



Light My Bricks

Installation Instructions for Light My Bricks LED Lighting Kits

Jun 6, 2016 · 17 min read

## Light My Bricks : Volkswagen T1 Camper Van LED Lighting Kit



Here is the instruction document for the Lego VW T1 Camper Van LED lighting kit. Please read and follow the steps carefully to ensure this lighting kit is installed properly.

If you are viewing this user guide as a PDF file, you can also view this online by clicking [here](#).

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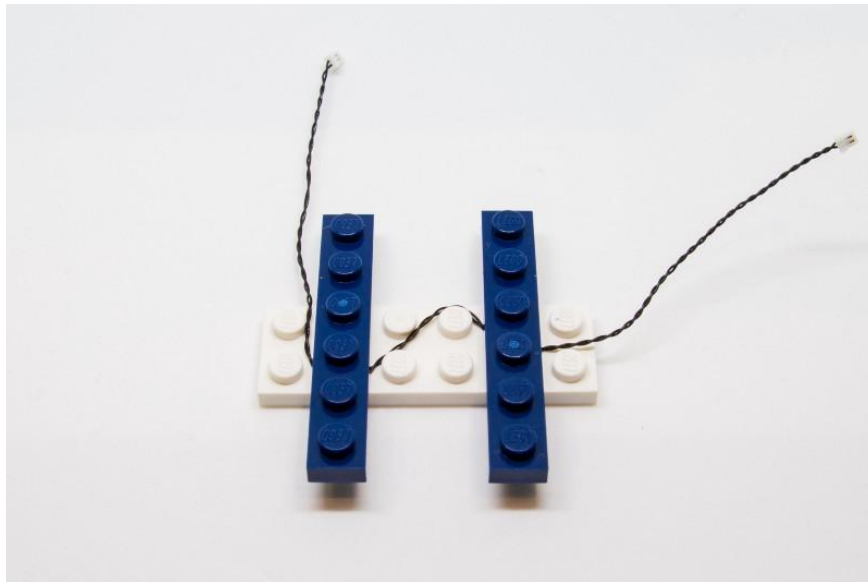
### Package contents:

- 10 x White 30cm Bit Lights
- 1 x 12 Port Expansion board
- 1 x Round Coin Cell Battery Pack (requires two CR2032 batteries)
- 8 x Lego® 2 x 4 plates
- 4 x Lego® 2 x 6 plates

## Important things to note:

### Laying cables in between and underneath bricks

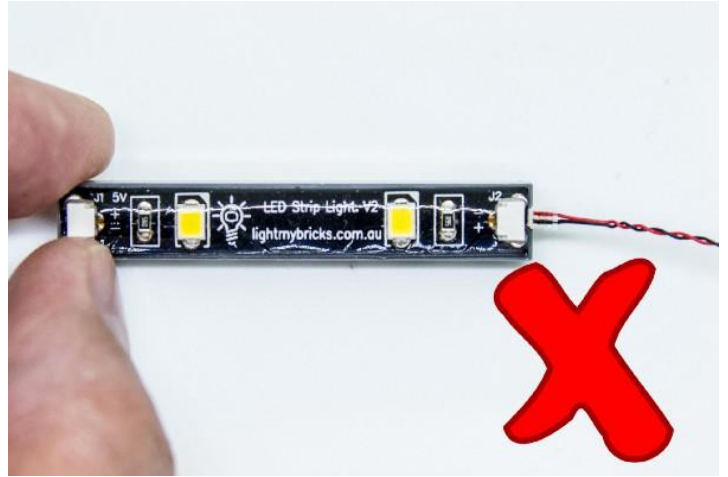
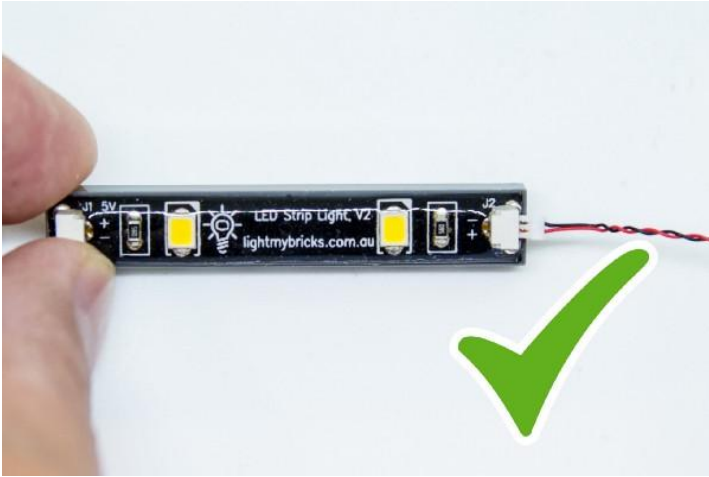
Cables can fit in between and underneath LEGO® bricks, plates, and tiles providing they are laid correctly between the LEGO® studs. Do NOT forcefully join LEGO® together around cables; instead ensure they are laying comfortably in between each stud.



*CAUTION: Forcing LEGO® to connect over a cable can result in damaging the cable and light.*

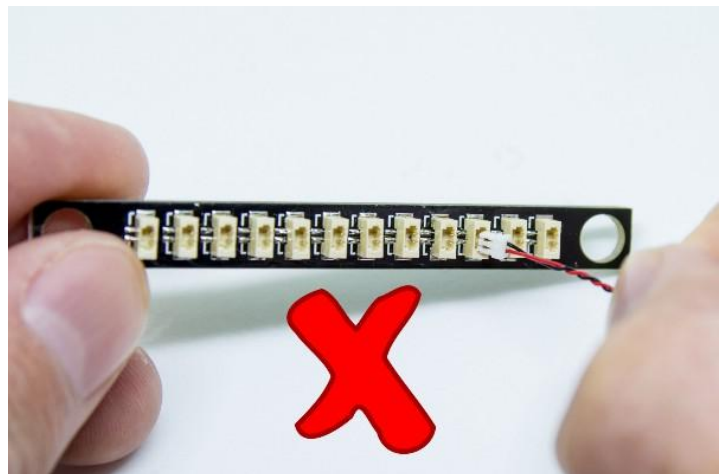
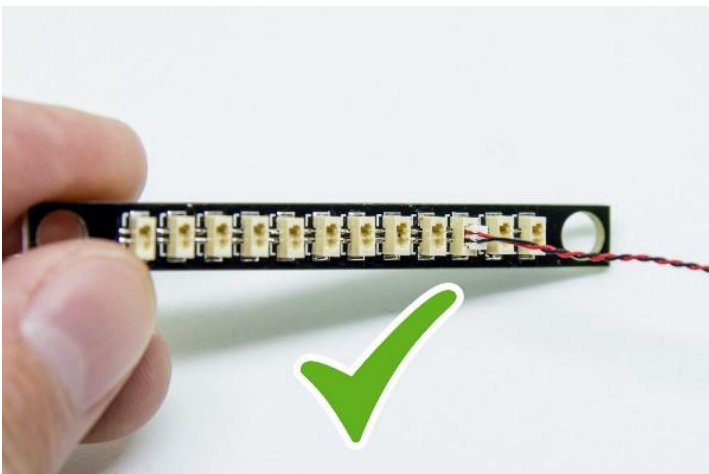
### Connecting cable connectors to Strip Lights

Take extra care when inserting connectors to ports on the Strip Lights. Connectors can be inserted only one way. With the Strip Light facing up, ensure the side of the connector with the wires exposed is facing down. If a plug won't fit easily into a port connector, don't force it. Doing so will damage the plug and the connector.



### Connecting cable connectors to Expansion Boards

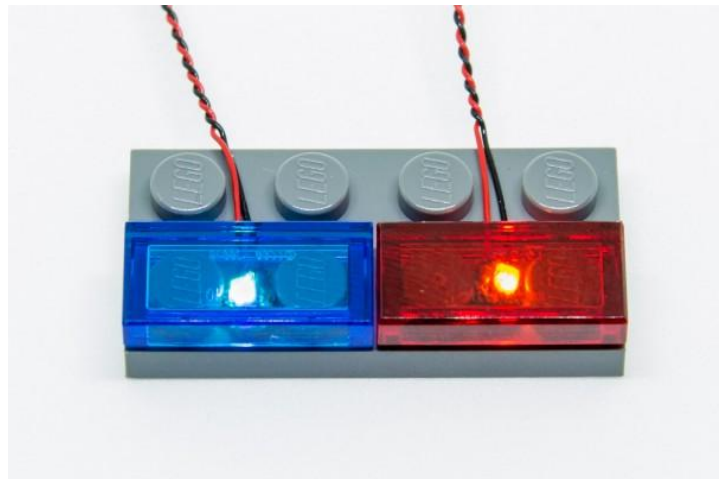
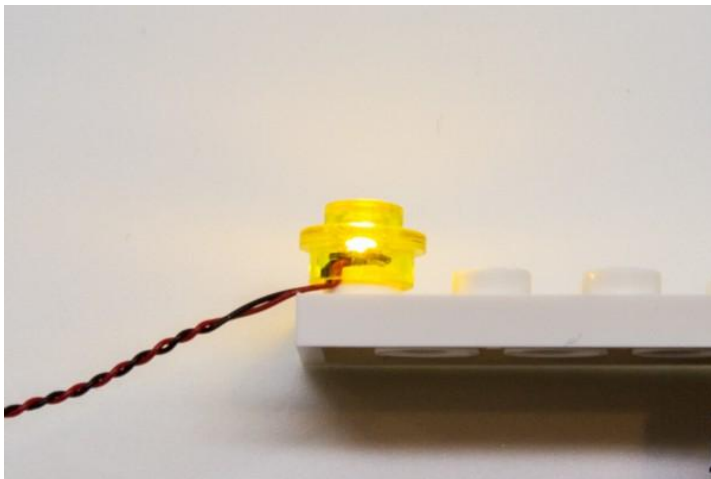
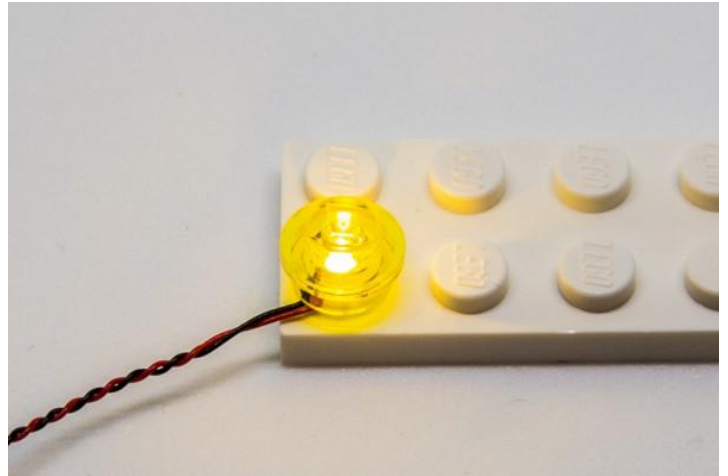
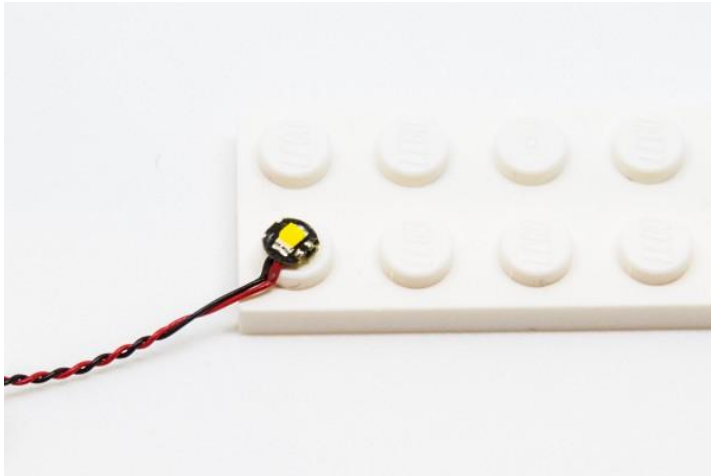
Take extra care when inserting connectors to ports of Expansion Boards. Connectors can be inserted only one way. With the expansion board facing up, look for the soldered “=” symbol on the left side of the port. The connector side with the wires exposed should be facing toward the soldered “=” symbol as you insert into the port. If a plug won't fit easily into a port connector, do not force it.



*WARNING: Incorrectly inserting the connector can result in bent pins inside the port or possible overheating of the expansion board when connected.*

### **Installing Bit Lights under LEGO® bricks and plates.**

When installing Bit Lights under LEGO® pieces, ensure they are placed the correct way up (Yellow LED component exposed). You can either place them directly on top of LEGO® studs or in between.



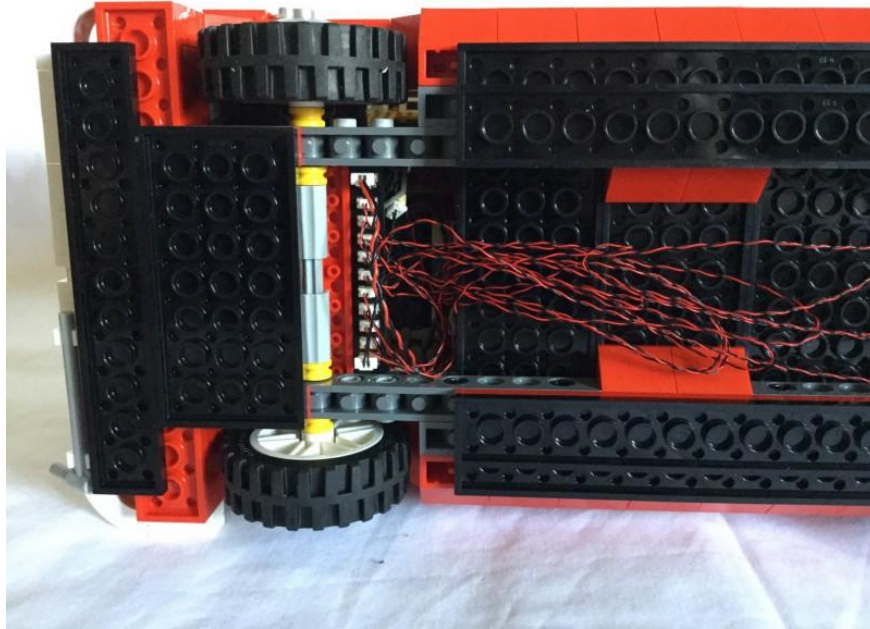
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OK, Let's Begin!

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## **Instructions for installing this kit**

This model has 4 lights on the front, 4 inside the vehicle and 2 at the rear. What we want to do as we install the lights is run all the wires to a central point underneath the vehicle where we will connect them all up as seen in the picture below.

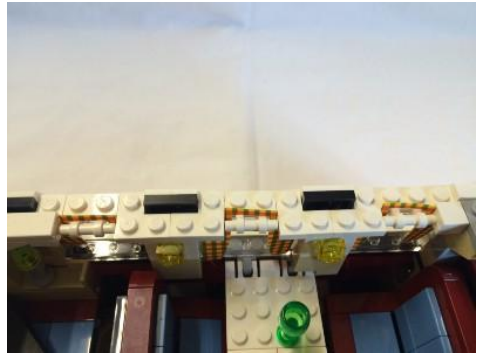
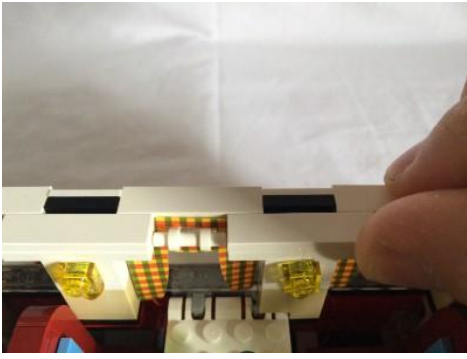


Start by taking both roof sections off.

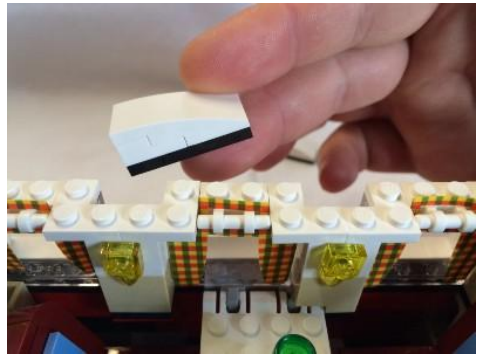
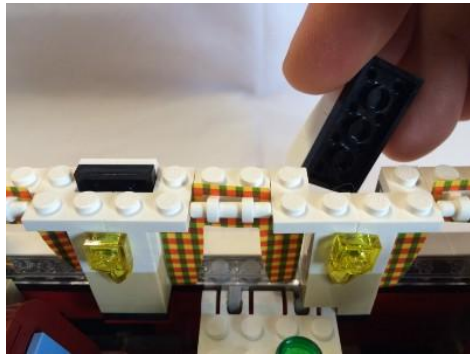


Remove the five white 1 x 4 tiles from the top of the windows on the far side of the vehicle.

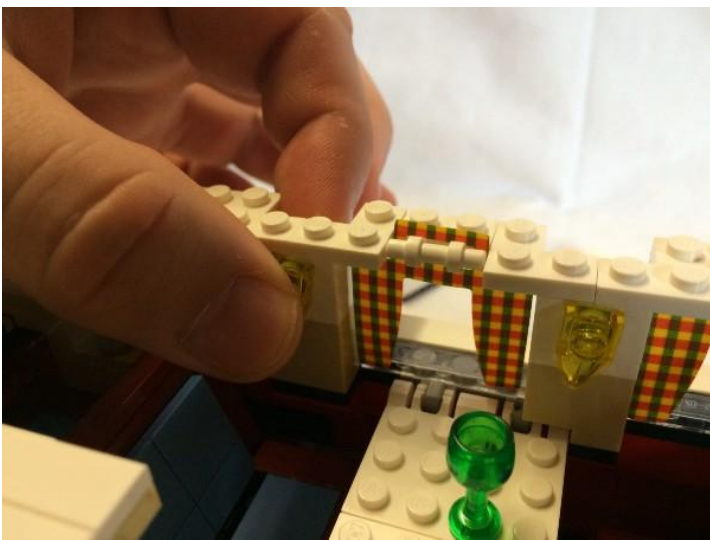


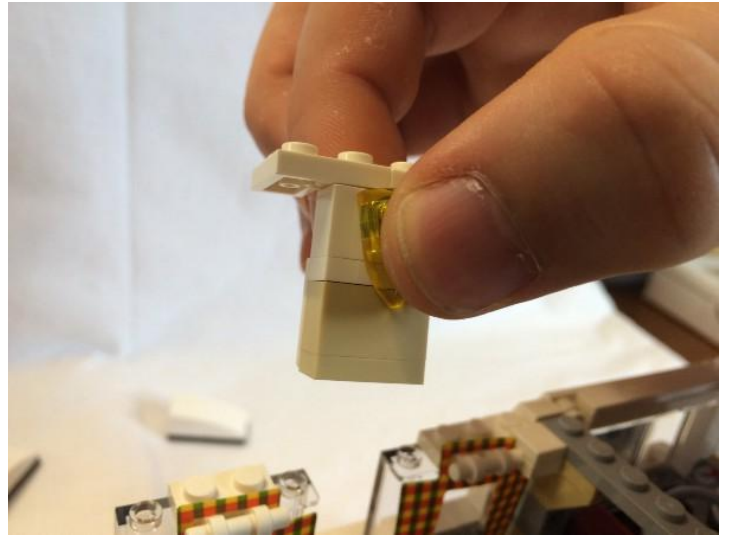


Remove the two outer sections behind each yellow light brick.



Pinch and lift the yellow light and the column it is attached to. Do this for both light column.

