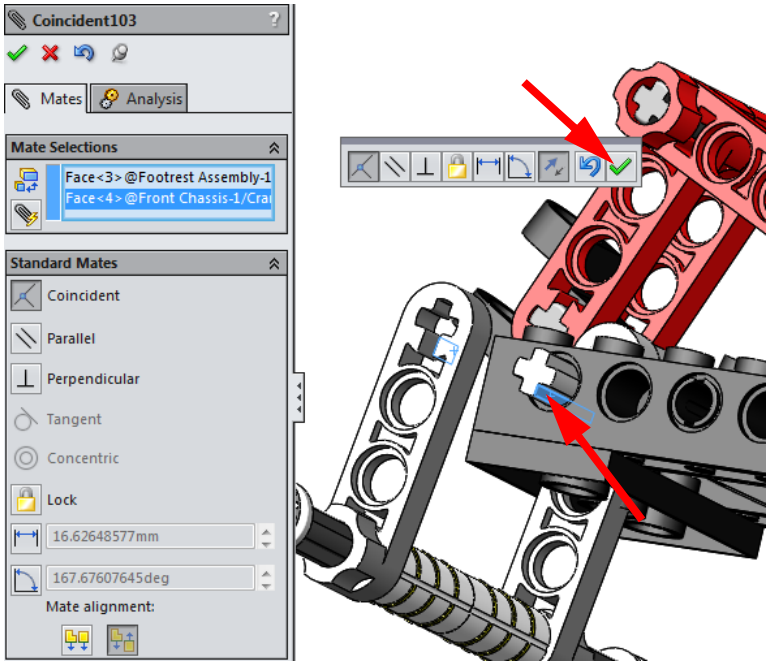


276 Rotate the assembly as illustrated.

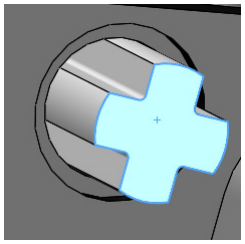
Click on:



Click **OK** ✓.

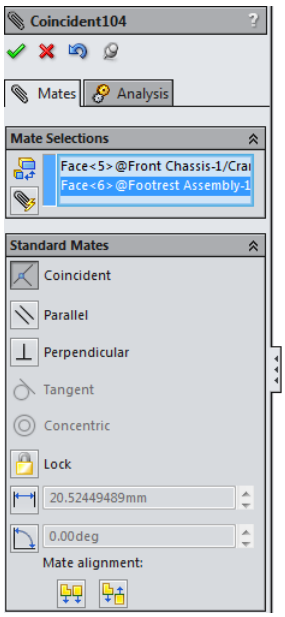


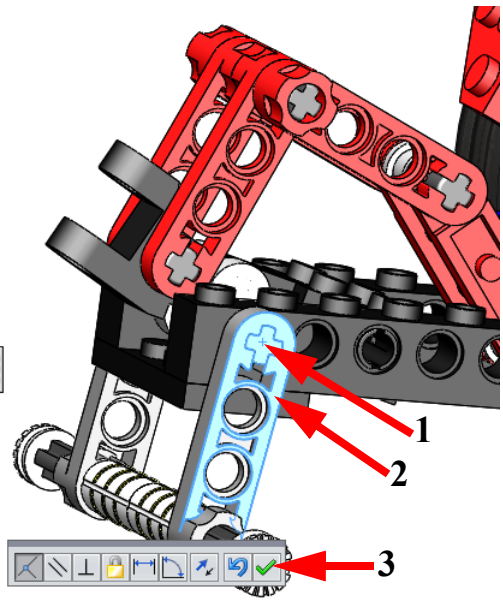
277 Click on the axle face.



Click on:







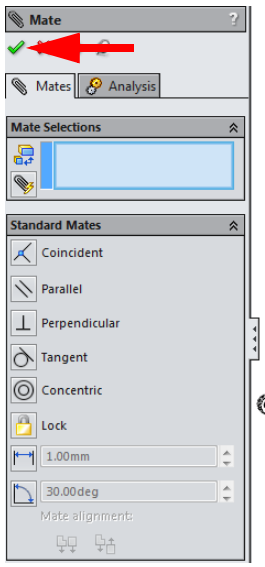
Click **OK** .

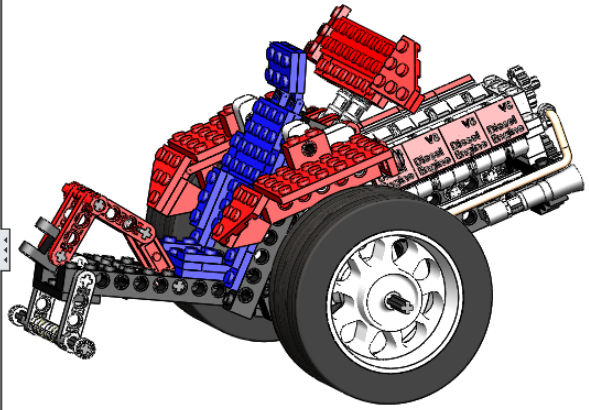
278 If you did well, it will be as illustrated.

Click **OK** .

Let's save our data once again for safety.

Click **Save** .

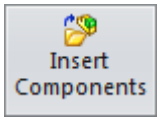




279 Let's move on!

We'll now return to the warehouse for new parts.

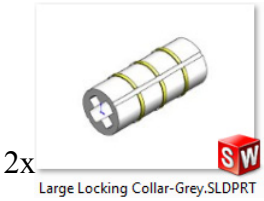
Click:

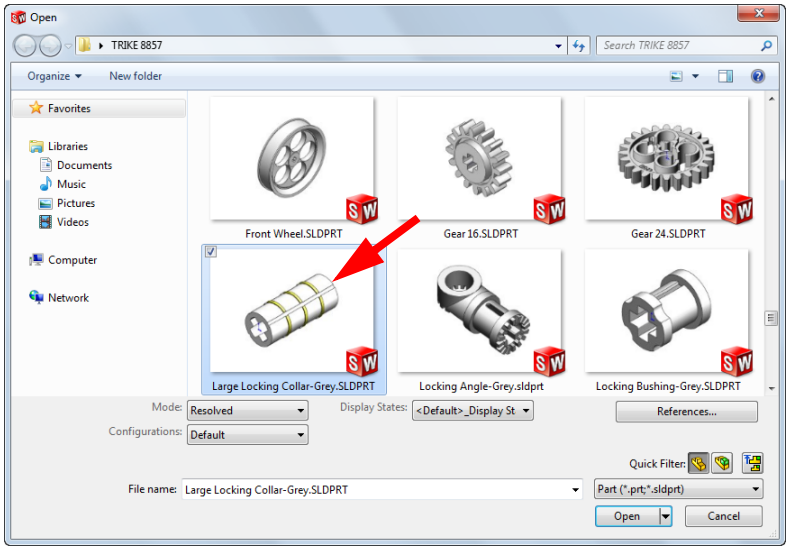


Click:



