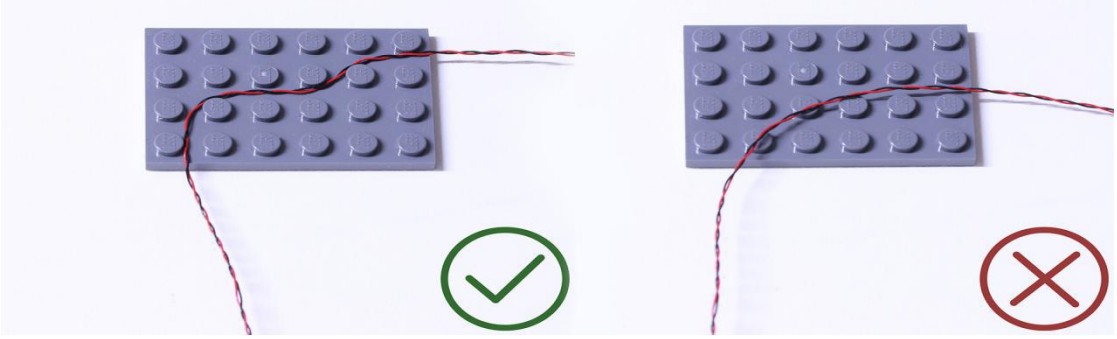
Batman Tumbler LED Lighting Kit

Package contents:

- 8 x Blue Dot Lights (15cm)
- 1 x 12 Port Expansion board
- 1 x Round Coin Cell Battery Pack (requires two CR2032 batteries)

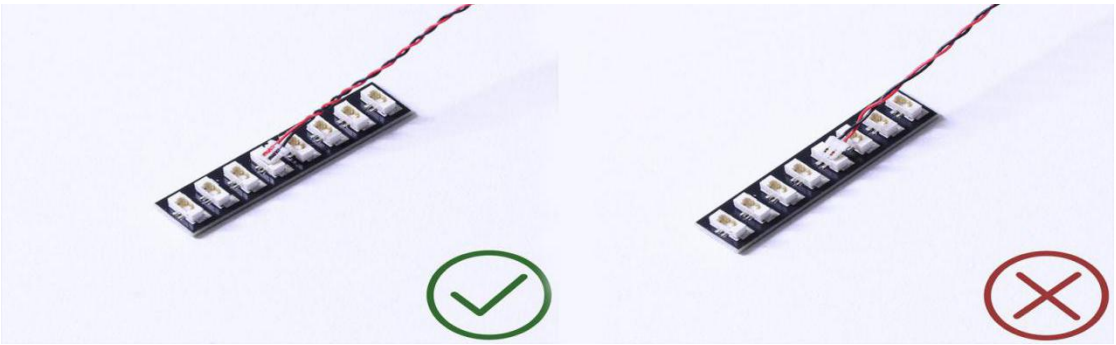
Note:

Place wires on the surface or under the LEGO building blocks.
The wire can be place between the building blocks or under the block, but they should be placed between the studs correctly.

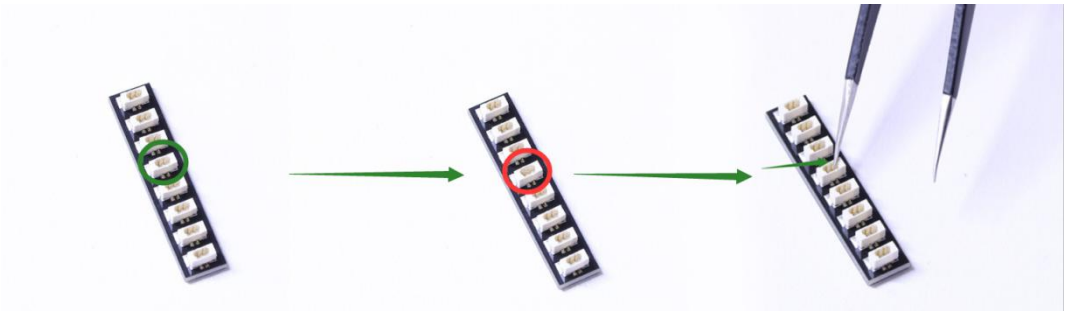


Insert the connectors to the ports.

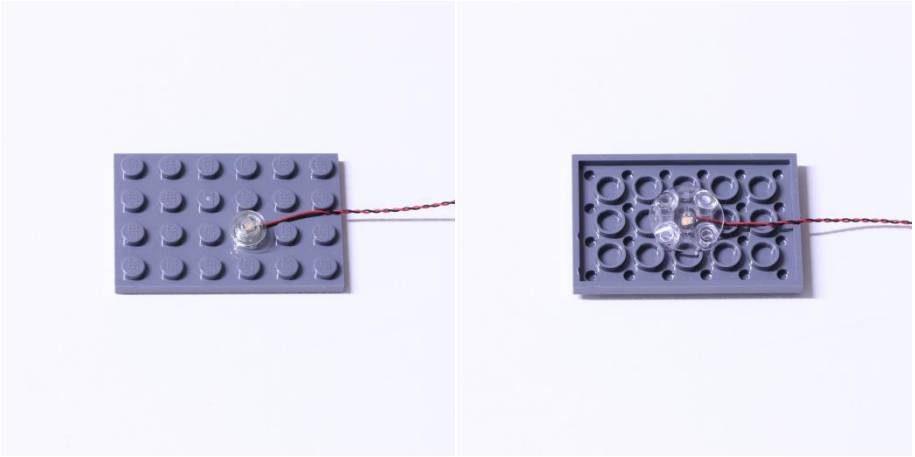
Be careful when you are operating, there's only one correct way to insert, make sure the expansion board is upward, find the soldered "=" sign on the left of the port. When you are inserting, the side which the wires can be seen should be faced to the "=" sign and if you feel hard to insert, please stop, and don't force it, for that may result in bent pins inside the port or overheating of the expansion board.



At this point, use the tweezers to straighten the bent pins.



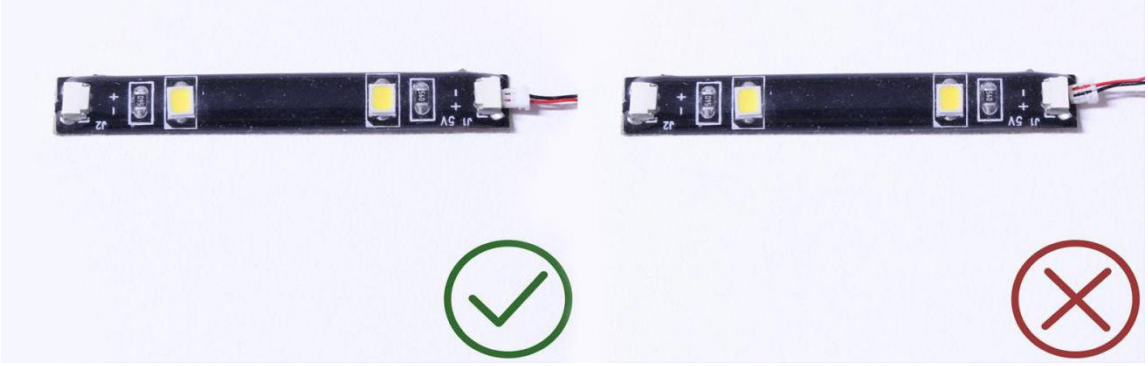
When installing dot lights, make sure they are correctly placed (Yellow LED package is exposed). You can put they either on the top of the studs or between studs.



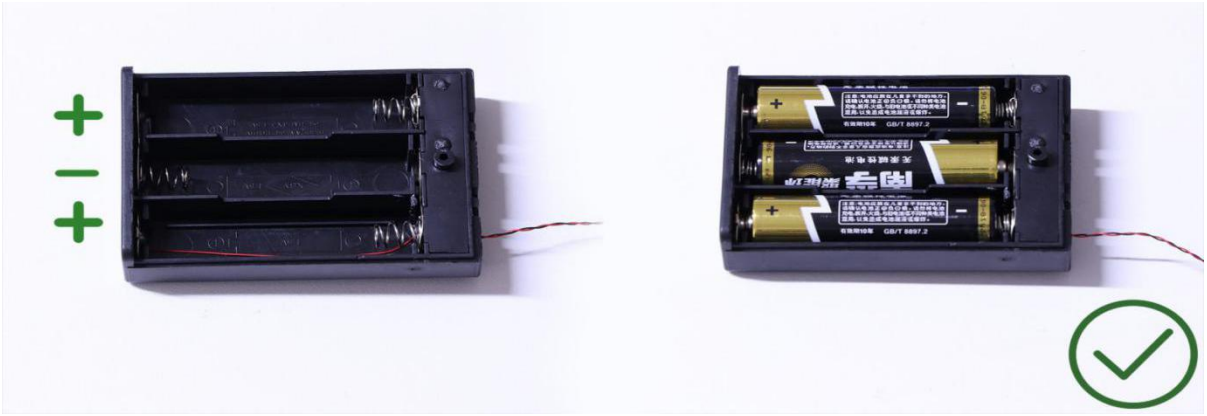
Connecting cable connectors to Strip Lights

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.



Finally, please pay attention to the positive and negative terminals of the battery when installing the battery case.

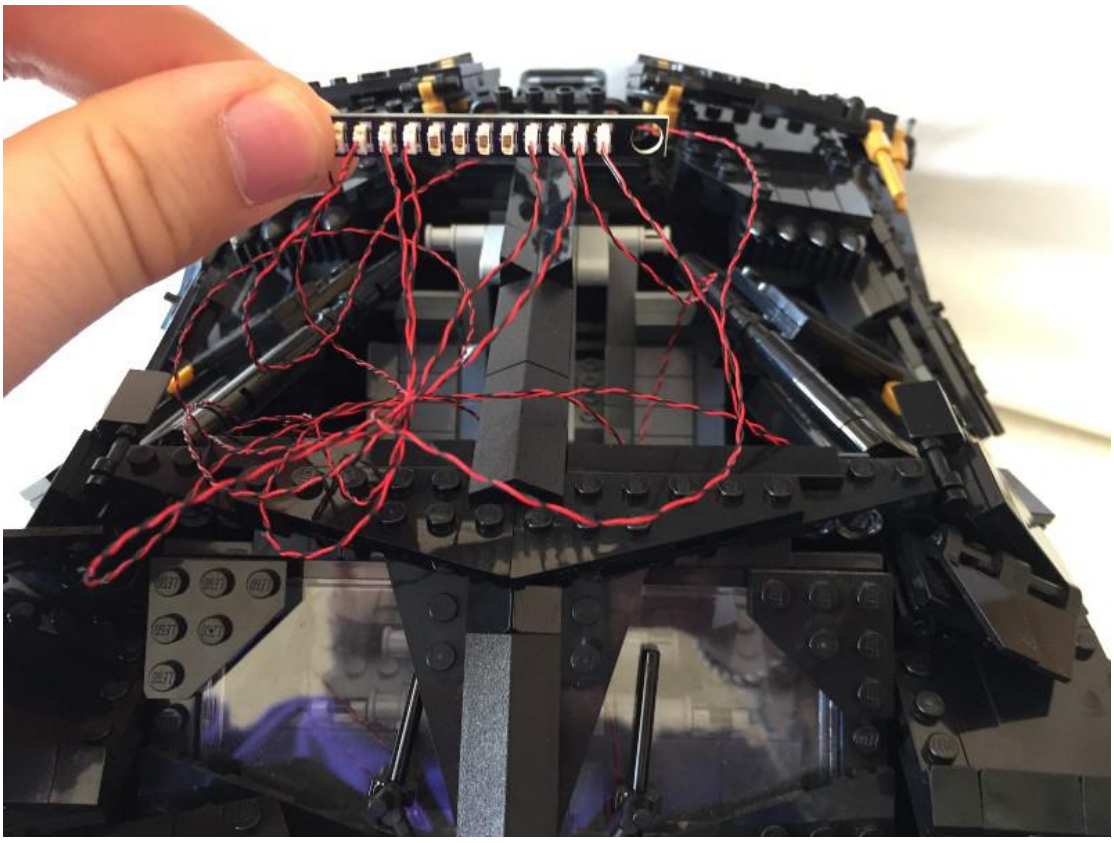


OK, Let's Begin!

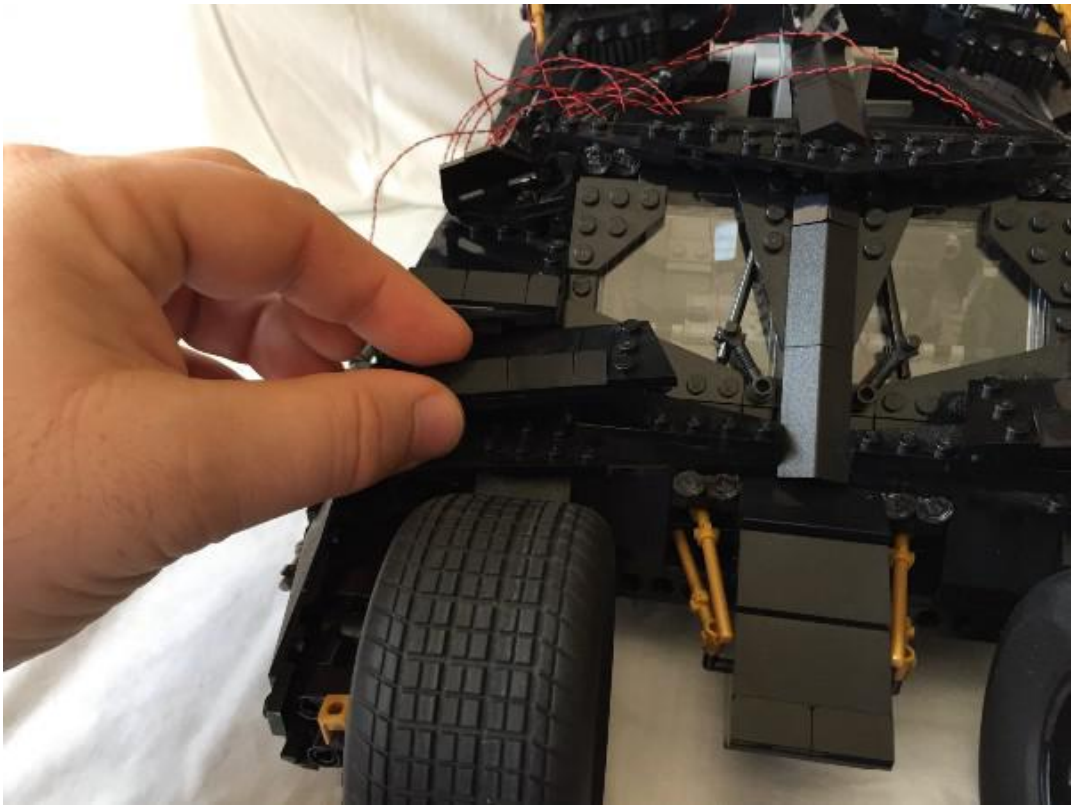
Instructions for installing this kit

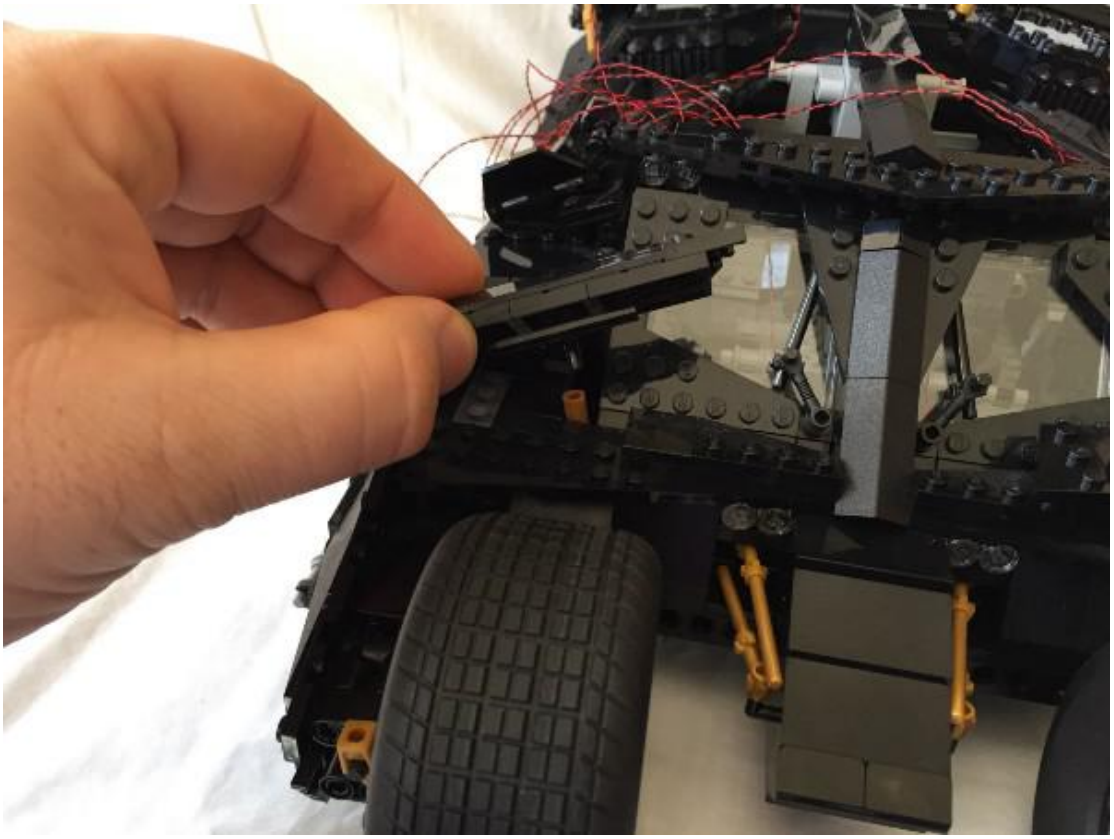
This model has 4 lights low on the front of the vehicle and another 4 above the windscreen. As we install the lights, we are going to run the wires into the cockpit. This is where we will connect them up to the expansion board as seen in

the picture below. (Depending on what version of the kit you have, you may have a lot of excess wire as seen in this picture if 30cm dot lights are used).

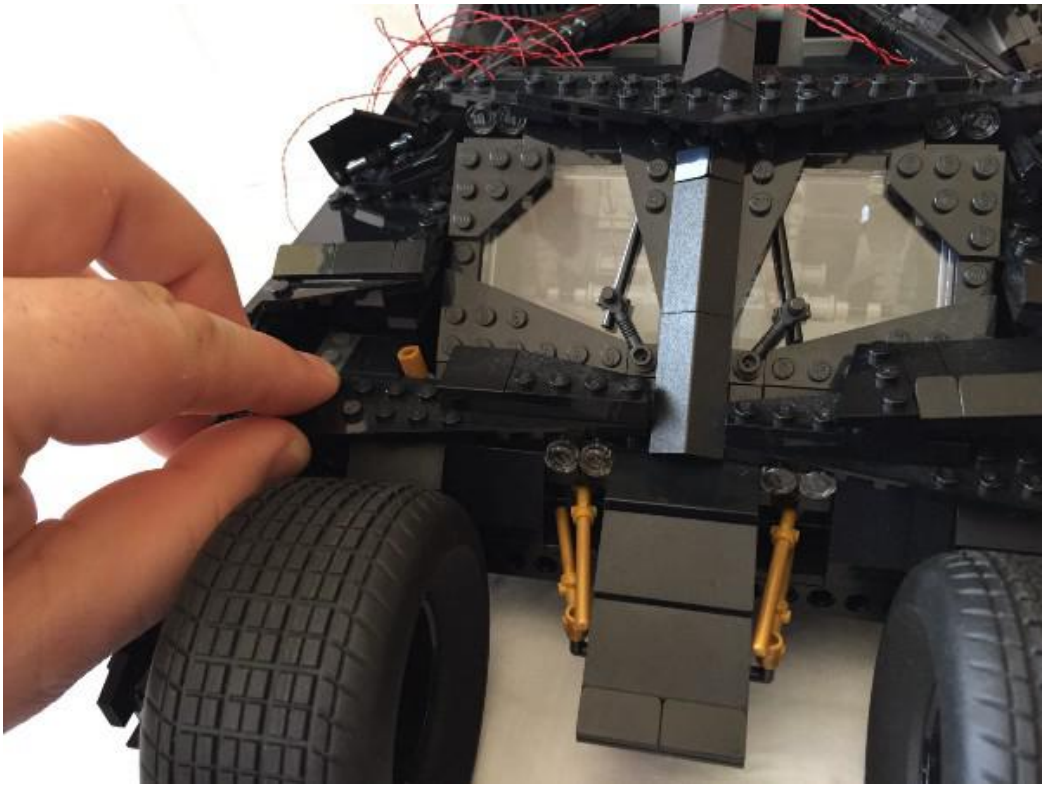


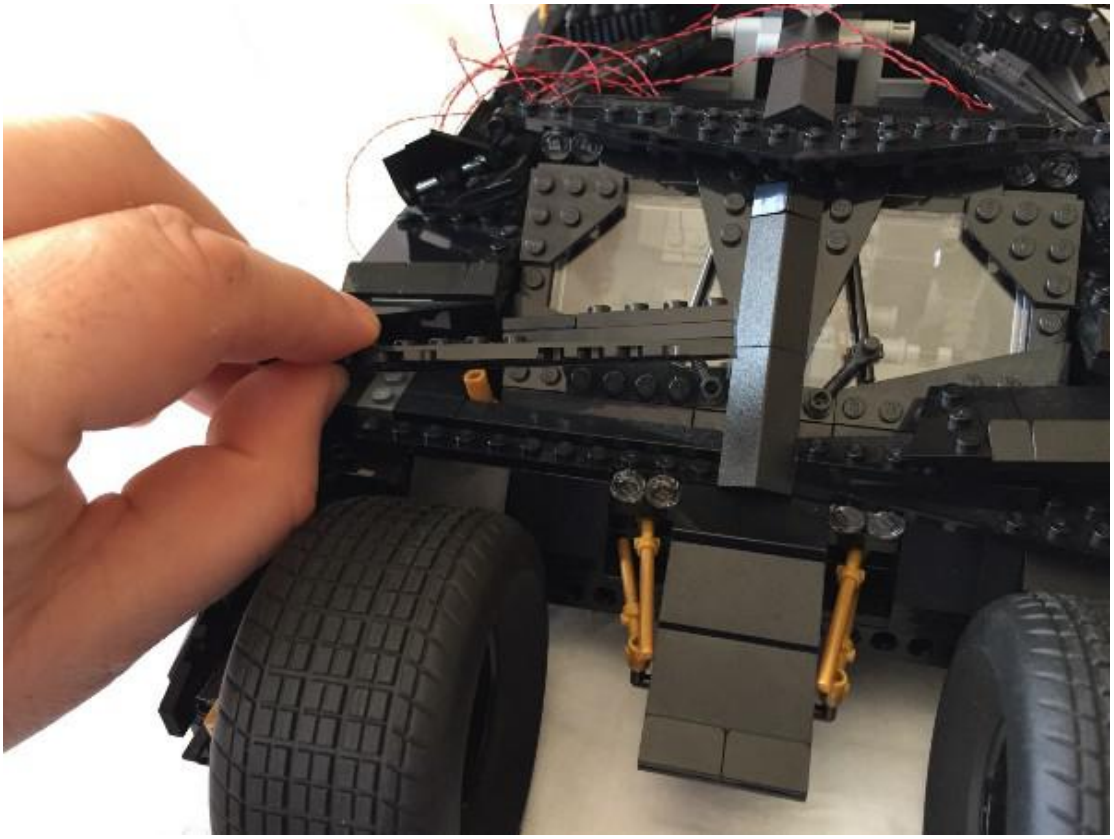
We will start with the front lower lights. We need to deconstruct the model a dot so we can access the modified bricks with headlight.