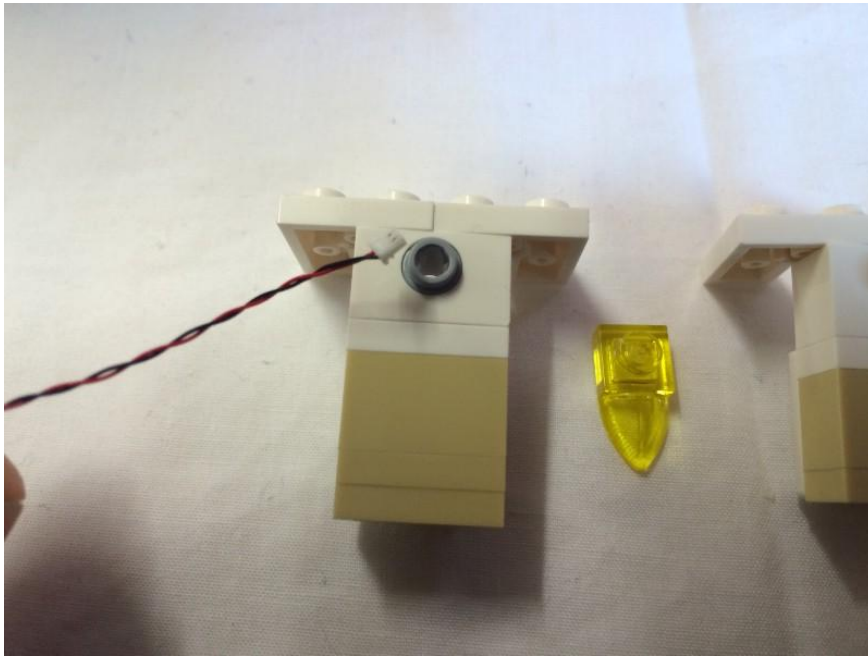




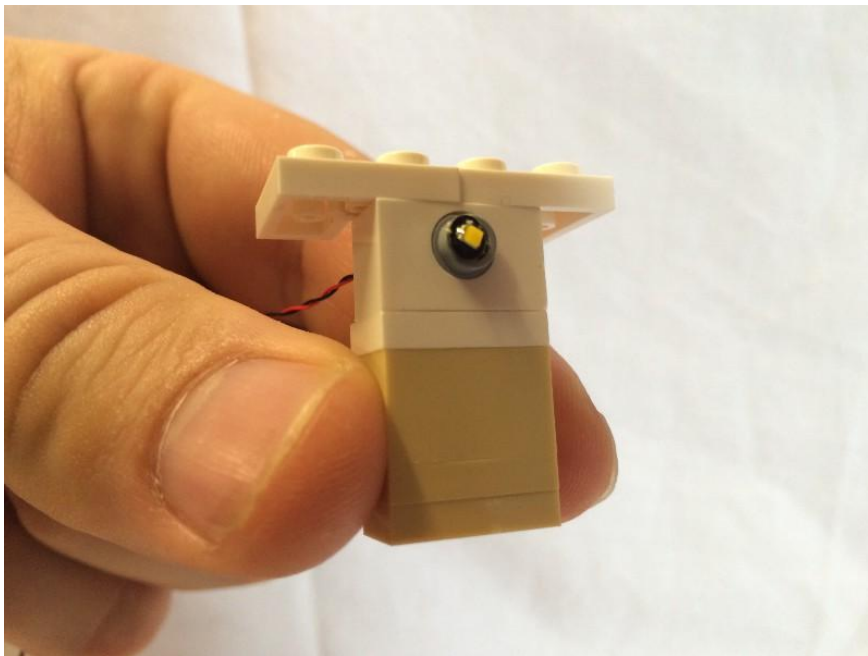
Remove the yellow light piece from each column.



Thread the white connector end of a bit light through the now exposed technic pin.

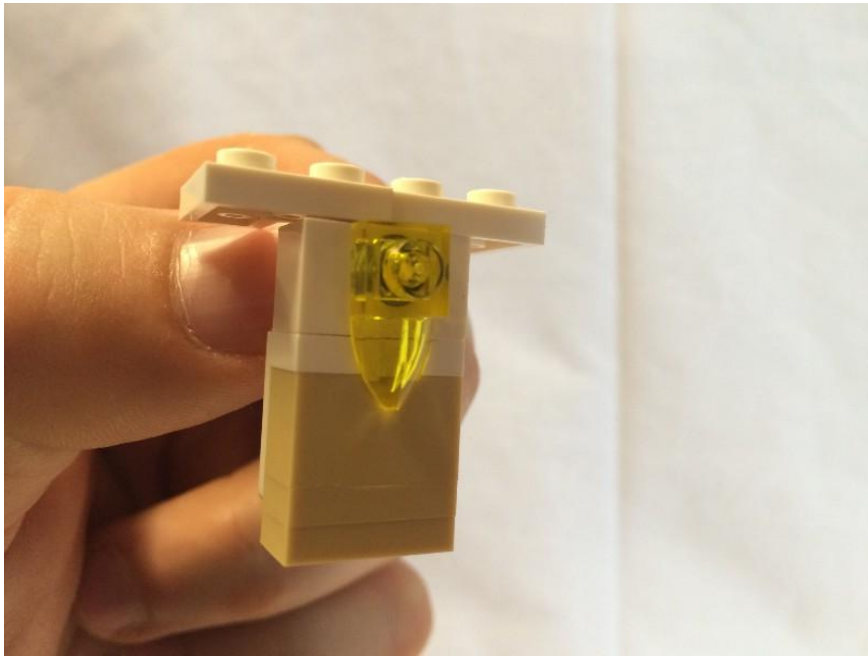


Pull the wire through until the LED is resting against the outside of the technic pin.

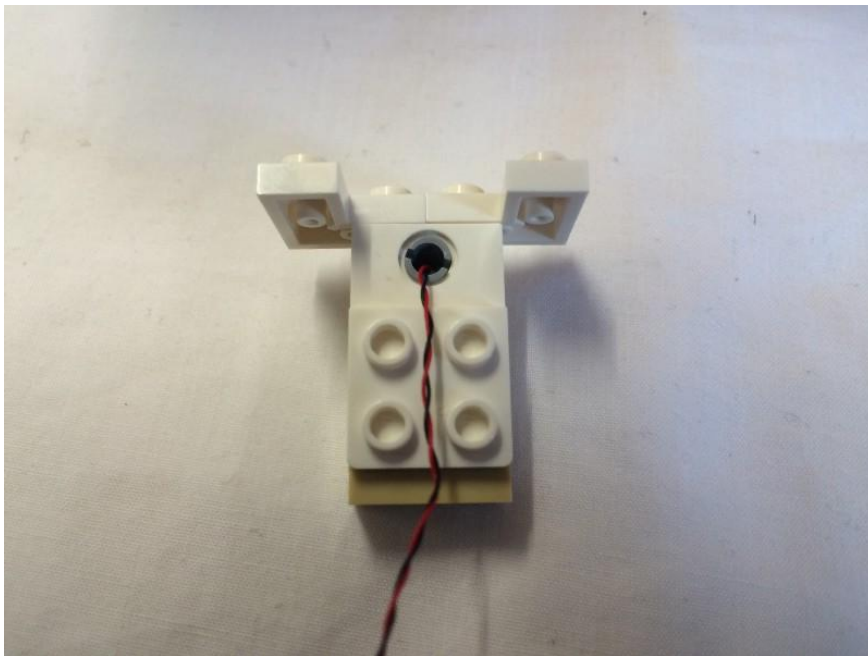


Gently replace the yellow light piece over the LED attaching to the technic pin.

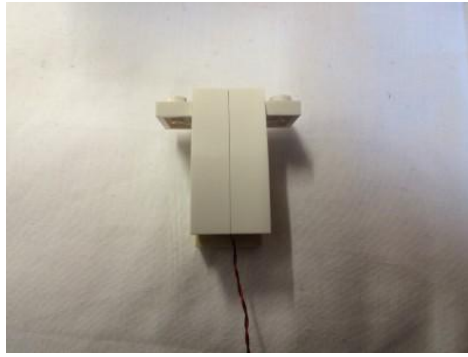
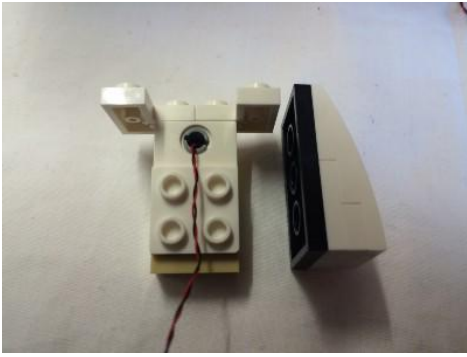




Turn the column piece around to see where the wire comes out the other side.



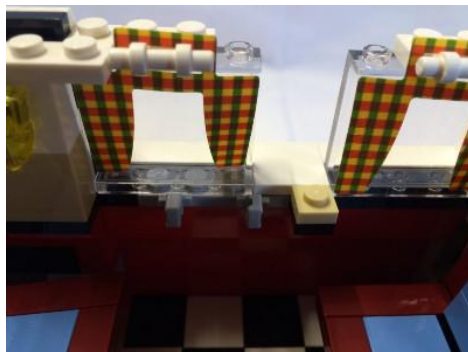
With the wire running down the centre of the four white studs that can be seen, reattached the outer sections that were previously removed.



For the left light column, hold the cable out to the right and replace the light column.



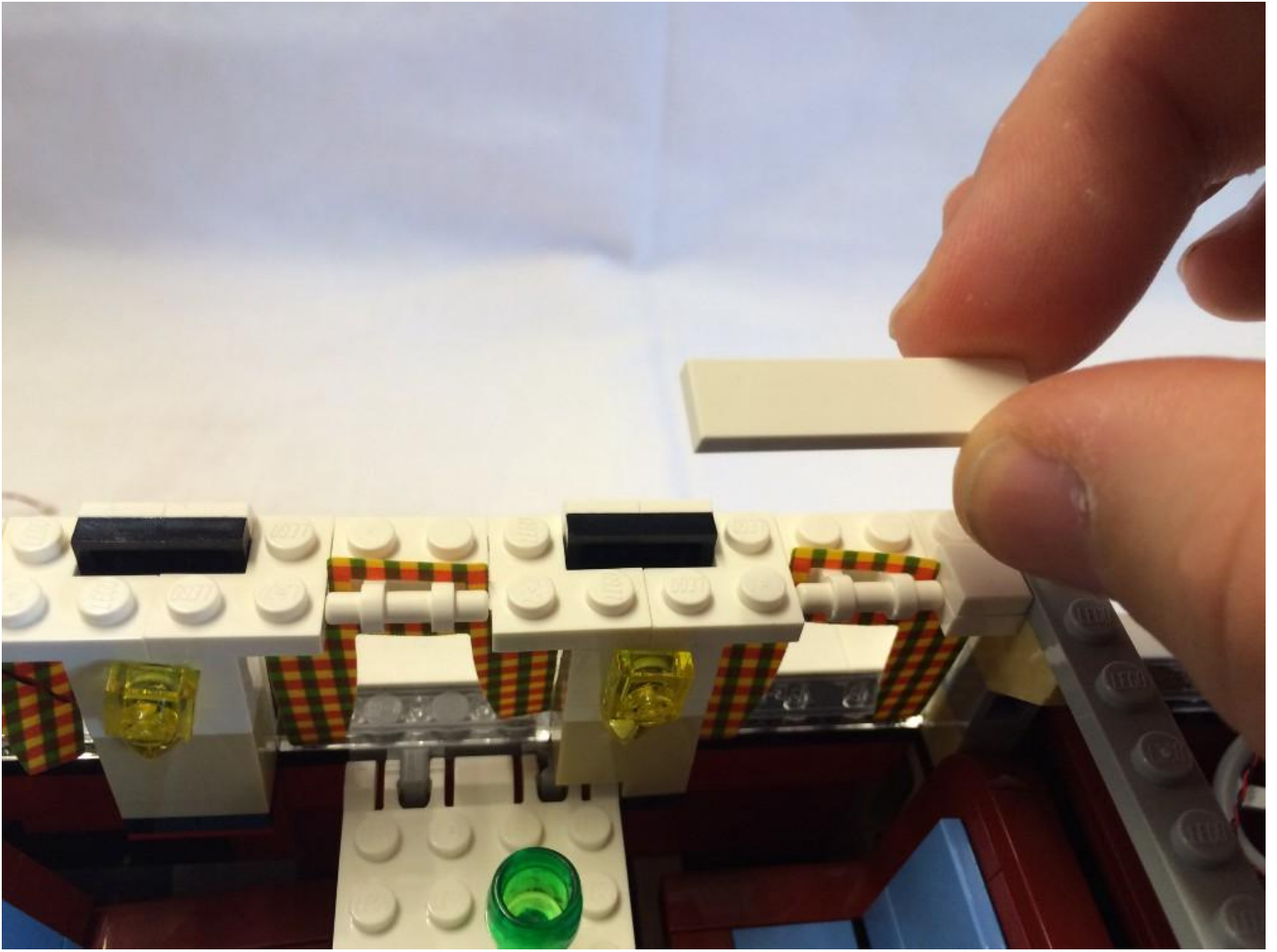
Detach the table from inside the van and replace the light column allowing the cable to hang down.



Replace the table with the light cable running between the table and the wall. The cables should now be pretty well hidden.

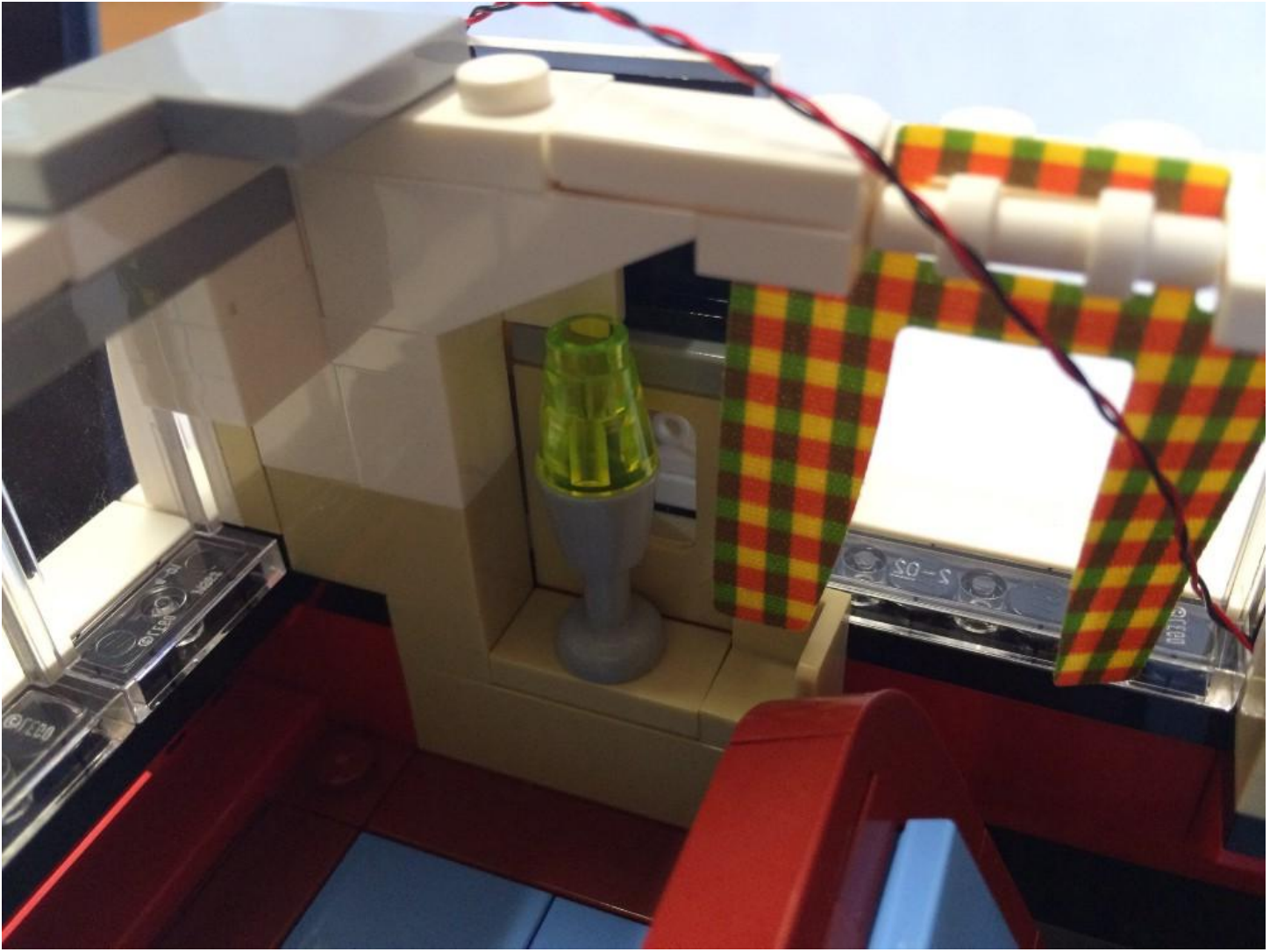


Replace the five white 1 x 4 tiles

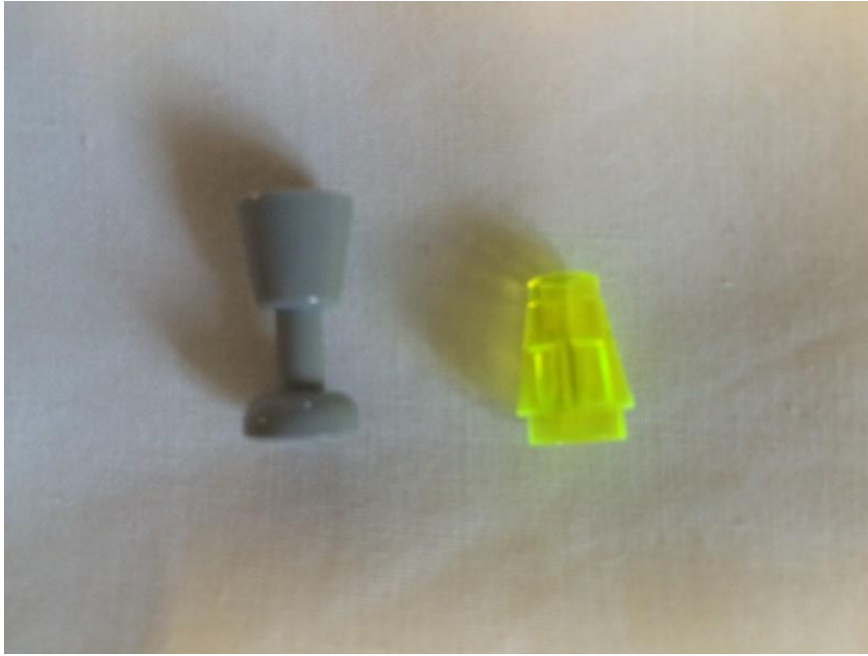


Remove the lava lamp from it's shelf.