We're looking for:



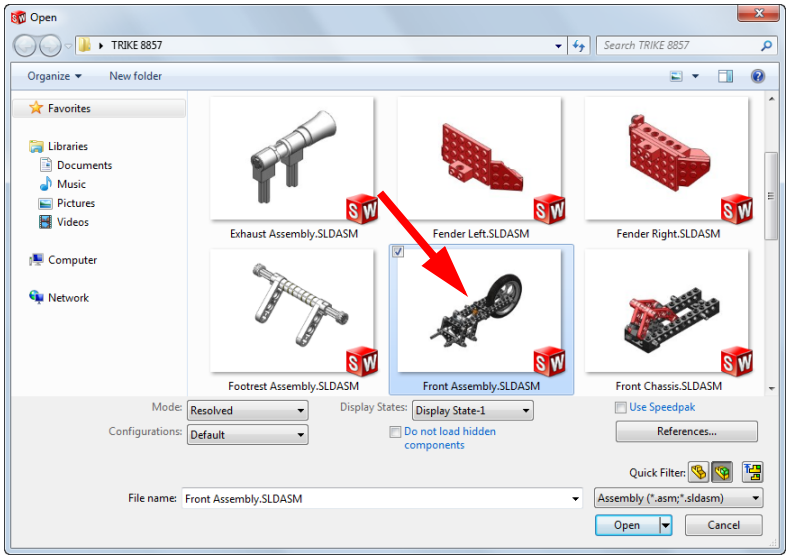


280 Let's get a second part.

We'll now return to the warehouse for new parts.

We're looking for:





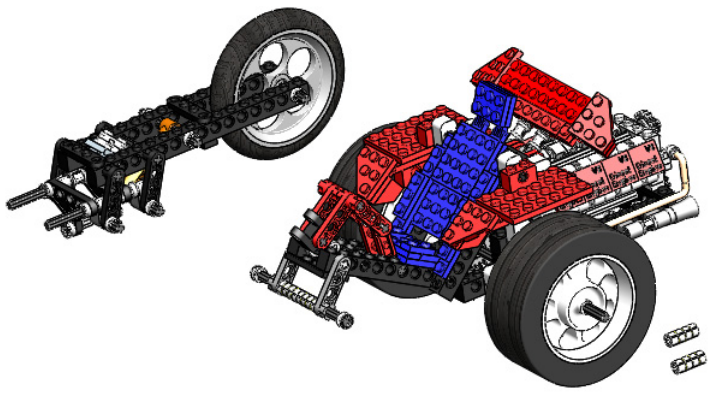
281 Position the two parts and the Front Assembly as illustrated.

We're going to build again!

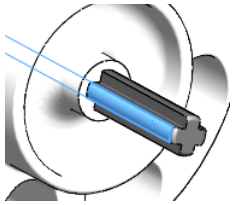
Click **Mate** 

.

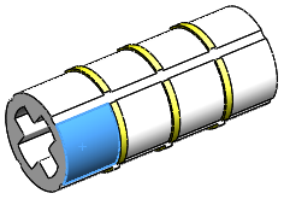
Press the mouse's scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.



282 Click on the outside of the axle.

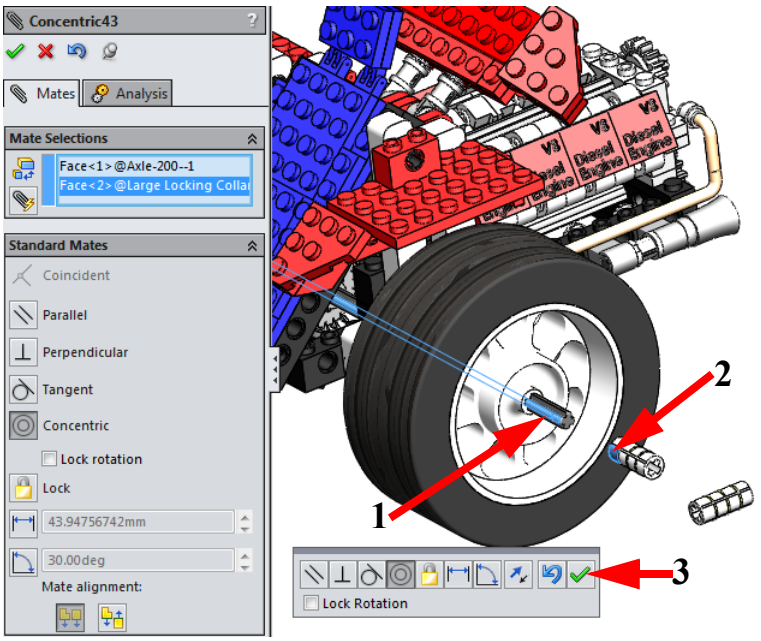


Click on the outside cylinder.



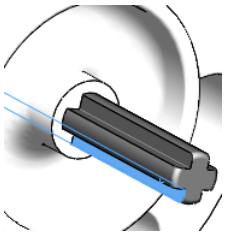
You will now see that both selection are aligned.

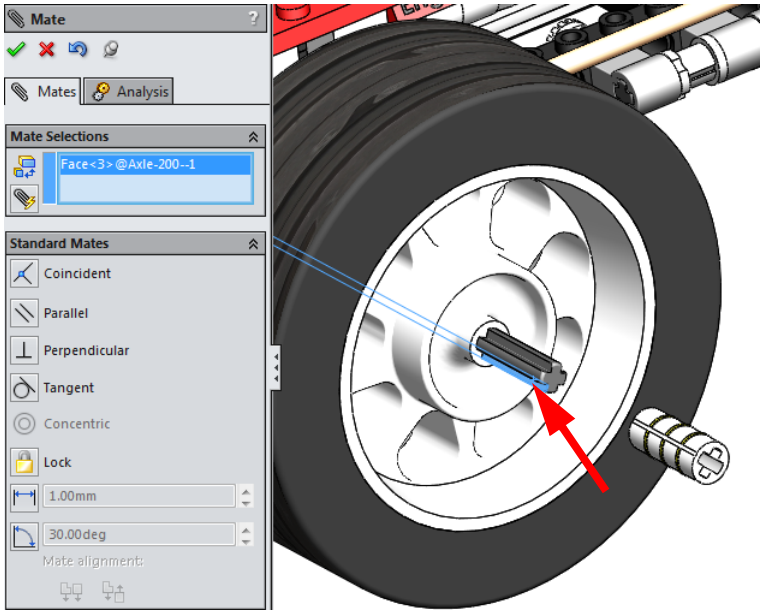
Click **OK** .