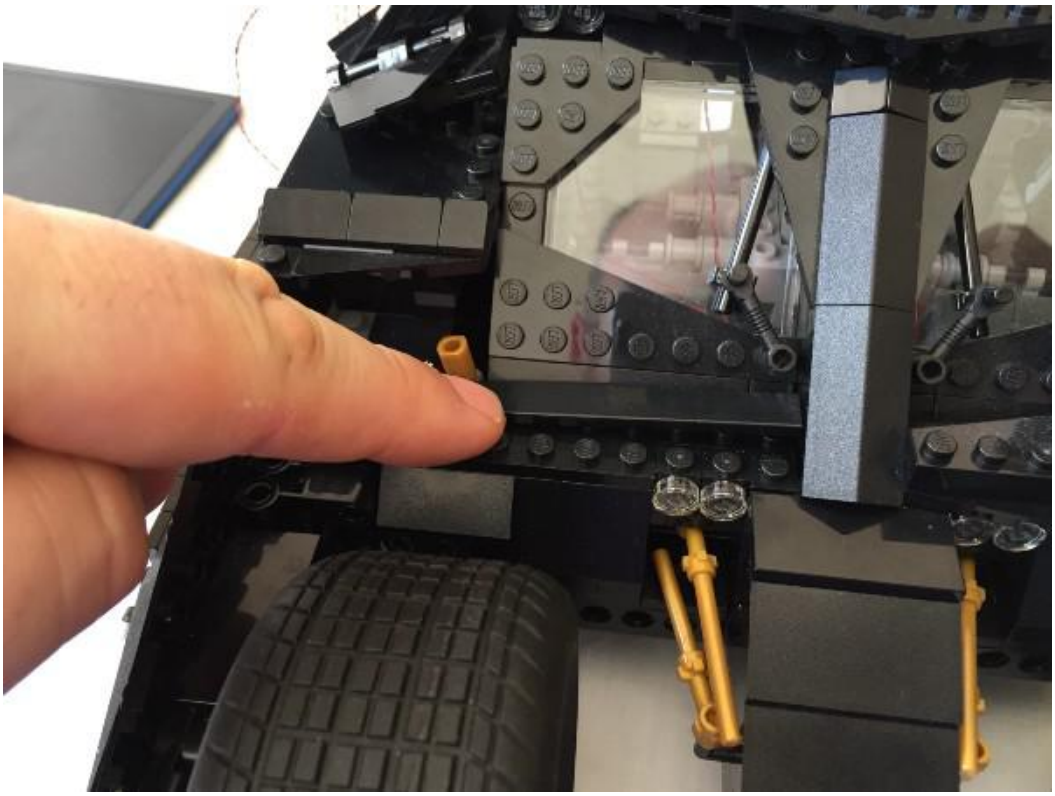


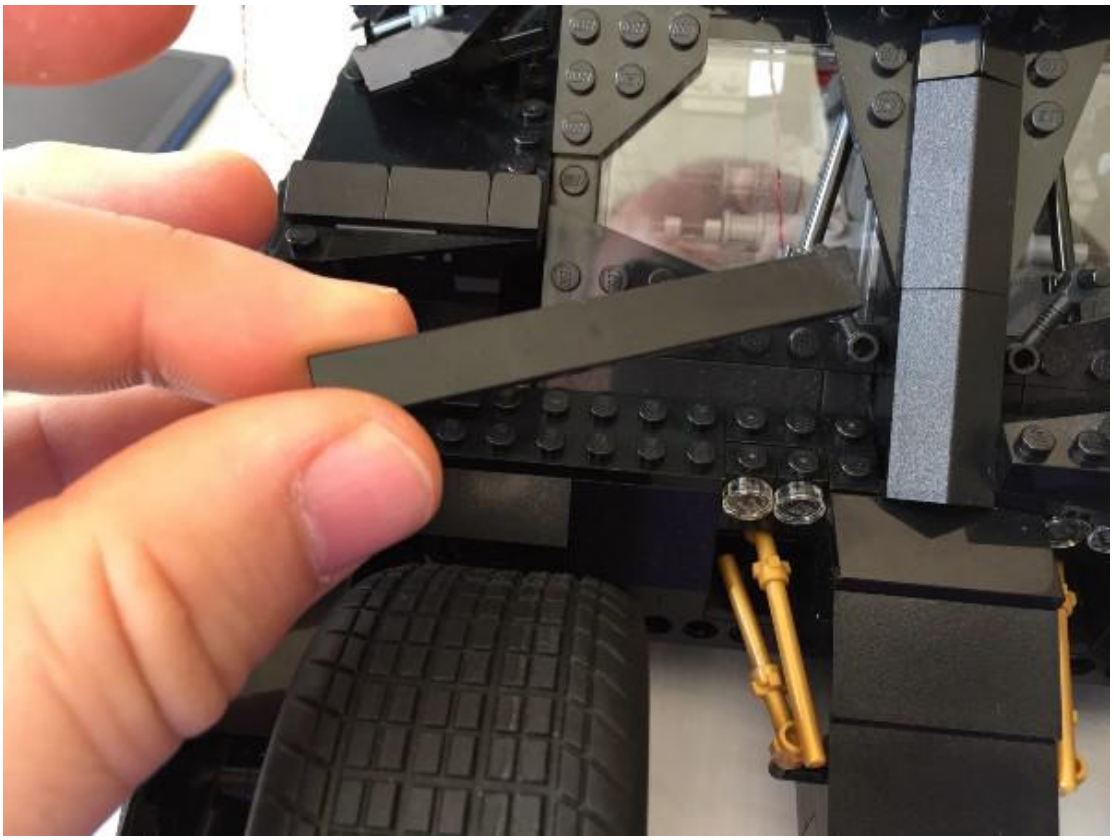
Starting on the left hand side, remove the loose fitting piece that partially covers the windshield. Do this by lifting it straight up as seen in the picture above.



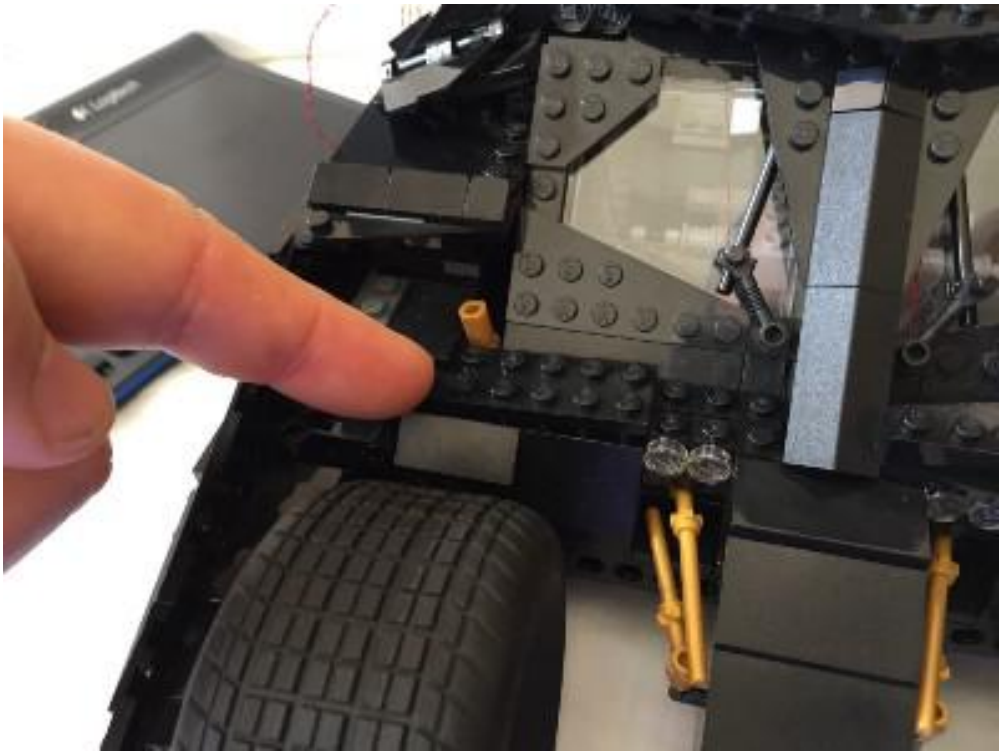


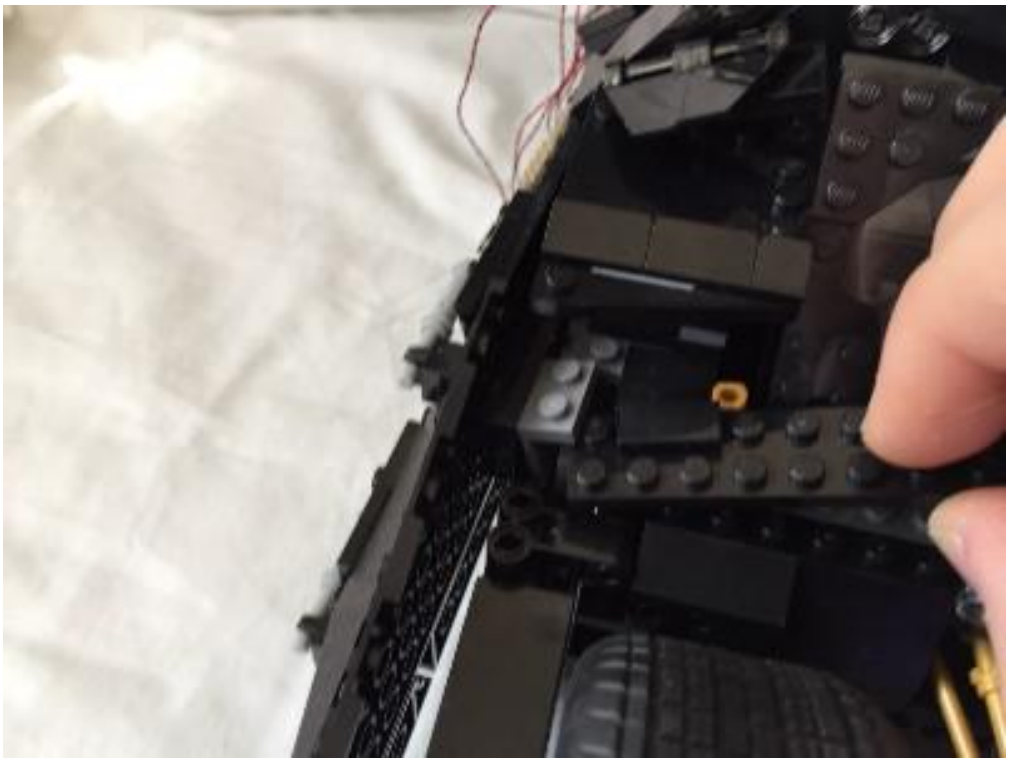
Remove the long wedge plate that has a smaller wedge plate attached to it. If you lift from the outside (thick end of the wedge) then the whole dot will easily come away.

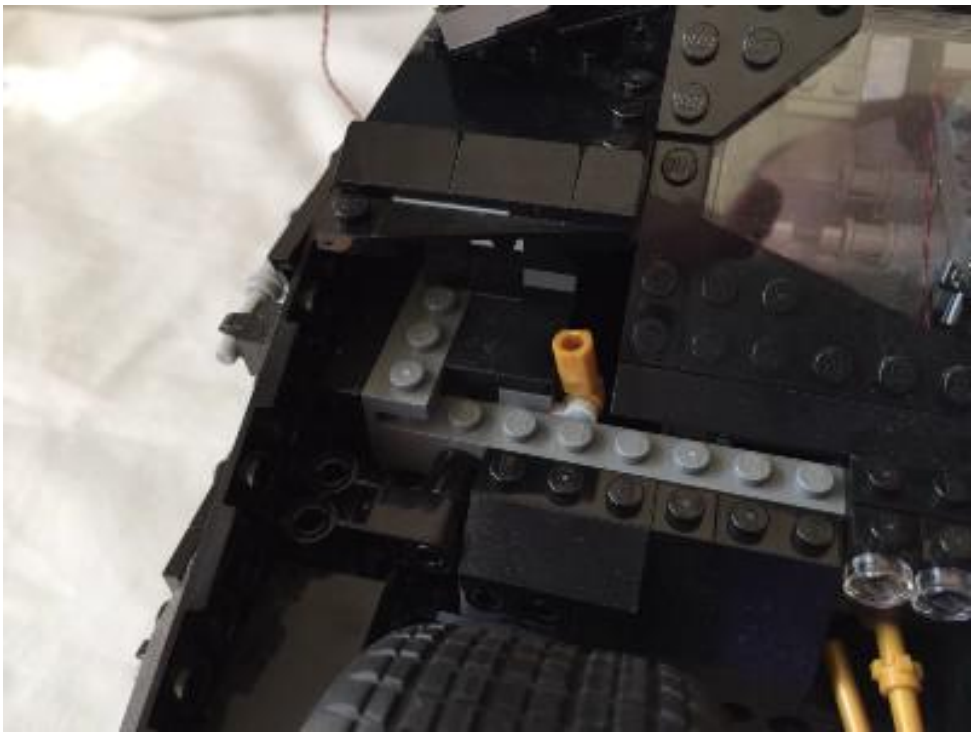




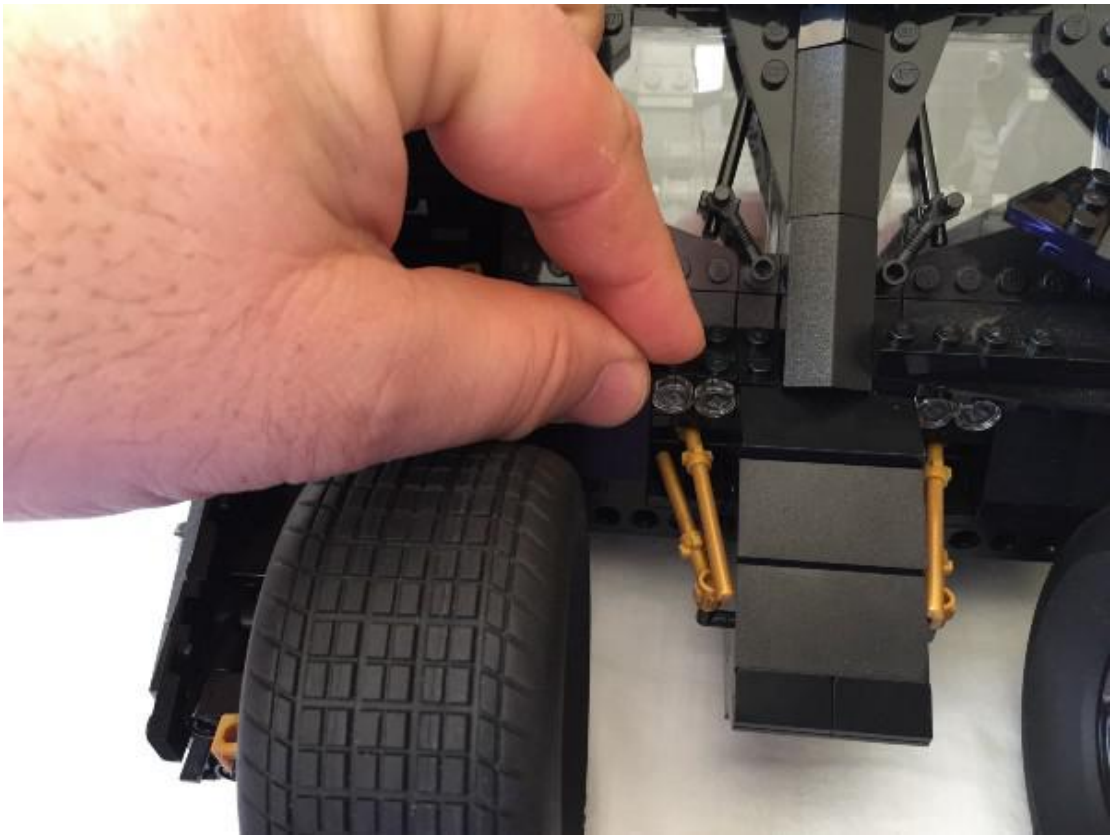
Remove the 1 x 8 tile piece that is now accessible.

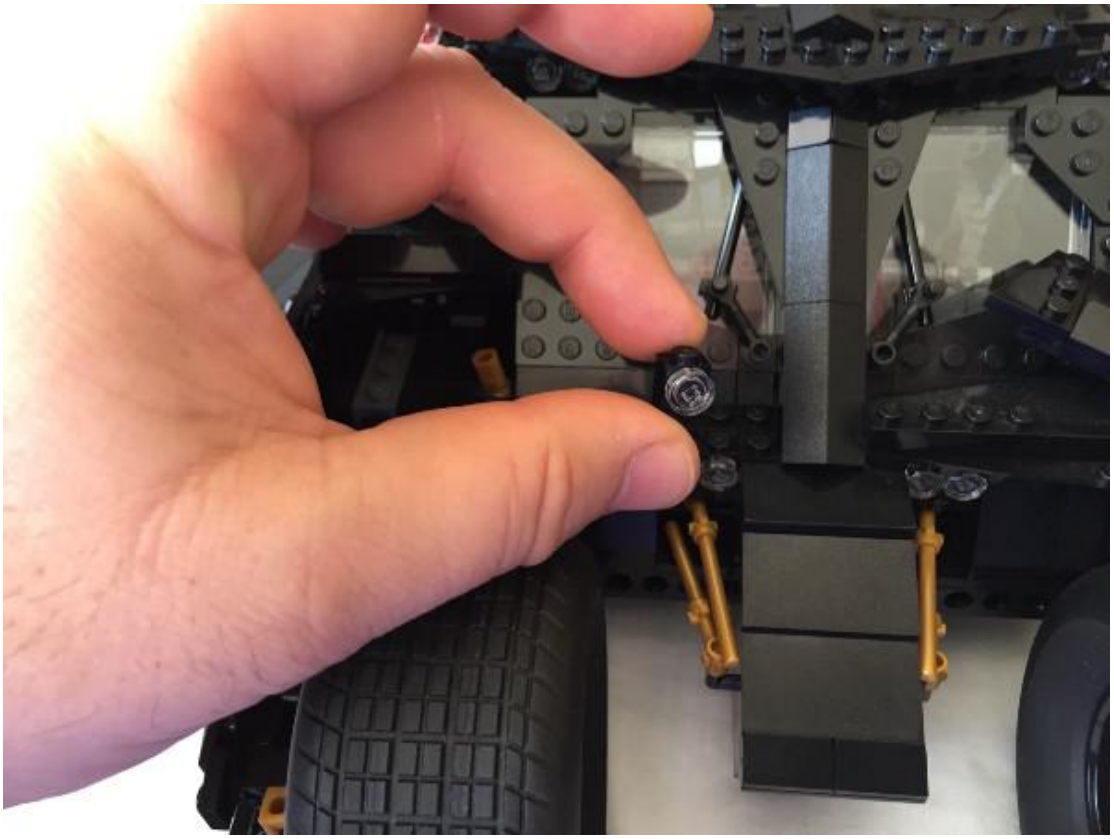




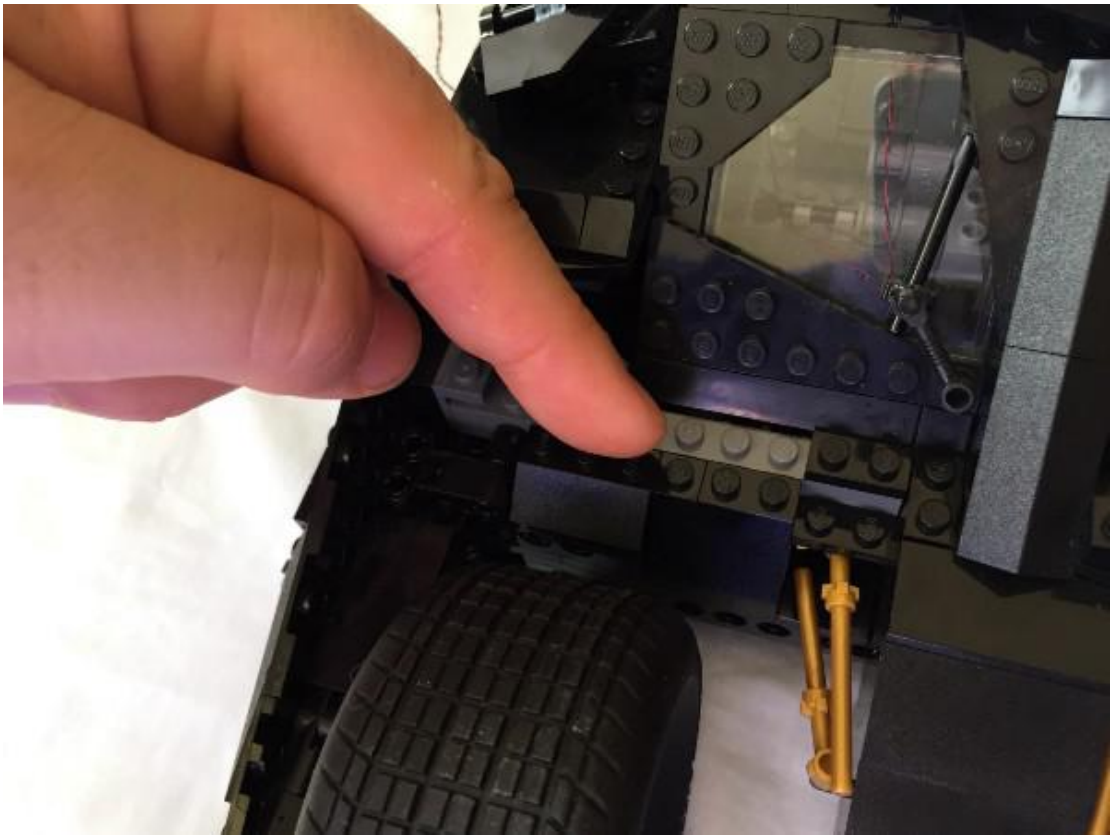


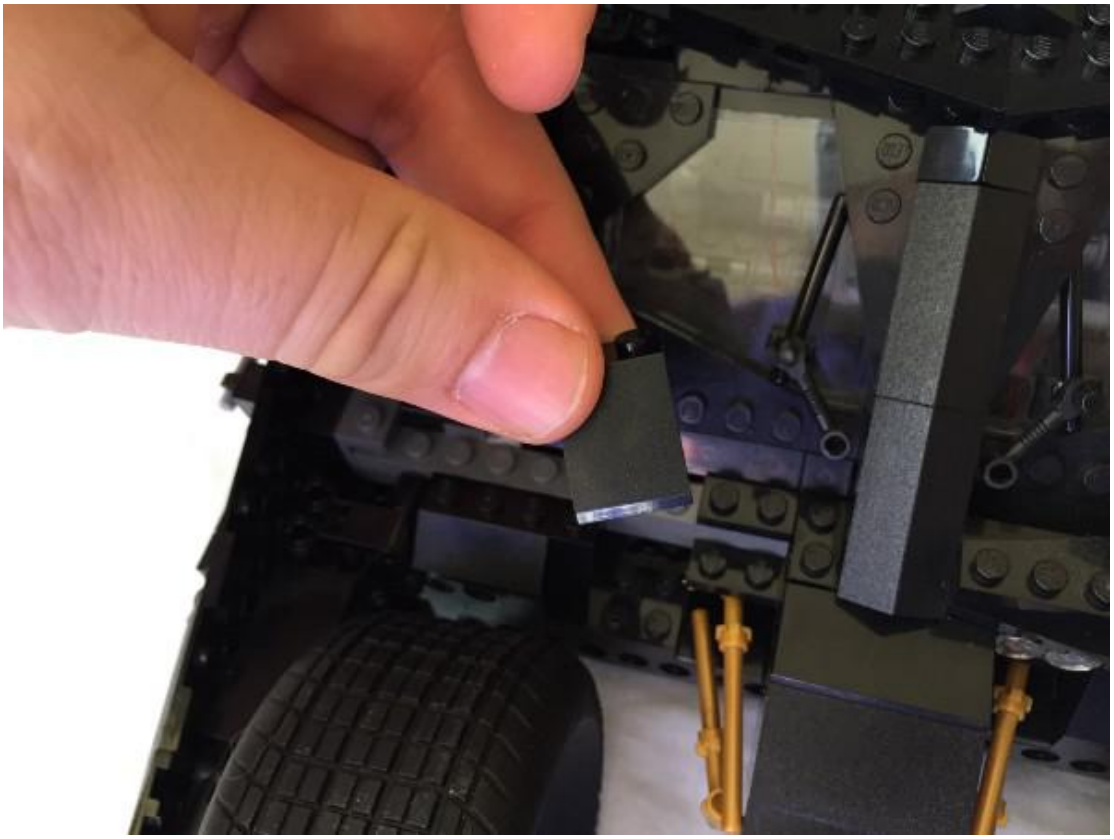
Remove the 2 x 8 plate that is next to the headlight pieces. This plate has a 1 x 2 tile on it that can stay where it is attached to the plate.
The outermost stud on this plate has a dark bluish grey bracket attached to it. It will detach from the other piece that it is joined to, but do this carefully so that everything remains roughly in place.
Press the bracket back into position so that everything is where is was before the 2 x 8 plate was removed.