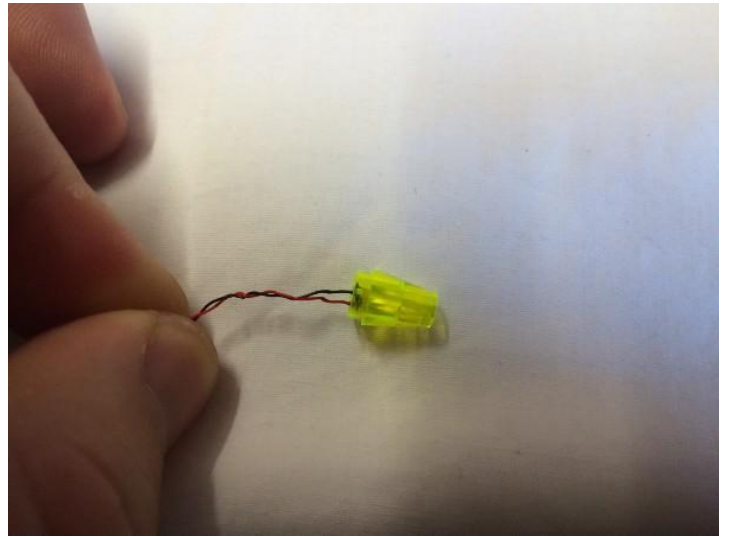
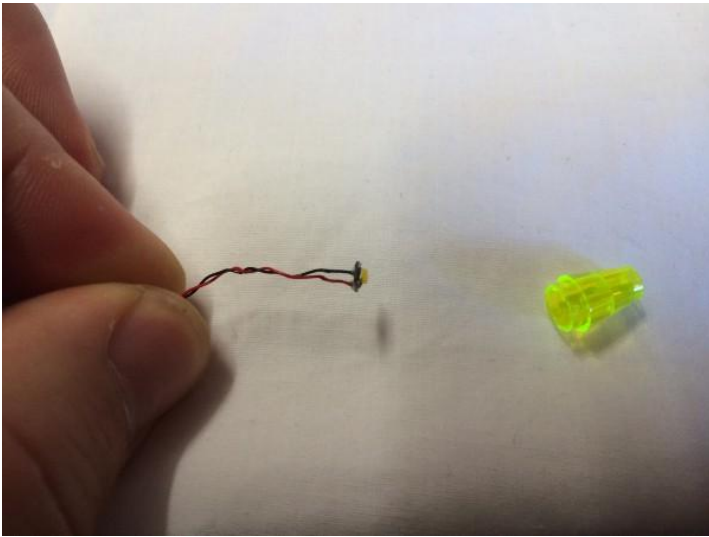




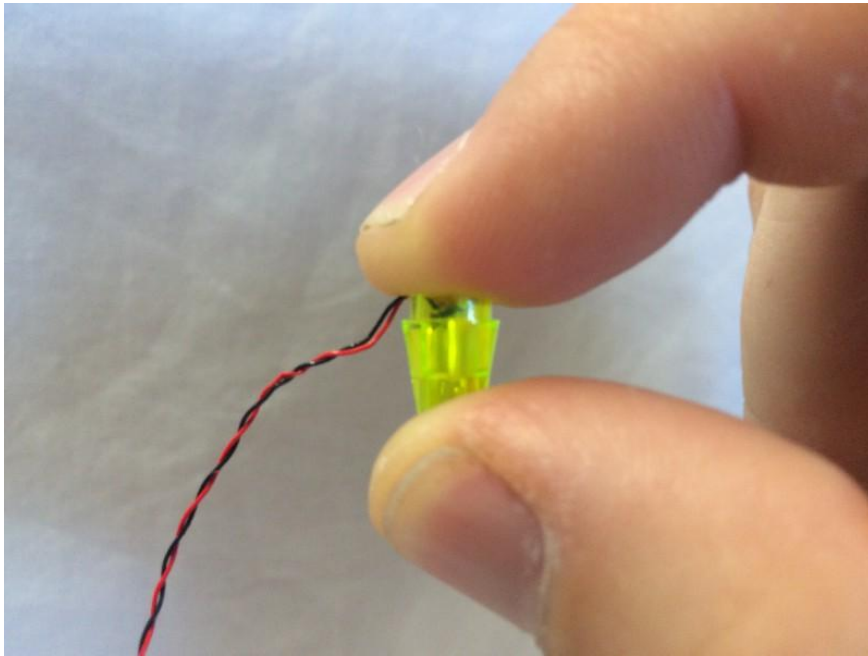
Disconnect the two pieces that make up the lamp



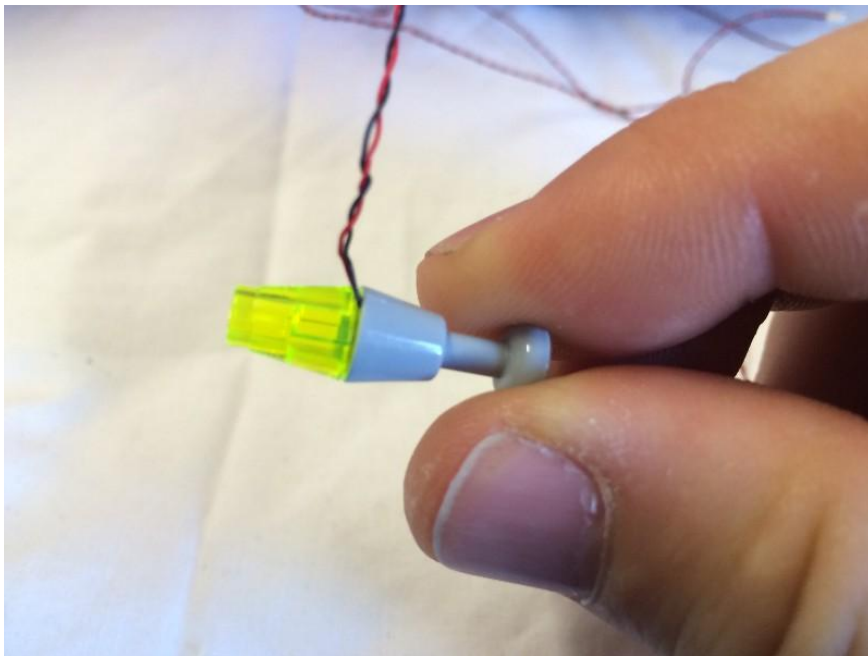
Grab a **White bit light** and bend the end so the the light is perpendicular to the wire. Place the **White bit light** inside the transparent coloured piece.



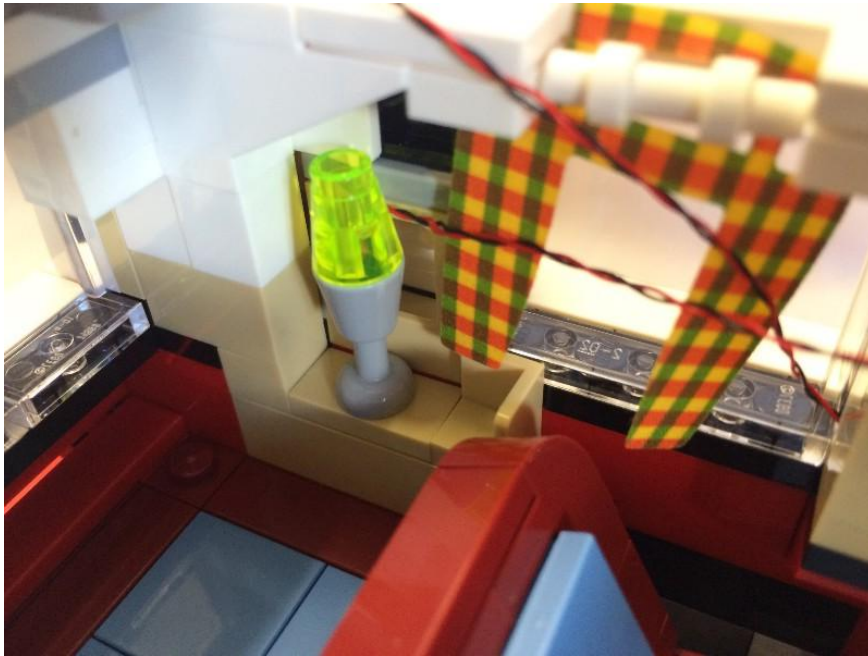
Place you finger over the hole keeping the LED inside the piece. Fold the wire so that it comes out roughly perpendicular to the LED.



Very carefully join the two lava lamp pieces back together. It will be a tight fit so do it slowly to prevent damage.



Put the lava lamp back on its shelf with the wire facing the back.

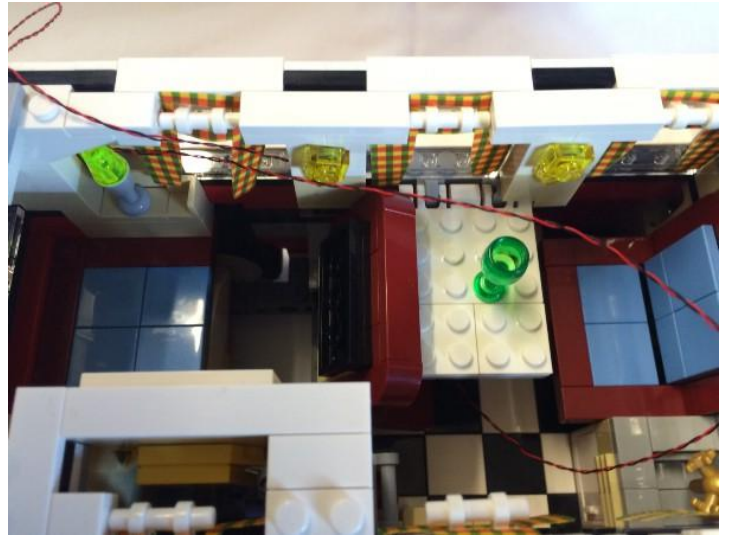


Run the wire behind the curtain and the 1 x 1 panel to keep it running close to the wall.

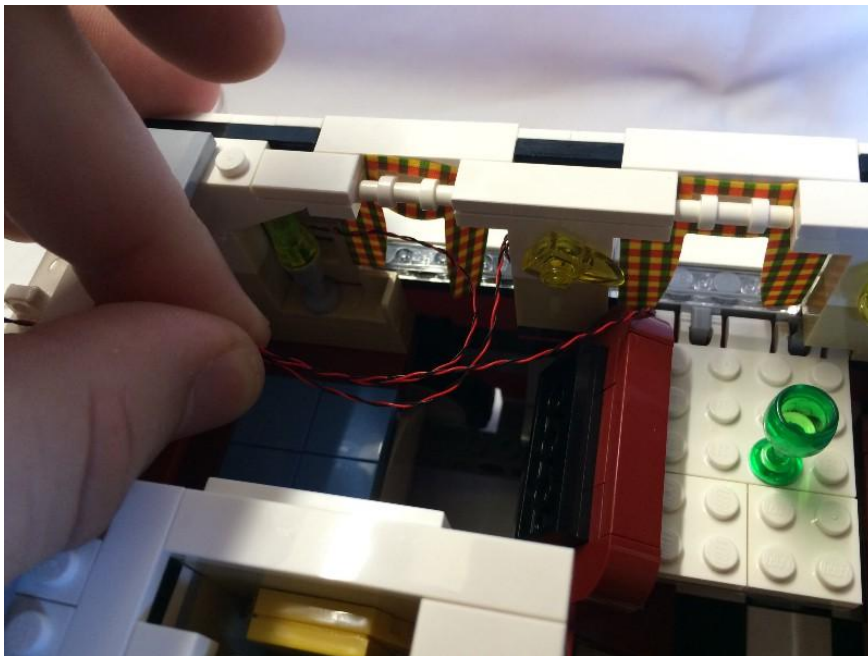


Now you probably have three wires running wild in the camper! Fold the back seat forward and down towards the table.

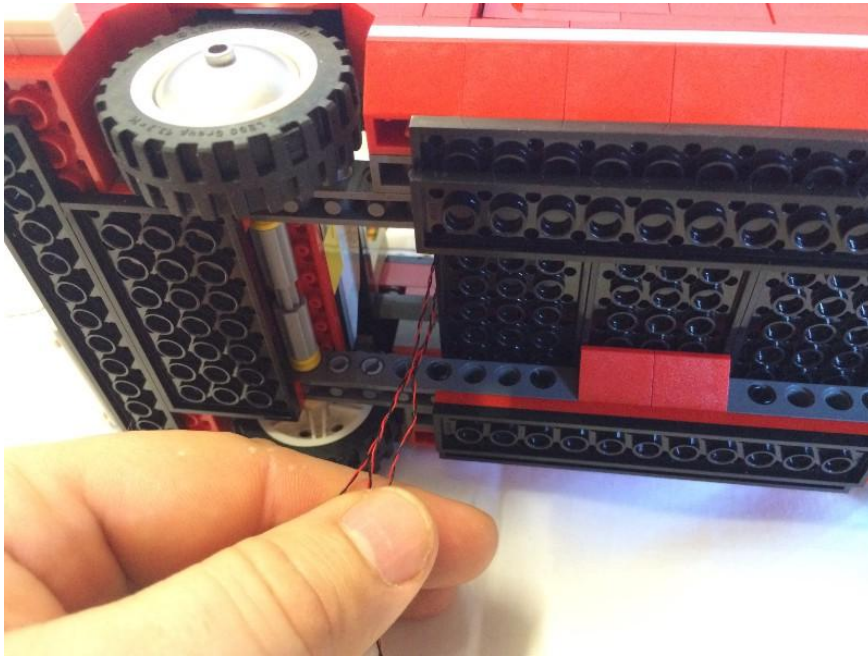




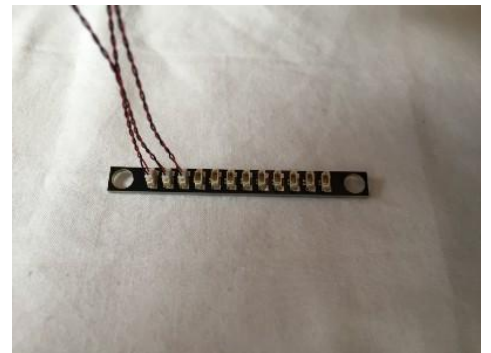
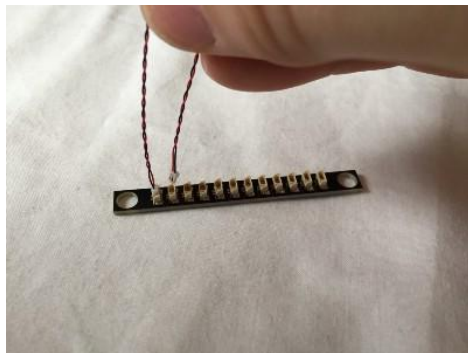
Gather the wires together and feed them through the gap where the seat was.



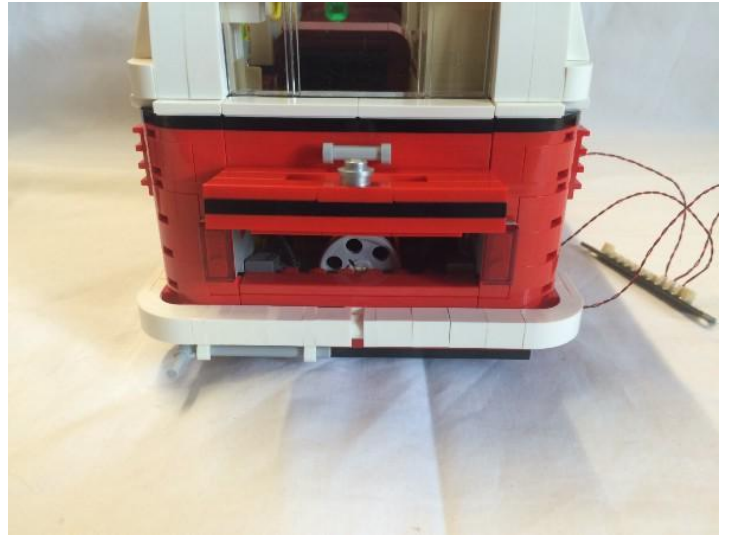
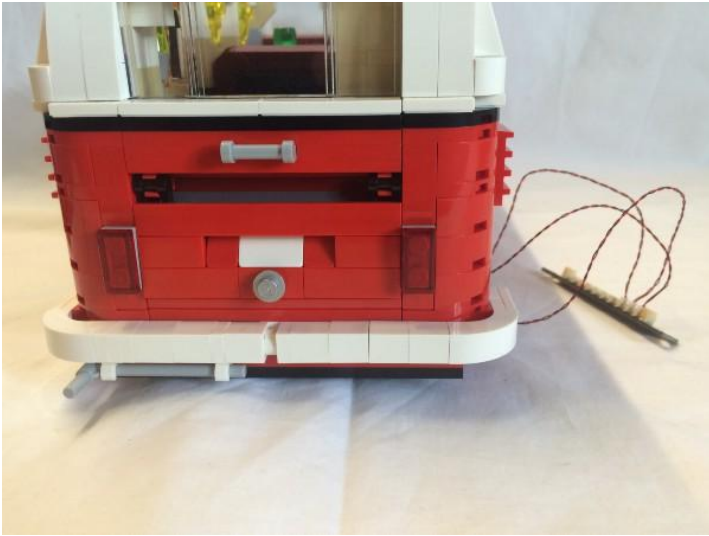
Lay the vehicle down on its side and gather the wires underneath.



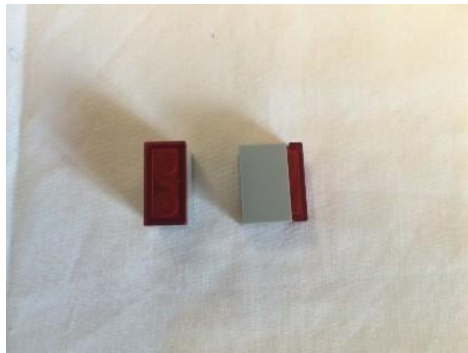
Grab the **12 port expansion board** and connect the three wires to it. We are doing this to keep the wires in place, but remember that it is there as we don't want to damage it as we work on the rest of the model.



OK.....let's do the brake lights. Turn the vehicle around so that the back is facing you. Open up the lower rear door to reveal the engine compartment.

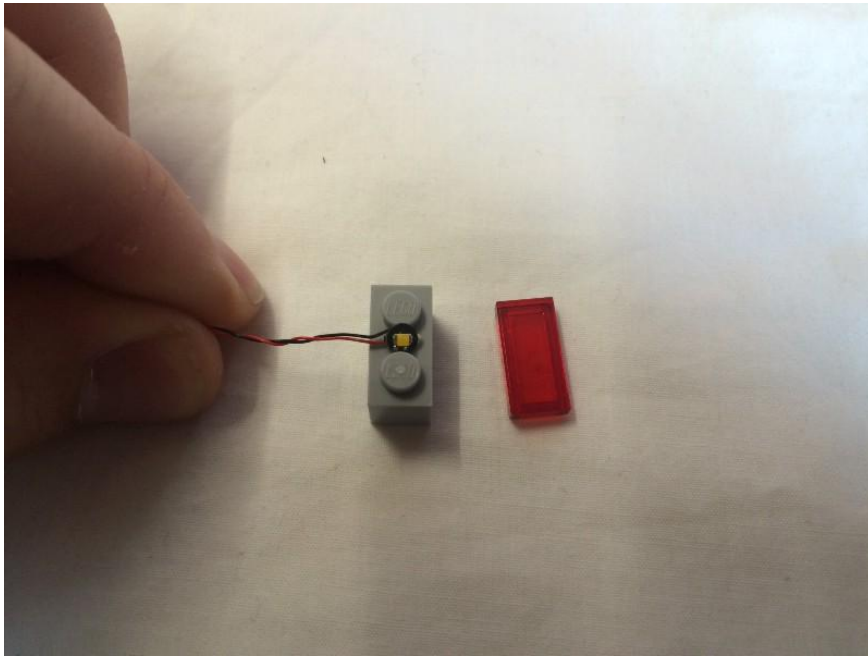


Remove the brake lights from both sides and take the transparent red piece off the 1 x 2 brick.