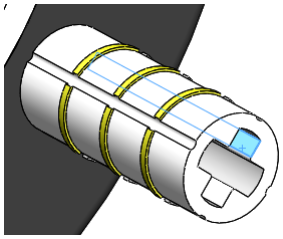
283 Zoom in as illustrated.

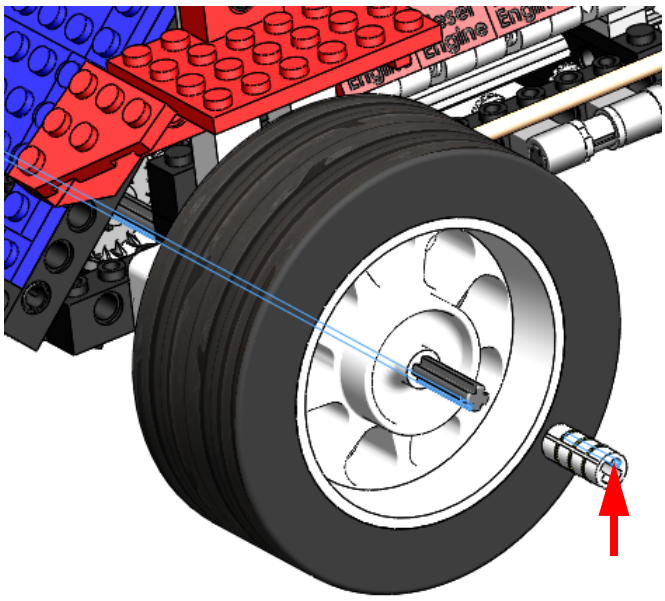
Click on:





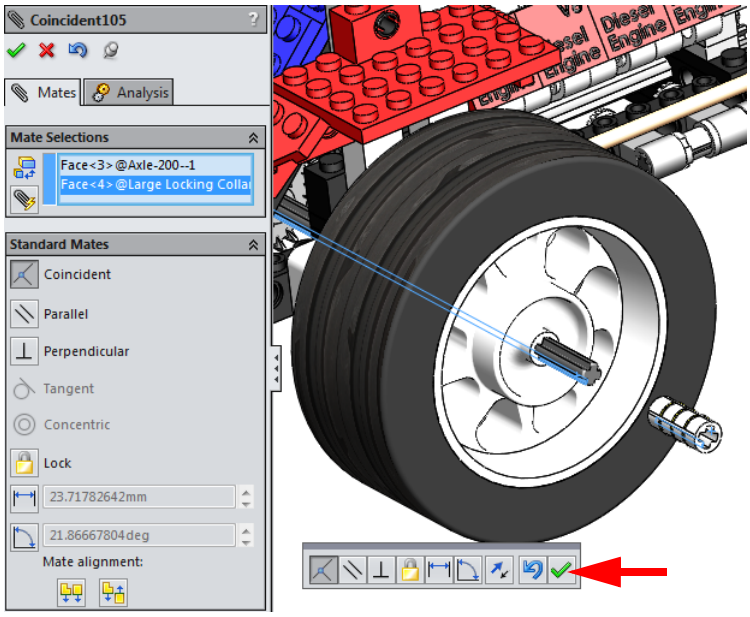
284 Click on the inside face.



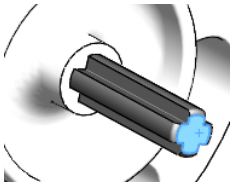


285 The cylinder and the axle are now aligned with respect to each other.

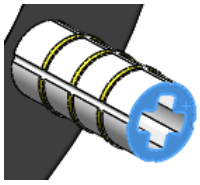
Click **OK** ✔.



286 Click on the face of the axle.

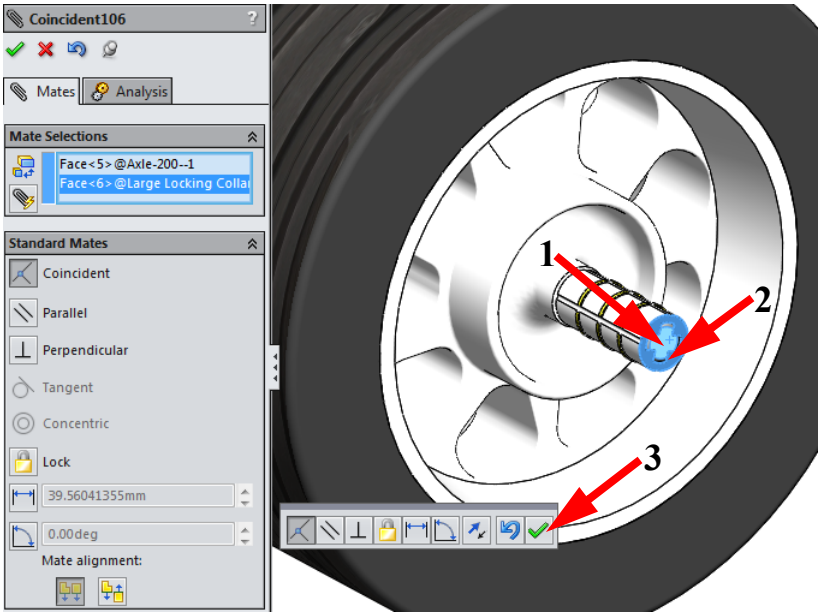


Click on the face of the cylinder.



You will now see that both selection are connected.

Click **OK** ✔.

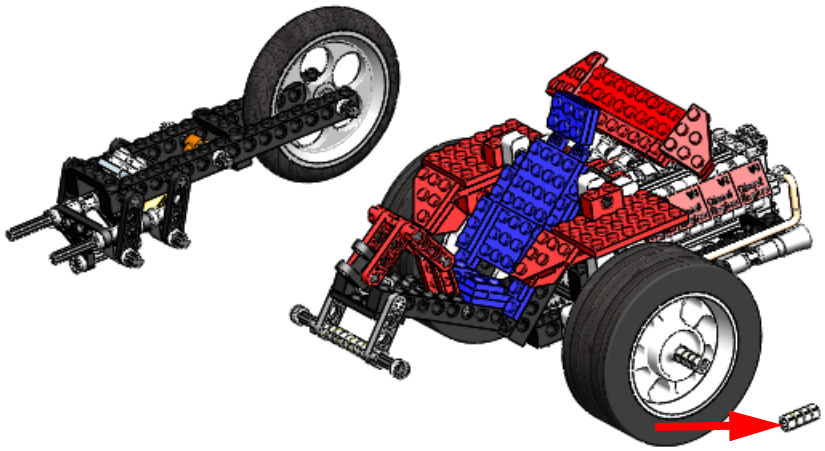


287 Zoom out as illustrated.

Do the same by yourself for the next part.