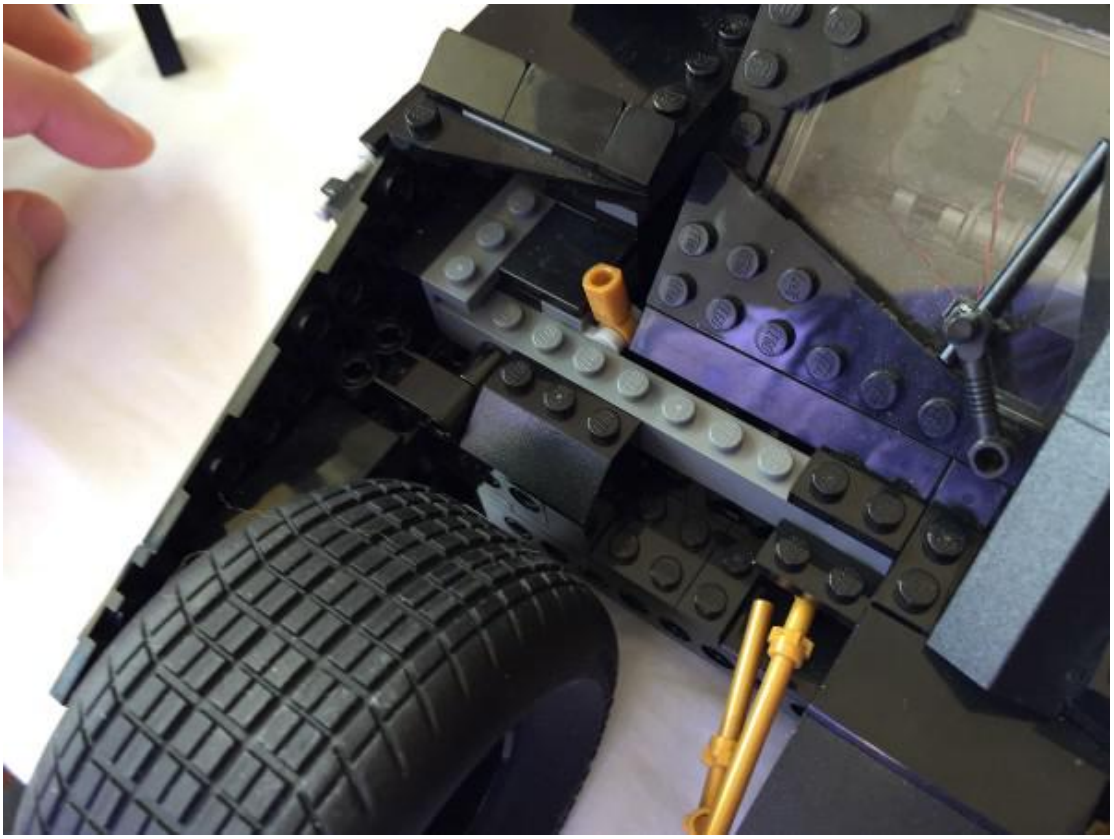




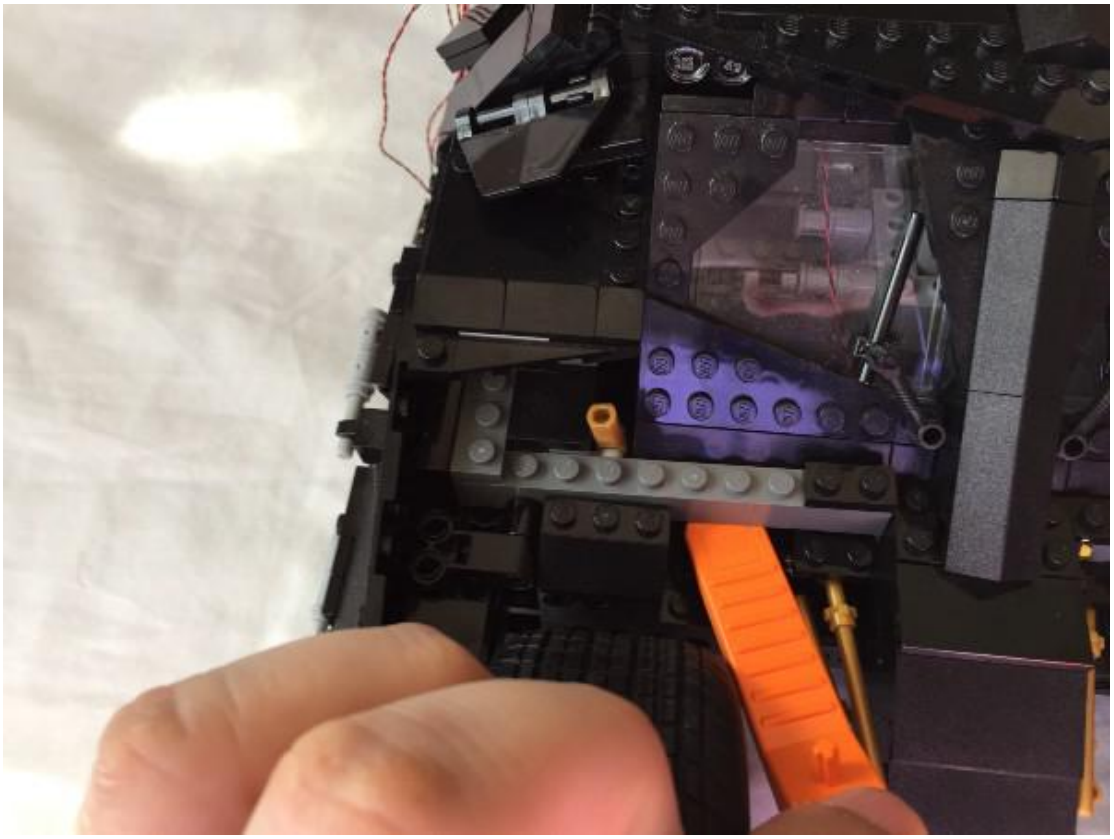
Remove both headlight bricks.



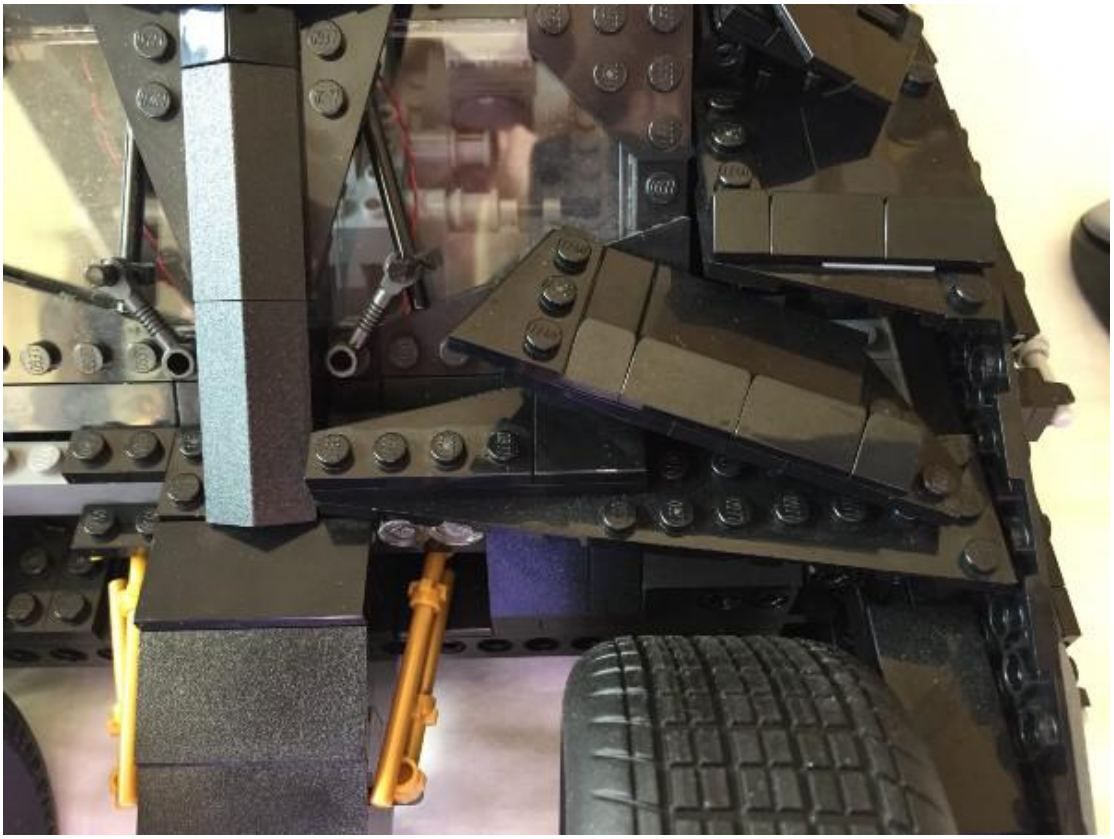




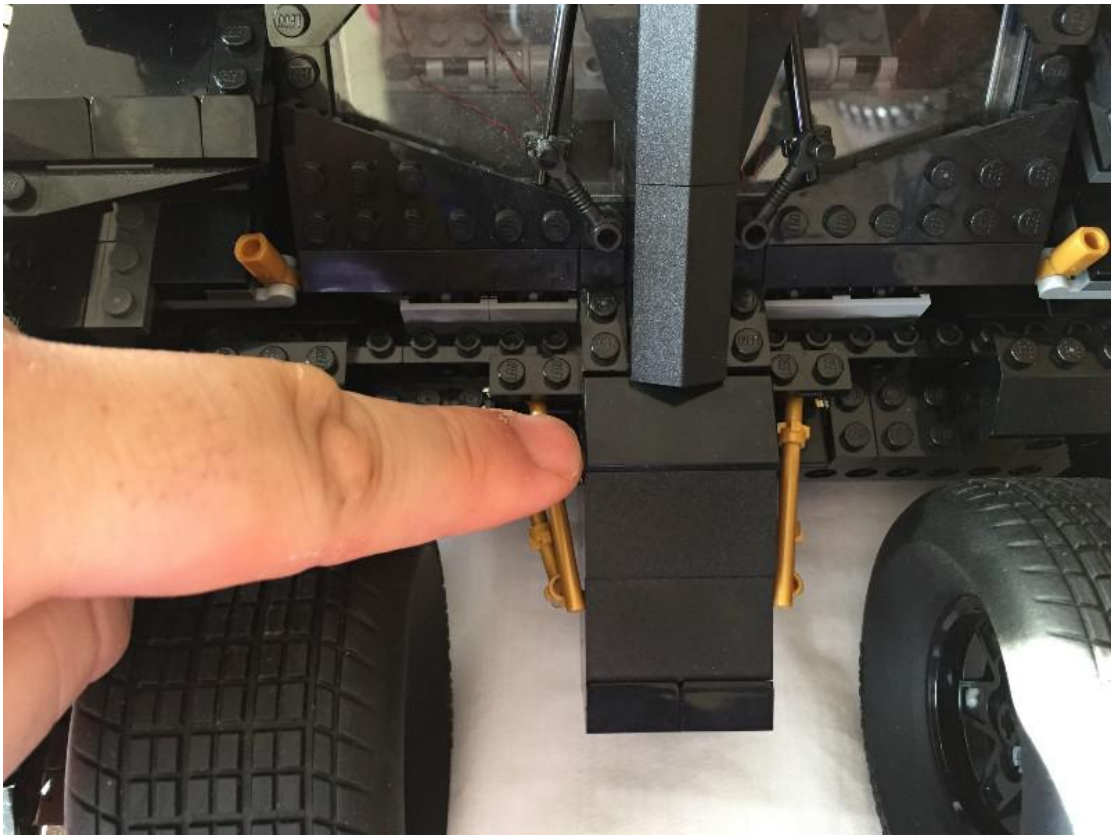
There are a couple of slope bricks next to where the headlight bricks were. Remove both of them.



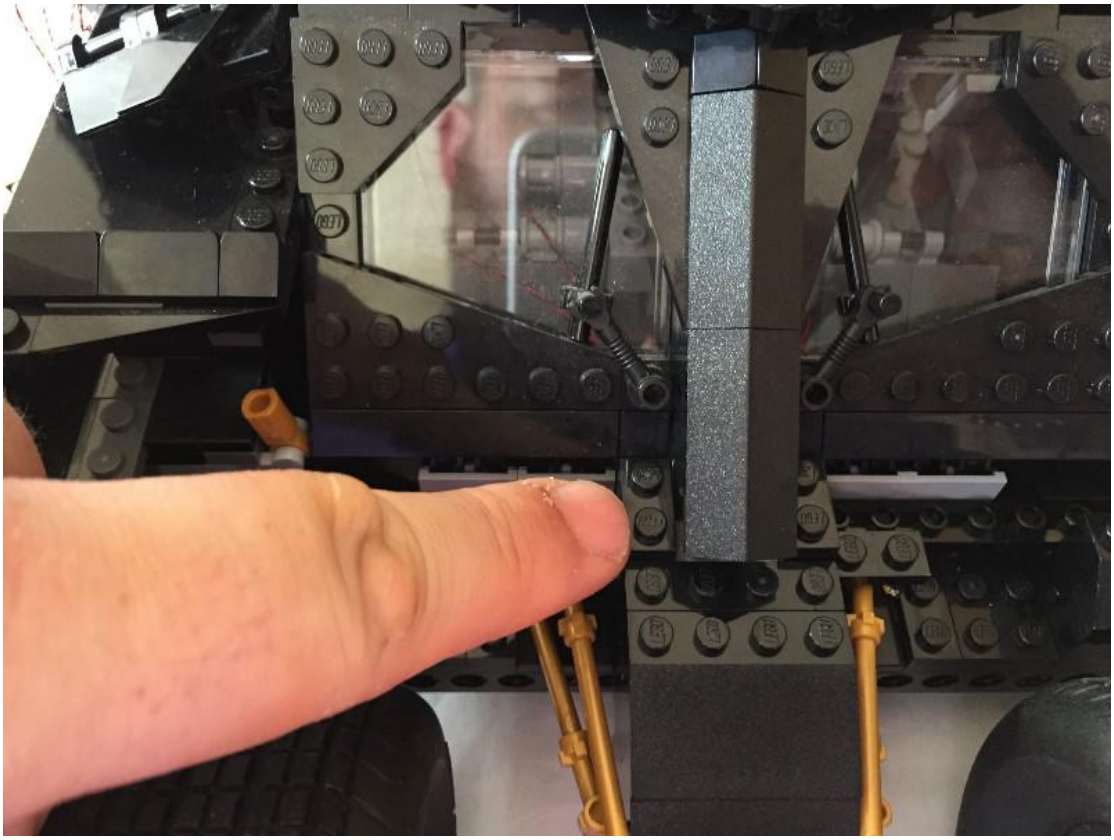
Now remove the 1 x 10 dark bluish grey brick (that has a black 1 x 2 plate attached to it). If you give it a wiggle, it will come loose. Feel free to use a brick separator if you have one handy.



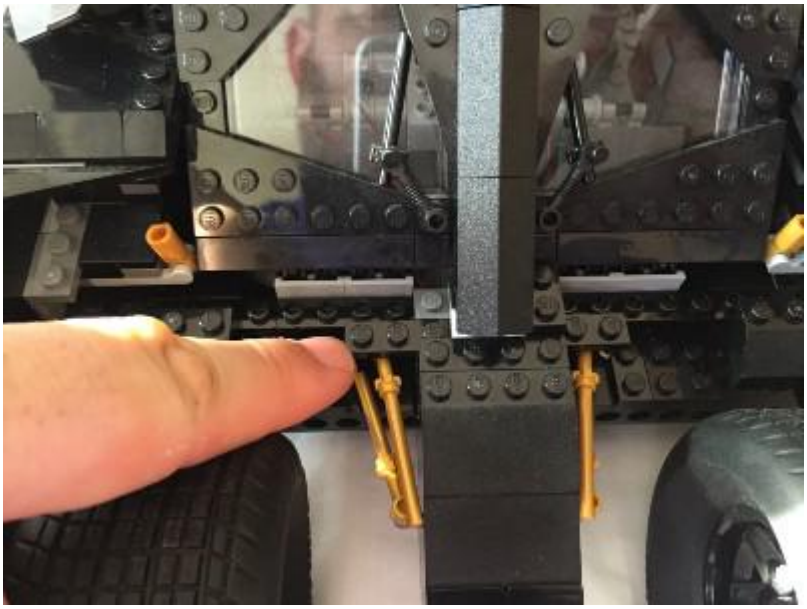
Repeat these steps for the right hand side of the model.

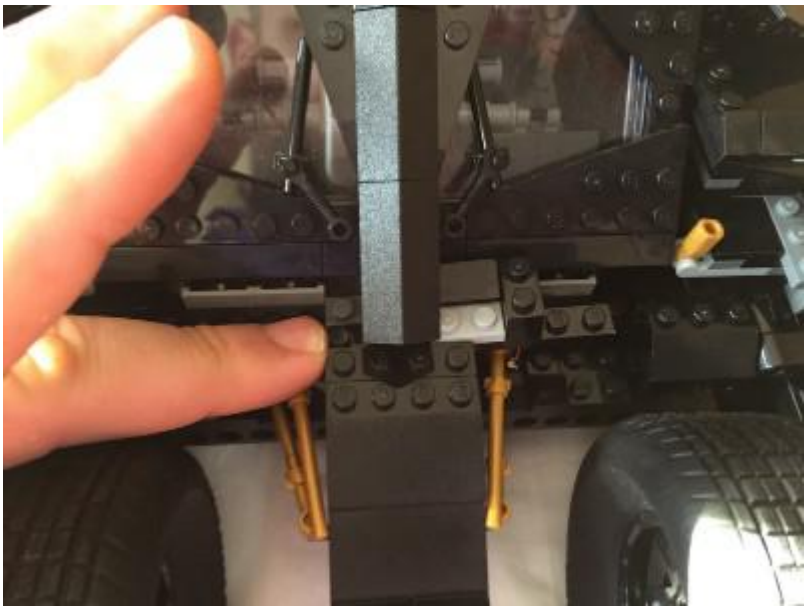


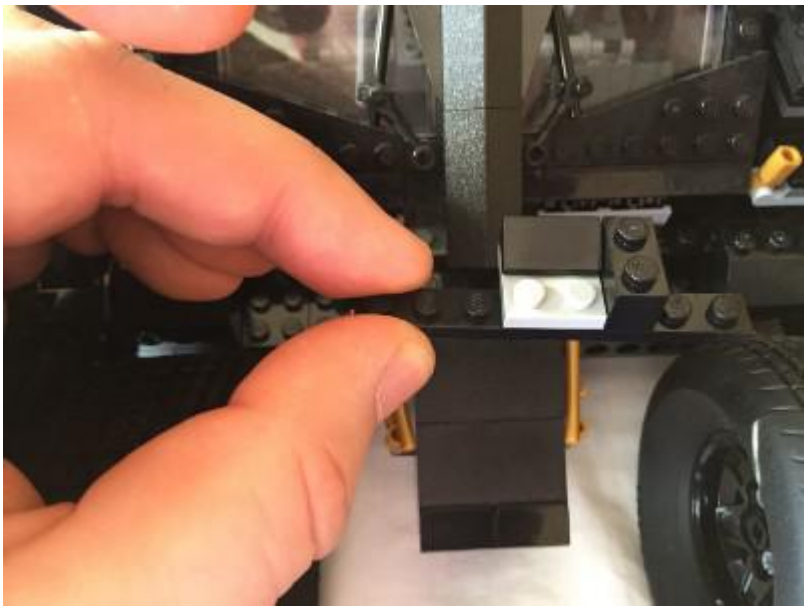
Remove the 2 x 4 tile from the centre piece.



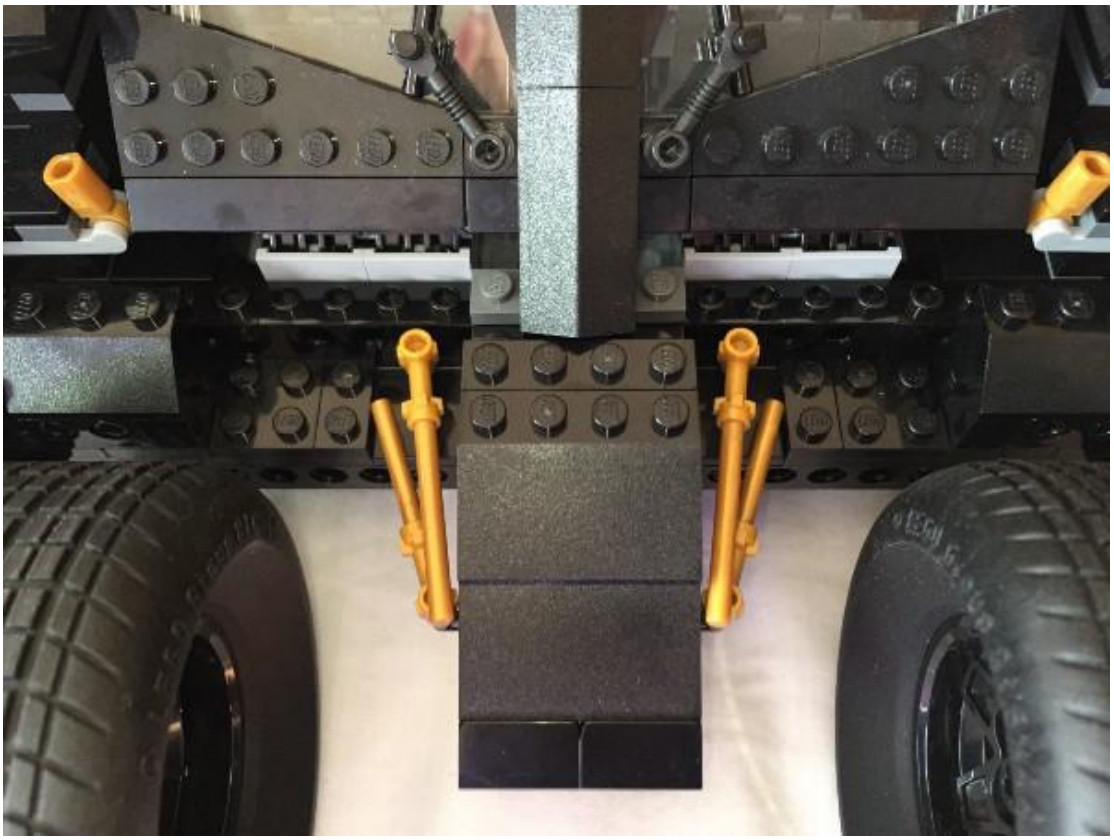
Remove the 1 x 2 brick from the left hand side of the centre piece. It is behind where the 2 x 4 tile you previously removed was.

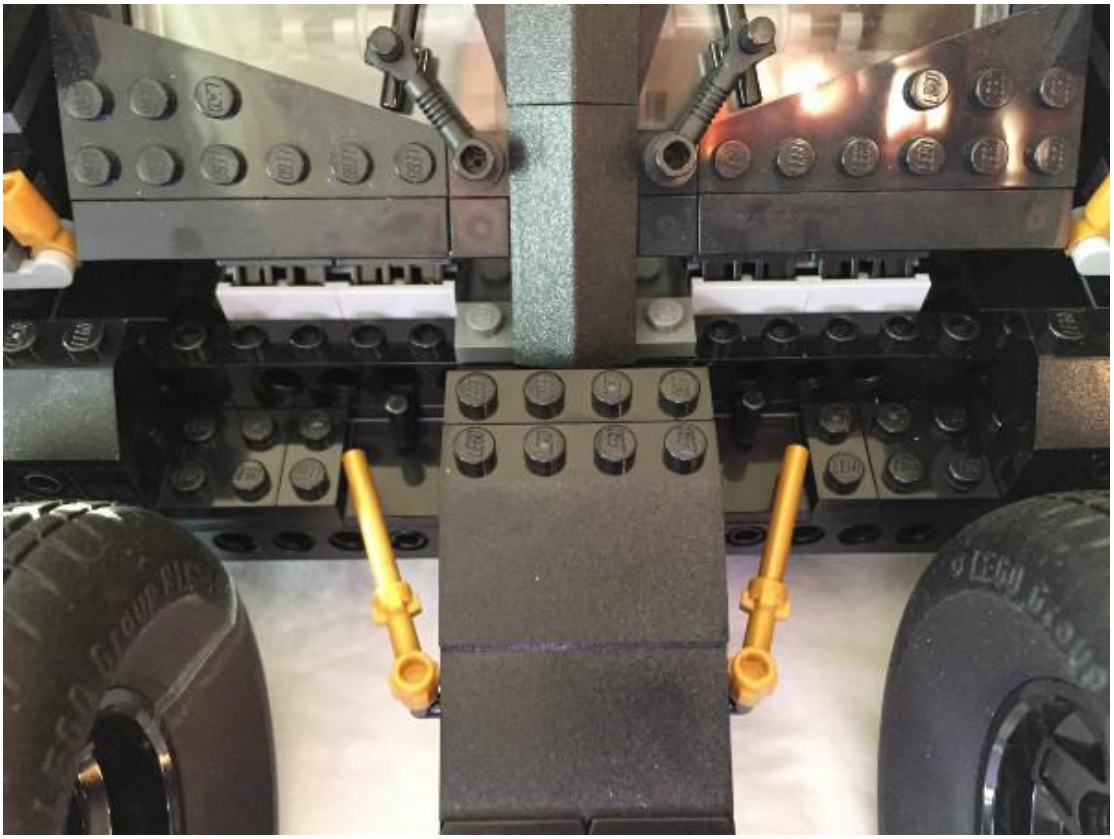




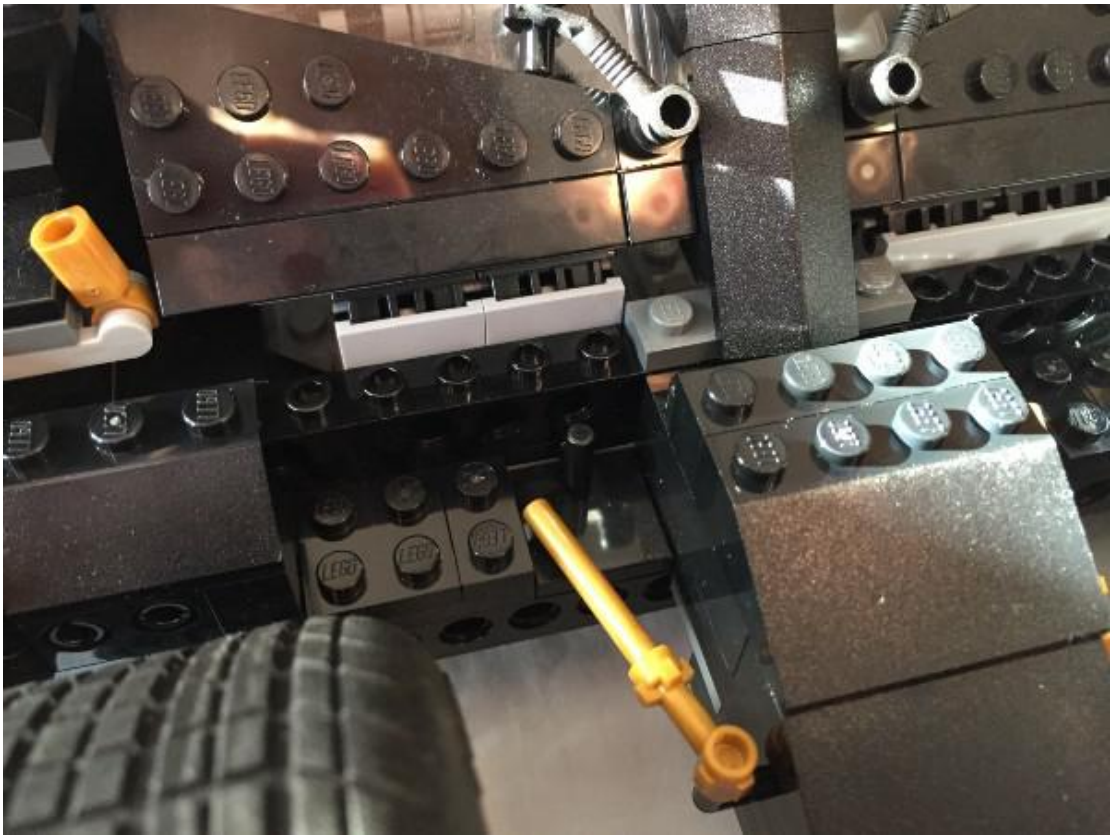


There is 1 x 6 plate that had the 1 x 2 brick you just removed attached to it. Lift the plate from the left hand side to detach it and then push it out the right hand side of the model.