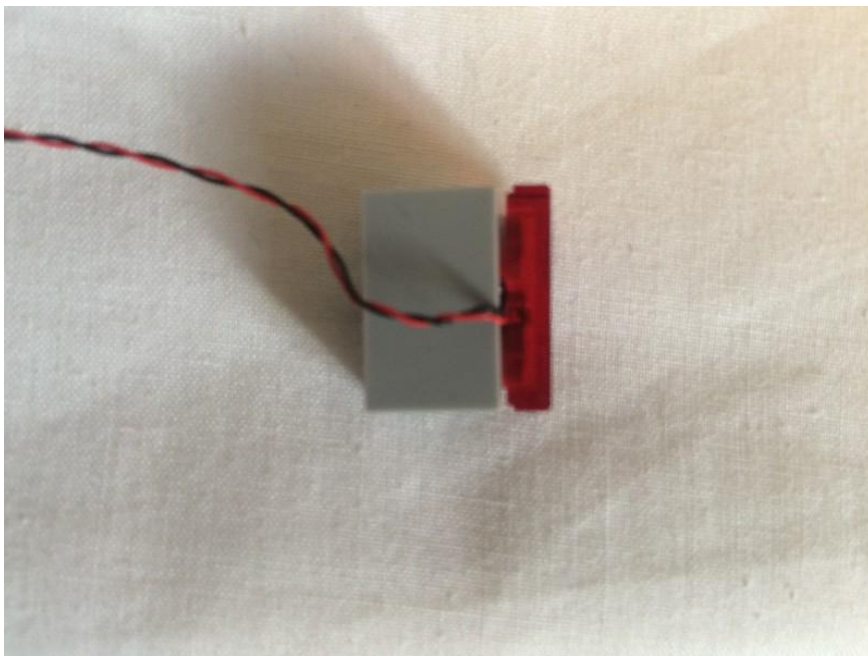


Grab a **White bit light** and rest it right in the centre of the two studs. The **White bit light** will not sit flush and will be in a slight angle.



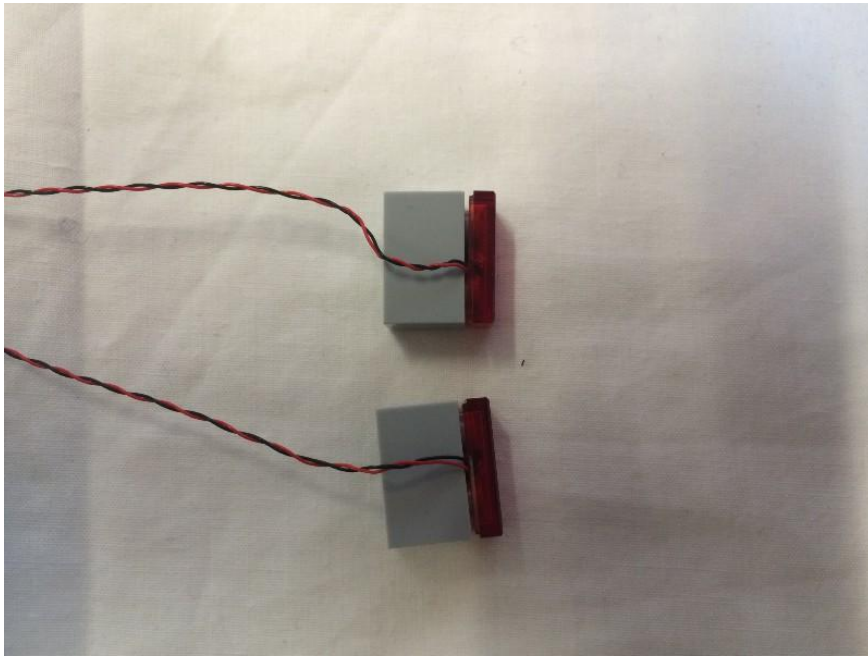


When you replace the transparent red piece, it will only close over about half of the studs leaving an obvious gap if you look closely. Carefully replace the transparent red piece so that it resembles the image below.

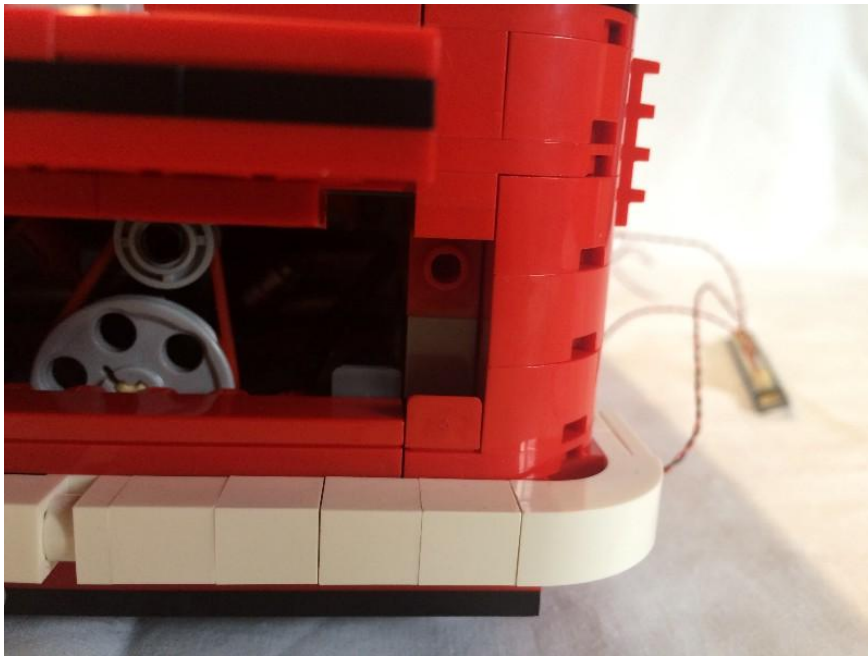


Do this for both lights.

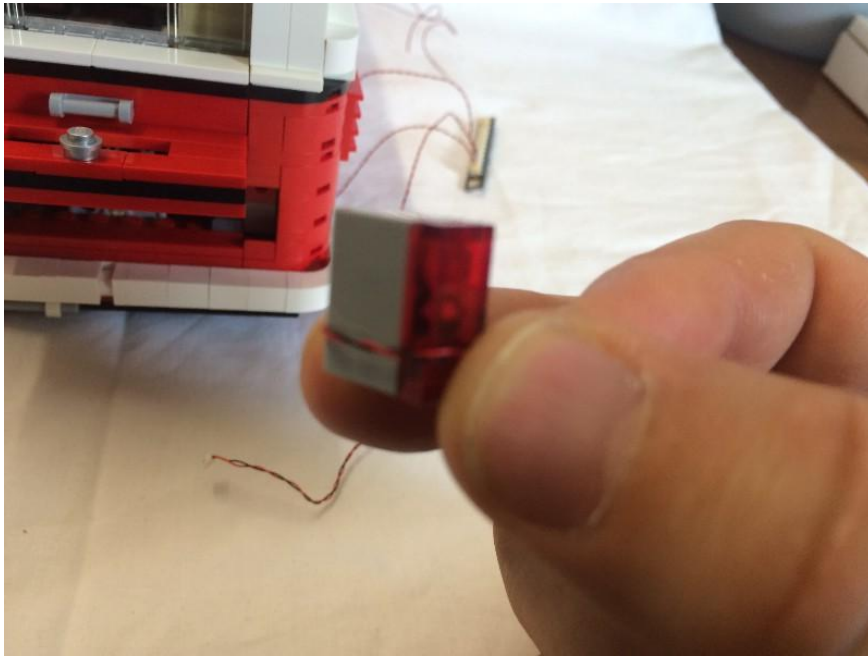




Have a look at the inside of the vehicle where these lights came from. Notice that the 1 x 2 brick only attaches to one stud (with the hole in it) on the red 1 x 1 brick.

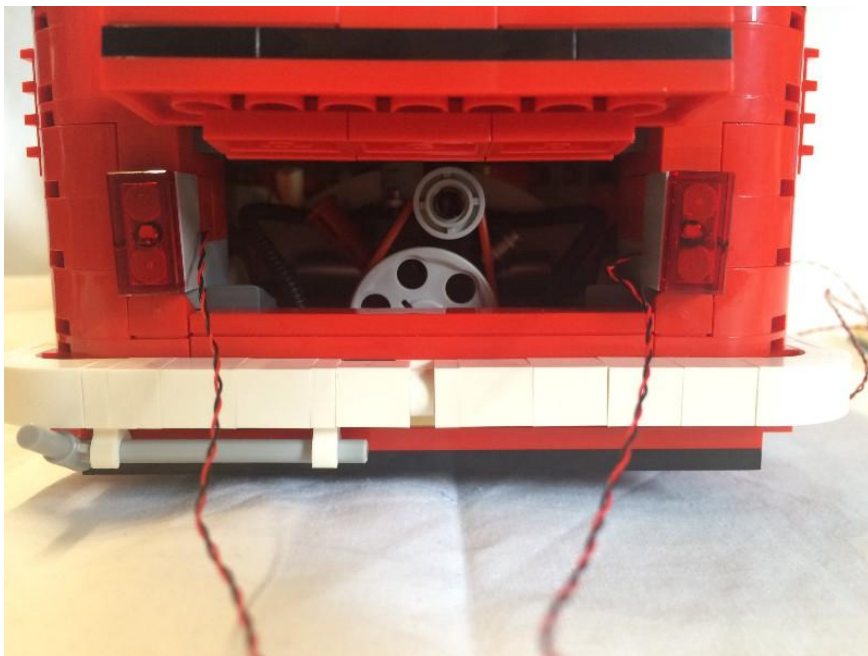


Wrap the wire around the lateral side of the brick and slightly low so that when you replace the light, the wire will sit underneath the red 1 x 1 brick (with the hole in it).

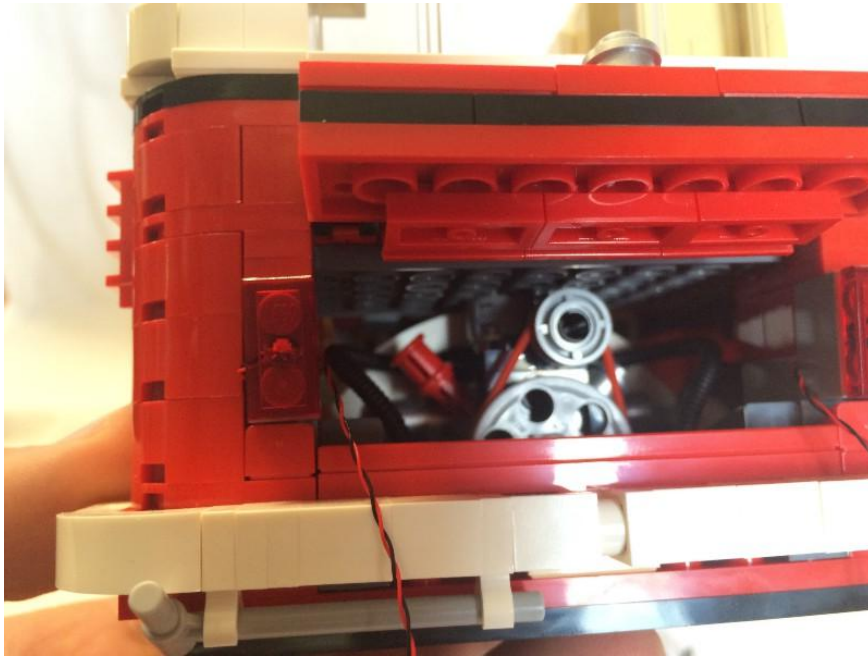


I have wrapped the wire around the right hand side of the brick, making sure that it runs along the lower half of the back of the brick and then I keep the wire wrapping going until I could secure it at the front with my thumb.

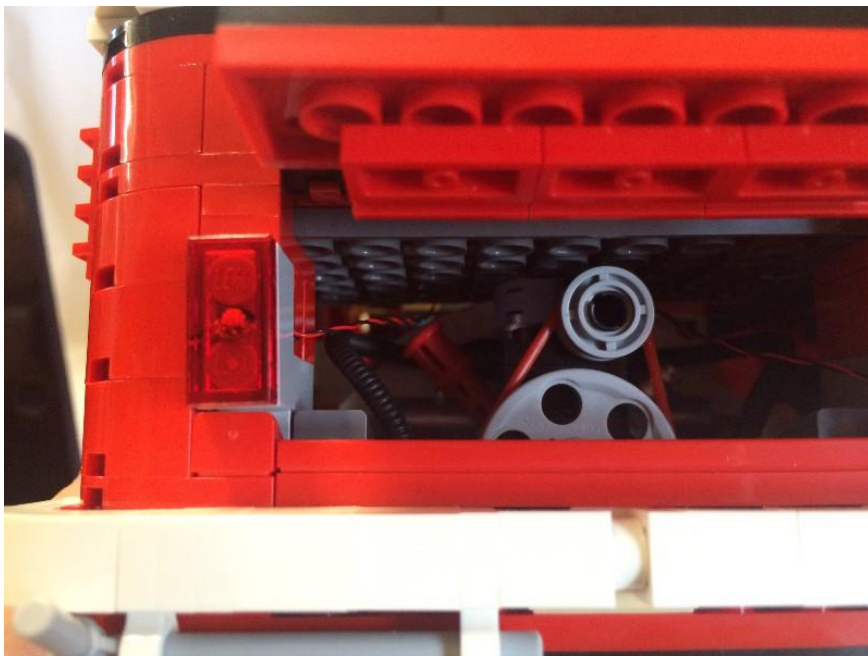
Replace both brake lights.



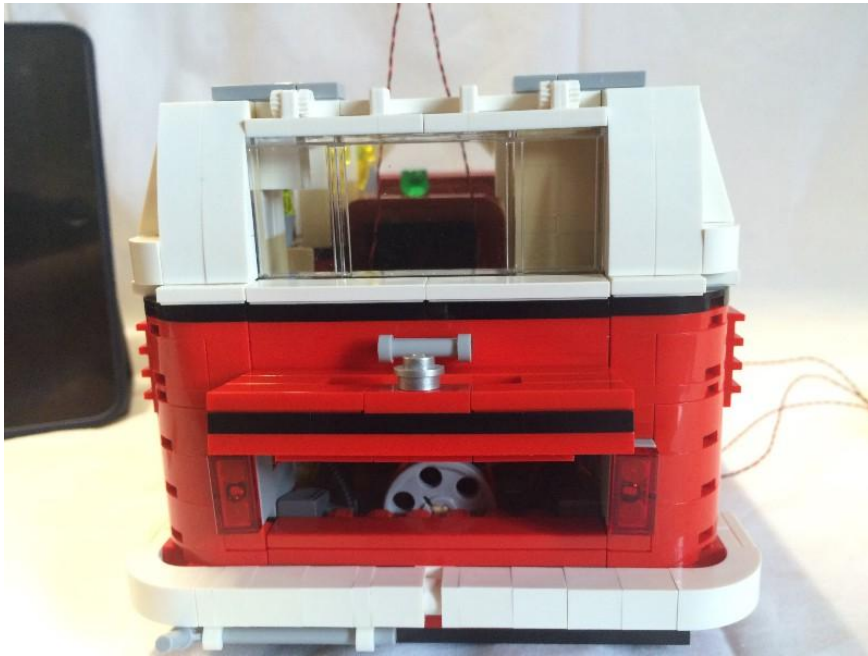
At the rear of the engine, there are white arch bricks running down from the centre to either side of the engine bay.



Run the brake light wires over the white arch piece on either side of the engine. They will come out underneath the back seat right above the gap we used to run the wires from inside the vehicle to underneath the vehicle.

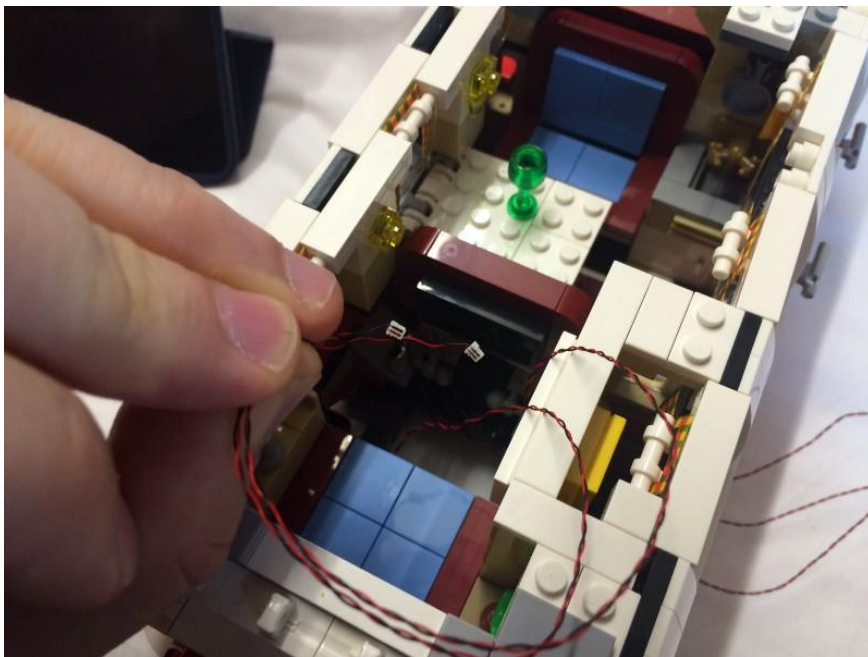


Gently pull the wires through



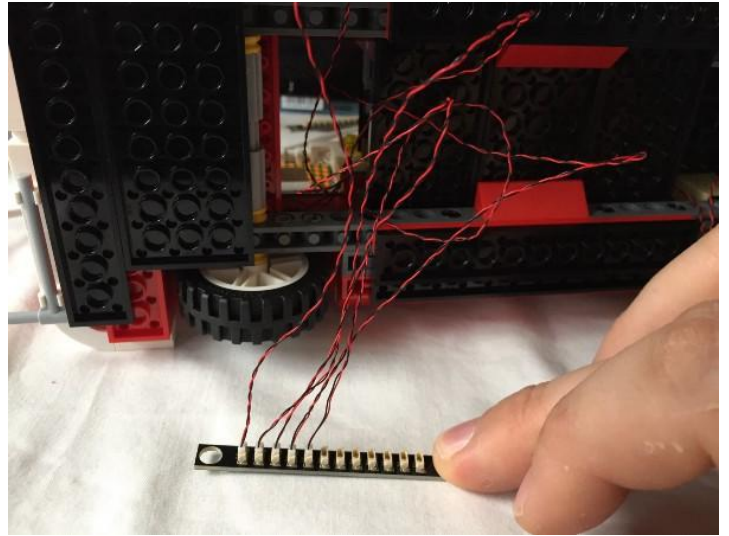
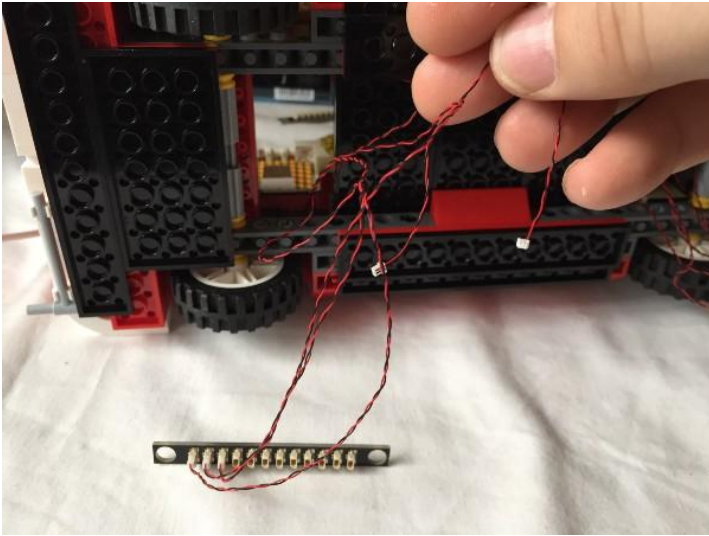
Carefully close the lower rear door. This will have a slightly tighter fit now that there are wires running around the brake light bricks.

Feed the wires down through the same gap in the floor we used before (underneath the seat).