Refer to the example and use your knowledge from steps 282 through 286

Good Luck!

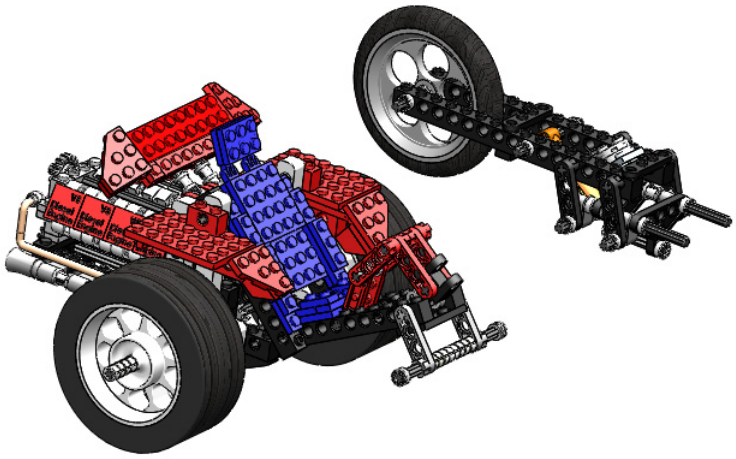


288 Zoom out!

If you did well, it will be as illustrated.

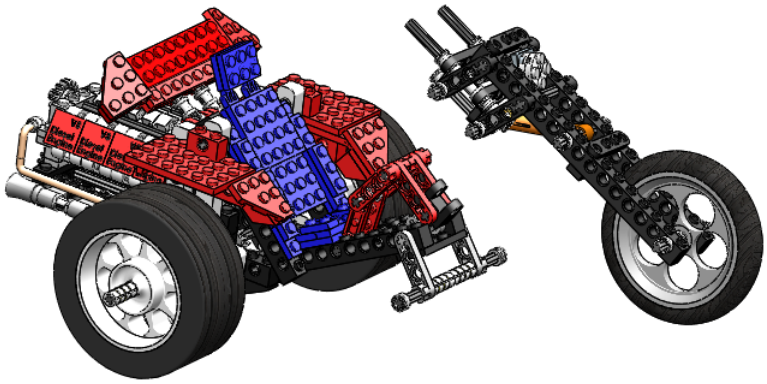
We're still working within the environment of the **Mate** function, so we simply continue.

Press the right mouse button down on the Front Assembly. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.

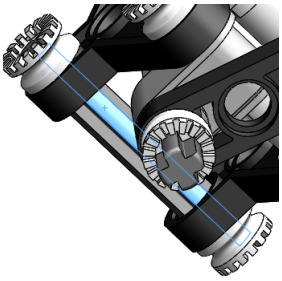


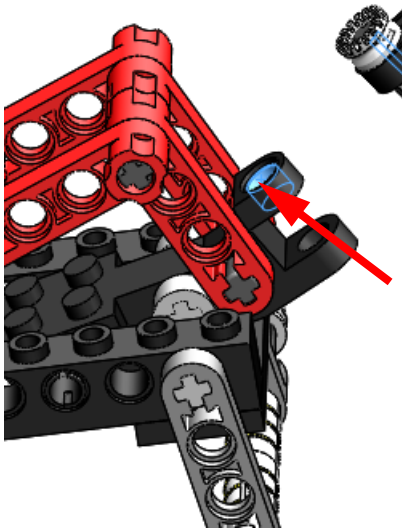
289 We will now mate the front assembly on to the frame!

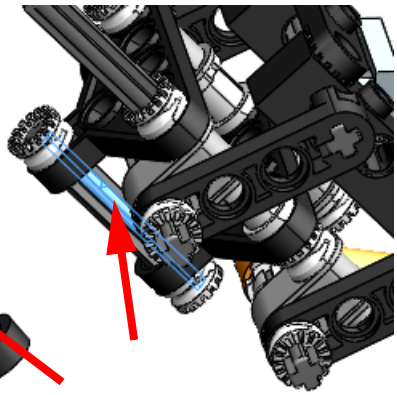
Zoom in as illustrated in the next step.



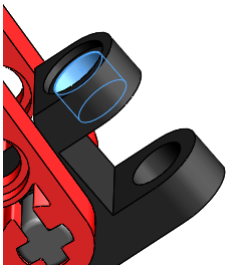
290 Click on the outside of the axle.







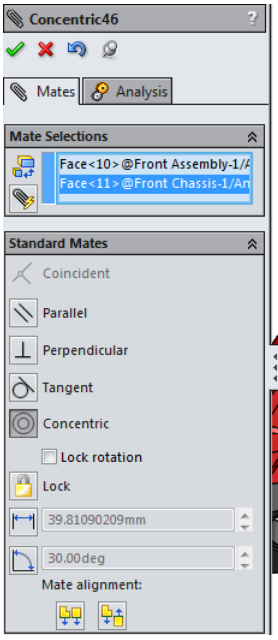
Click on the inside hole.

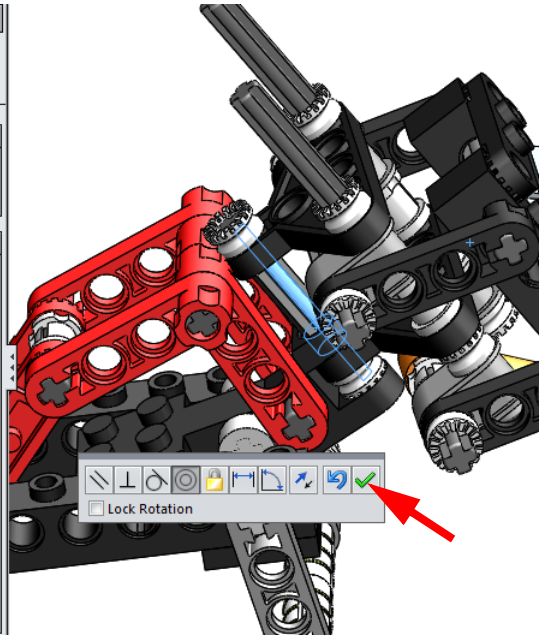


291 You will now see that both selection are aligned.

A concentric mate is created.