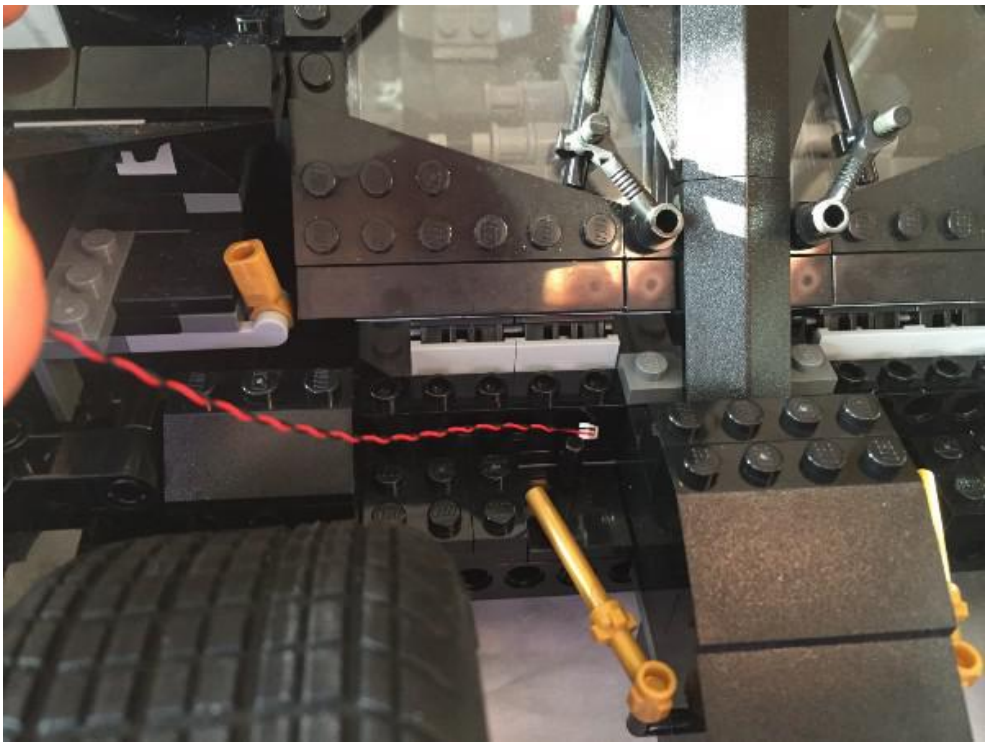


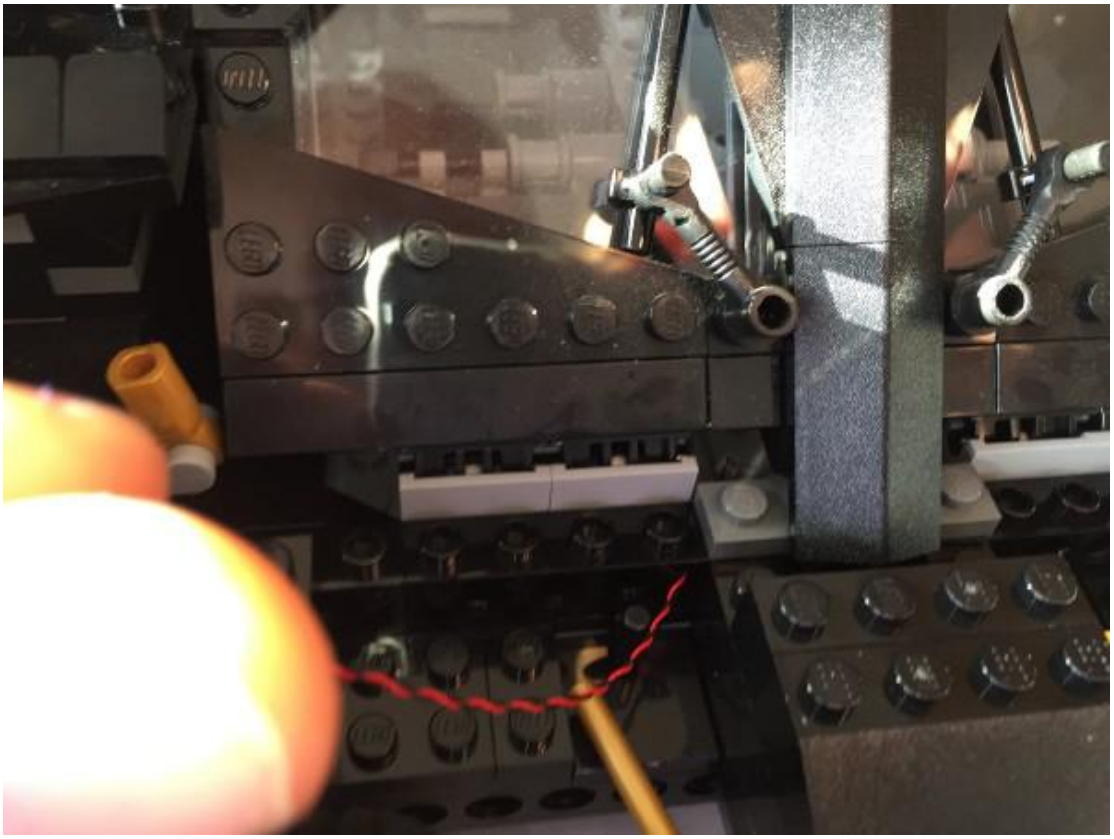


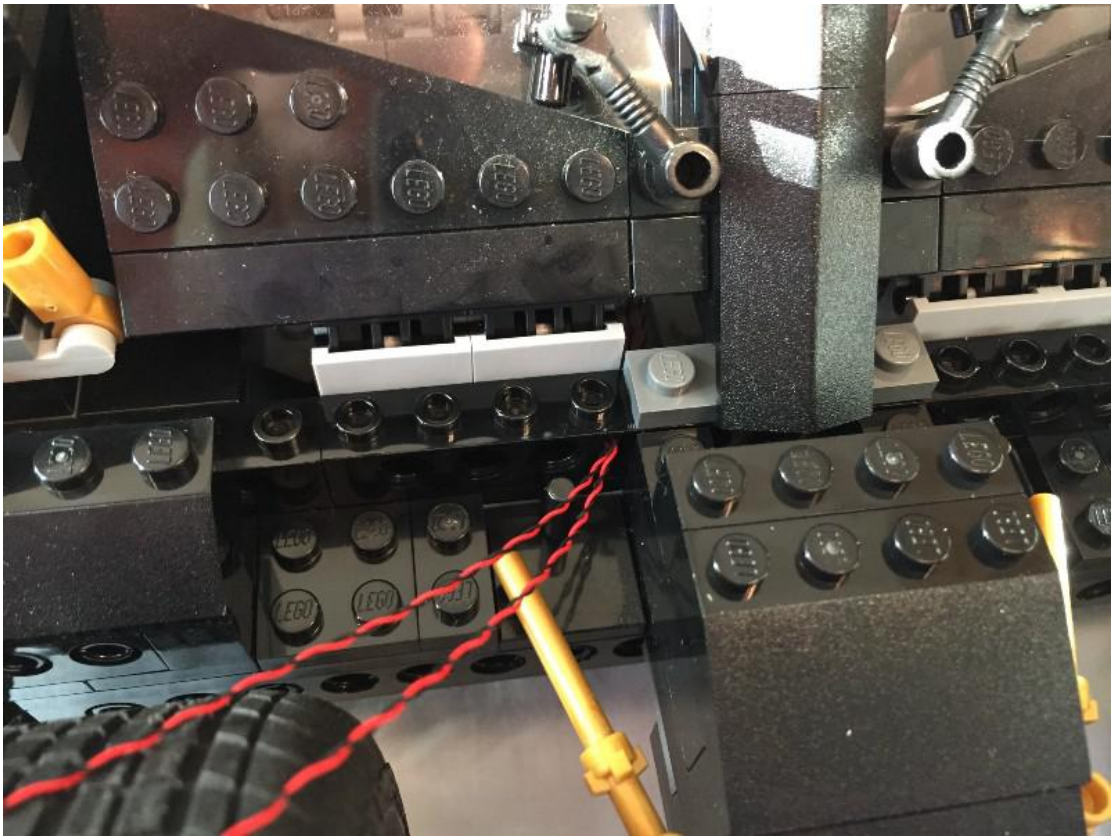
Remove the top two gold bars.



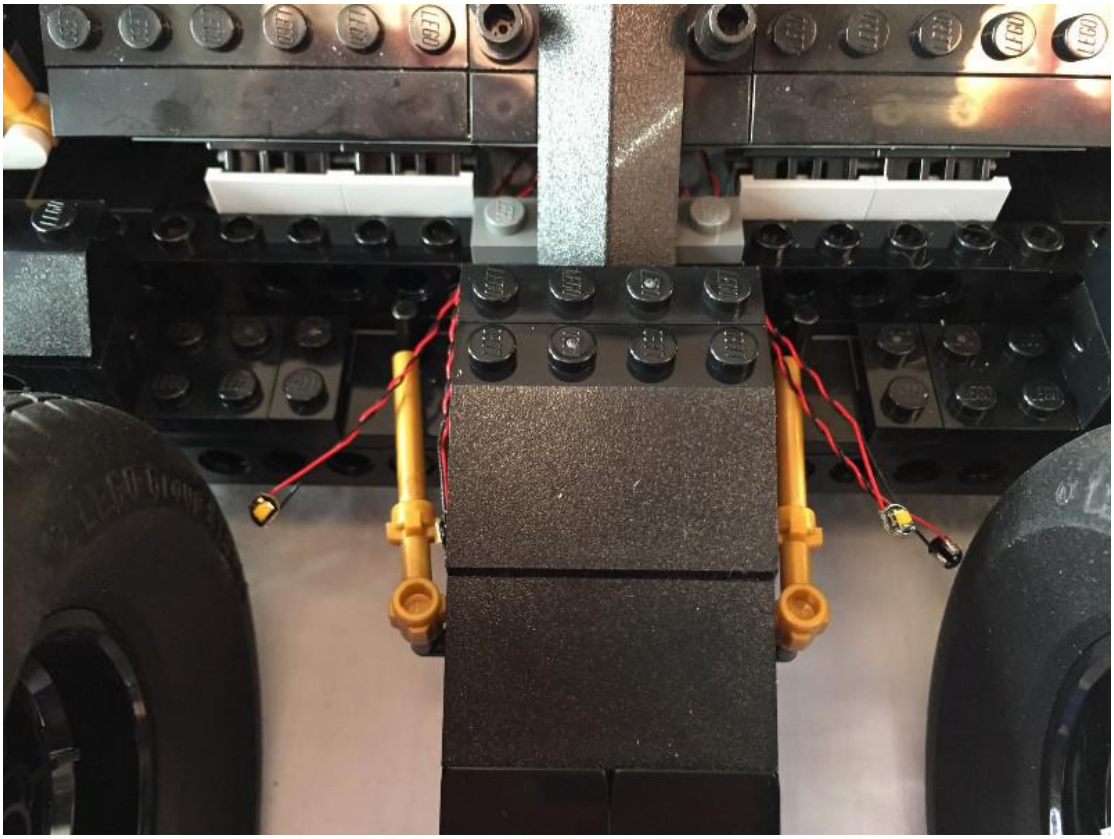
Behind where the gold bar was attached is a technic brick. There is half a hole in this brick that is accessible right at the centre piece of the model.



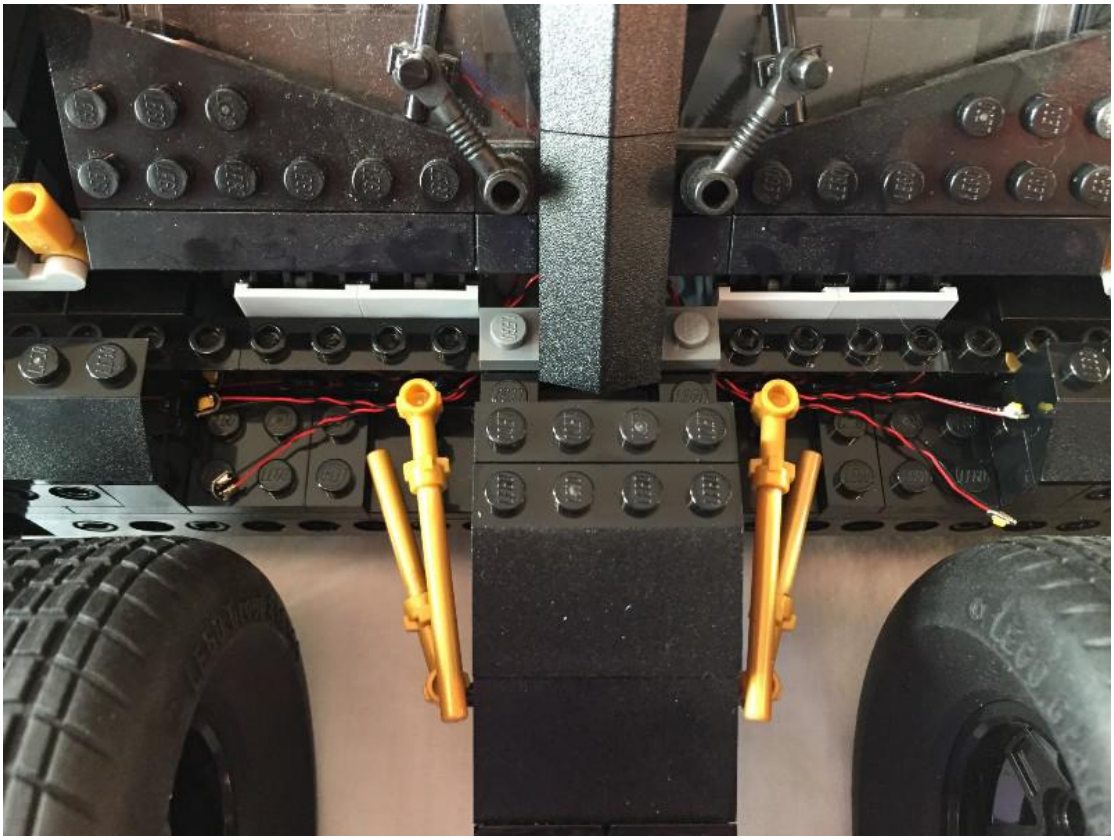




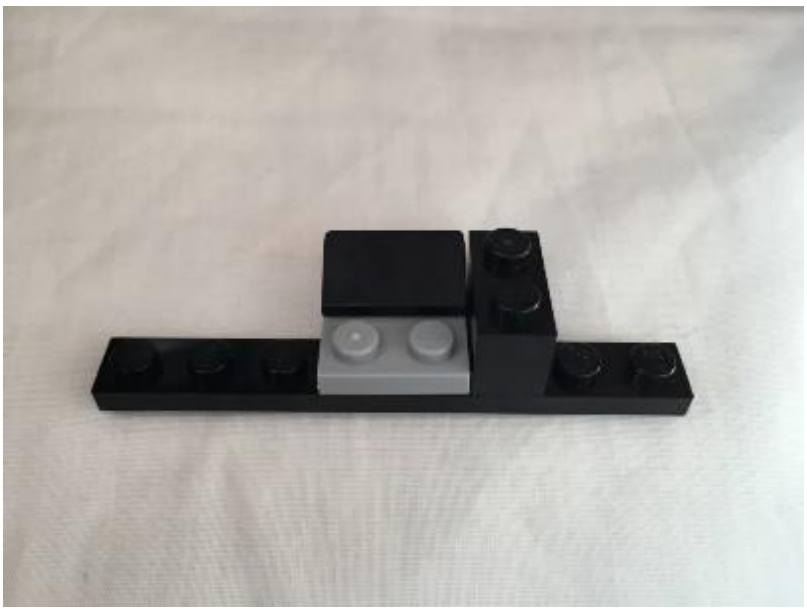
Grab two Dot Lights and feed them one at a time through this half hole in the technic brick.

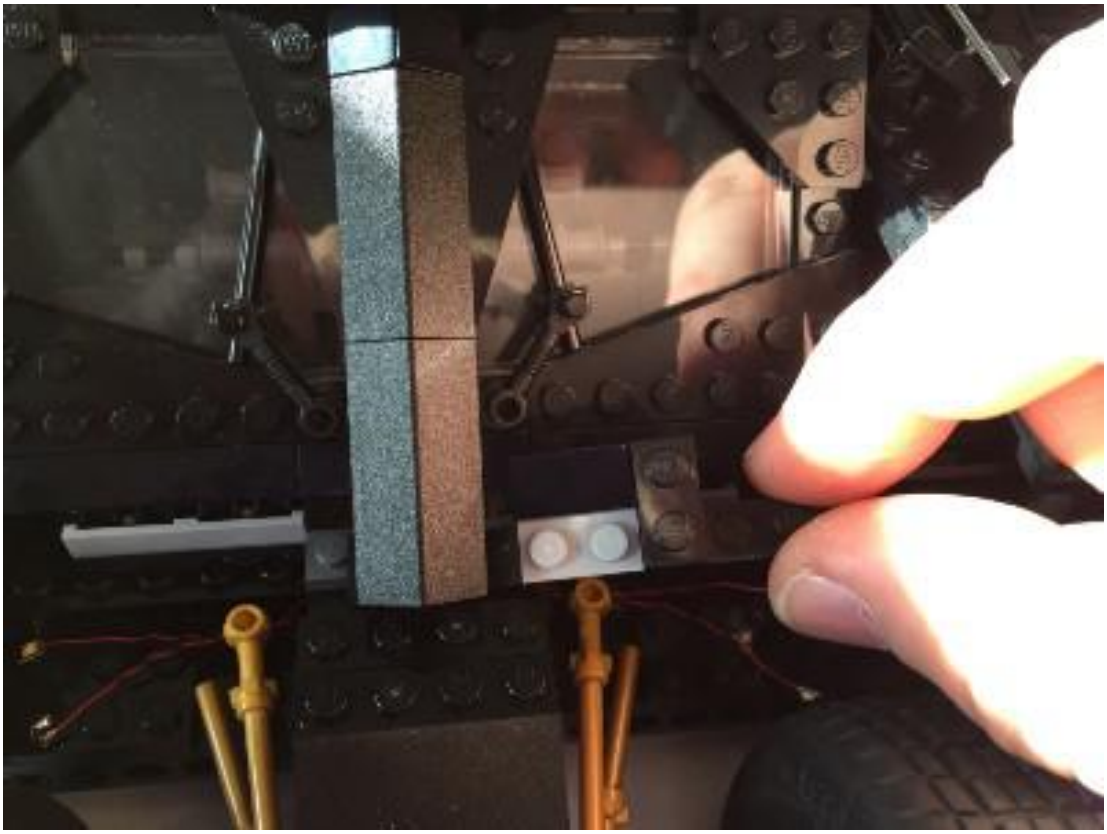


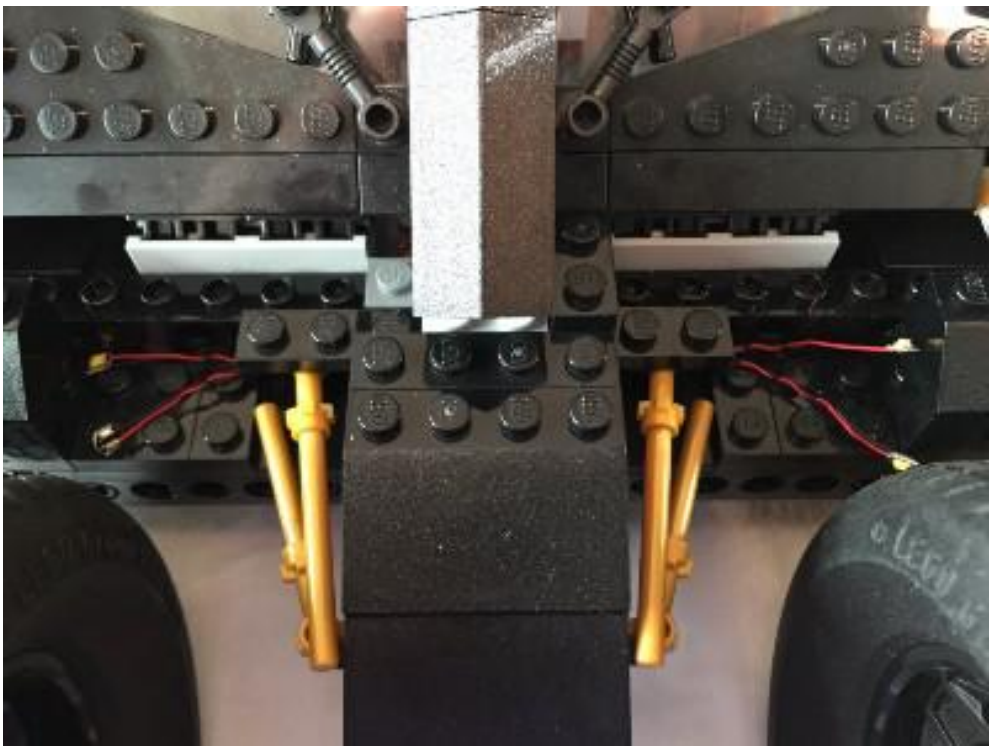
Push the wires through leaving a few cm of wire outside the vehicle.



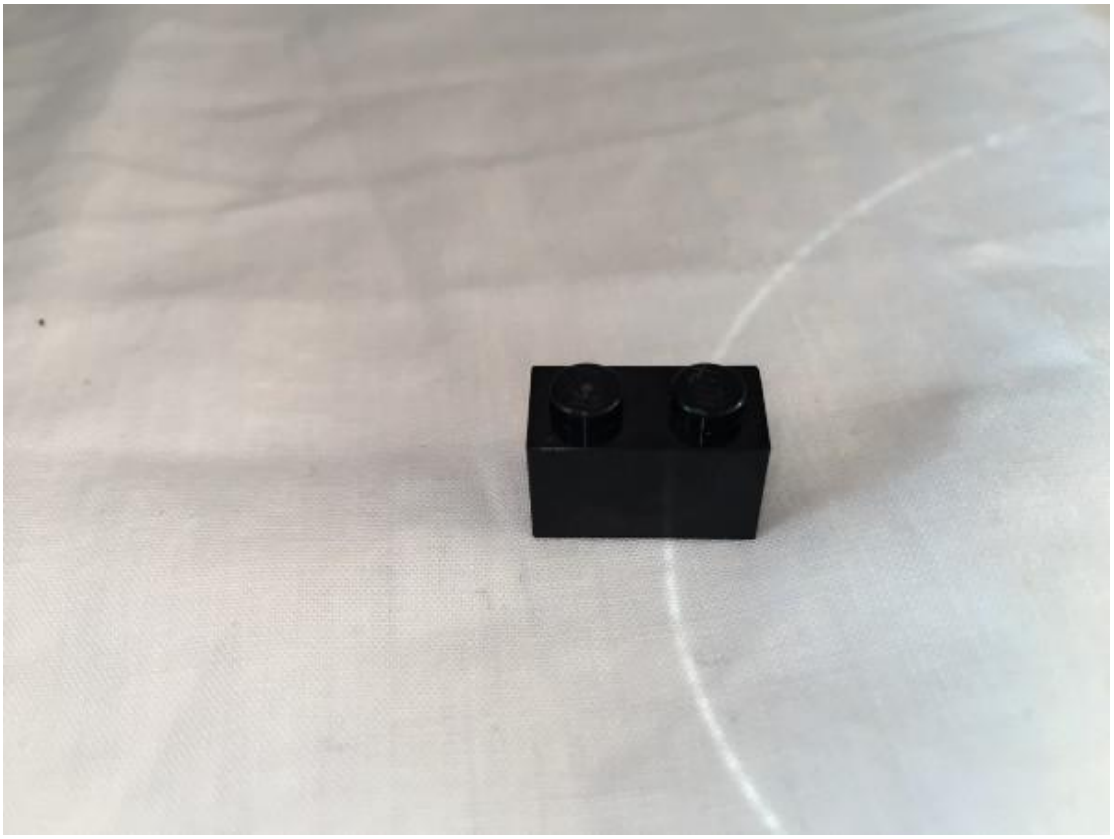
Run the Dot Light wires around the back of the upright pole that the gold bars connect to. Reconnect the gold bars.