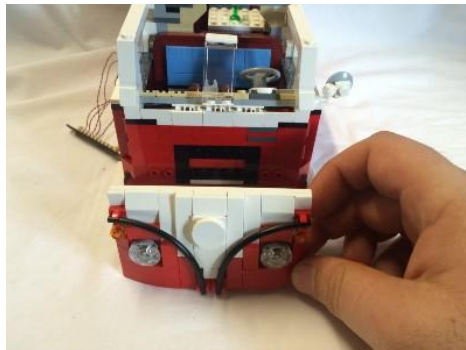
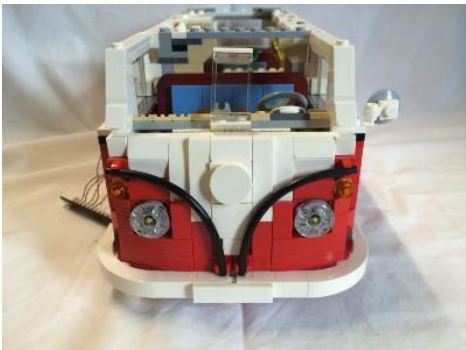
Lay the vehicle down on its side and pull the wires through. Connect them to the 12 port expansion board.





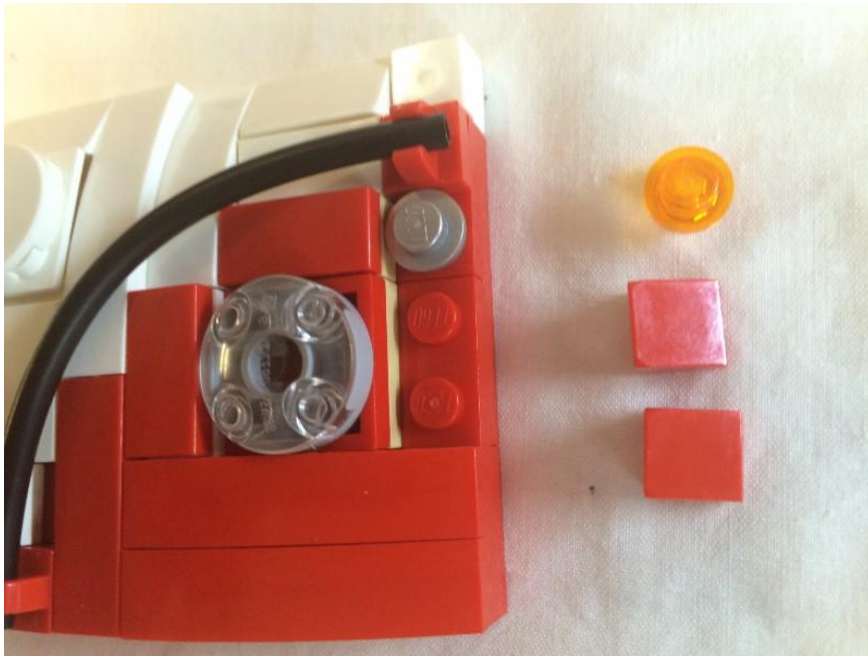
Alright—we are ready to tackle the front end!

With the front of the vehicle facing you, remove the front panel with the lights on it by pulling it towards you and then place it flat in front of you.

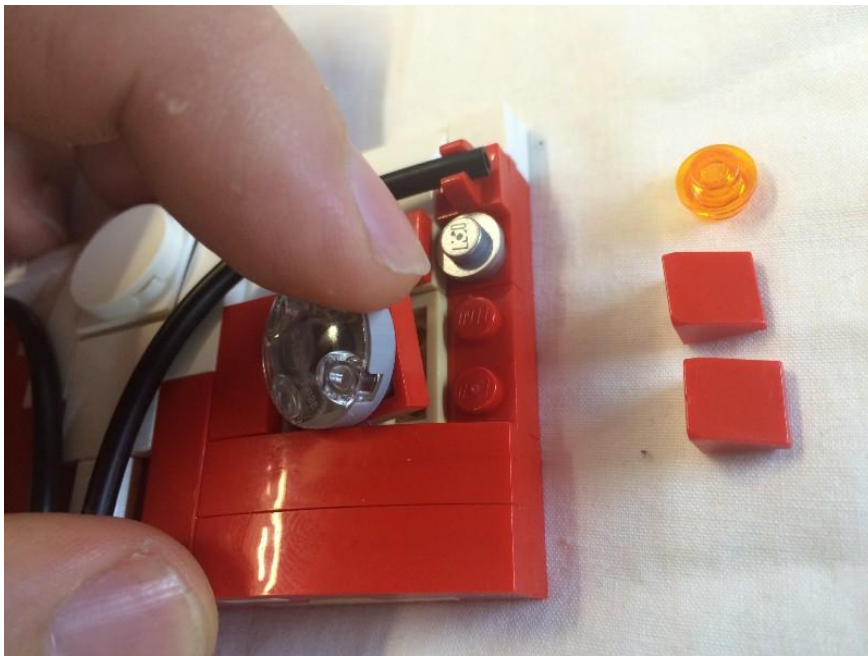


We will look at the right hand side but you will do exactly the same thing on the left hand side.

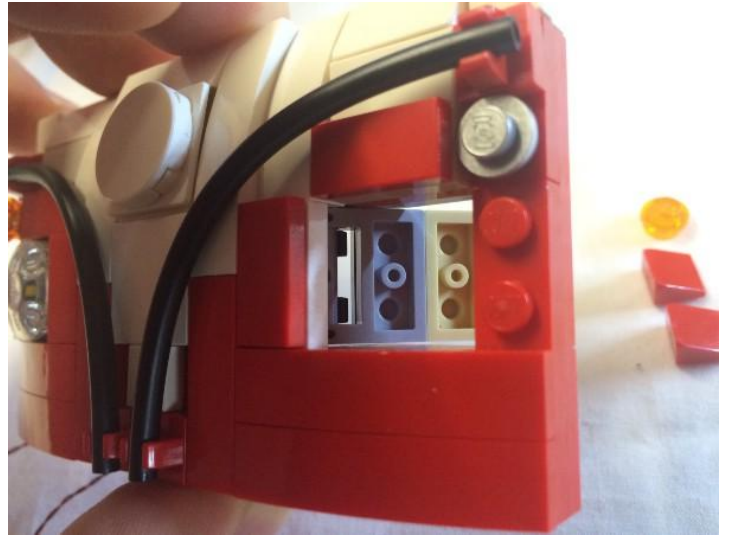
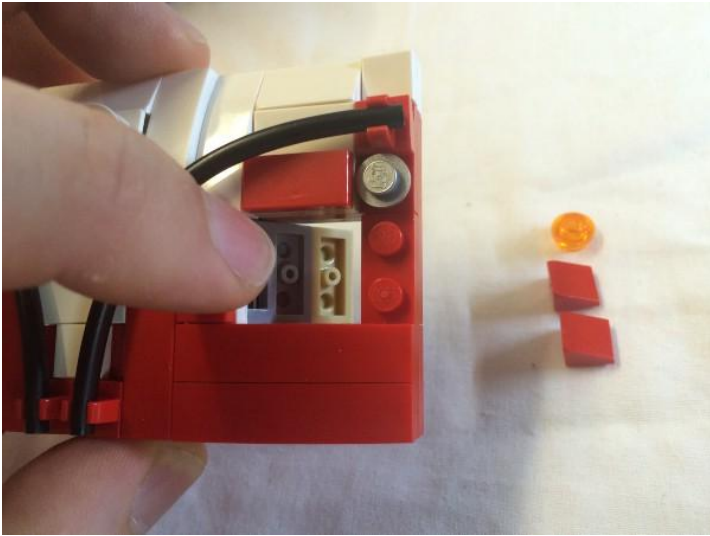
Start by removing the two red 1 x 1 slope pieces and the transparent orange 1 x 1 round plate.



Remove the red 2 x 2 plate that has the two 2 x 2 round plates on it (one transparent and one light grey).



You will see the back of a grey 1 x 2 hinge plate and a tan 1 x 2 plate. Push these out through the back about 45 degrees.

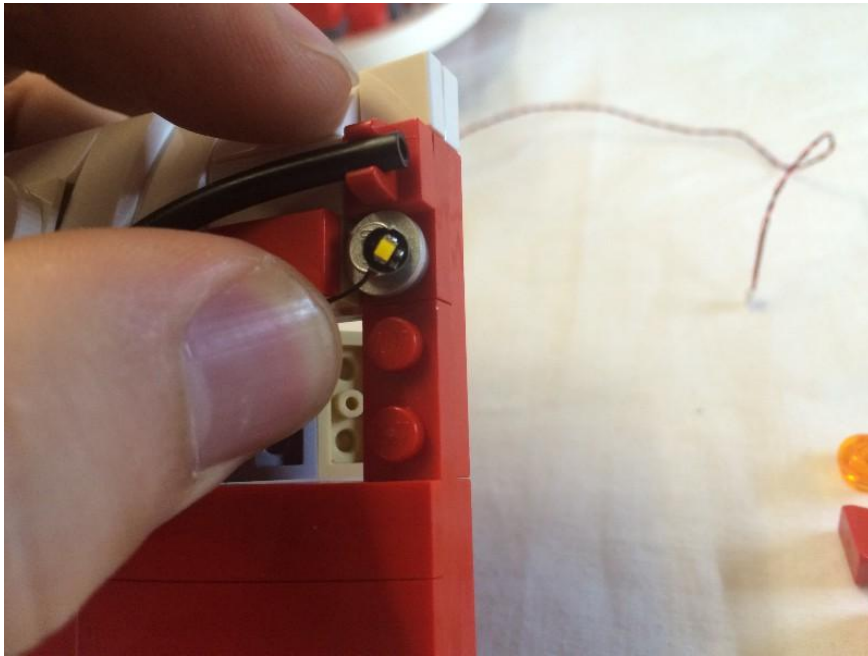


There is room between the grey 1 x 2 hinge plate and the hinge itself.  
Run a bit light up through the gap from the back.

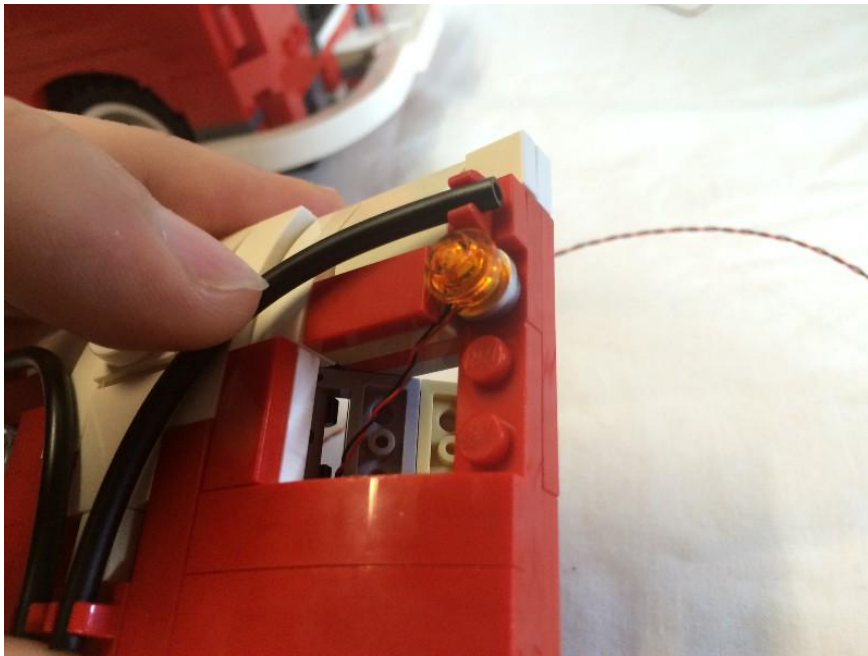


Pull it through until the LED can rest on the metallic 1 x 1 round plate.



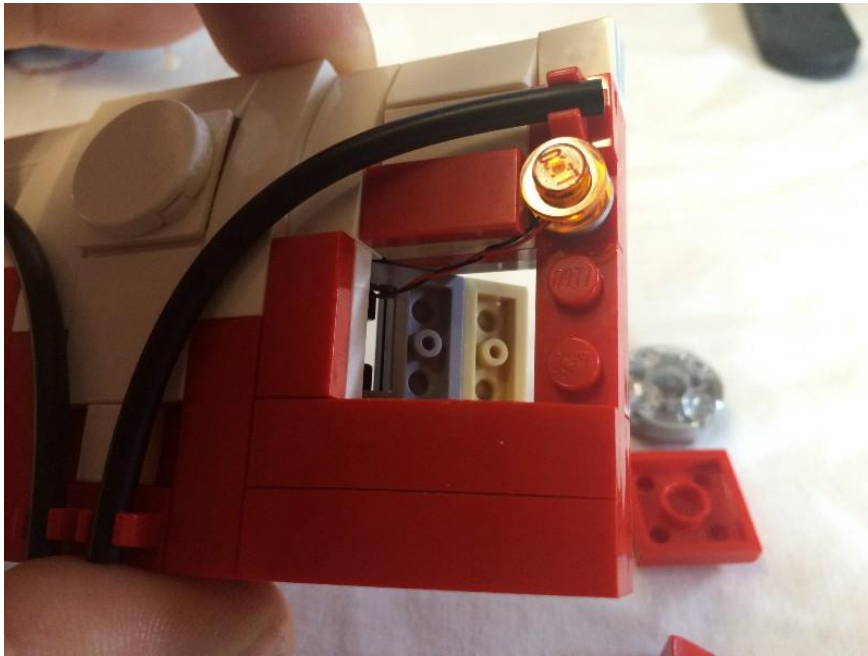


Gently replace the transparent orange 1 x 1 round plate.

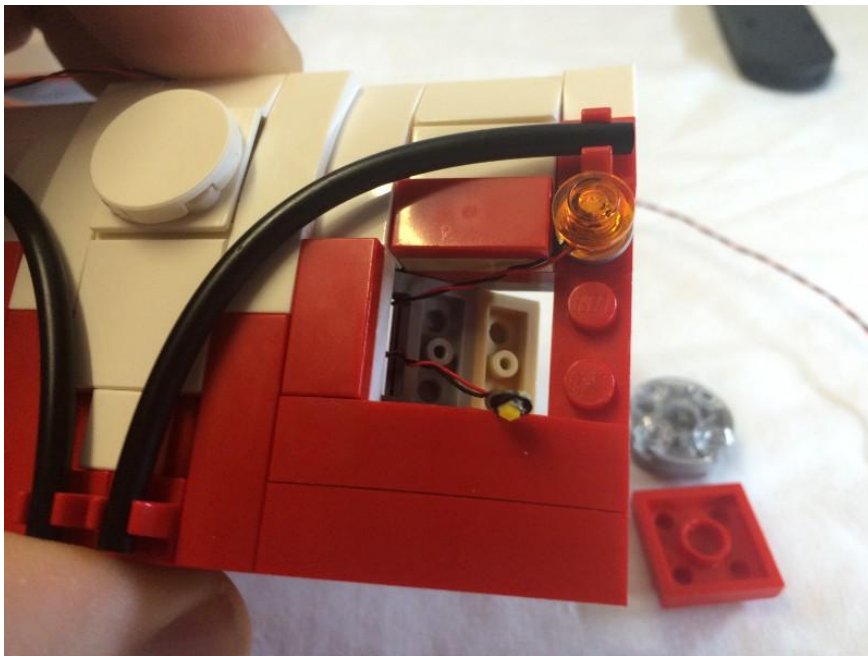


Try and keep the wire to the top of the hinge as you work on the next LED. You don't want these wires to cross.

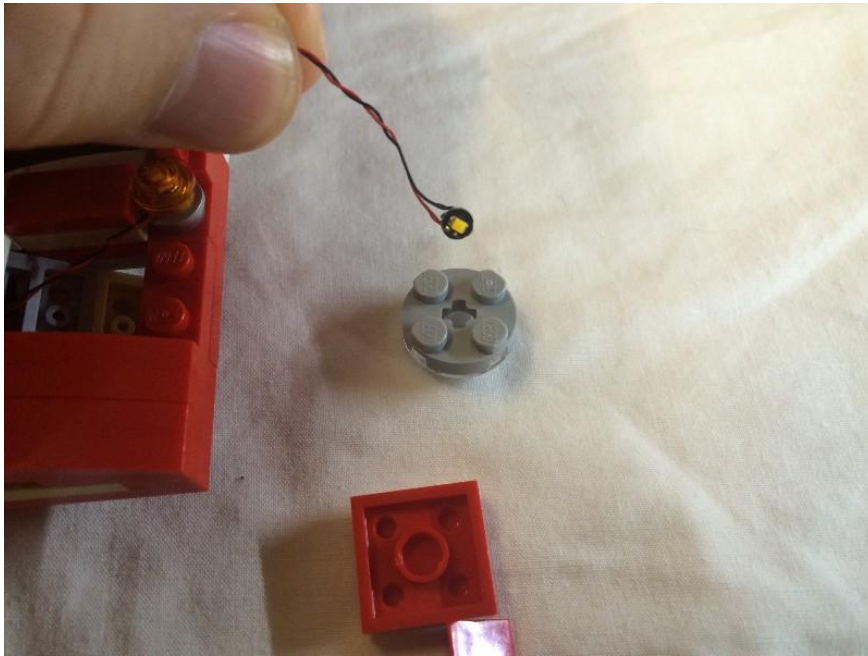




Feed another bit light in through the hinge from the back. Keep it below the LED wire you just fitted.

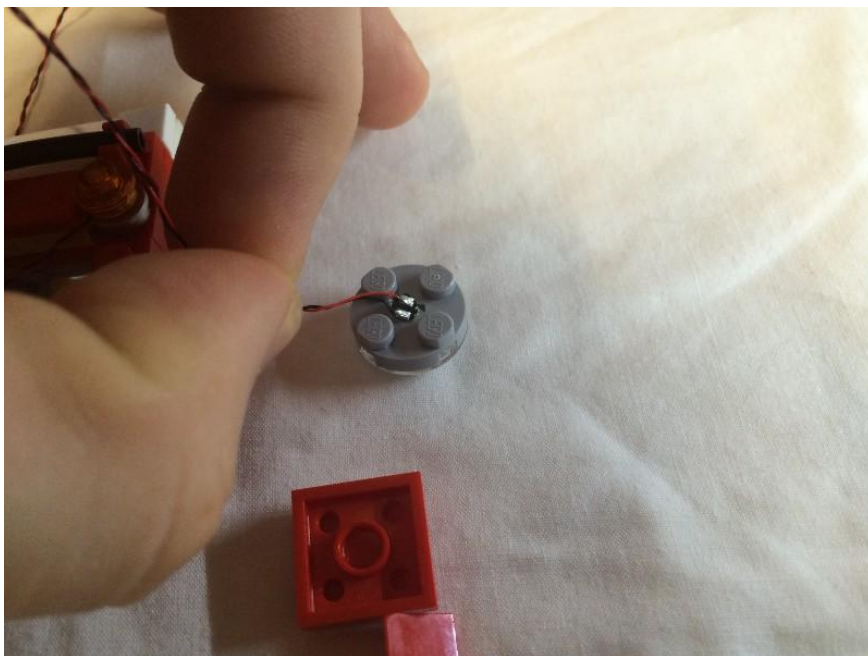


Pull the LED through and get ready to feed it in through the round plates you removed earlier.