Click **OK** ✔.

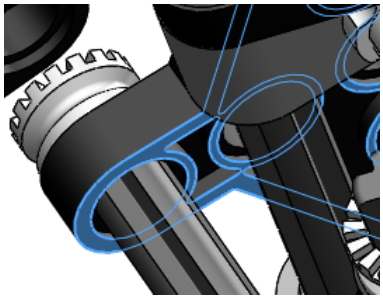


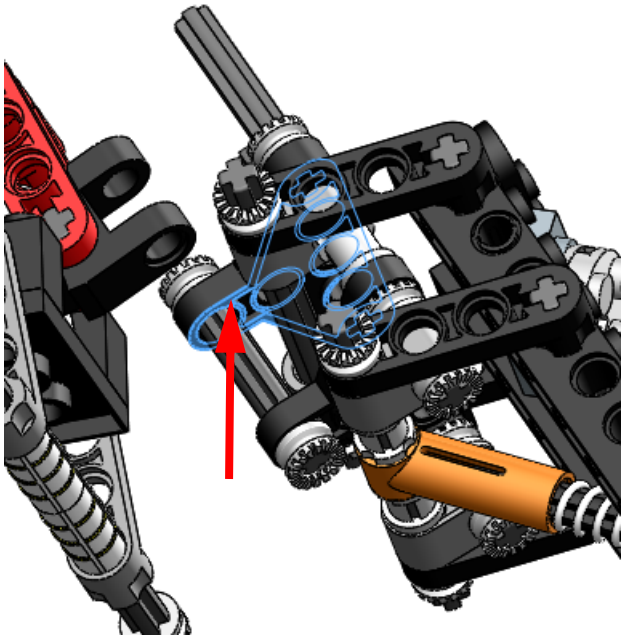


292 Press the mouse's scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated.

Zoom in!

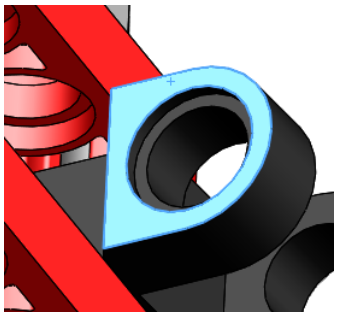
Click on:

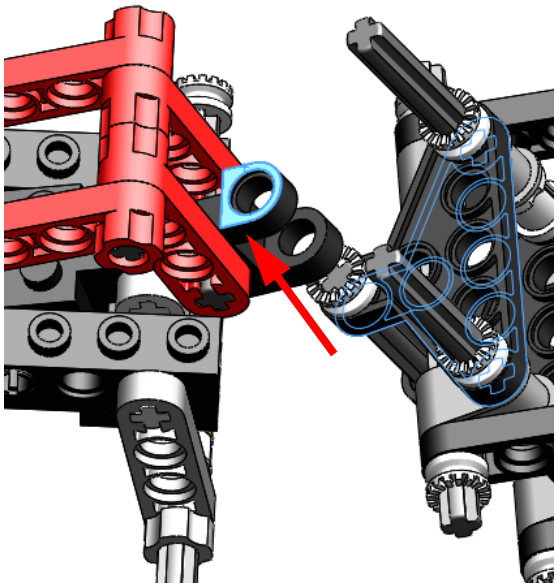




293 Press the mouse's scroll wheel down. rotate and move the mouse until the assembly is positioned as illustrated.

Click on the top of the frame.

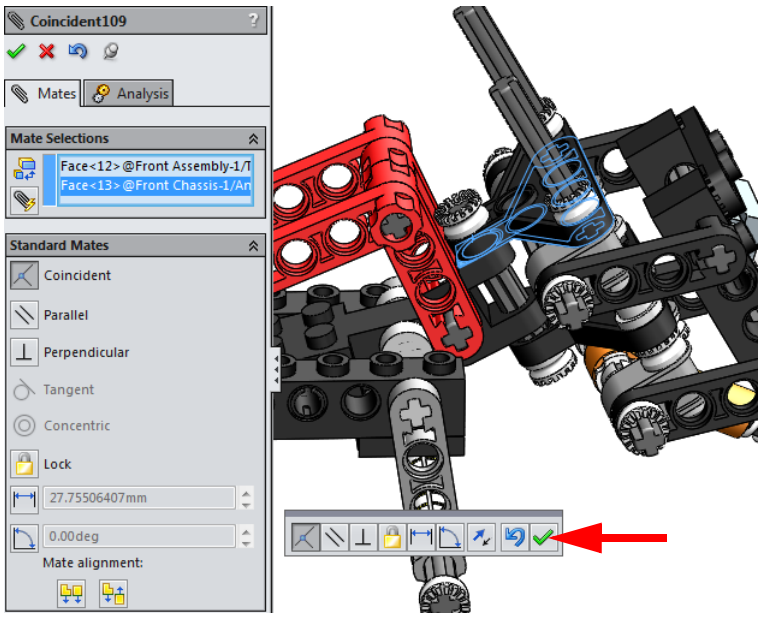




294 You will now see that both selection are connected.

A coincident mate is created.

Click **OK** ✔.

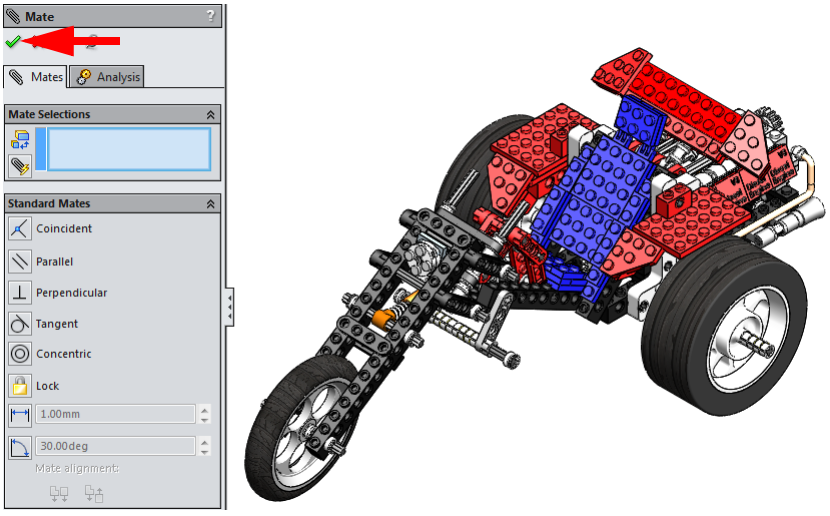


295 If you did well, it will be as illustrated.

Click **OK** ✔.