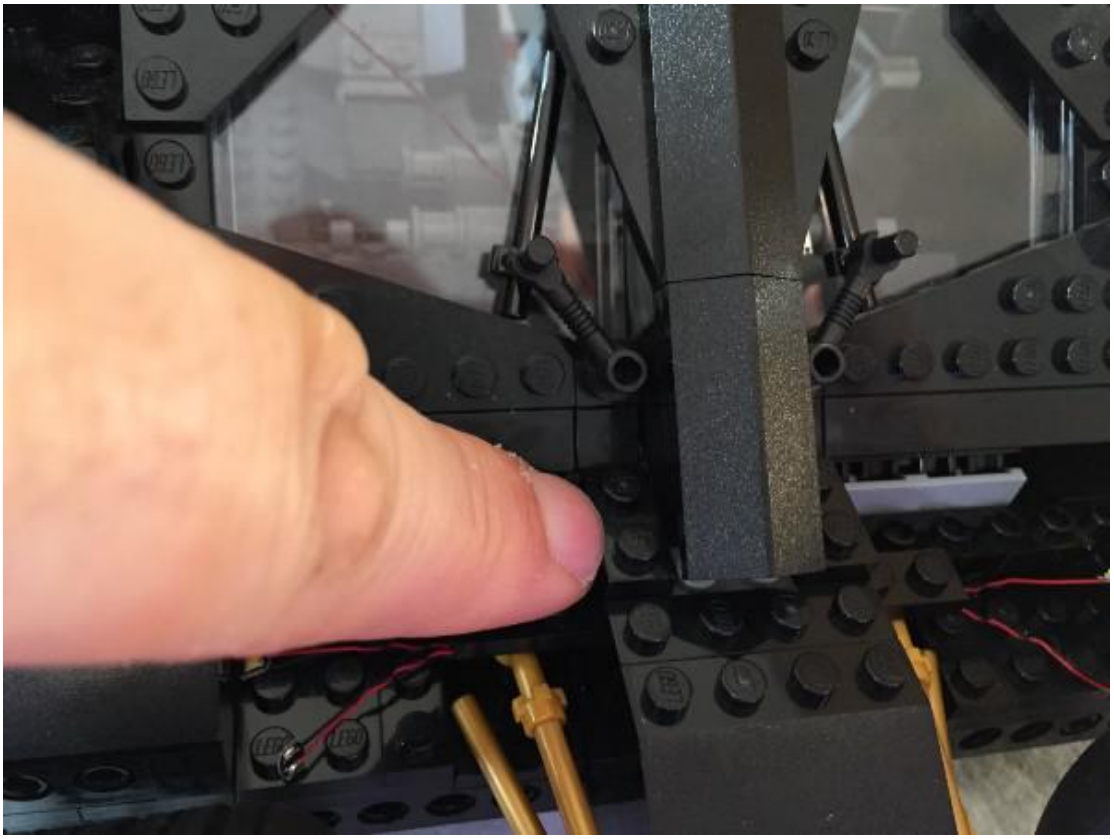




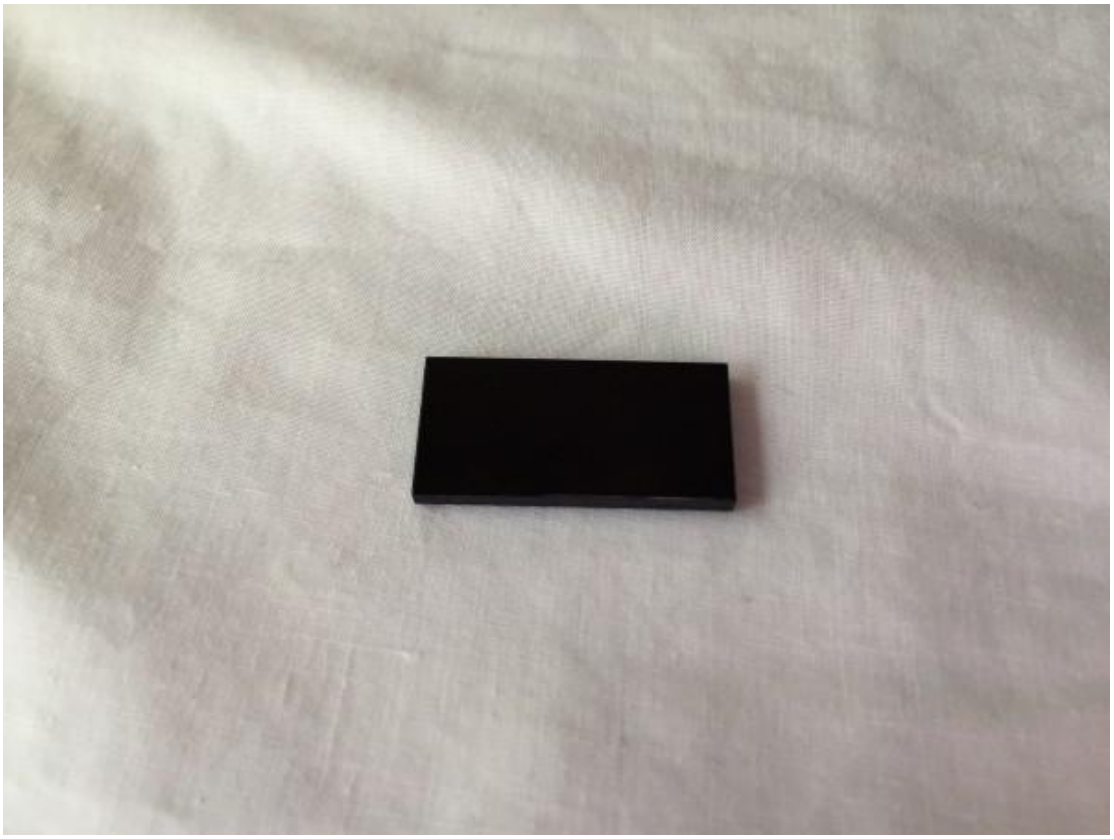


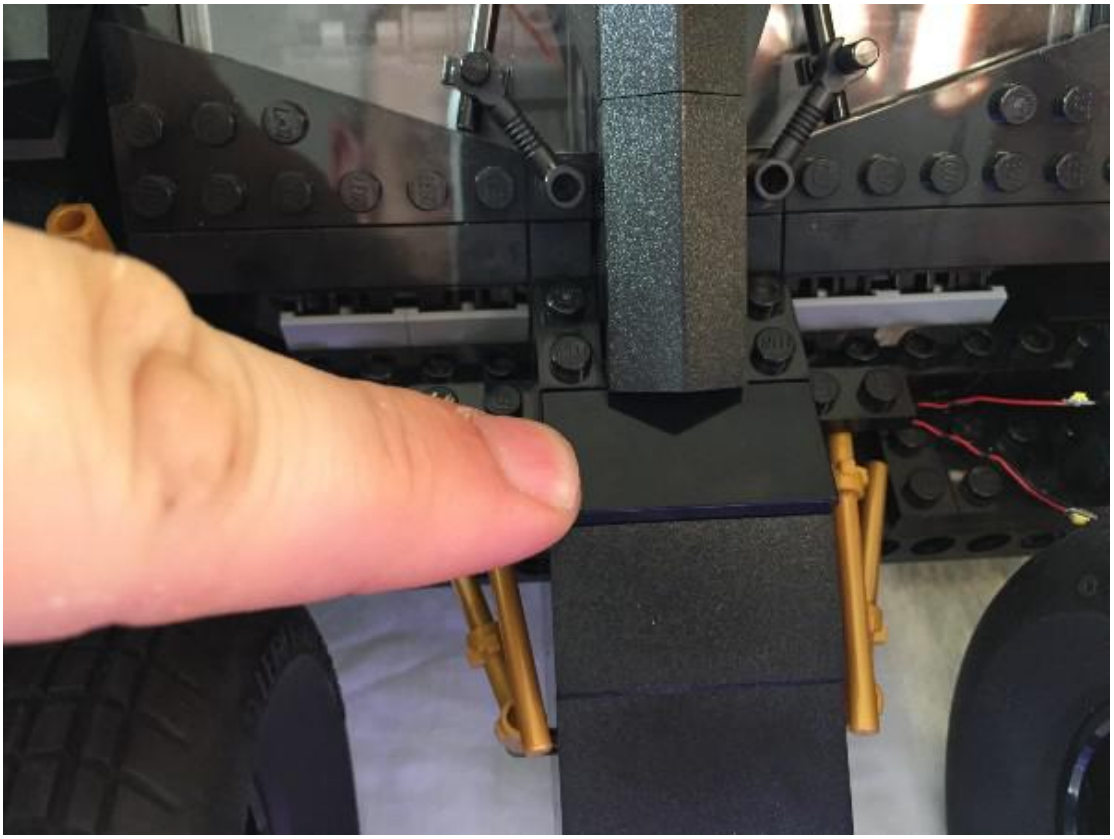
Grab the 1 x 8 plate that still has a couple of other pieces attached to it. This is the one we removed from the centre. Feed it back through from the right hand side and lock it in to position.



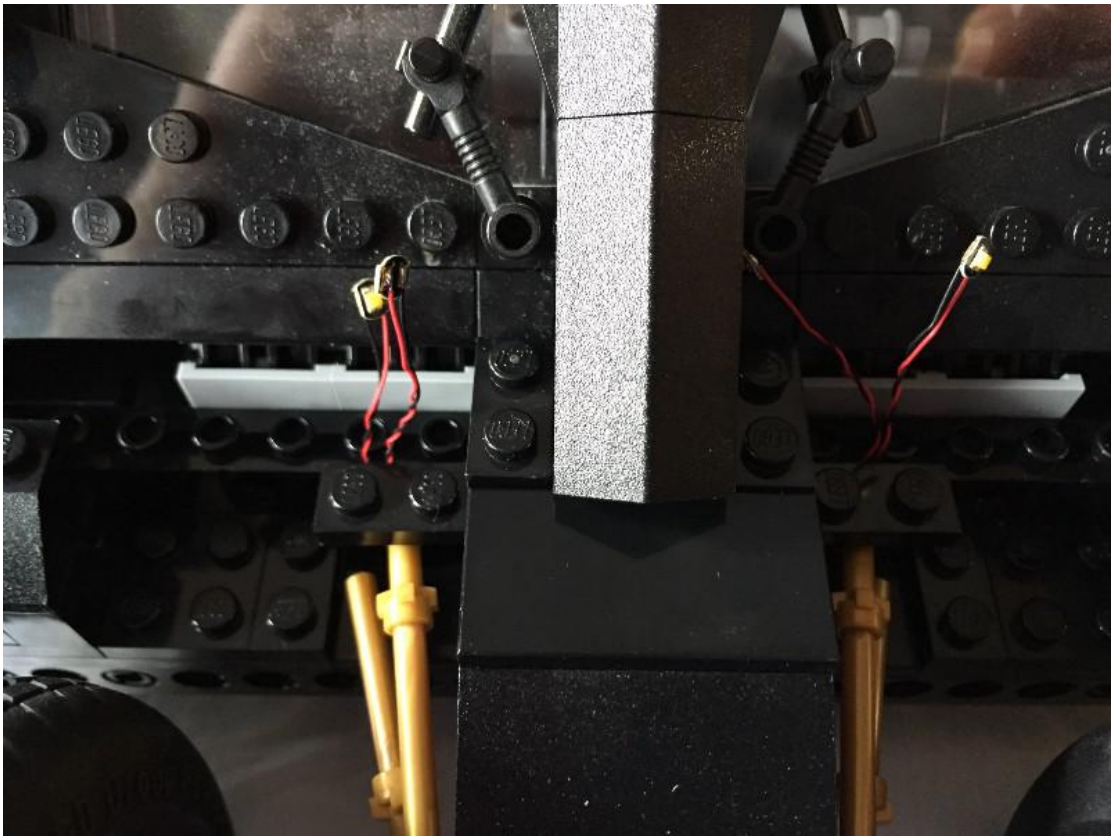


Get the 1 x 2 brick and put that back into position on the left had side of the centre.

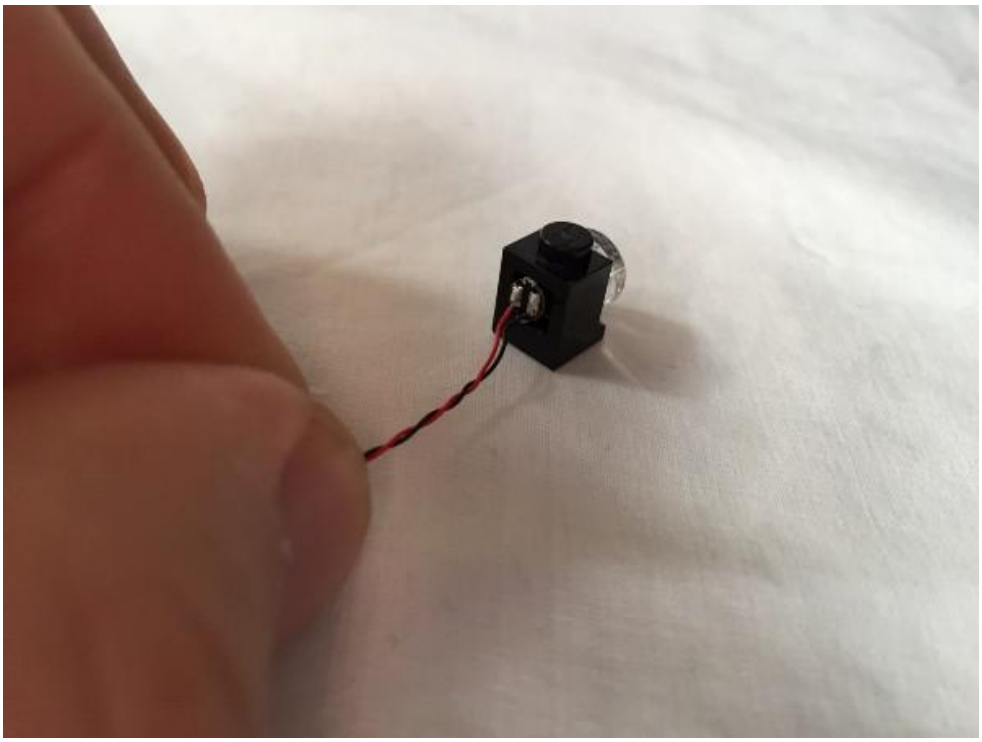


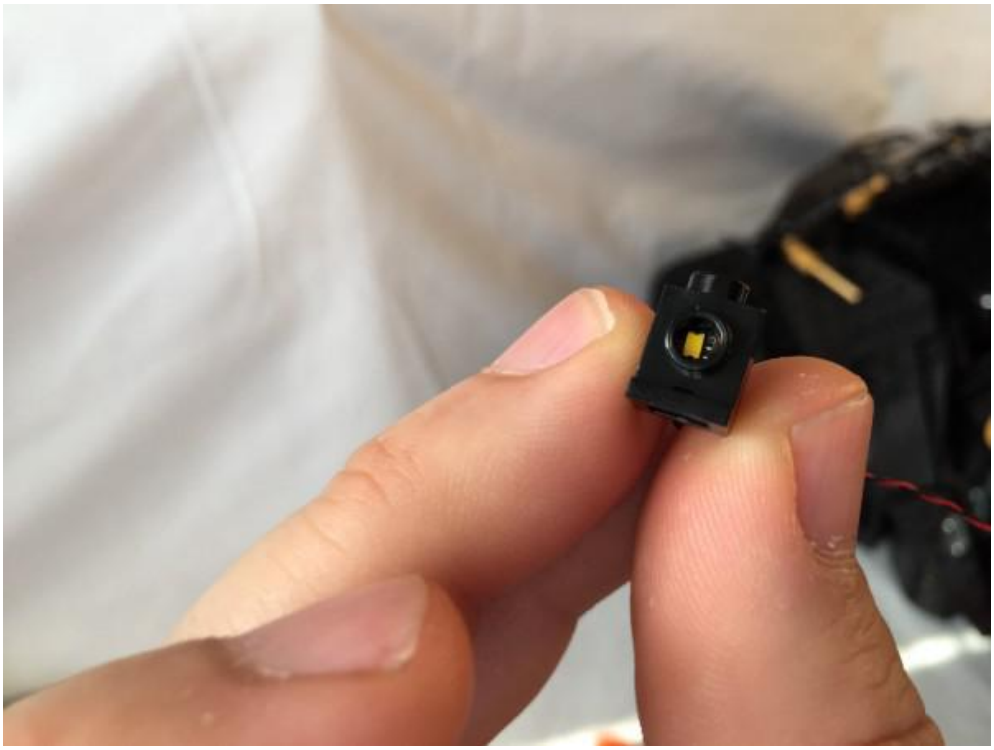


Grab the 2 x 4 tile and lock that back into position.

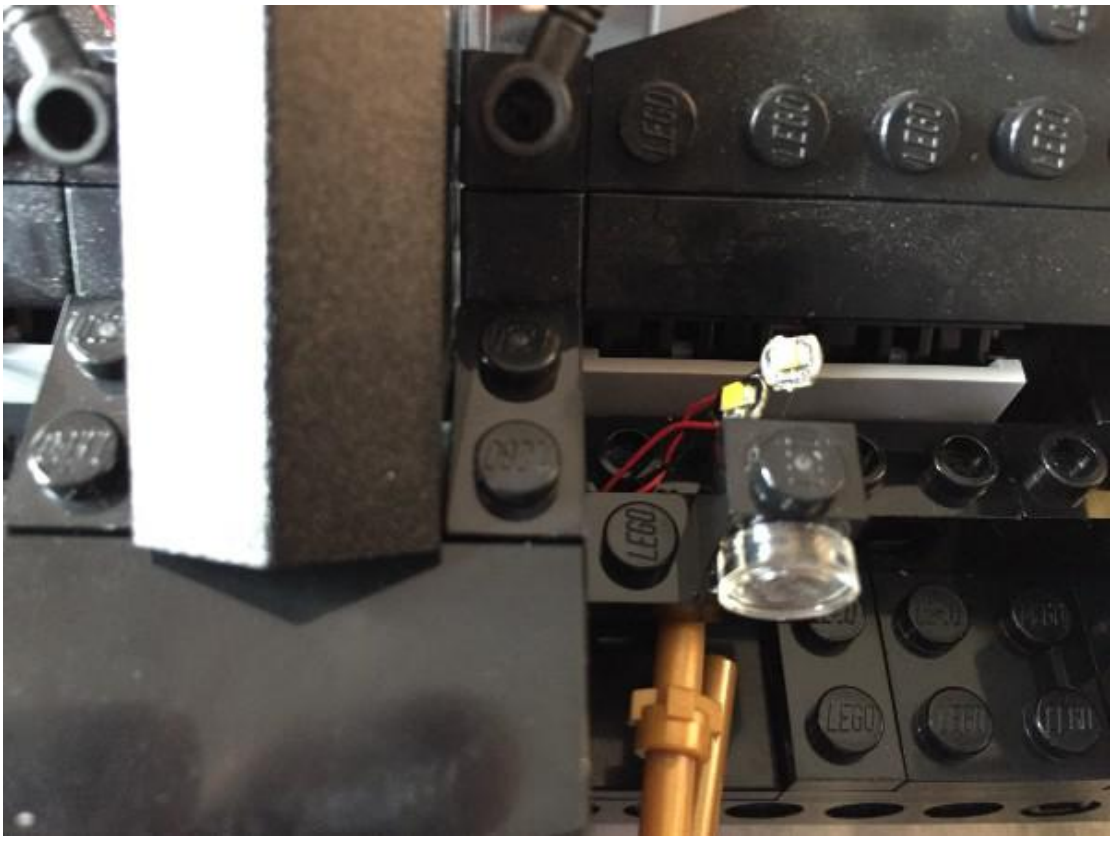


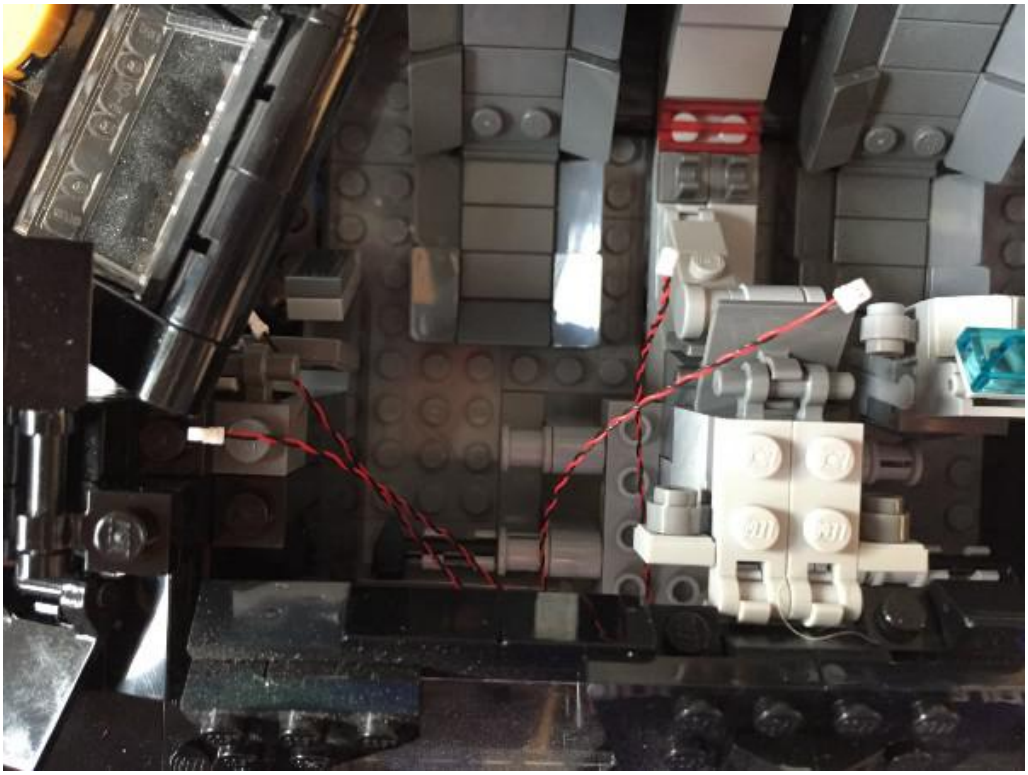
Grab the dot lights and feed the wires up behind the centre 1 x 8 plate. The gap is narrow so pry the 1 x 8 plate up a fraction on each side as needed to get the wires back there. Make sure the wires are side by side and not twisted around each other.



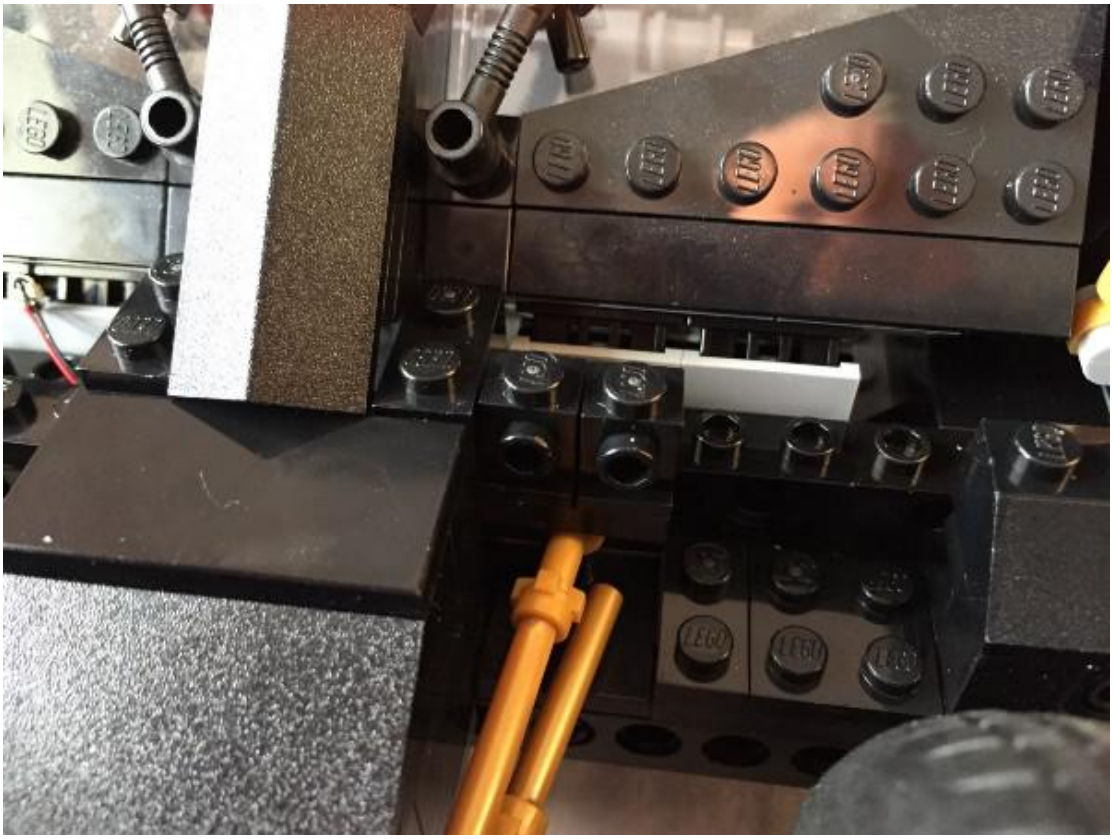


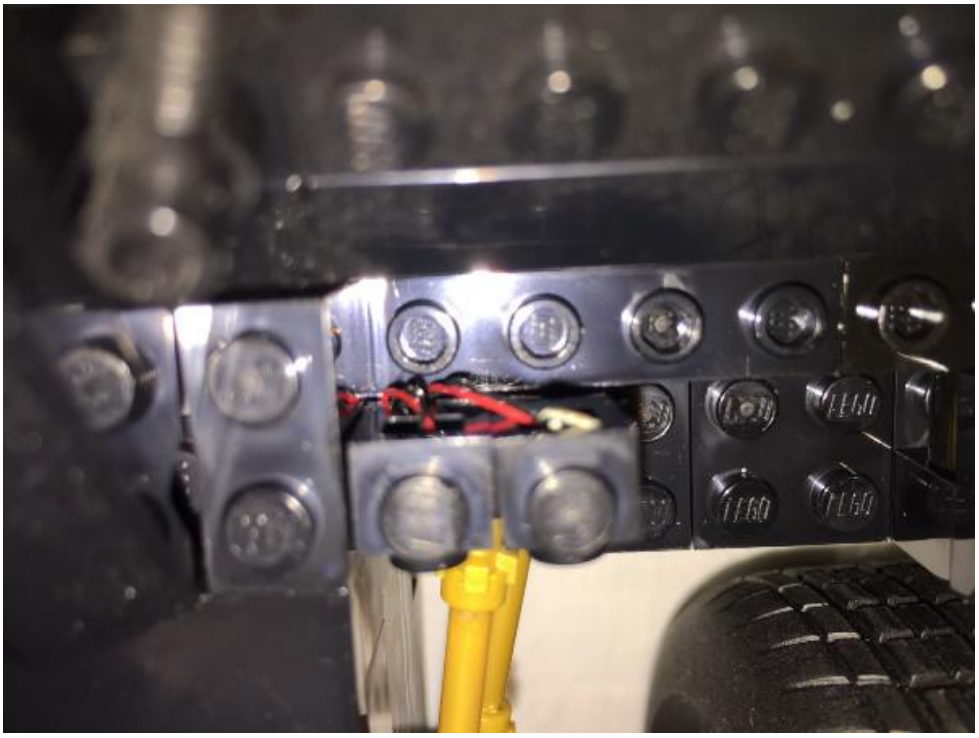
The Dot Light goes in through the back of the Headlight Brick. We want to make sure that the yellow LED element is facing the front for the best lighting effect.