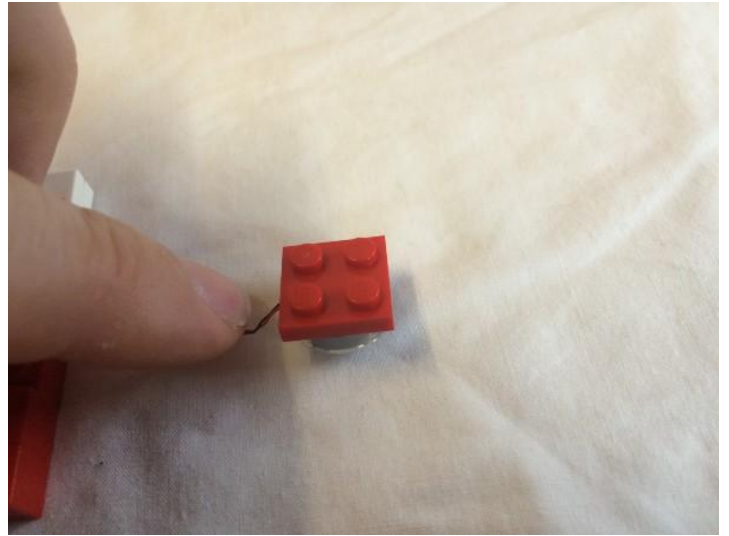
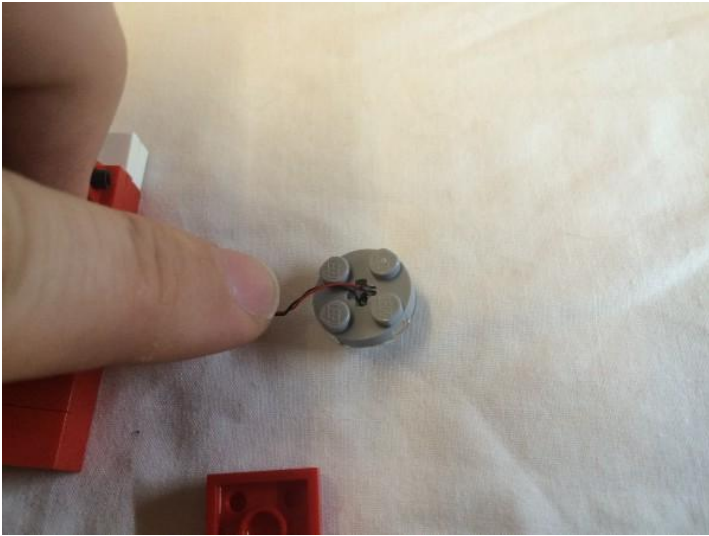


The LED will fit inside the X pattern hole you can see on the light grey round plate.

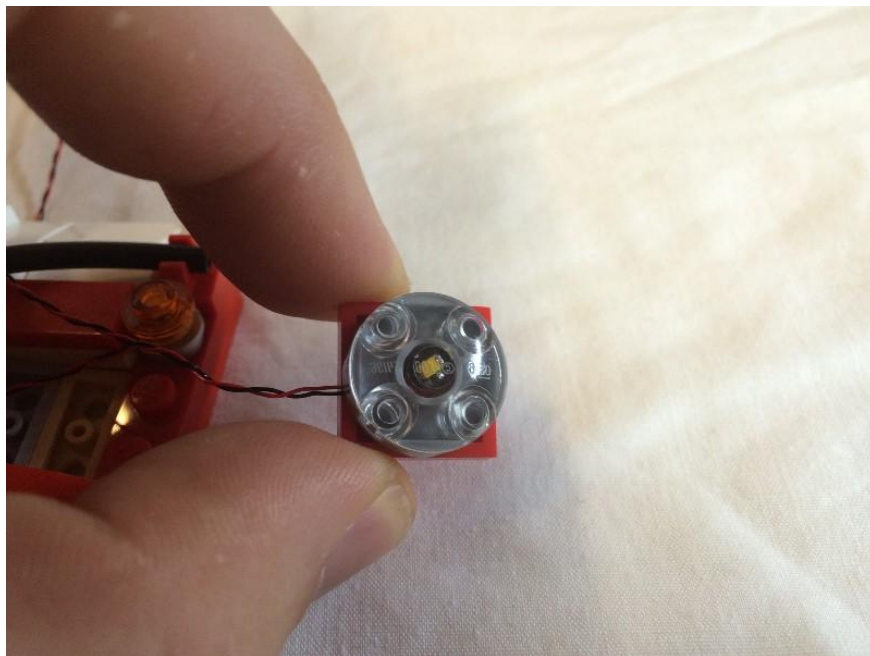
Place the LED inside the X pattern hole face down (that is with the yellow side of the LED face down and the side that the wires are soldered to face up).



With the LED now inside the round pieces and the wire running out between the studs, replace the red 2 x 2 plate.

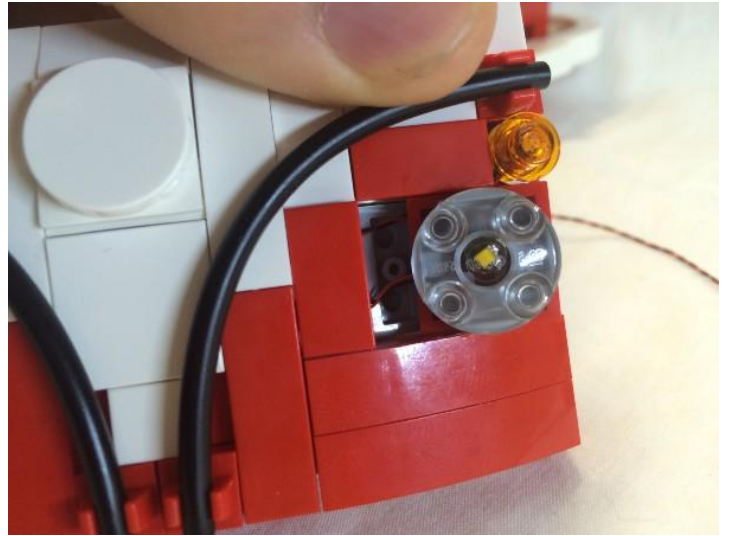
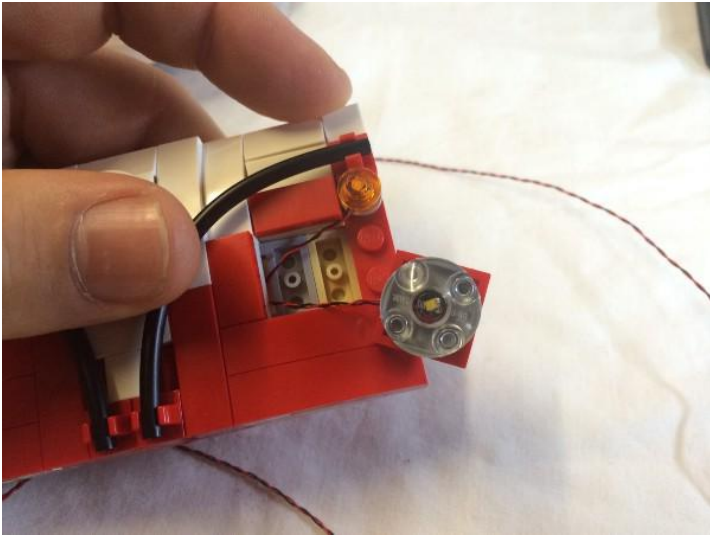


When turned over, it should look like this:



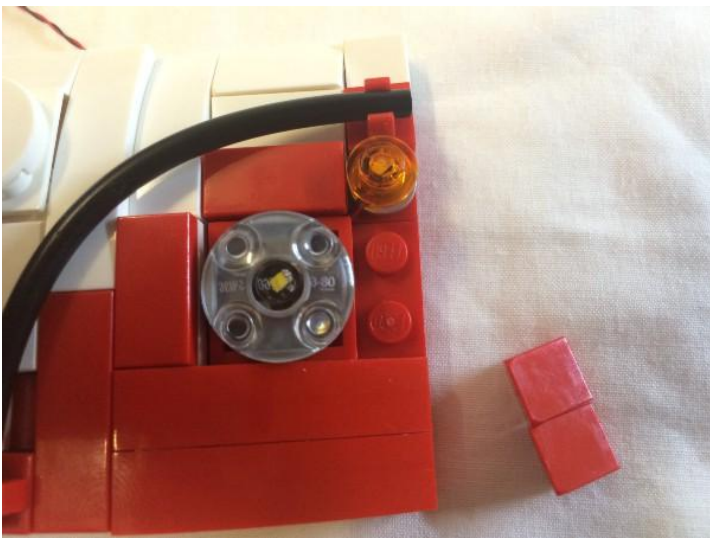
Pull the wire back through the hinge as you move the headlight pieces back in to place.





Keep the wire from the indicator piece as high as possible so that it doesn't get caught under the studs of the piece we are putting back. I like to gently slide the headlight pieces in from the side which will help to push the other LED wire up and away from the studs.

Replace the headlight piece and the two 1 x 1 red slope pieces.



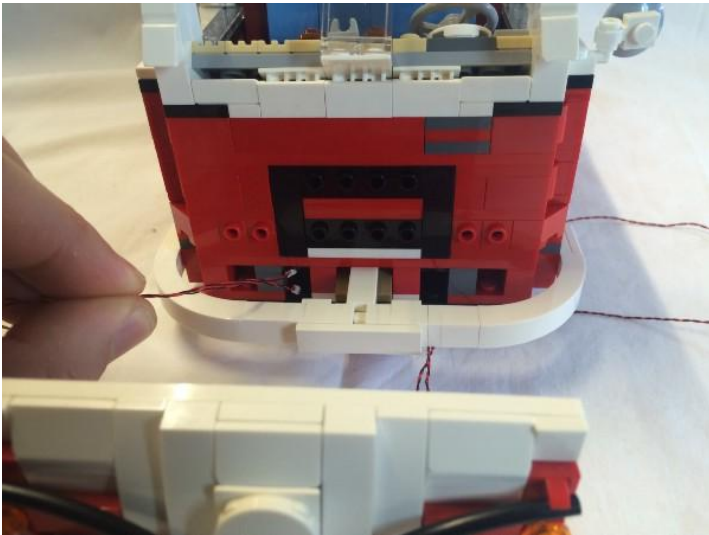
Repeat these steps for the other side.



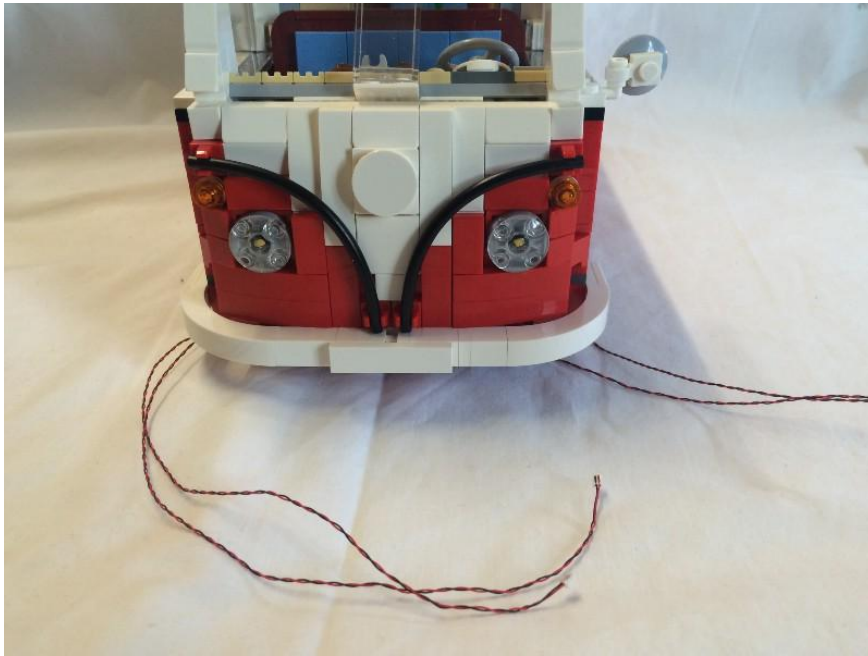


Looking at the front of the vehicle, there is a white piece that travels from the bumper bar in through the centre of the vehicle. Next to that on either side is a small gap, then a red brick, then a larger gap and then a dark grey brick.

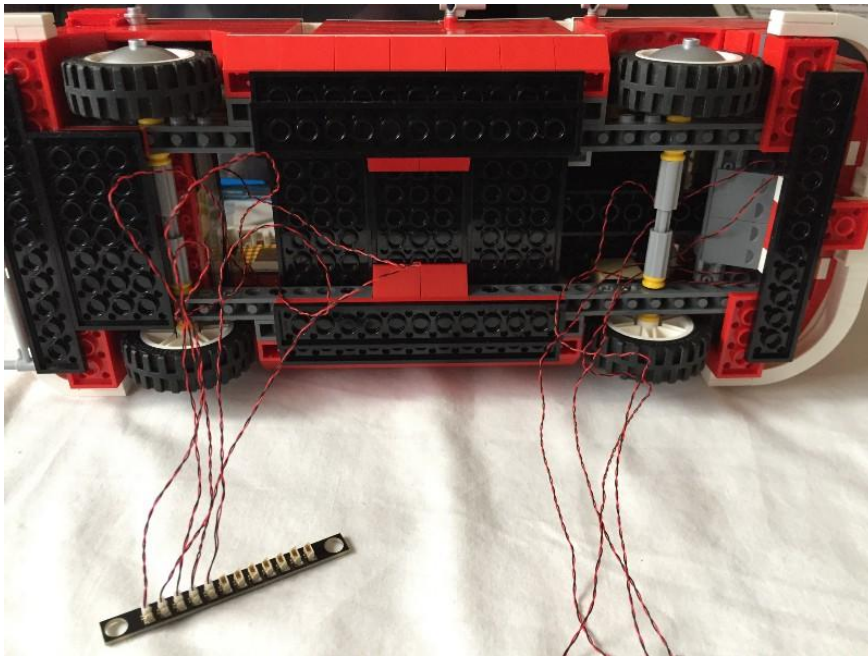
We are going to feed the wires from the front end in through the larger gap on each side.



Because the wires are lower than any of the the studs that attach the front end to the main vehicle, they should freely move through as you gently pull them as the front end gets closer. Replace the front end.

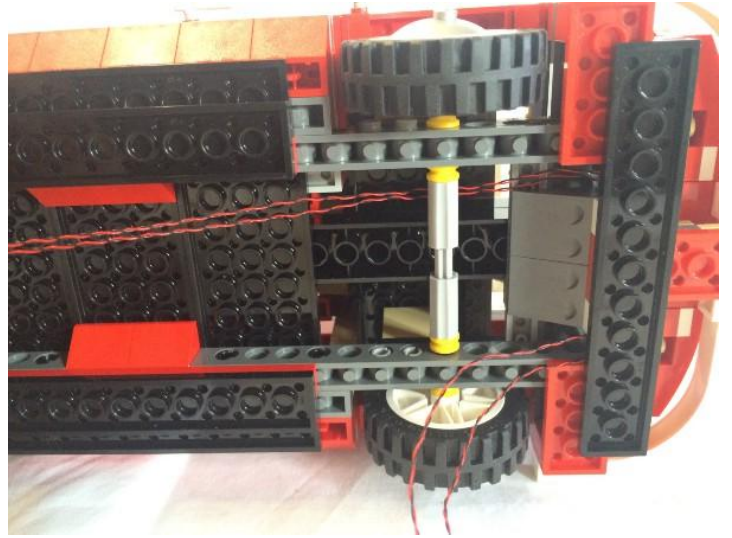
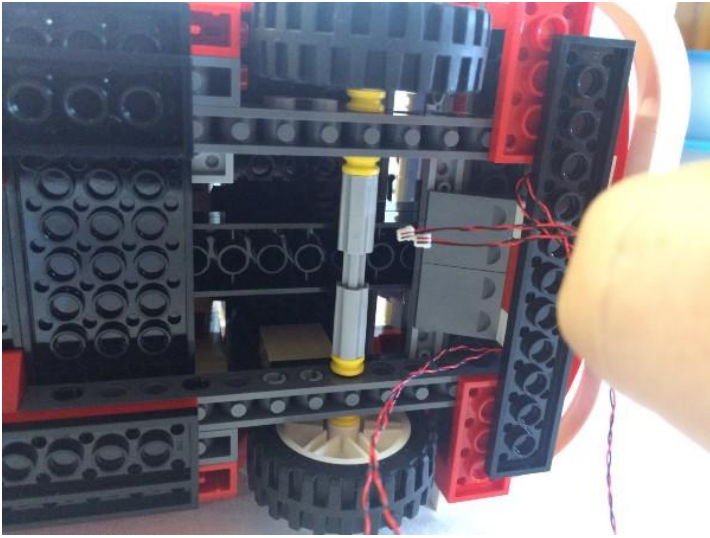


Flip the vehicle on its side so you can access underneath.

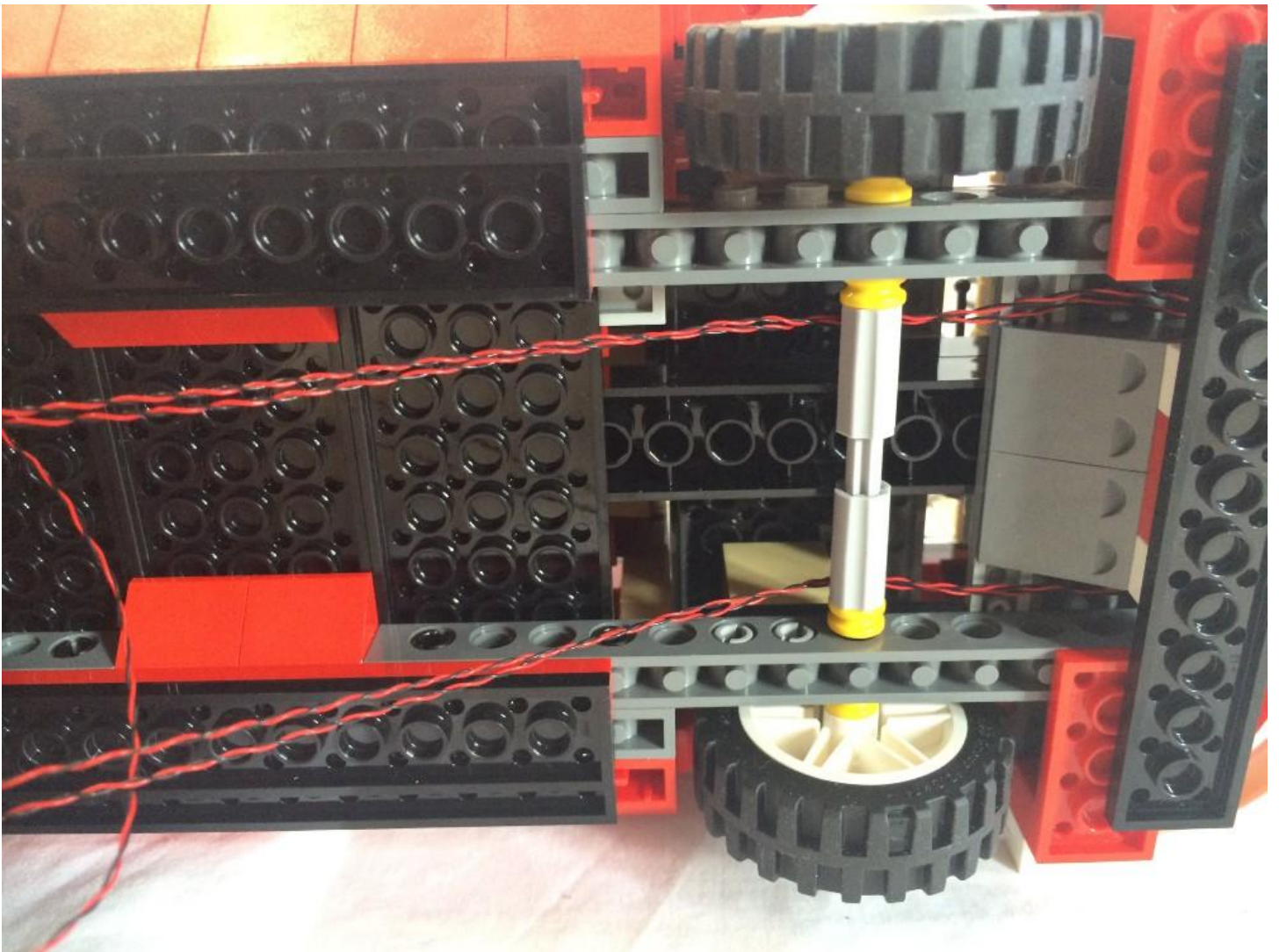


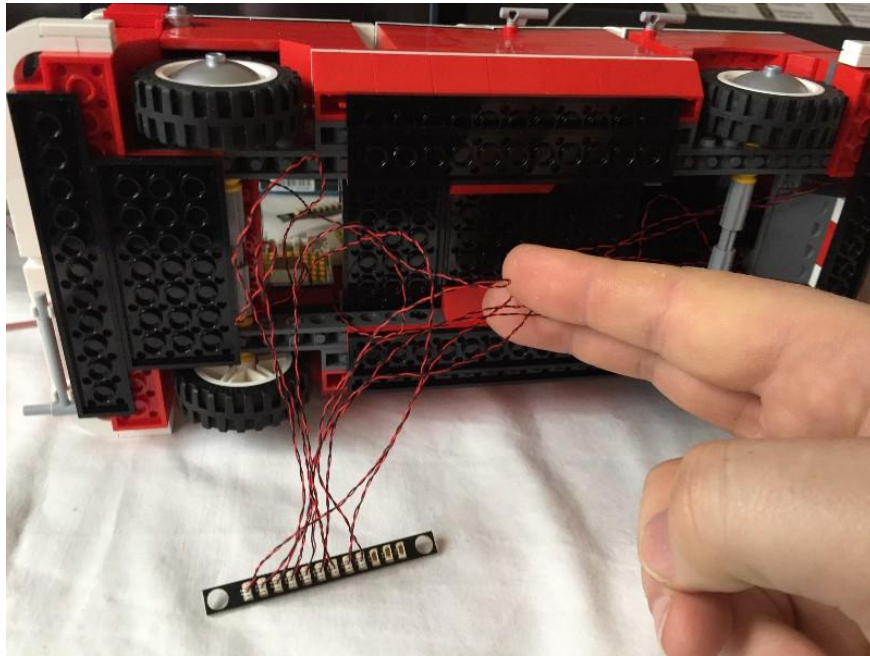
Feed the wires over the top of the front wheel axle.