Let's save our data once again for safety.

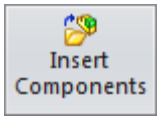
Click **Save** 💾.



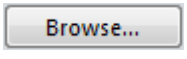
296 Let's move on!

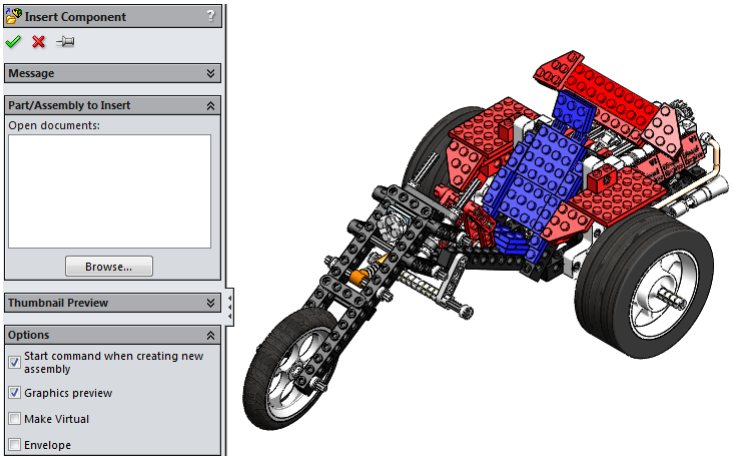
We'll now return to the warehouse for a new assembly.

Click:



Click:

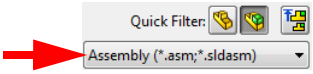


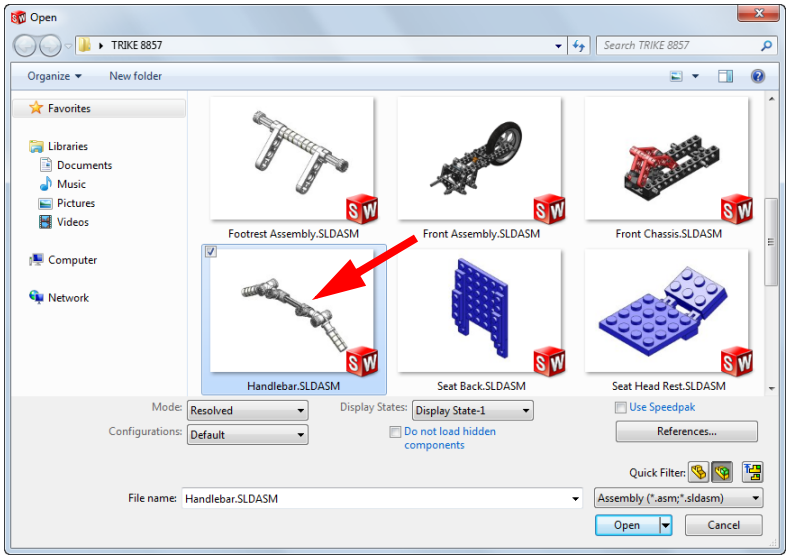


297 We're looking for:

1x 

Be sure you are looking in:





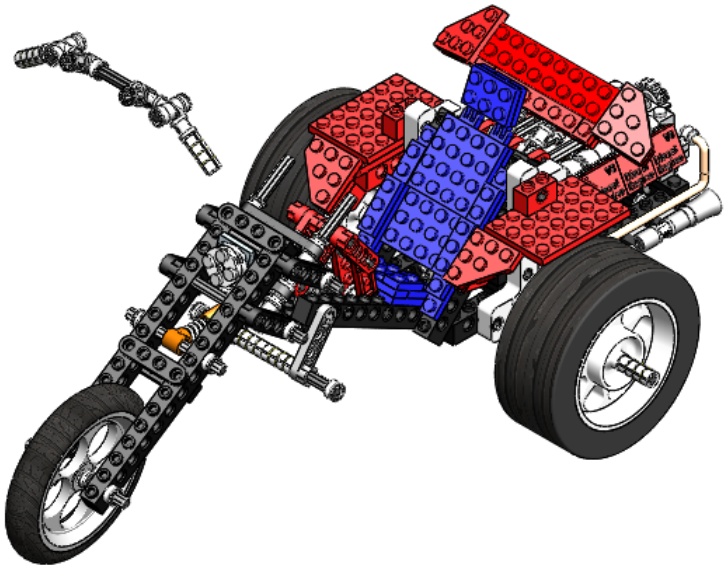
298 Position the Handlebar as illustrated.

We're going to build again!

Click **Mate** 

.

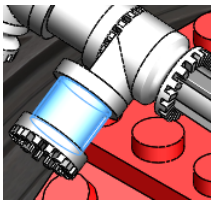
Press the mouse's scroll wheel down. Rotate and move the mouse until the assembly is positioned as illustrated in the next step.

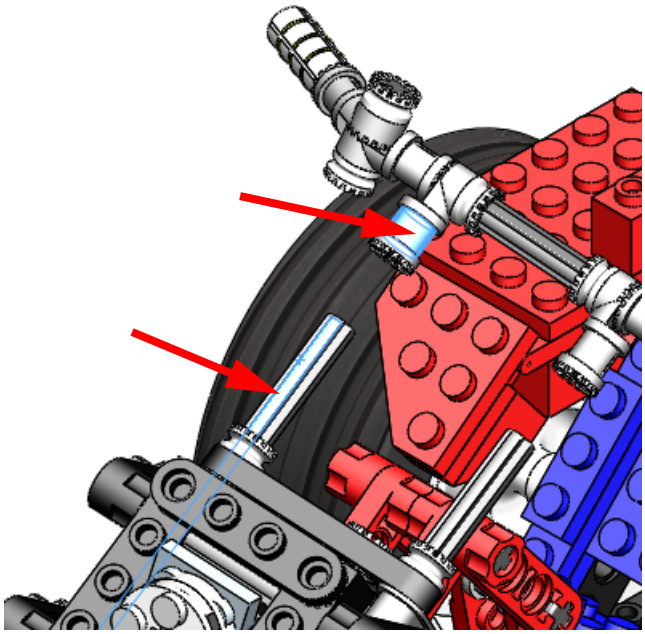


299 Click on the outside of the axle.



Click on the outside of the cylinder.