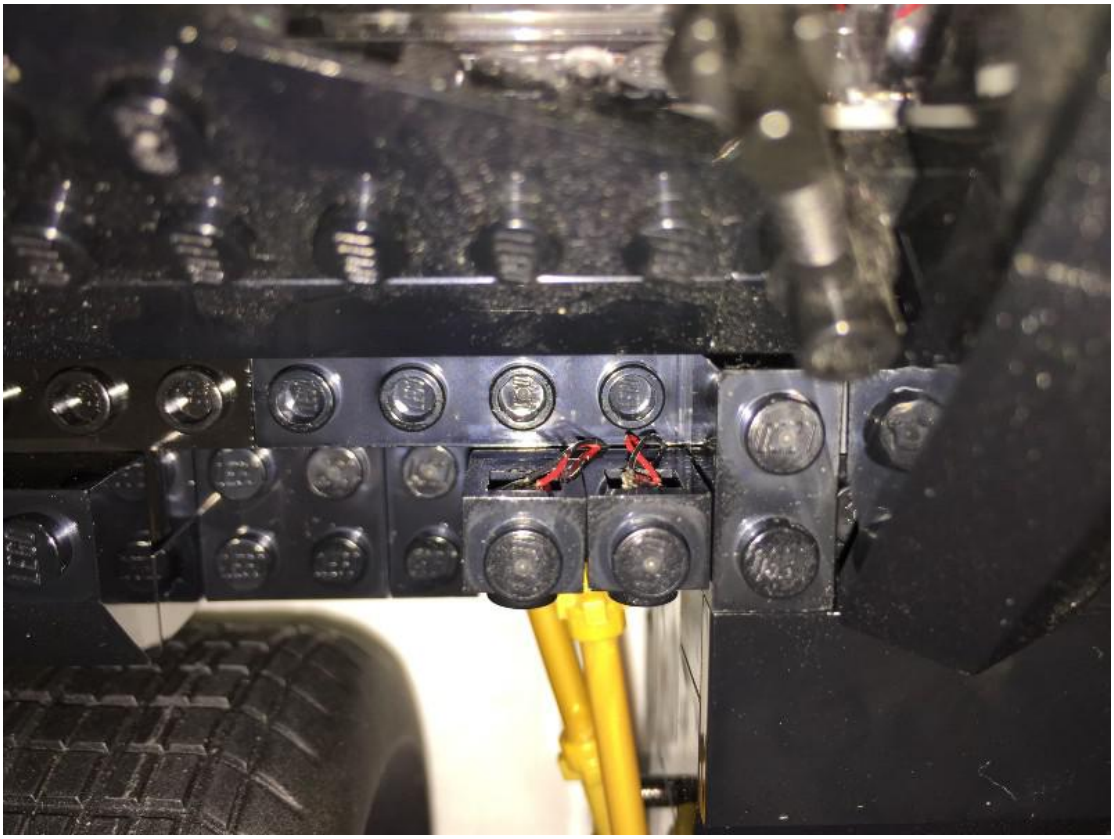


Put a headlight brick back in place to help gauge the length of wire required to fit the dot light. Gently pull the dot light wires through from the cockpit, remembering to move that 1 x 8 plate as required to let the wires move relatively freely. We want the LED to be approximately at the centre of the headlight brick with very little excess wire.

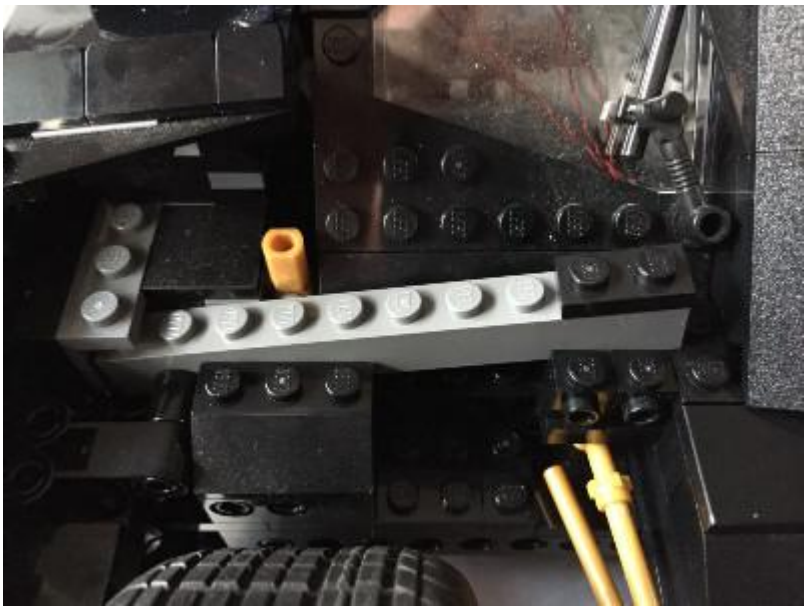


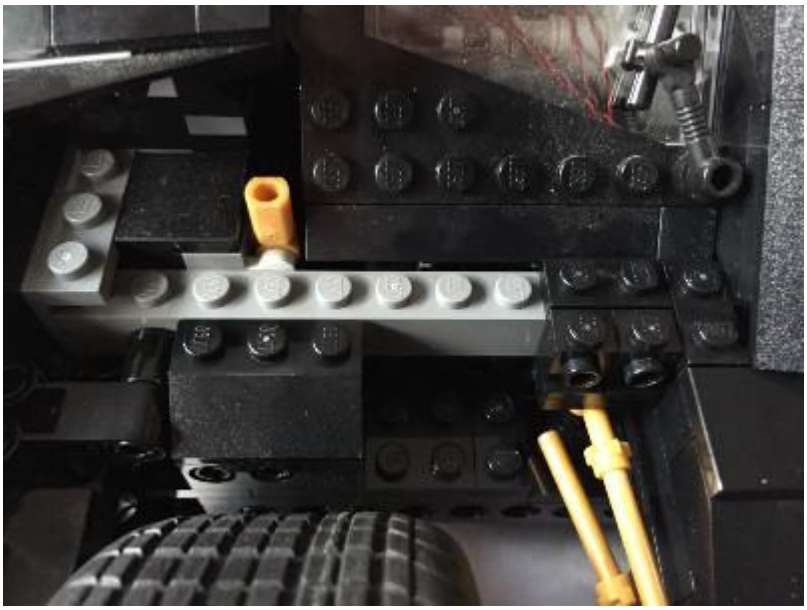


Put the headlight bricks back in place, and work the LED end of the Dot Light in to the back, remember that the yellow LED element faces the front. I like to remove the trans clear round tiles so that I can more easily see what is going on inside the brick.



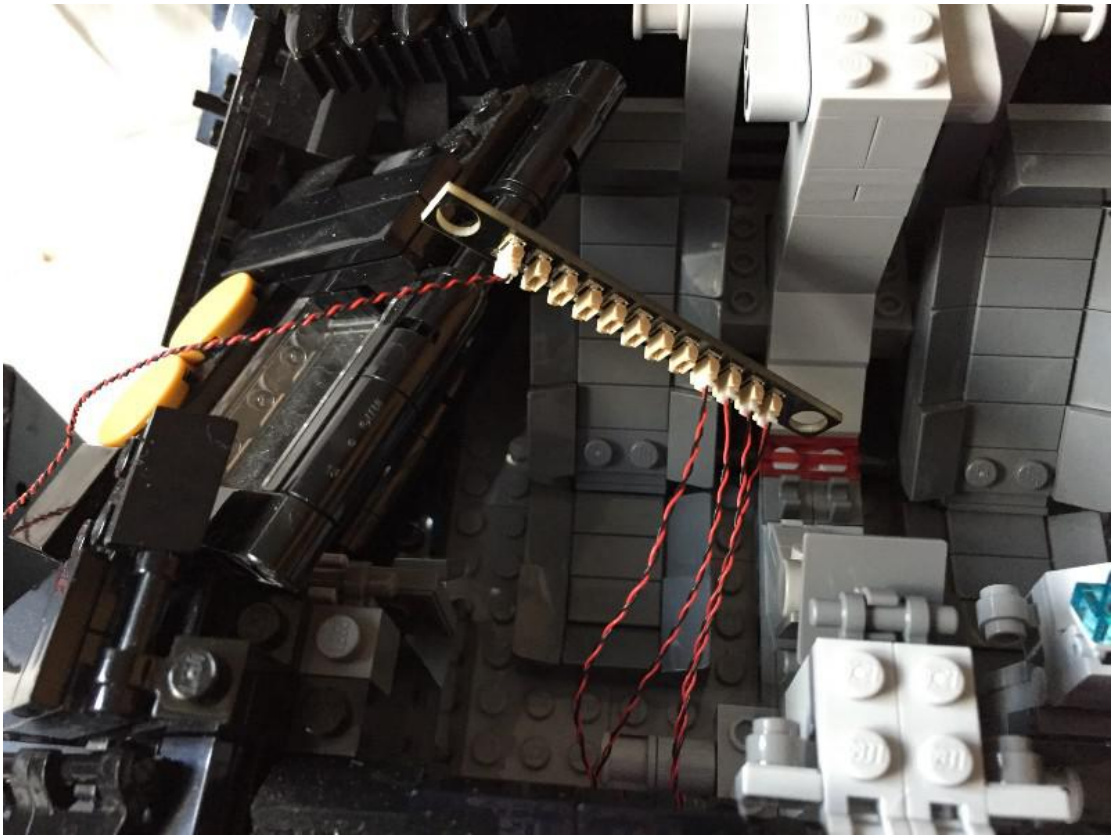
This part can be frustrating. Take your time. Getting this part right is important. Use a pen lid or another plastic implement to help you manoeuvre the lights into position.



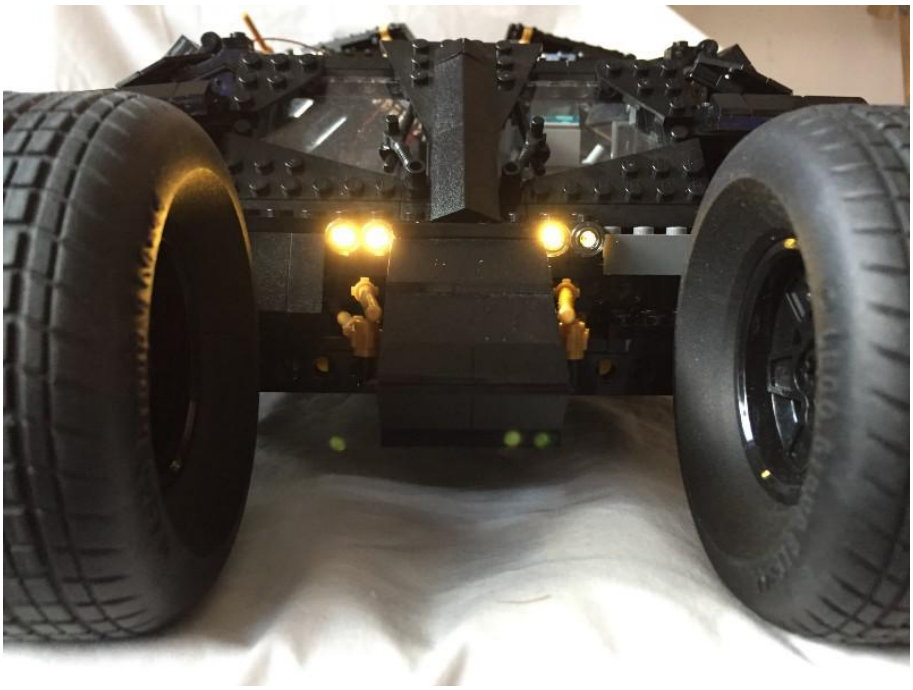


Once you think you have your Dot Lights in the headlight brick and facing the right way, grab the 1 x 10 dark bluish grey brick (that should still have a 1 x 2 plate attached to it).
Put it back into position. This brick sits behind the headlight bricks and will hold everything in place.

Now is a good time to test the lights. Reach in through the cockpit and connect the Dot Lights to the 12 Port Expansion board.



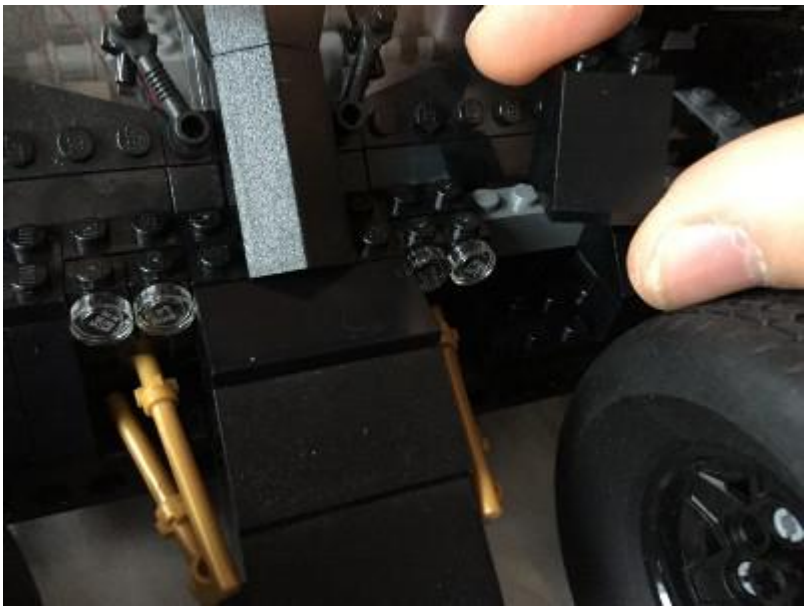
Connect the battery pack to the 12 Port Expansion board as well and turn it on.

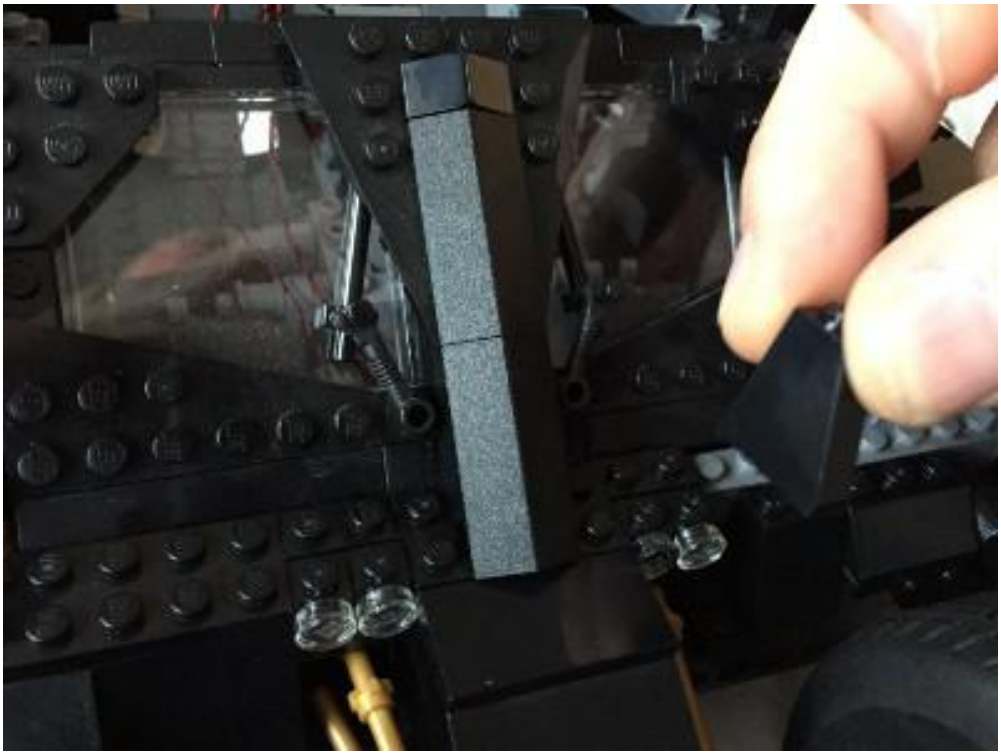


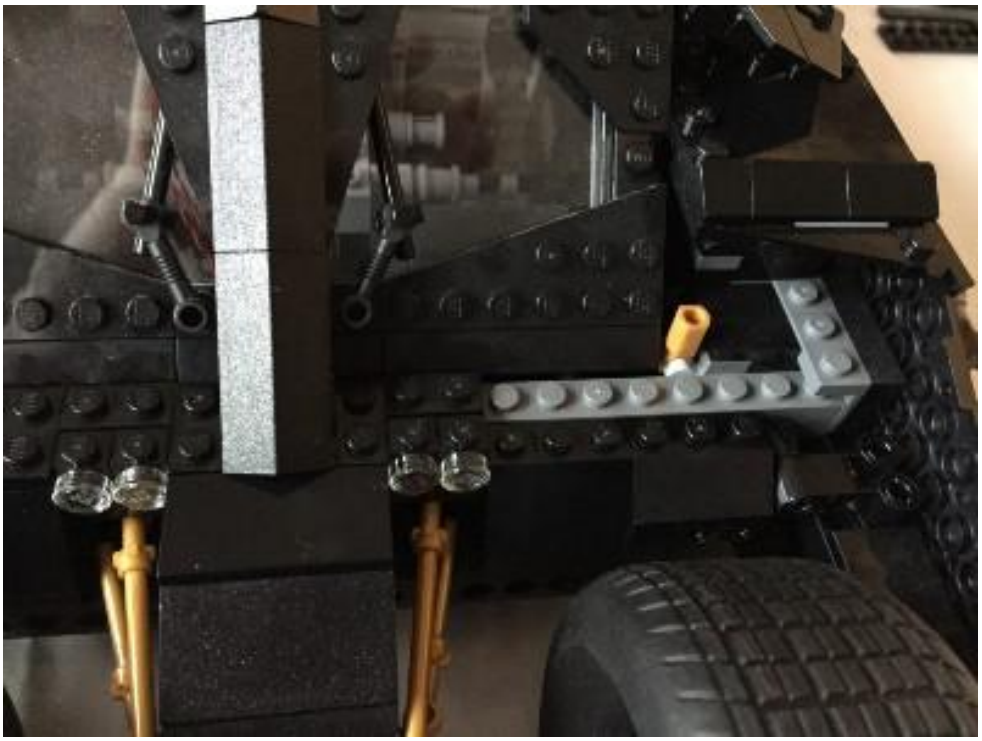
As you can see, the Dot Light on the right hand side is not as bright as the other three. Looks like I messed up!

It turns out that particular light was facing the back. So I removed the headlight brick, turned the Dot Light around and now all the lights are bright!

We can continue reassembling the front of the vehicle.

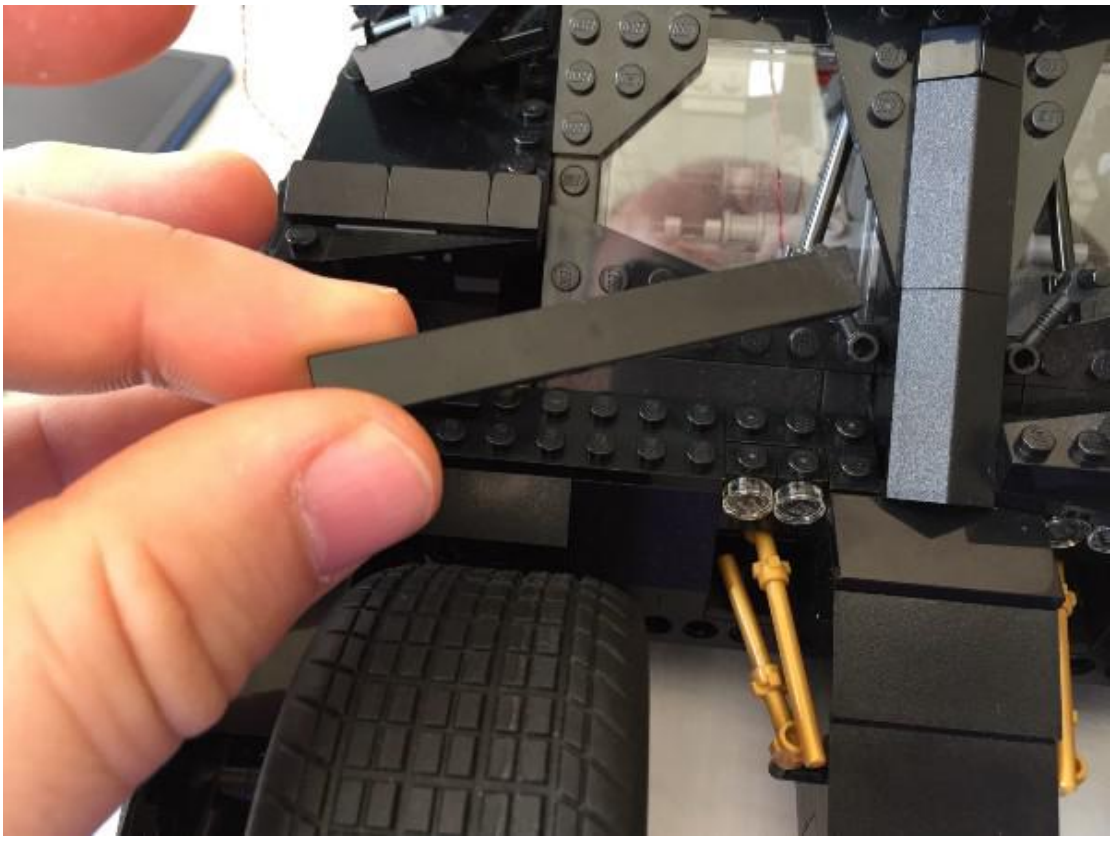


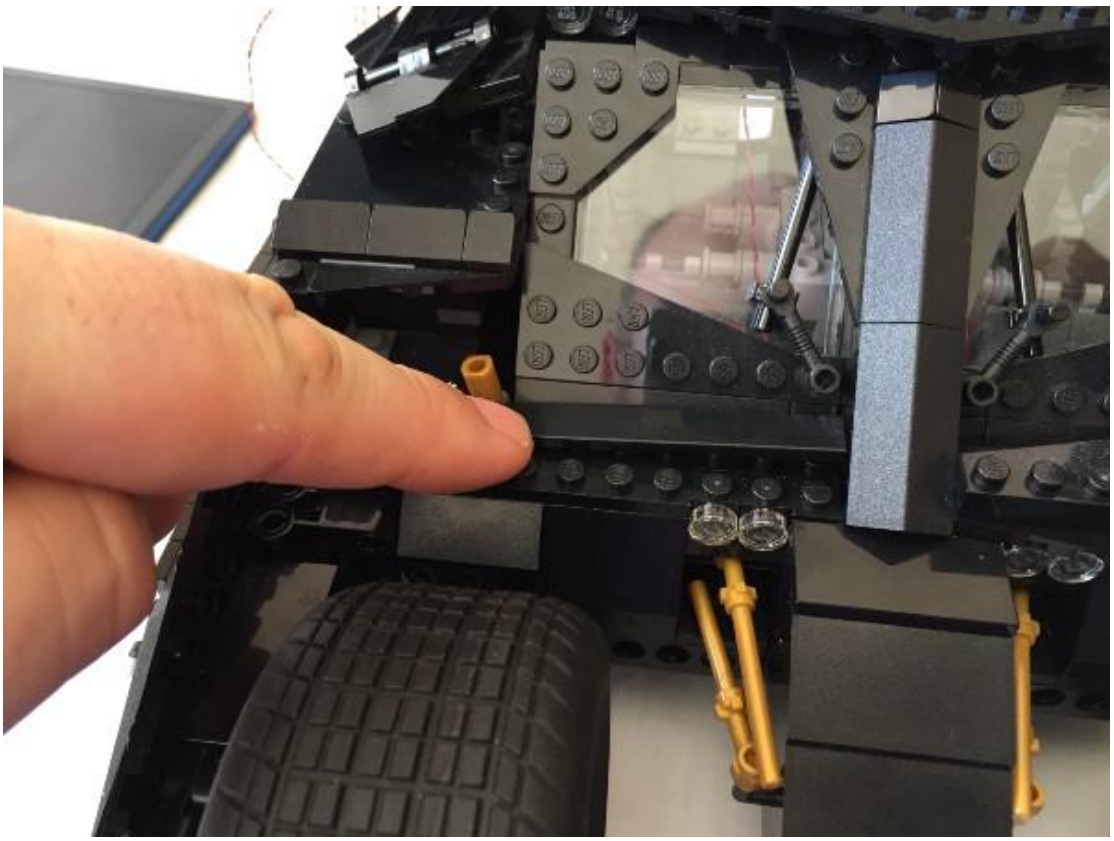




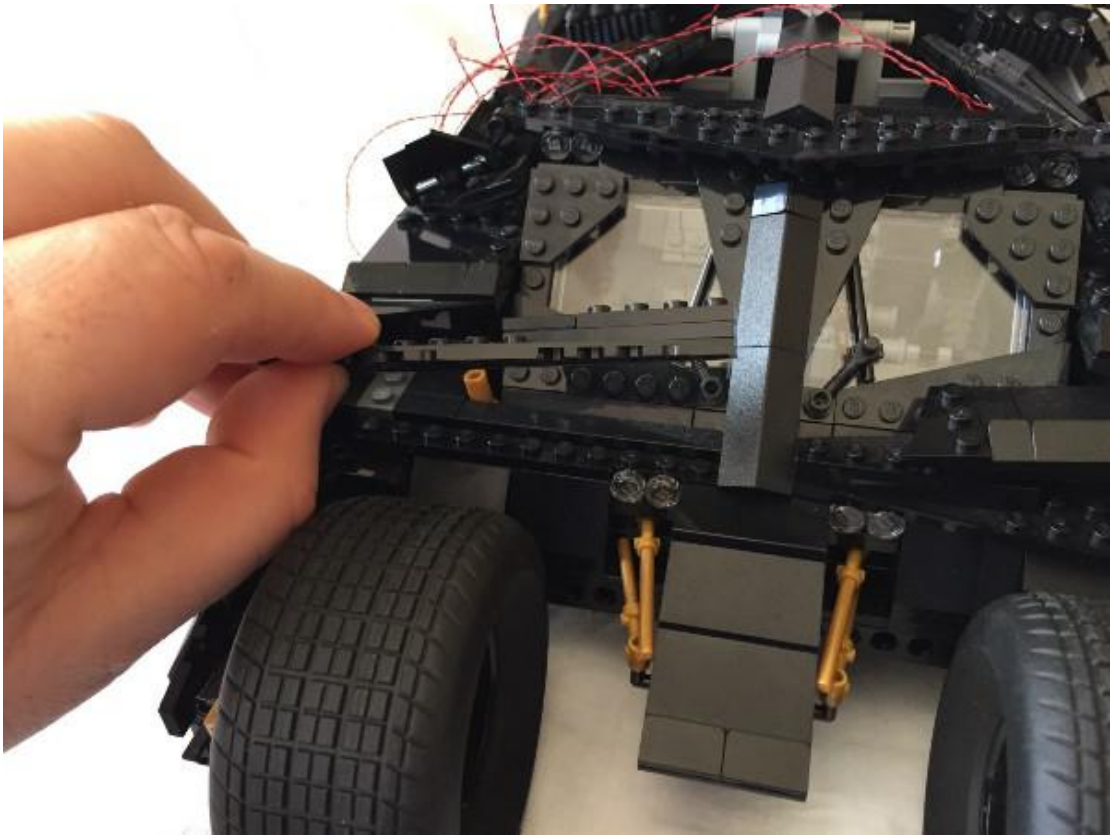
Put the two slope bricks back in place right next to the headlight pieces.