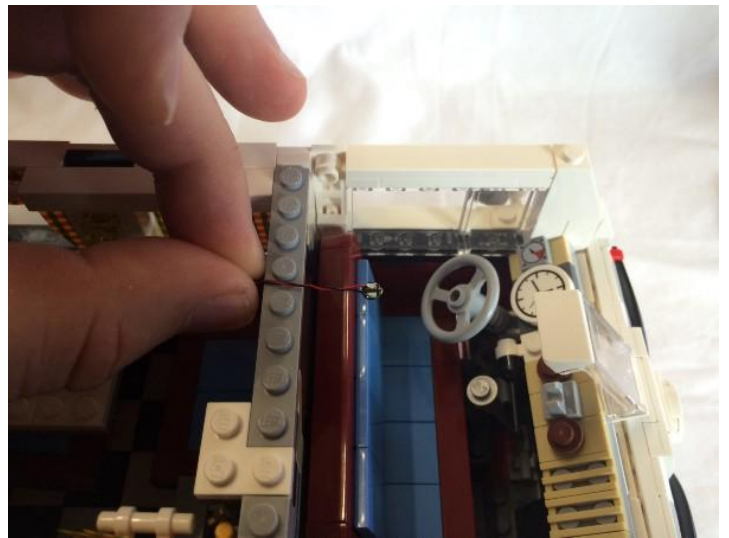
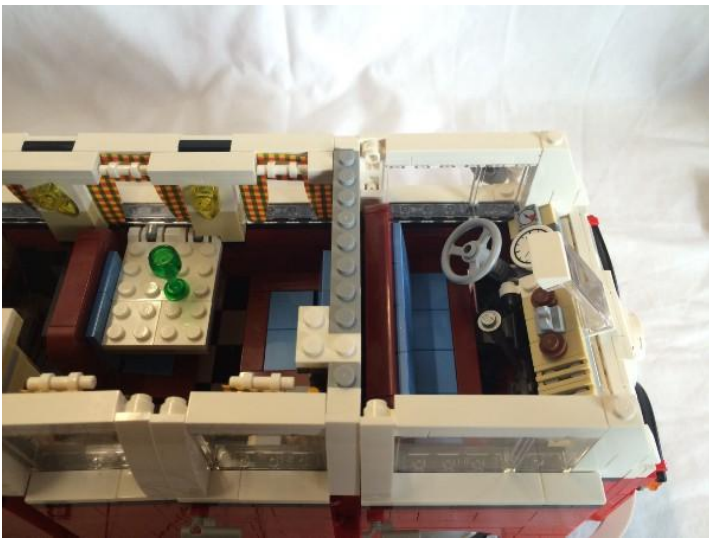


Connect these wires to the 12 port expansion board.



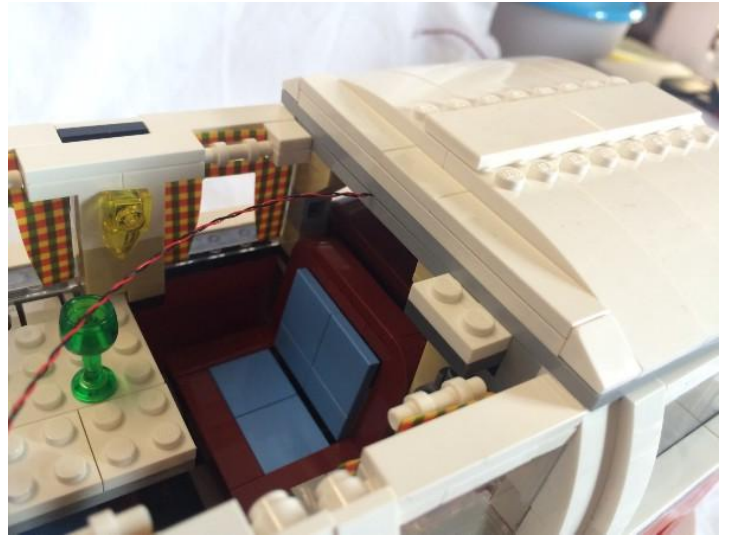
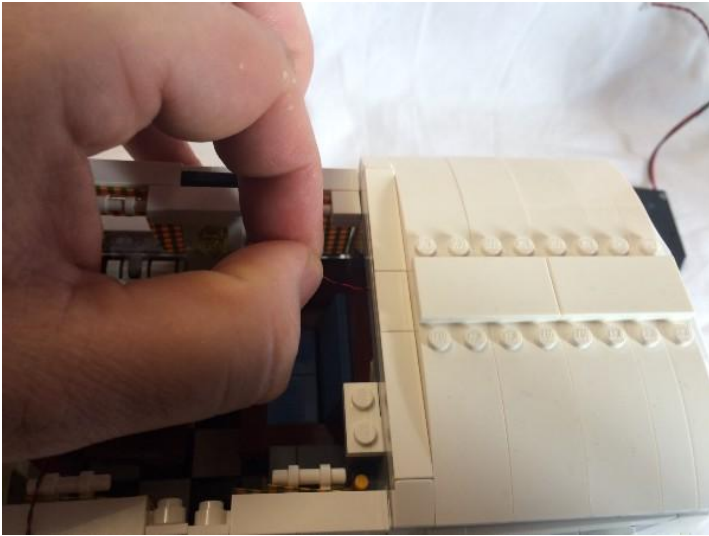


OK, there's just one more light to fit to light up the front cabin. Grab a bit light and with the lamp running about 1 cm forward into the cabin, rest the cable in between two studs near the centre of the top cross beam.



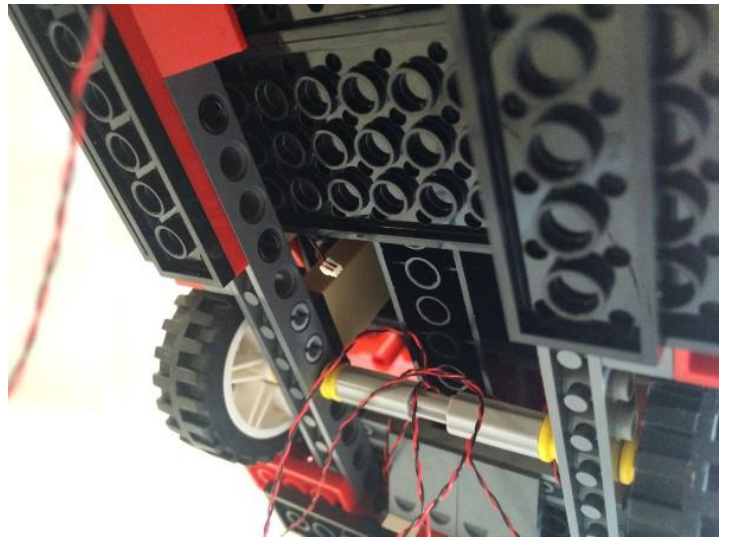
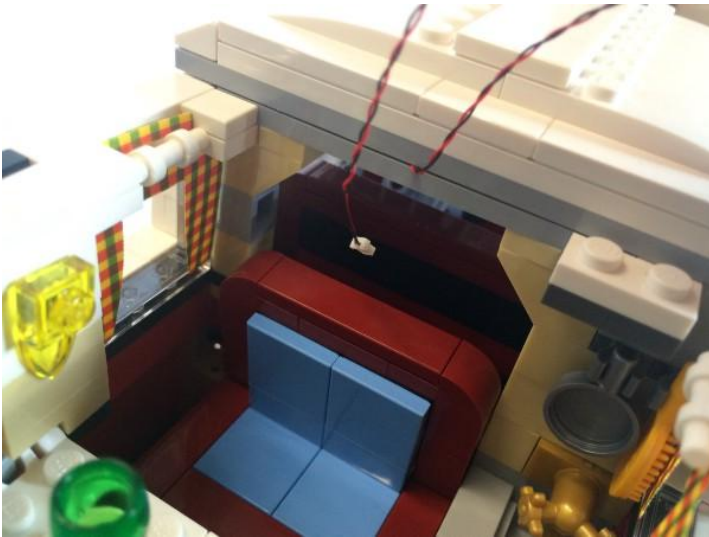
Put the front section of the roof back on.





Run the plug end of the wire down in between the driver's seat and the nearest seat in the rear cabin. You can move the backs of both seats away from each other to create space.

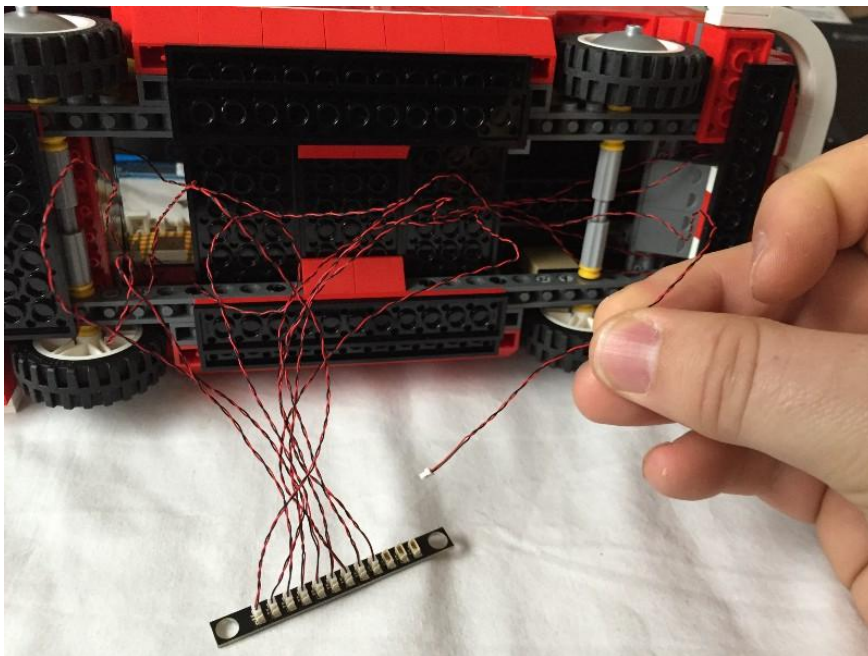
The wire will poke out the bottom near the front wheel axle.



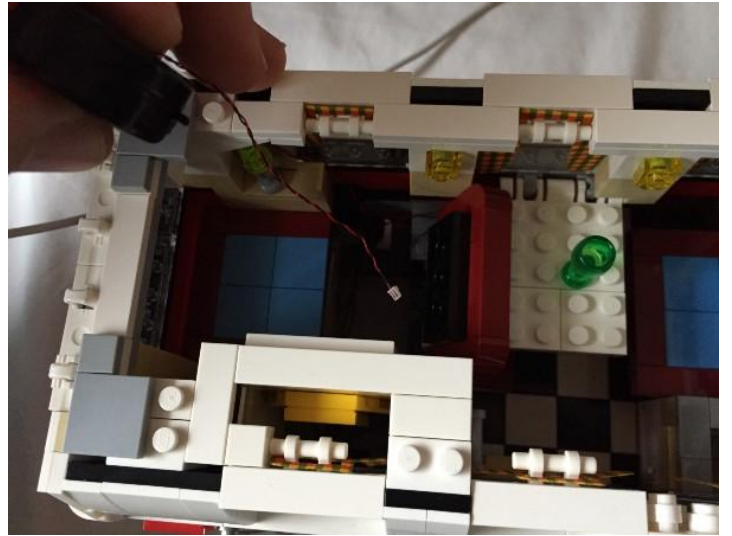
Pull the wire through and put the seats back into position.



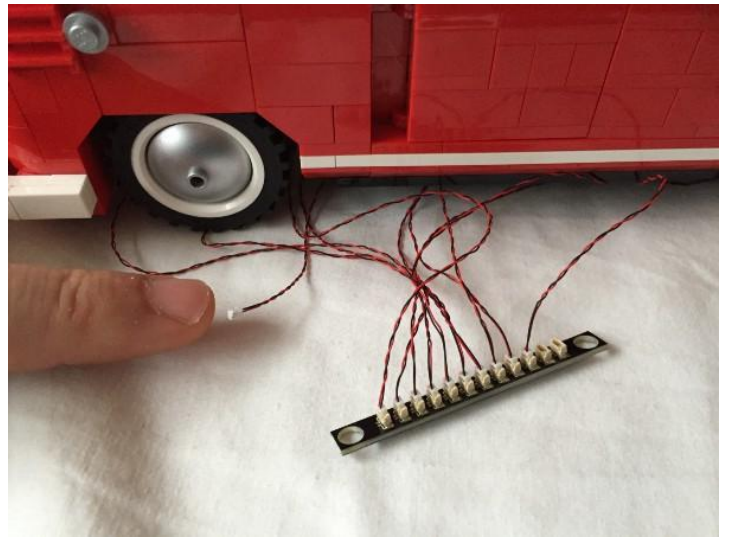
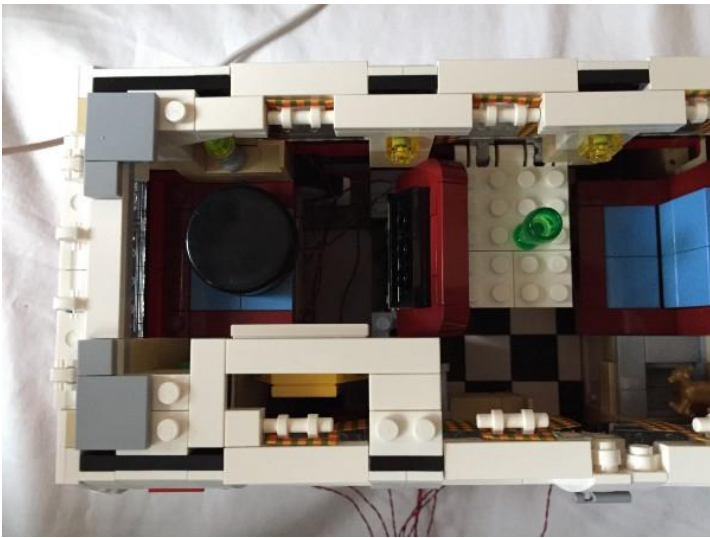
Plug the LED wire into the 12 port expansion board.



Grab the coin cell battery pack and feed it in to the top of the vehicle so that the plug end runs down into the gap we have used before by moving the rear seat.

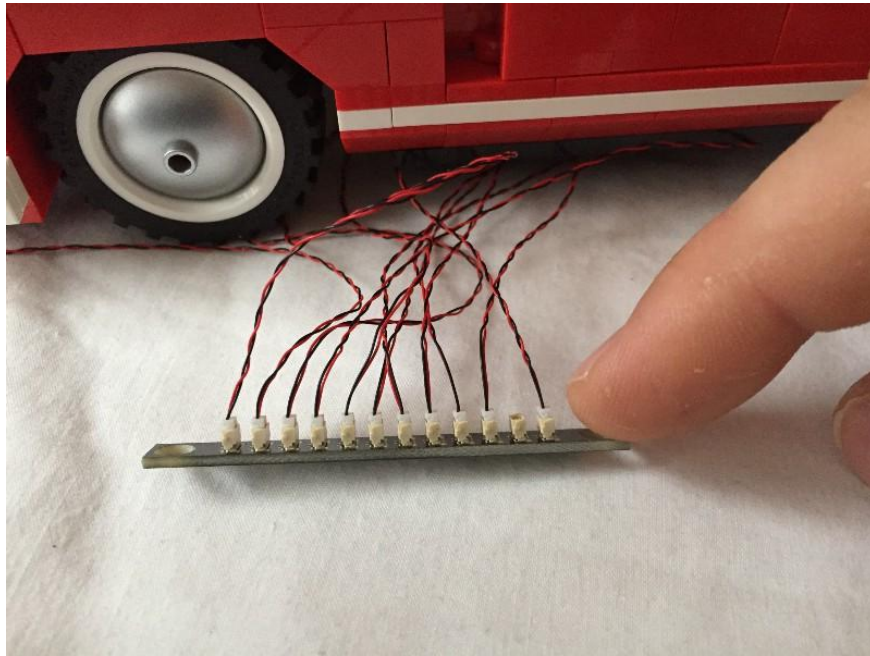


Allow the battery to rest inside the vehicle and locate the plug from the under side of the vehicle.



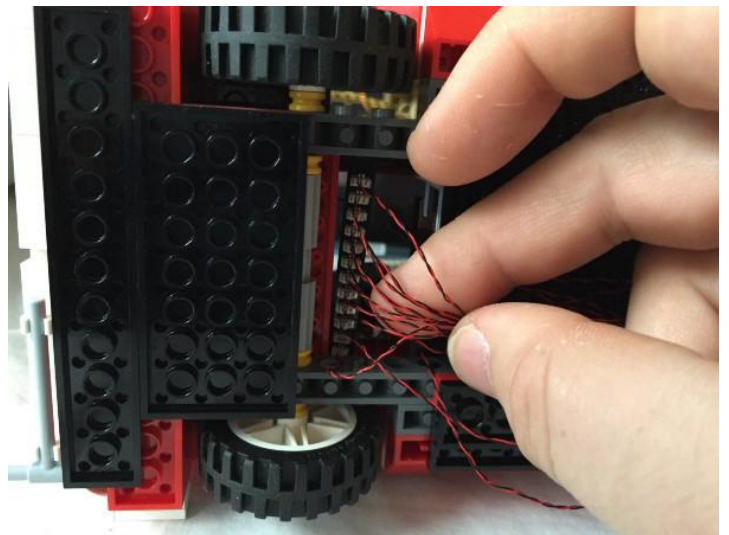
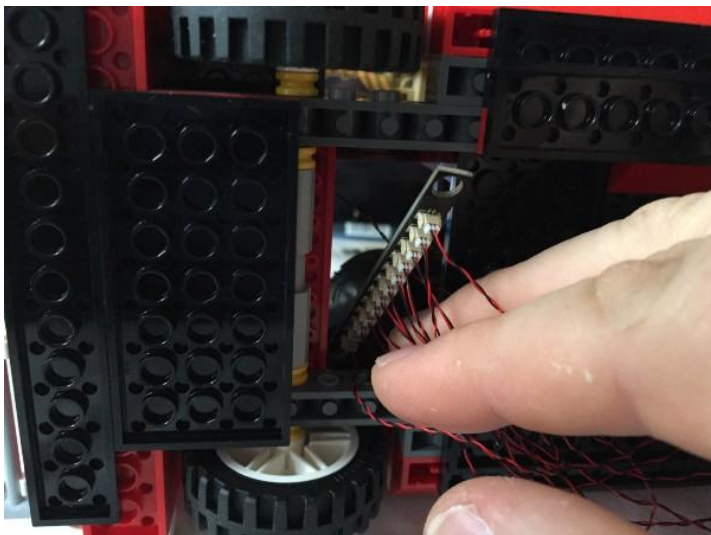
Plug the battery pack connector into the 12 port expansion board.