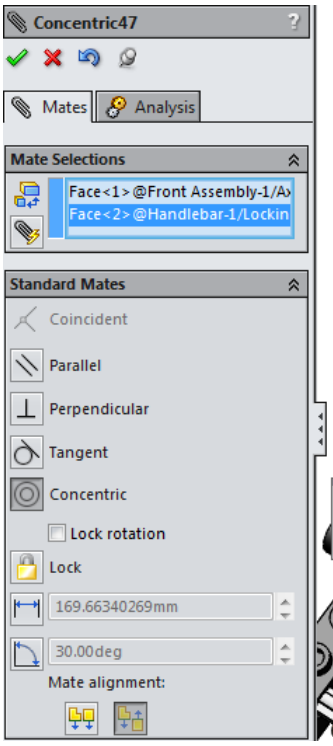


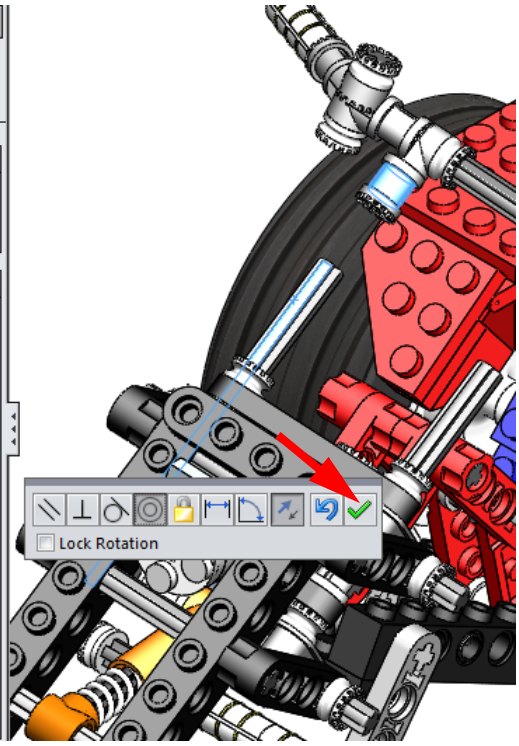


300 You will now see that both selection are aligned.

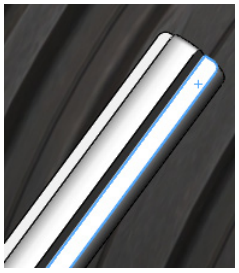
A concentric mate is created.

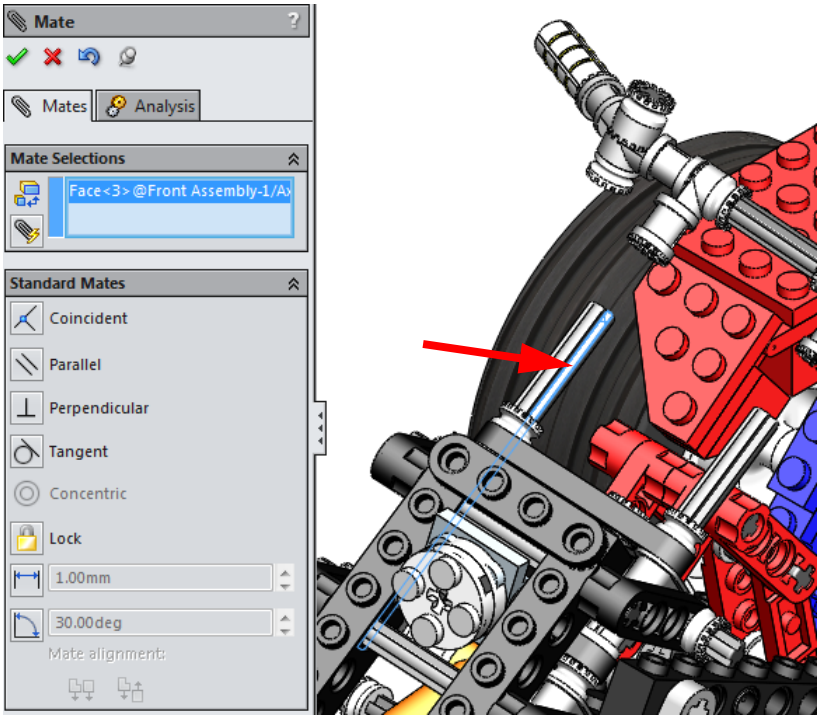
Click **OK** ✔.



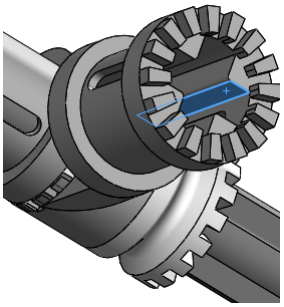


301 Click on:





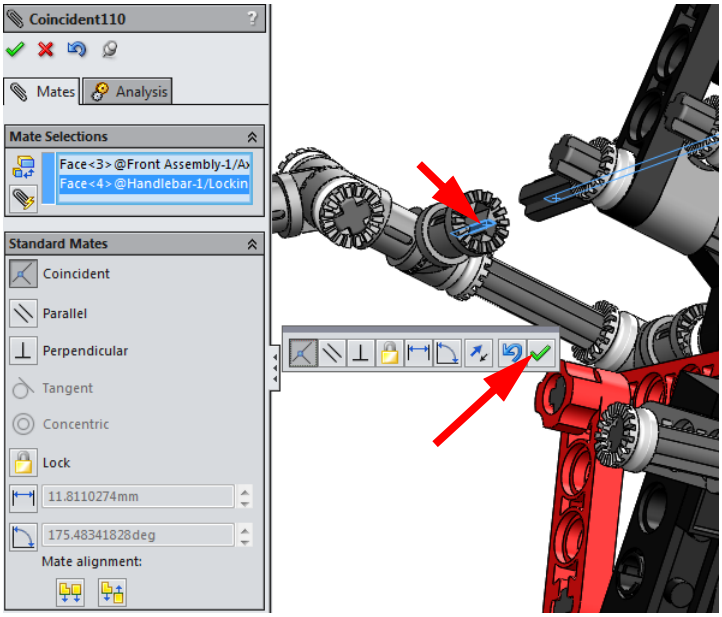
302 Click on the inside flange.



You will now see that both selection are aligned.