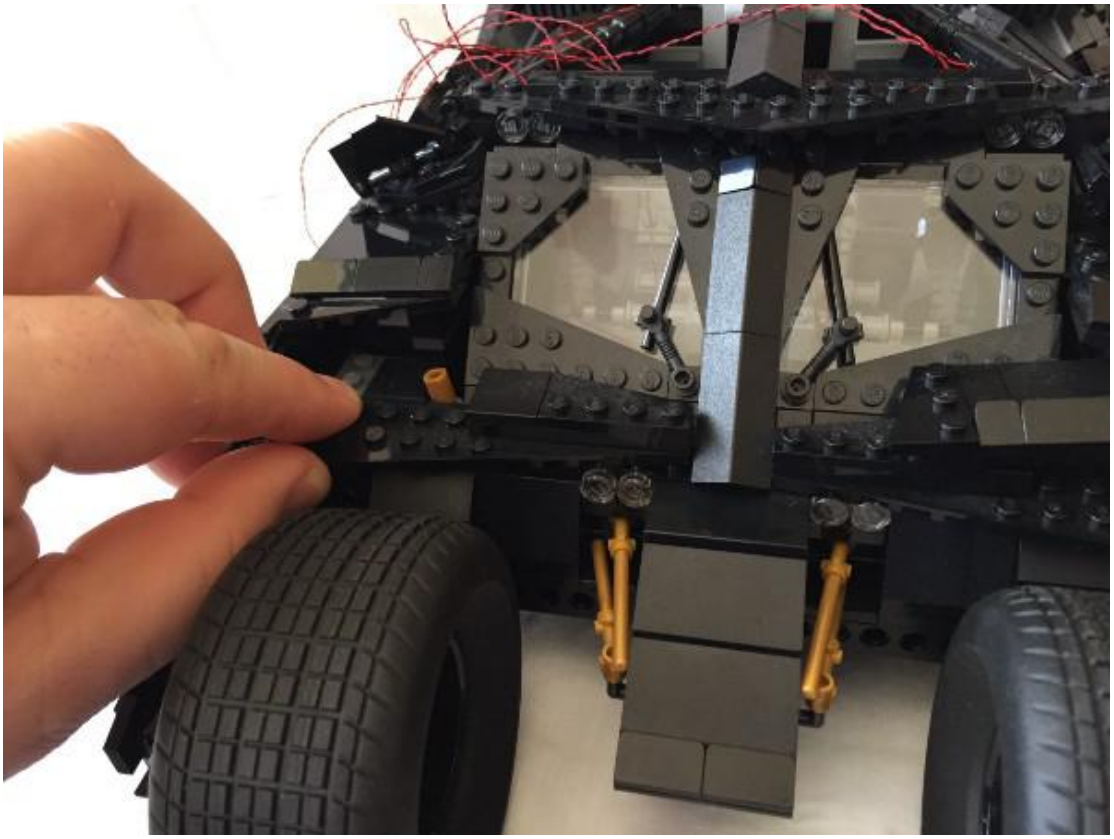
Put the 2 x 8 plate back in place remembering that one of the outer studs needs to fit under the dark bluish grey bracket piece.



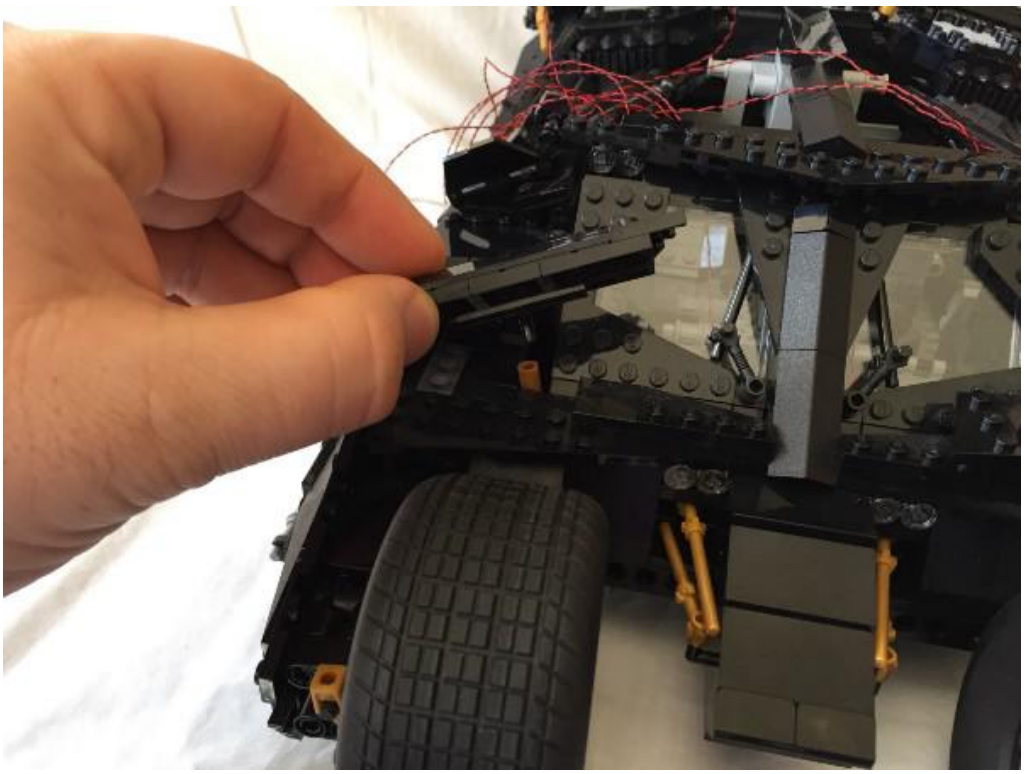


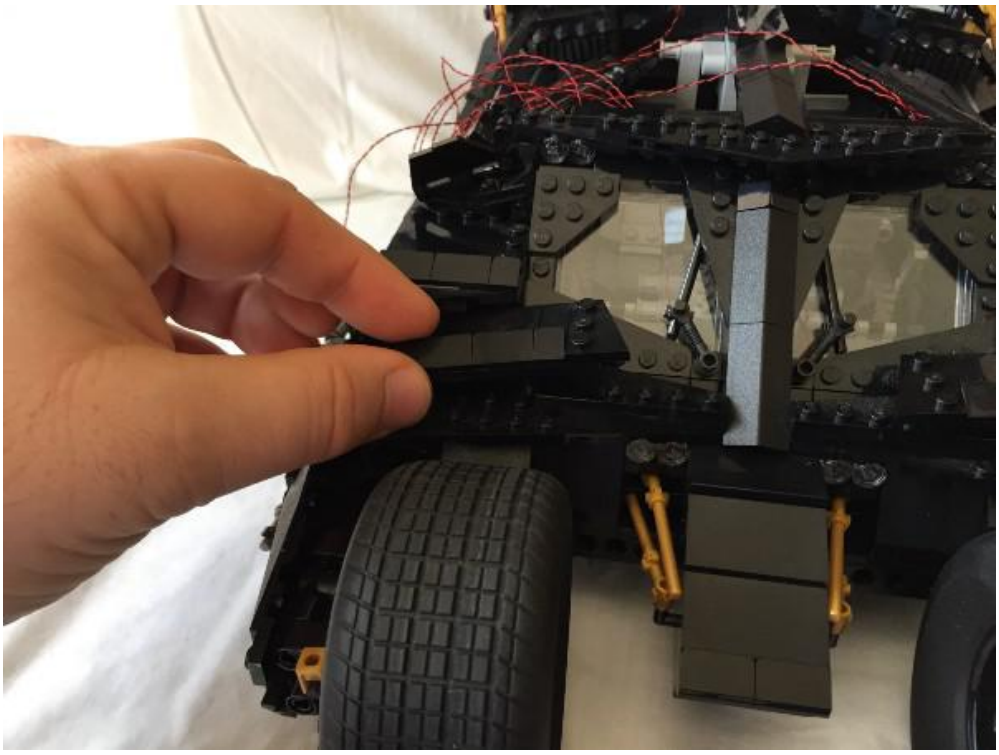
Replace the 1 x 8 plate.





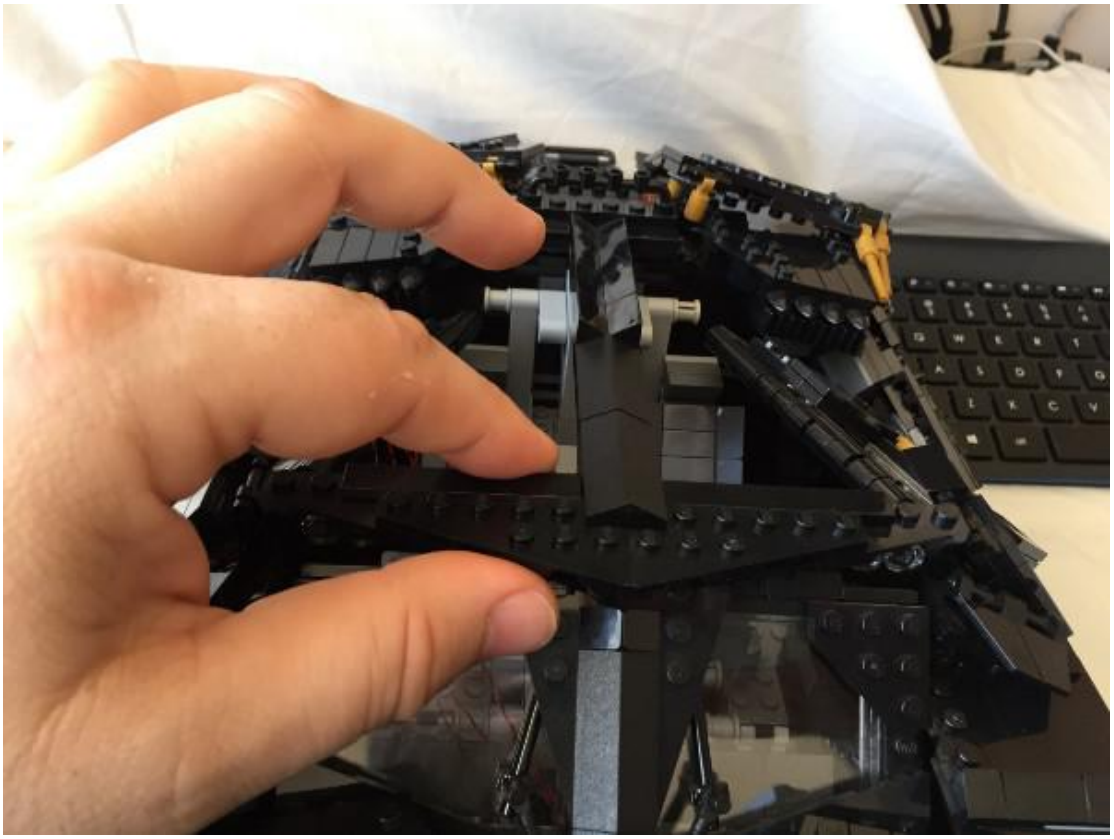
Replace the long wedge plate that has a smaller wedge plate attached to it.

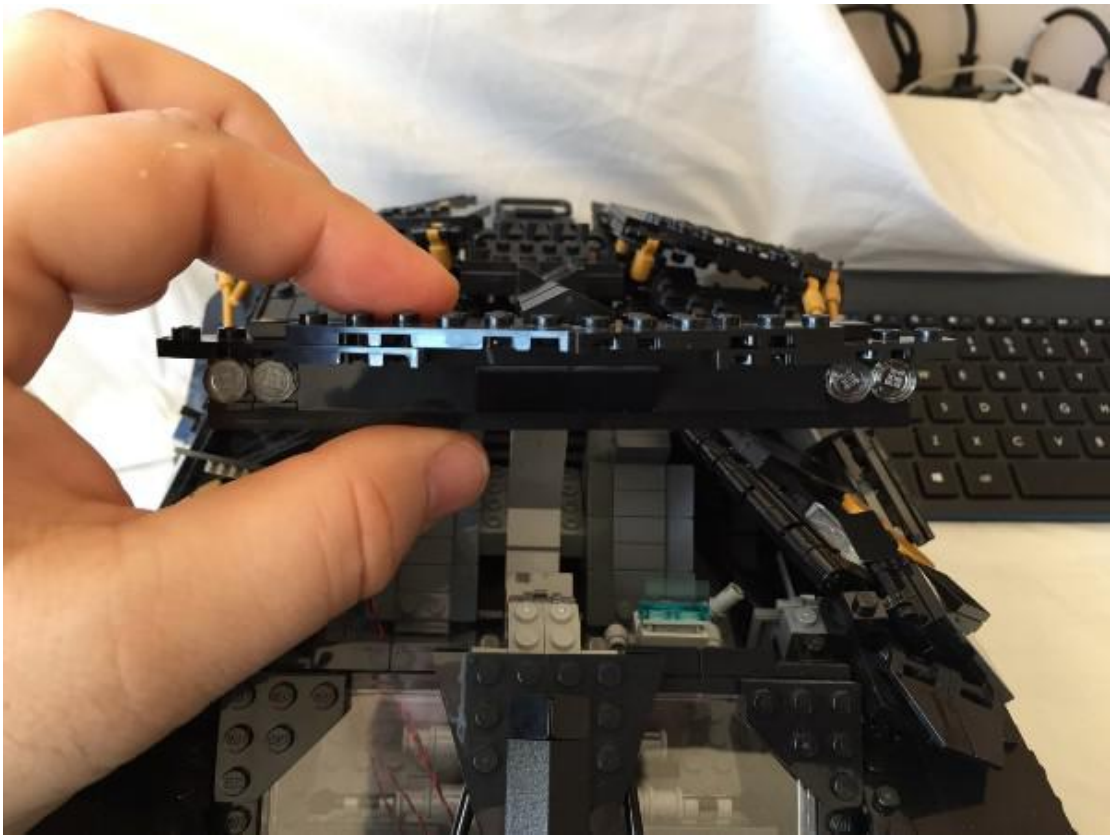




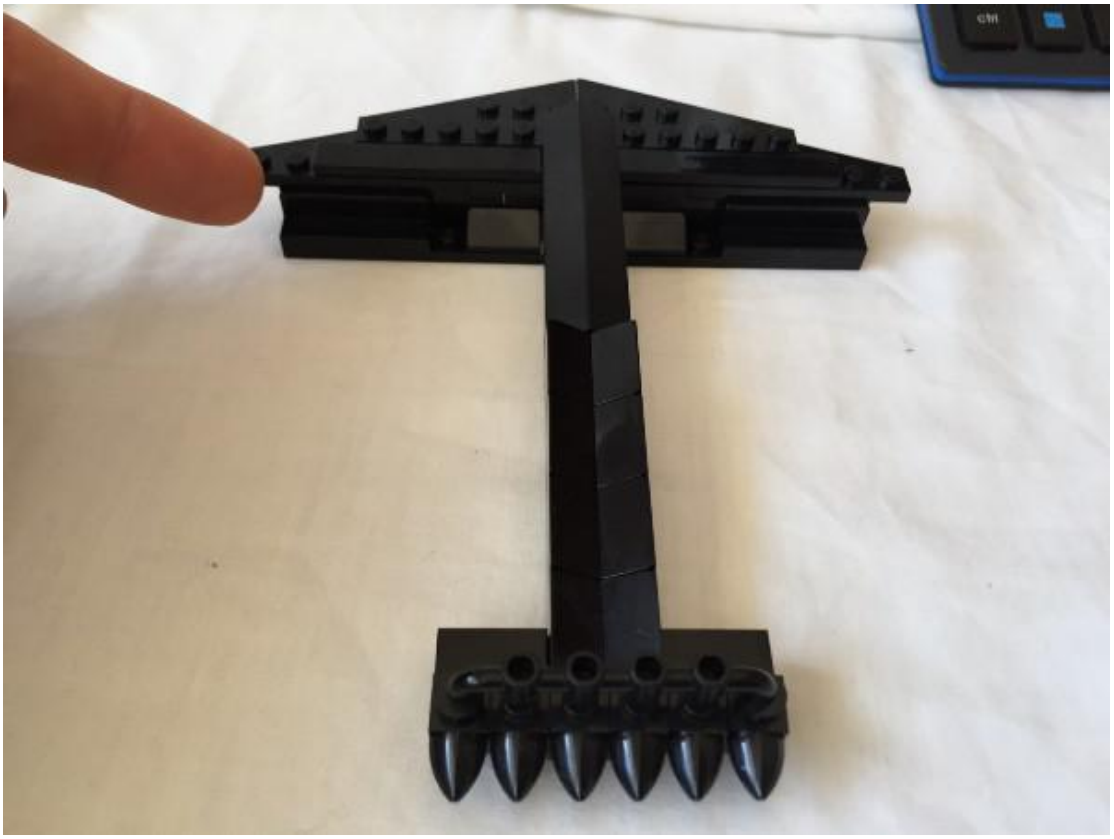
Replace the loose fitting piece that partially covers the windshield.

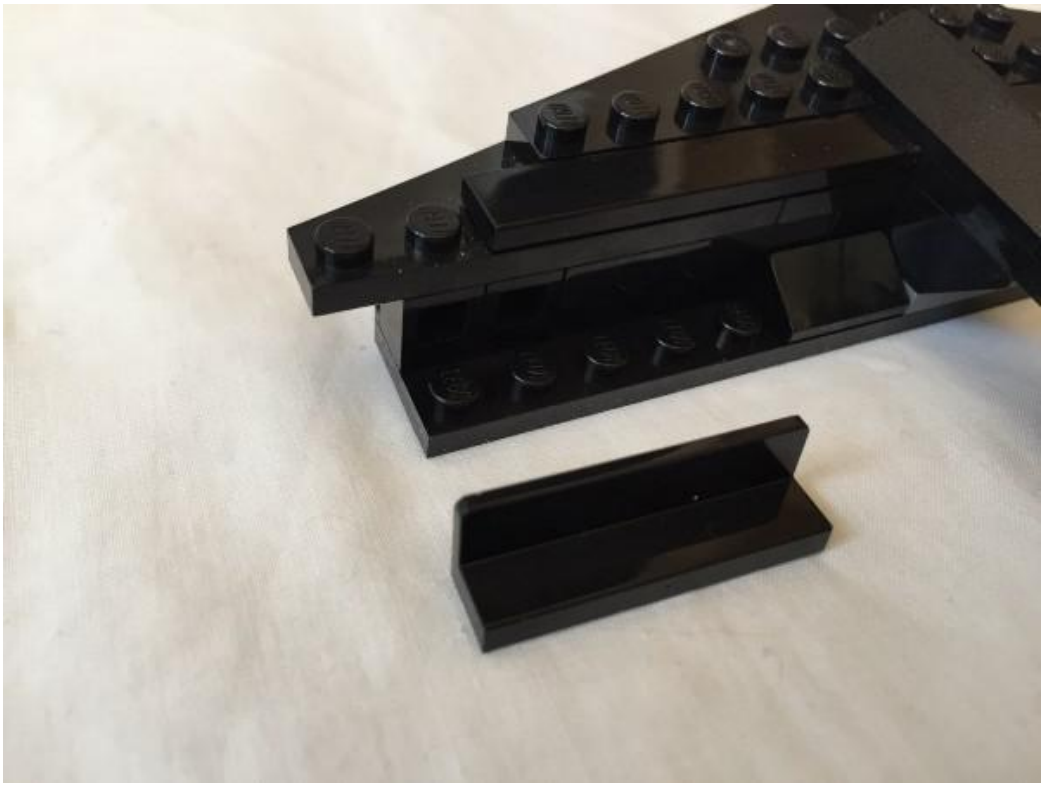
Now we can work on the lights above the windshield.