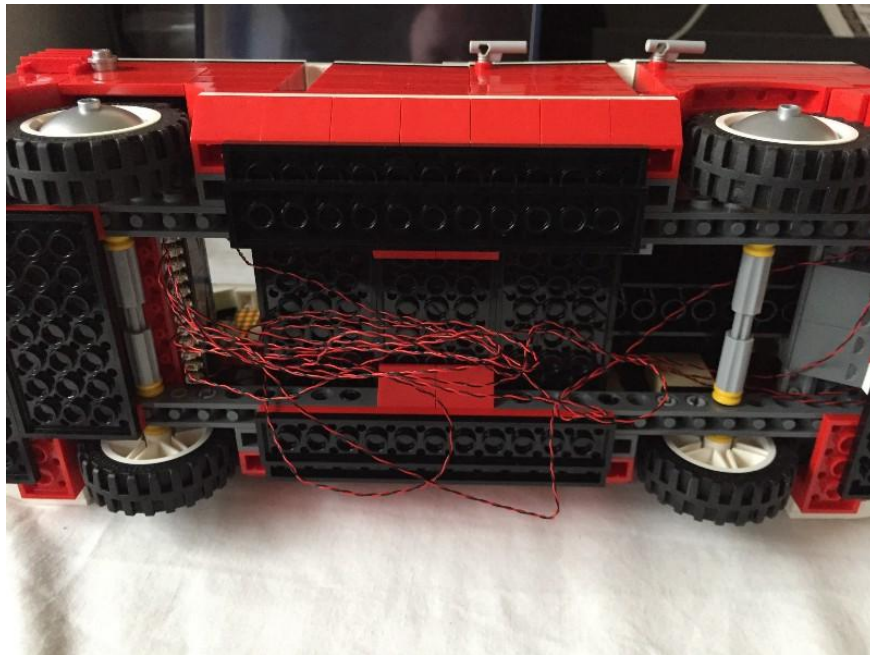
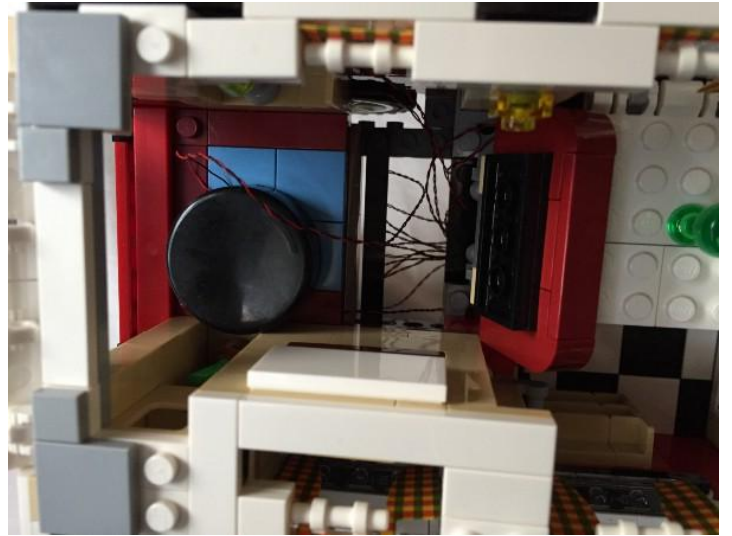
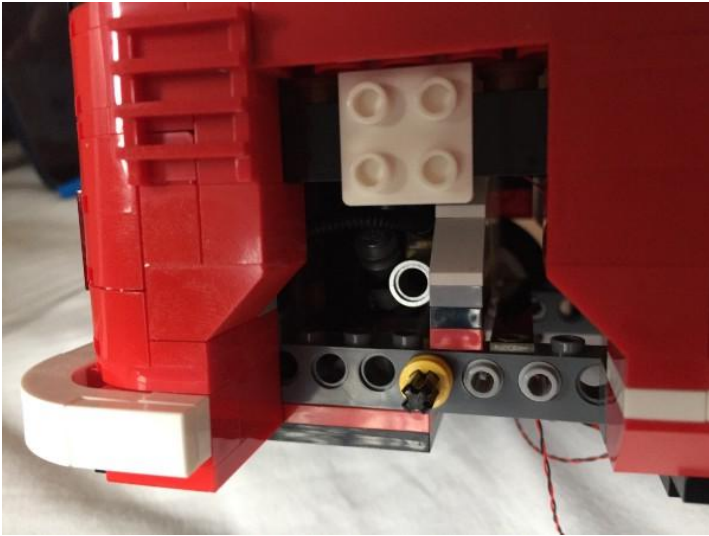
Now we are going to secure the 12 port expansion board to existing brick studs available inside the vehicle.

With the wires and plugs facing down towards you, feed the 12 port expansion board up through the gap that we ran all the wires through. Push one side up and then the other. When you have cleared the dark grey technic bricks that the wheel axles run through, lay the 12 port expansion board down to rest with either side on each to the technic bricks.

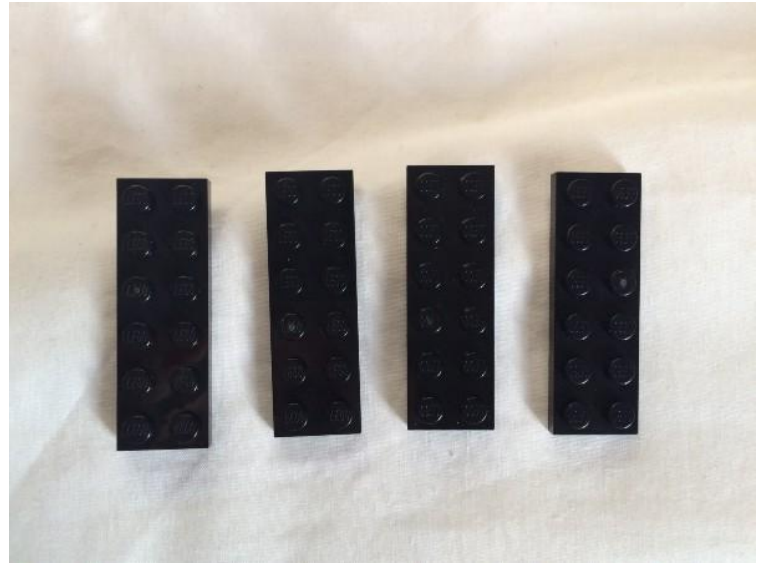


The holes on either end of the 12 port expansion board will fit over a stud. It is a tricky angle to work with so remove the wheels or work from the top down to secure the 12 port expansion board.





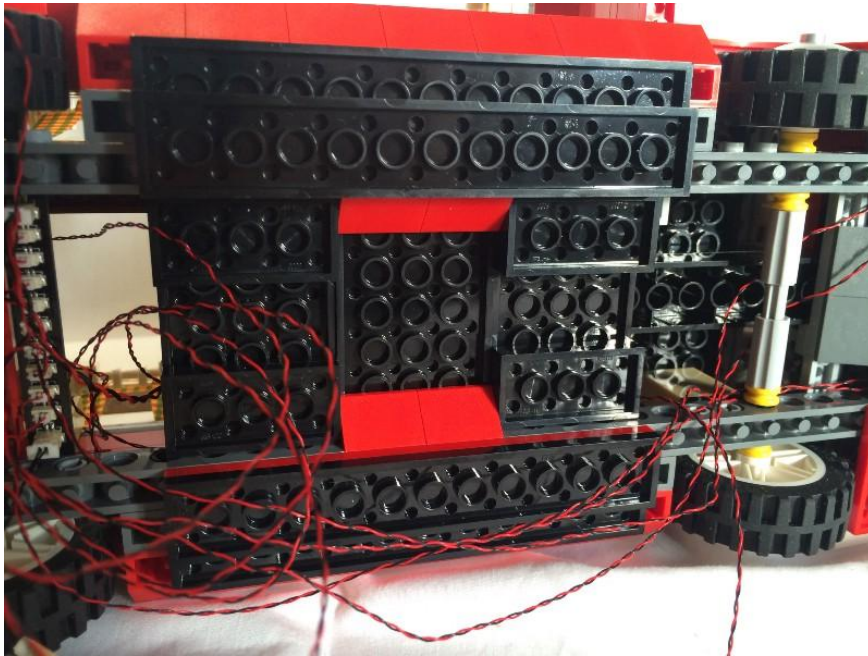
Now given what it looks like, you may want to tidy things up a bit!!  
Grab eight 2 x 4 plates and four 2 x 6 plates.



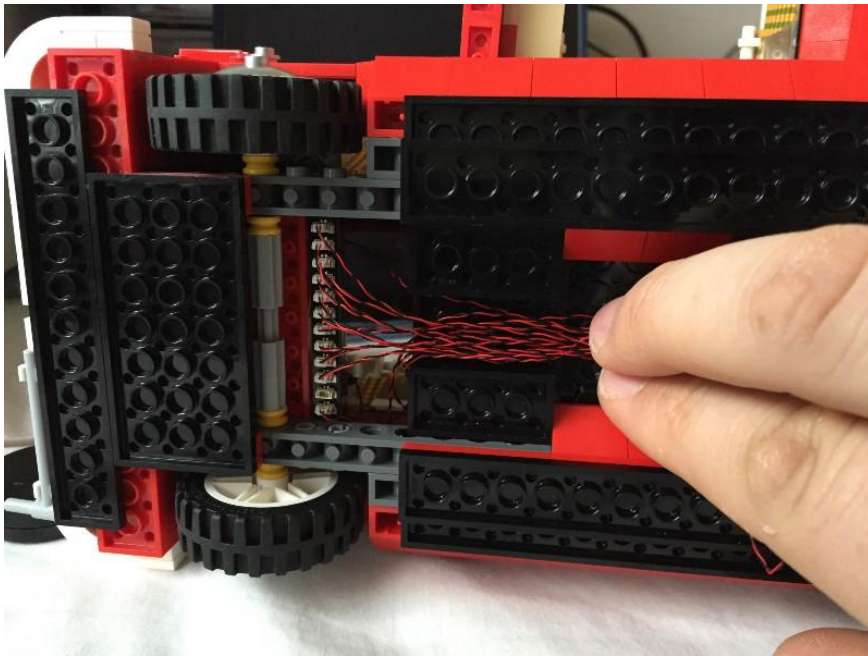
Take four pairs of 2 x 4 plates and join them together.



Look for the red slope pieces at the centre of the under side of the vehicle. Put one pair of the 2 x 4 plates at each end of the red slope pieces running longways.

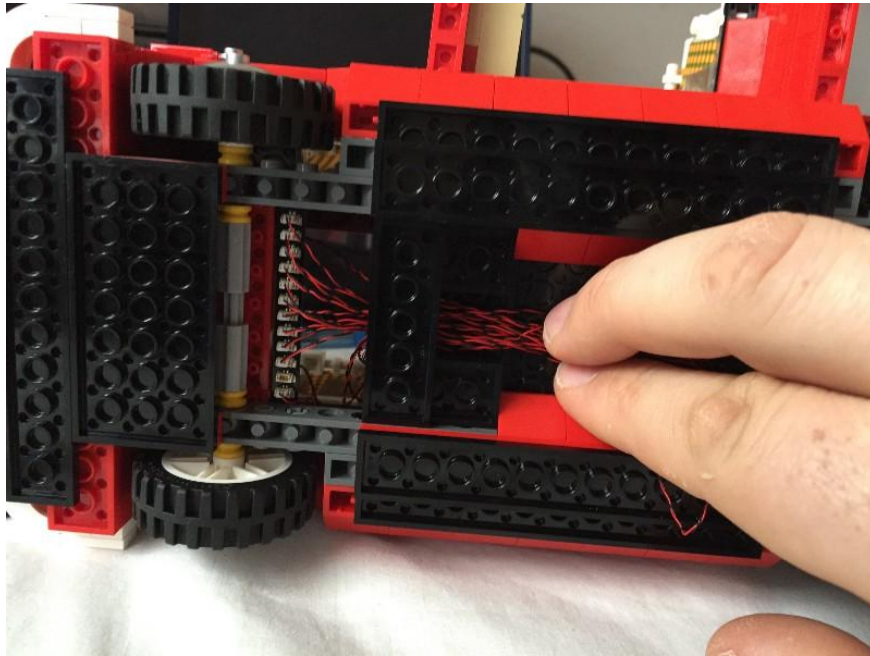


Gather the wires coming from the 12 port expansion board and gently gather them together running them through the middle of the two pairs of 2 x 4 plates you just placed.

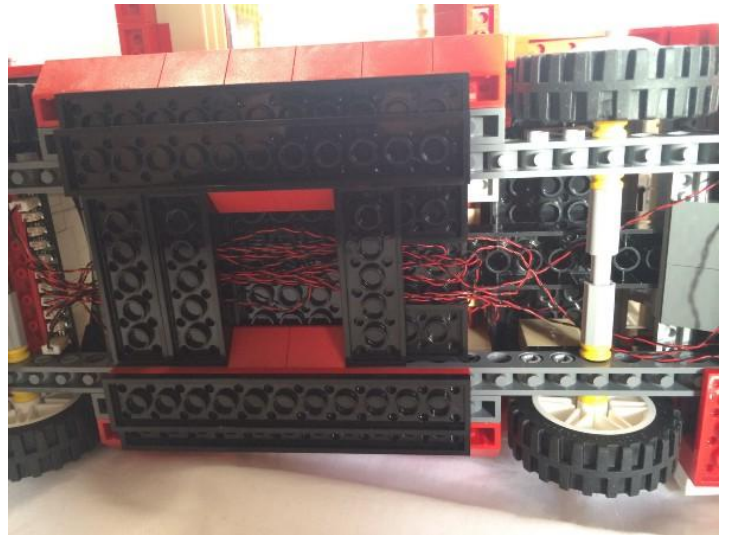
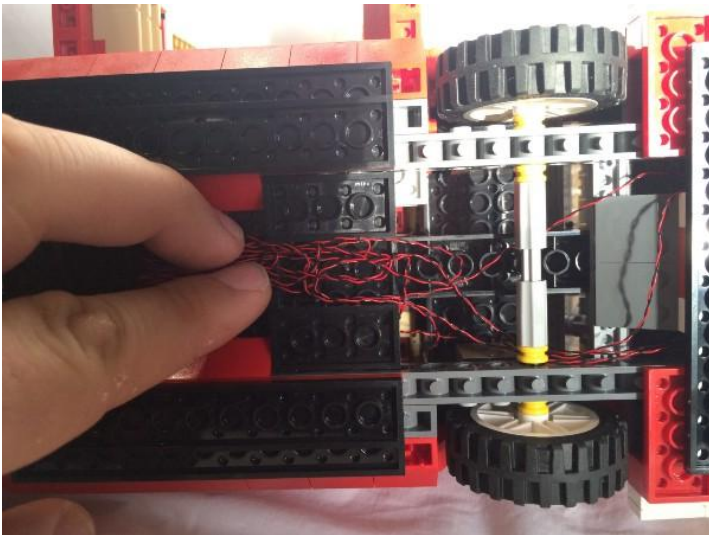


Make sure that the wires are clear of the two pairs of 2 x 4 plates and fix a 2 x 6 plate across the top of the wires, joining with each pair of 2 x 4 plates.

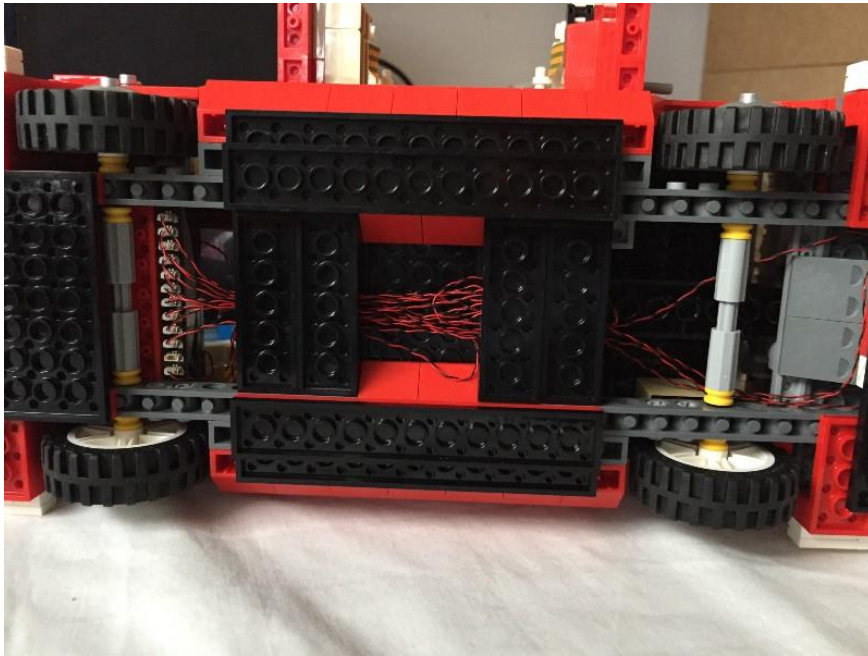




Place the other 2 x 6 plate next to this one, and repeat this process for wires coming from the front end of the vehicle.



The gathering of the wires does not have to be especially neat. Try not to pull on them so that they are taught in any section. We just need them to stay up off the ground.

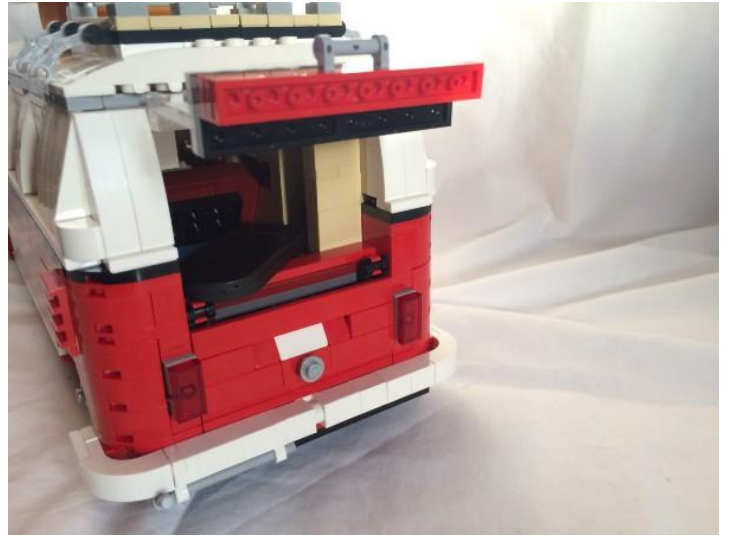


Stand the vehicle upright again and move the chair back to its original position.



Pop the roof back on and open the rear tailgate.





The battery pack is easily accessible and you can switch it on and then conceal it in the back of the vehicle again.