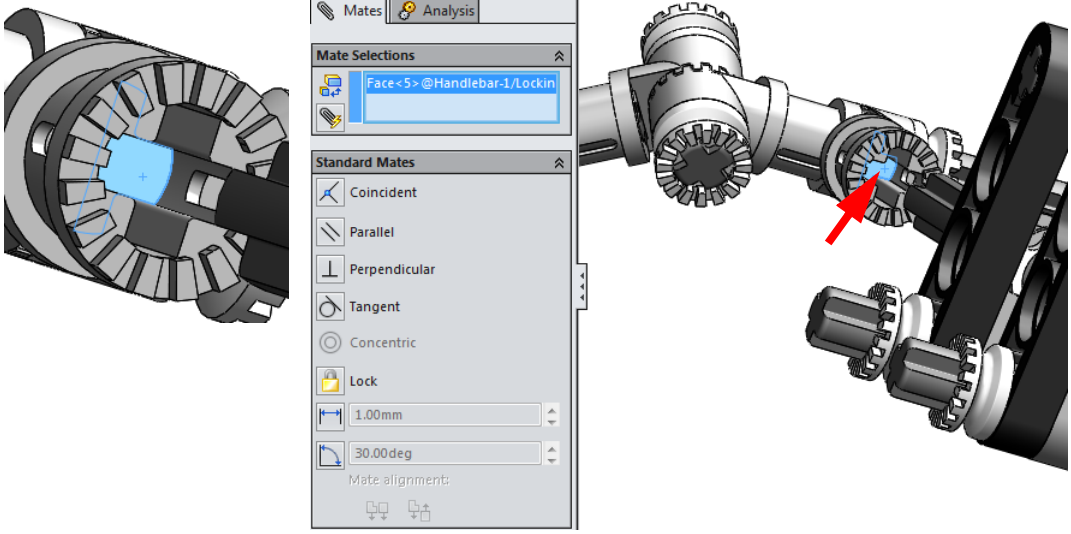
A coincident mate is created.

Click **OK** ✔.



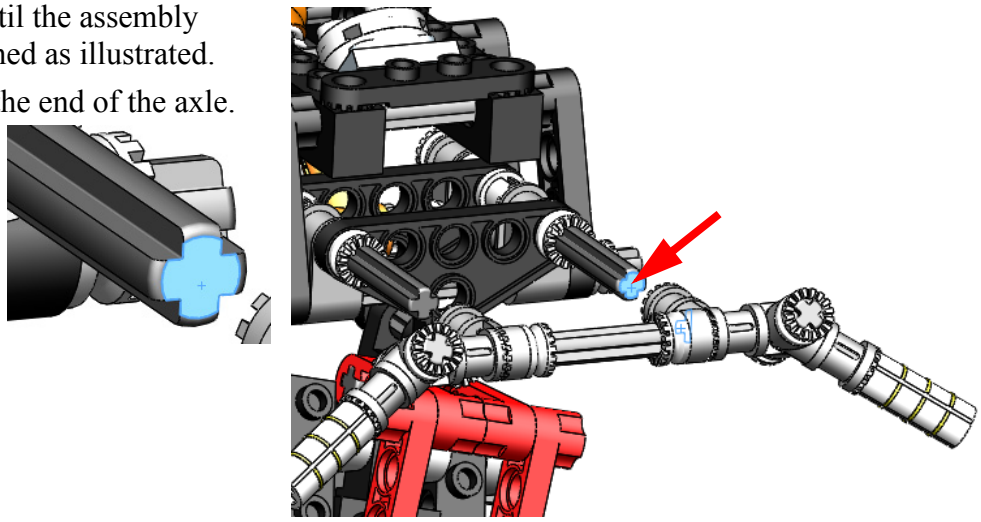
303 Zoom in!

Click on the top inside.



304 Rotate until the assembly is positioned as illustrated.

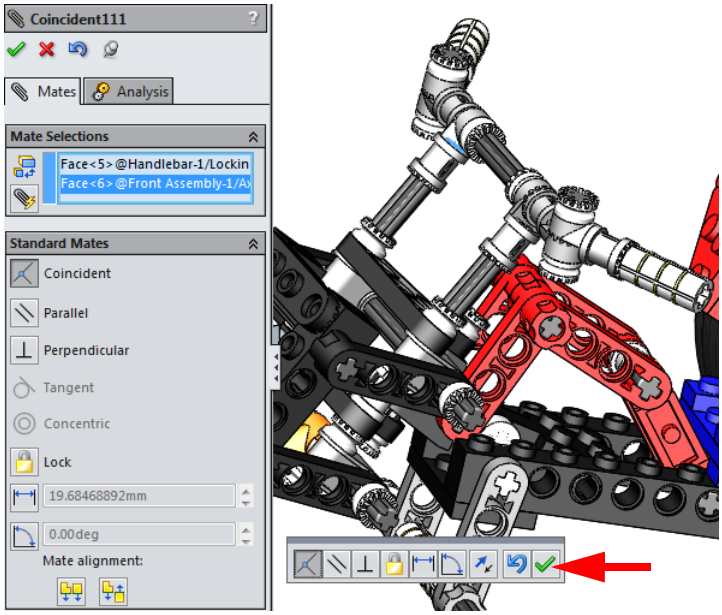
Click on the end of the axle.



305 You will now see that both selection are connected.

A coincident mate is created.

Click **OK** ✔.



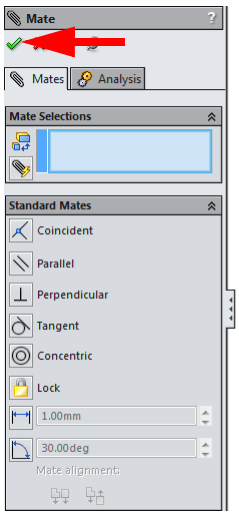
306 Zoom out!

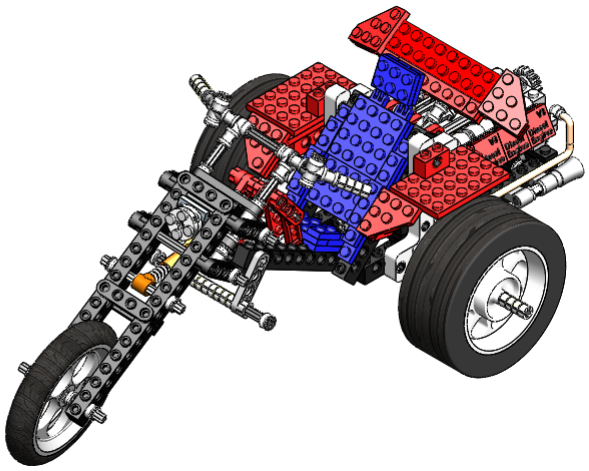
If you did well, it will be as illustrated.

Click **OK** ✔.

Let's save our data once again for safety!

Click **Save** 💾.





307 # Fantastic!

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