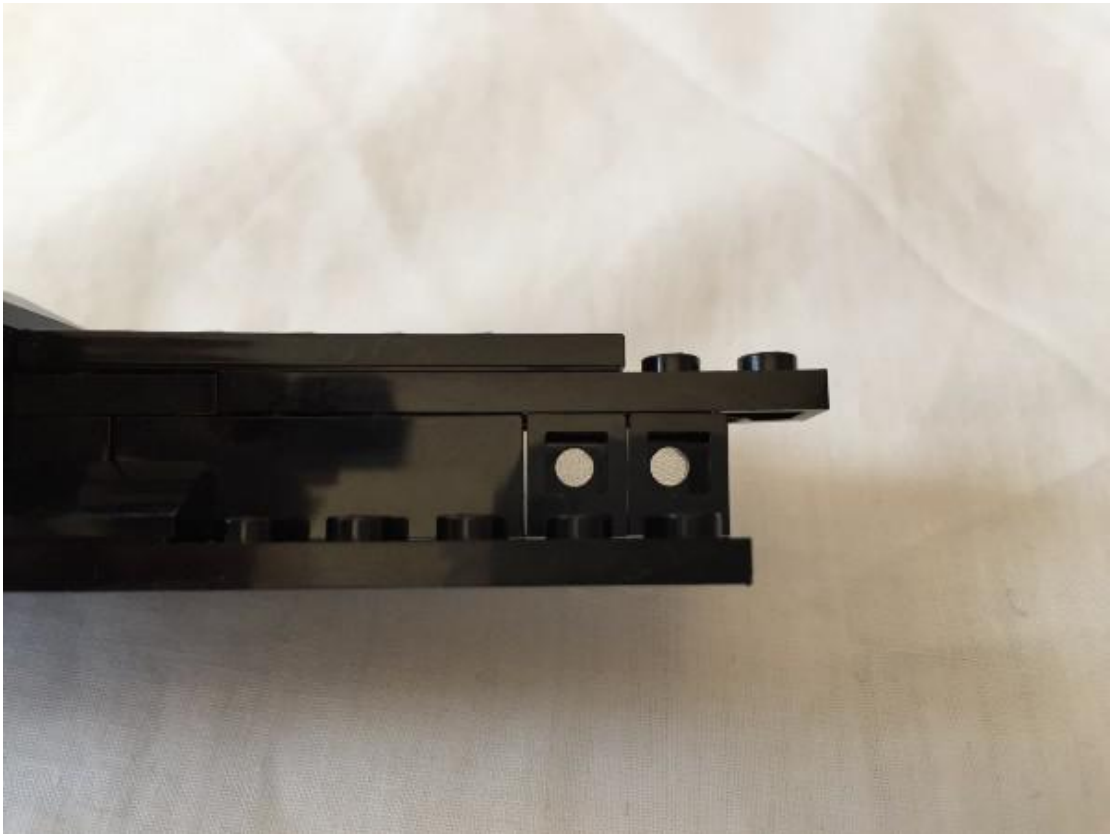


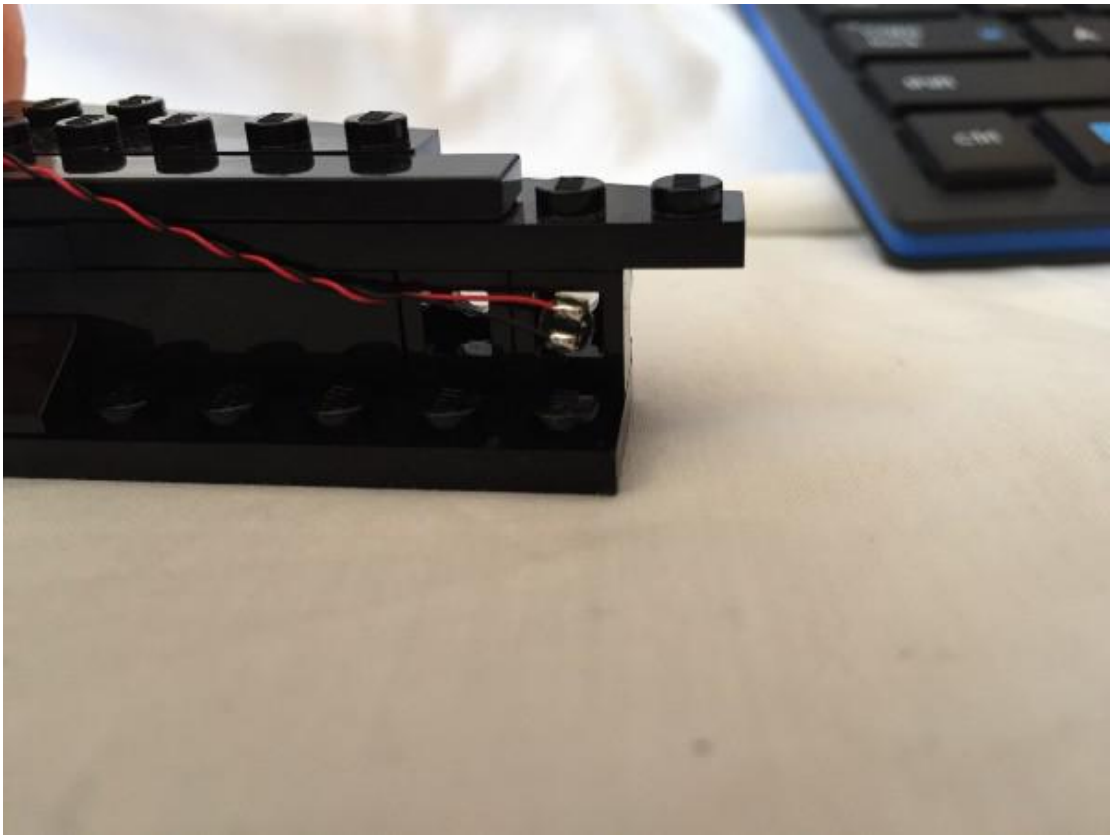
Lift and remove the set of pieces that run along the top of the windshield and down over the top of the cockpit. These pieces contain the headlight bricks that we are going to light up.



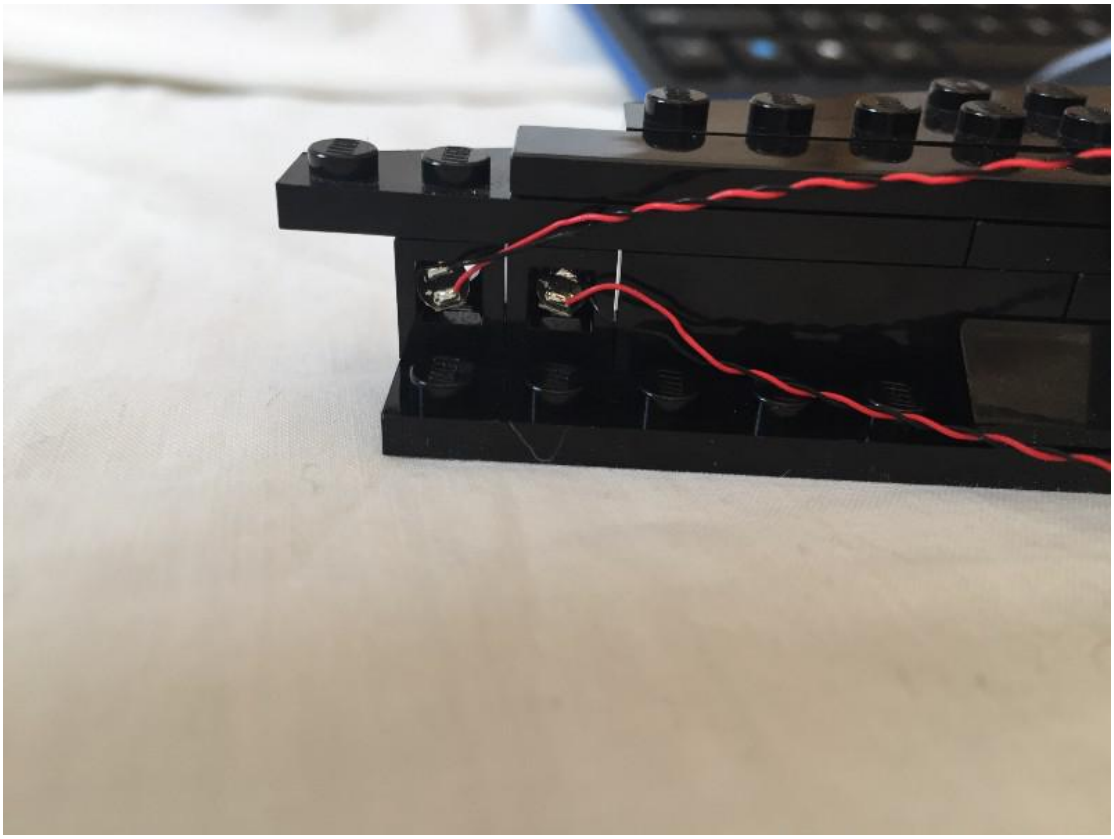


There is a 1 x 4 panel piece on each side that covers the back of the headlight bricks. Remove the panel pieces.

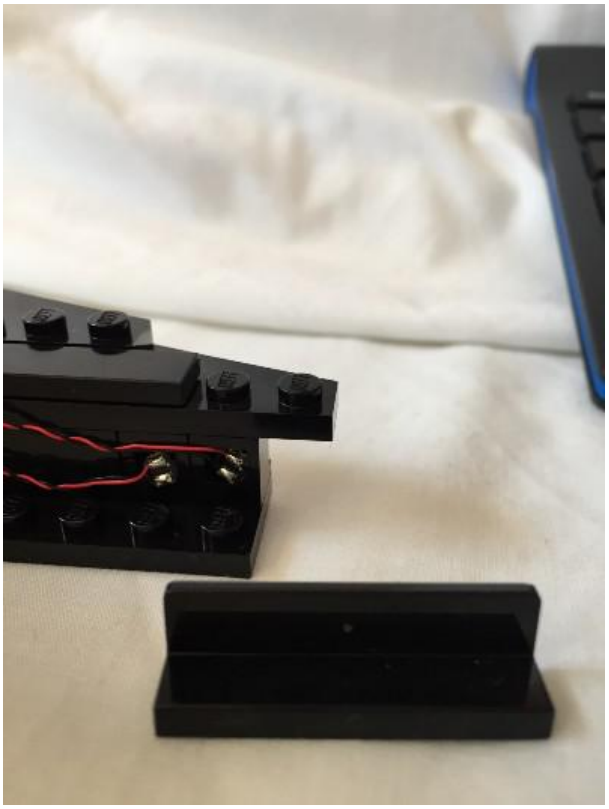


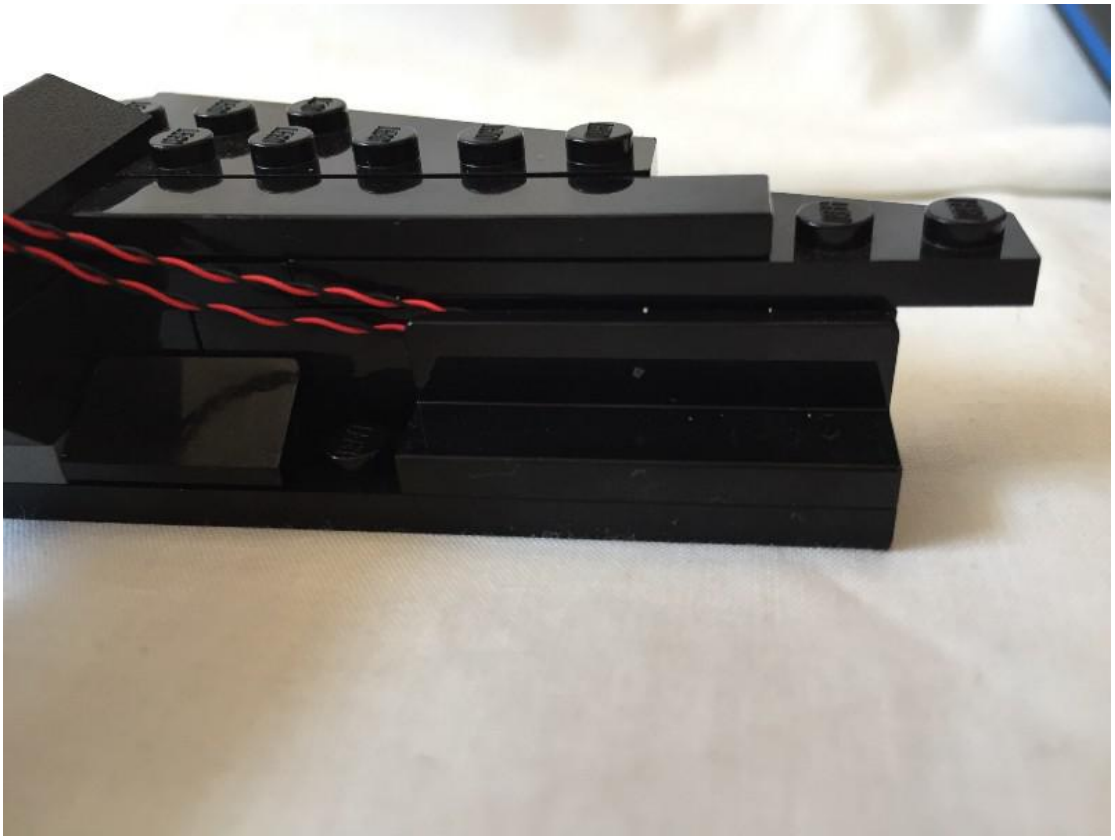


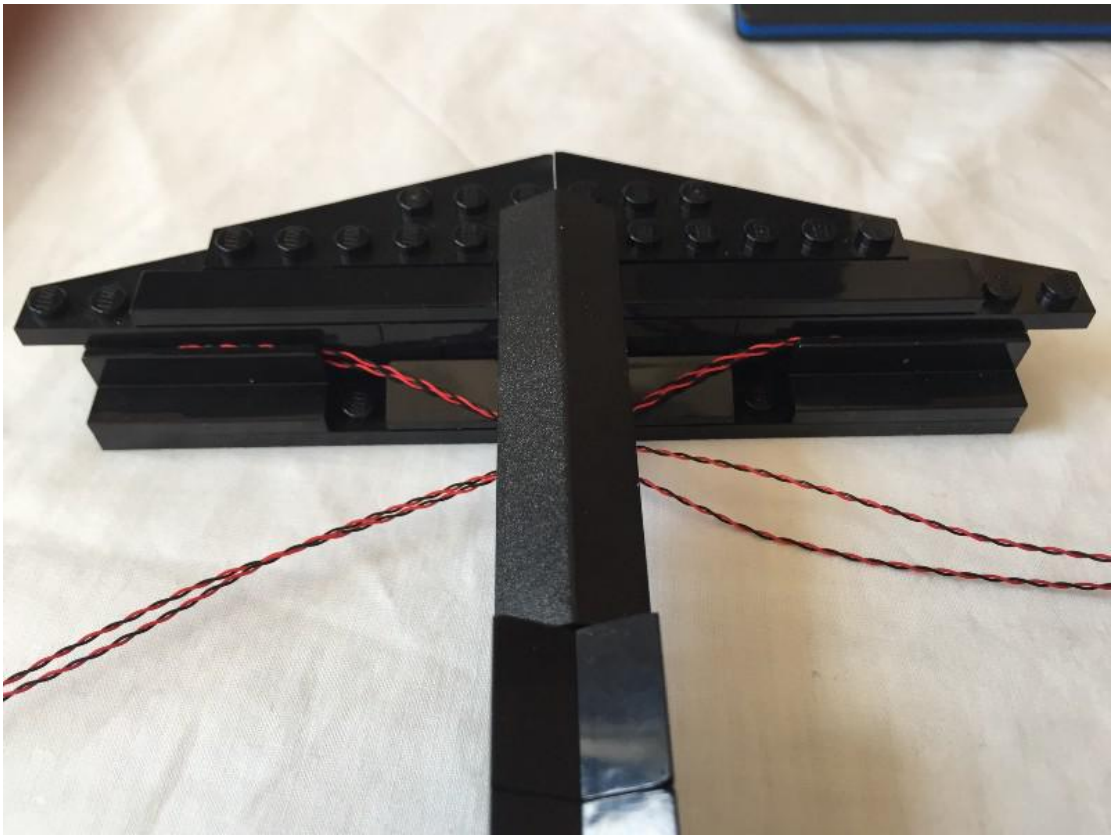
Now that the back of the headlight bricks are visible, we can fit the dot lights. As we did before, we want the LED sitting inside the headlight brick with the yellow element facing the front.
Run the dot light wire back towards the centre.



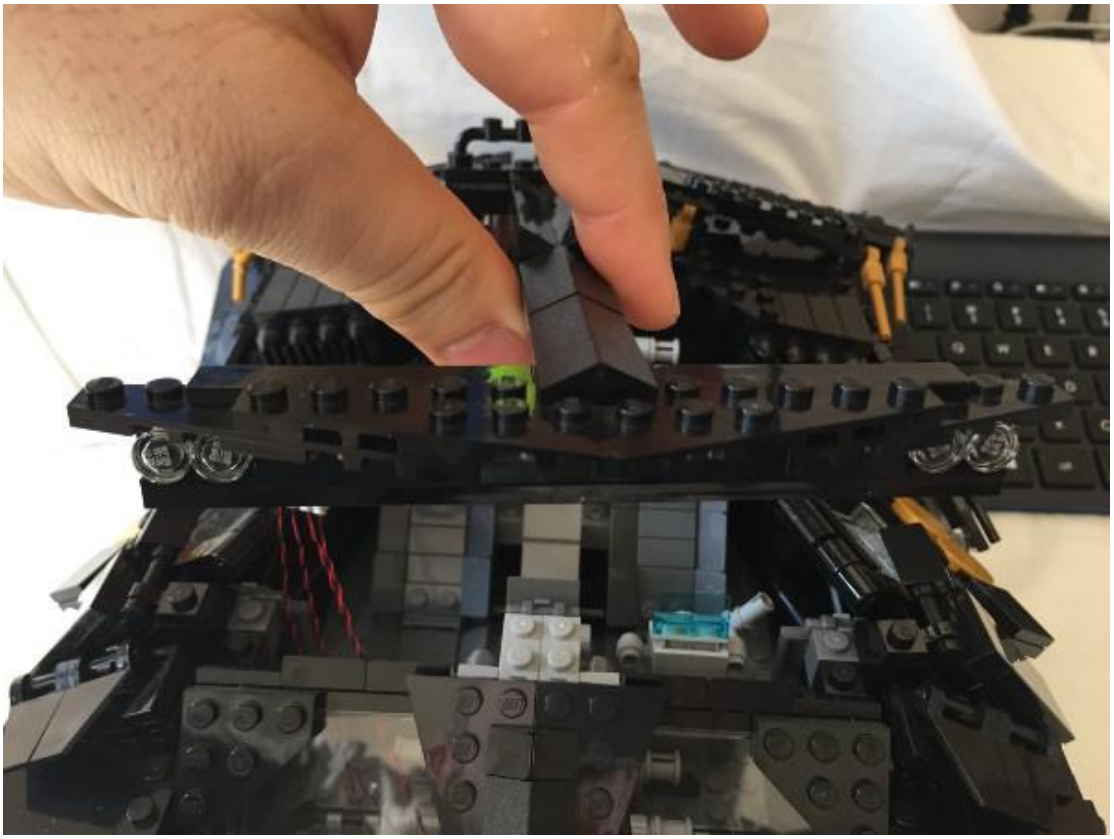
Once you have two dot lights resting in position, grab the 1 x 4 panel and reattach it so that it holds the dot lights in position.

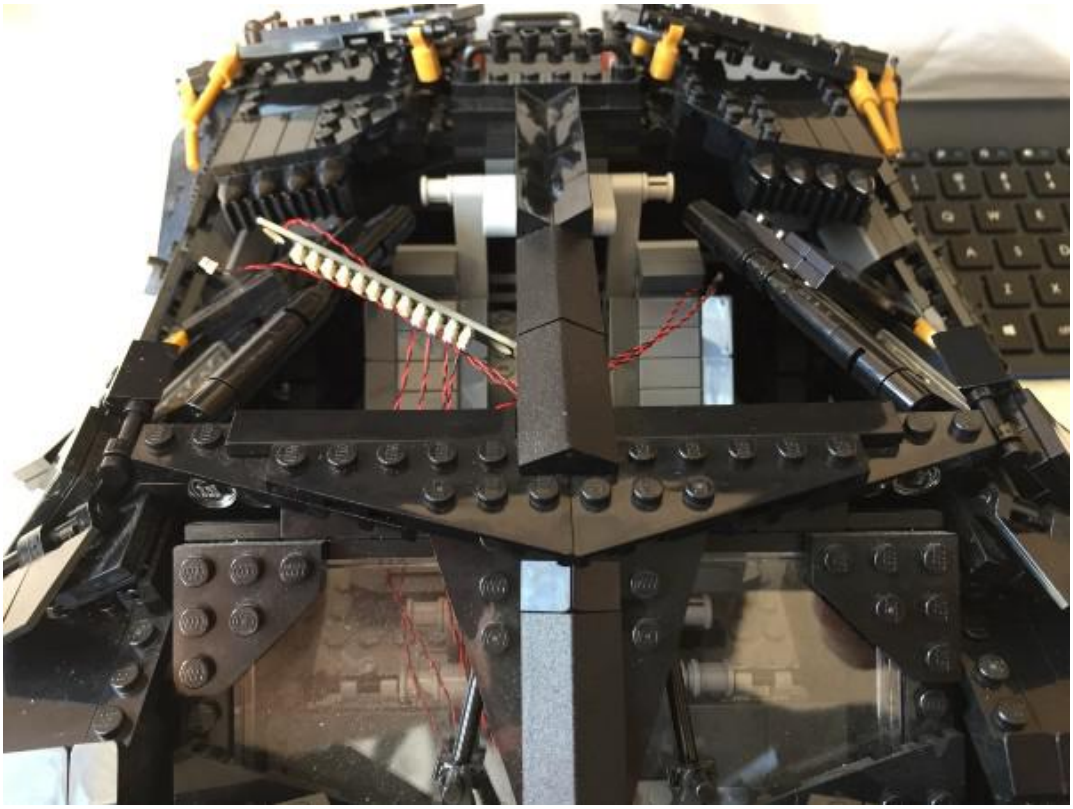




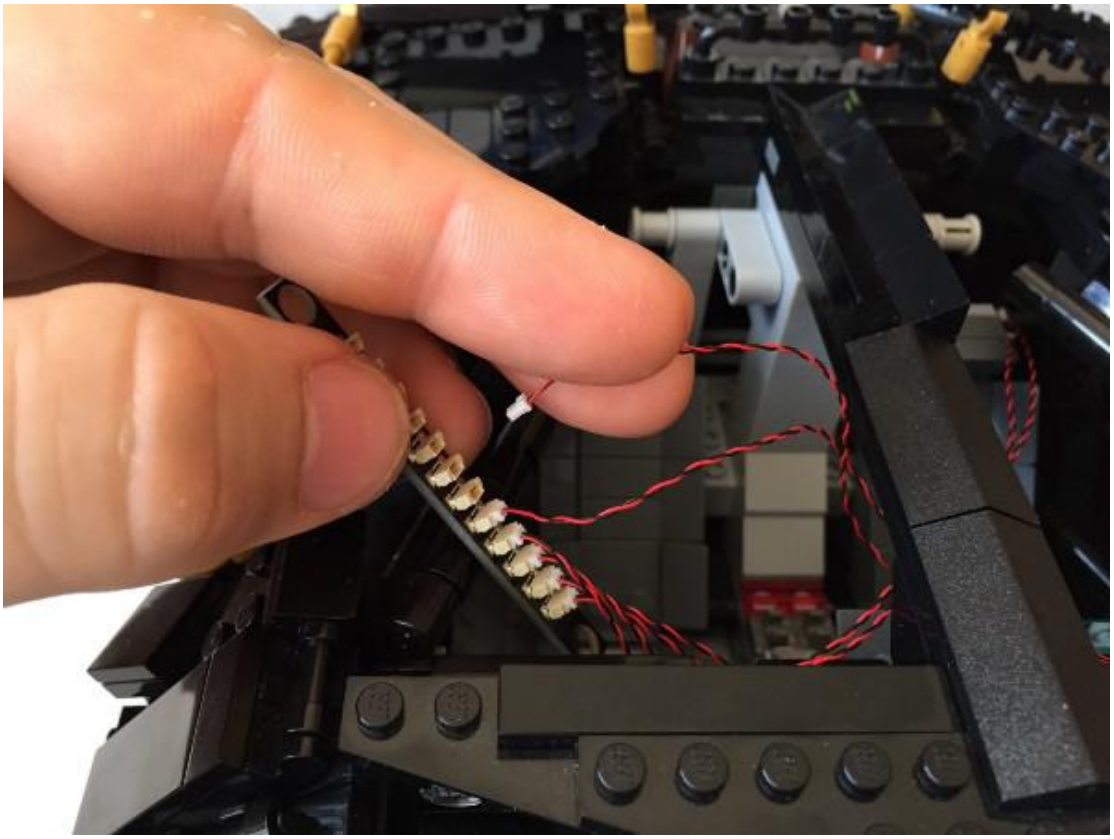


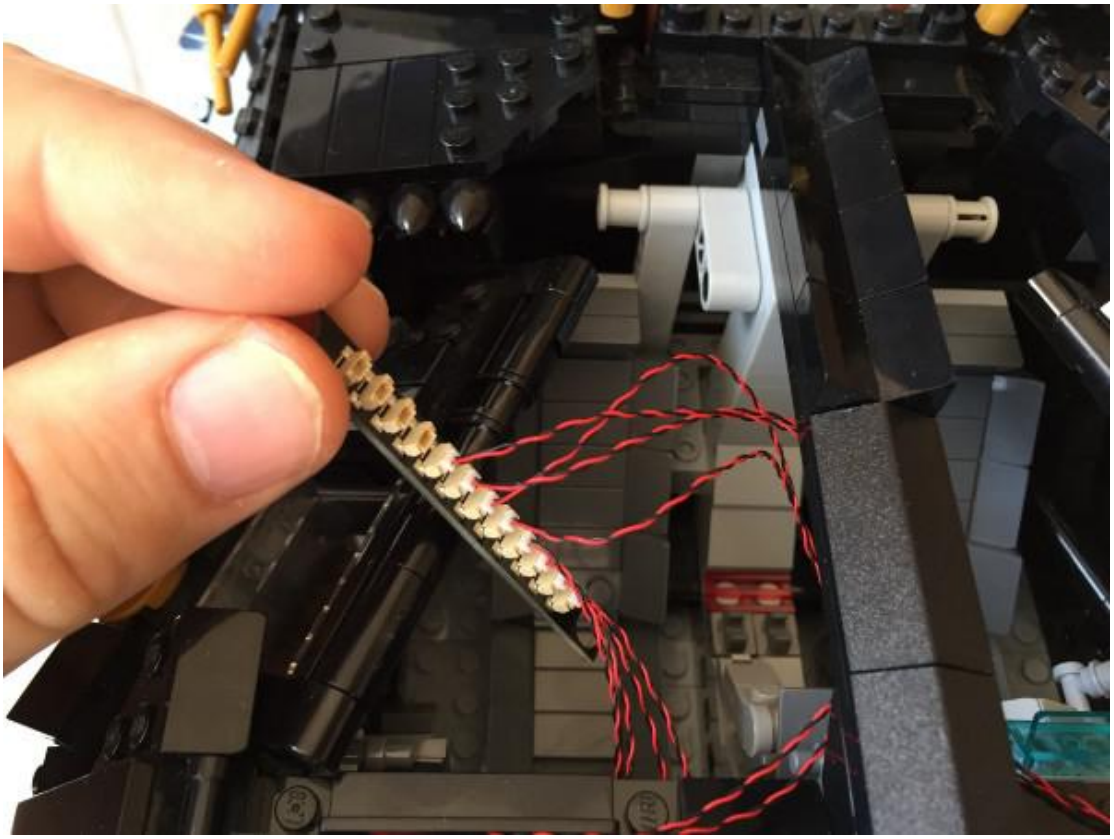
Repeat fitting dot lights to both sides. Try and keep the wires down so that they come out where the side of the panel is, rather than the top.
Fitting these lights is easier than fitting the first set of lights. All the same, go ahead and test them to make sure you are satisfied that they are all facing forward.



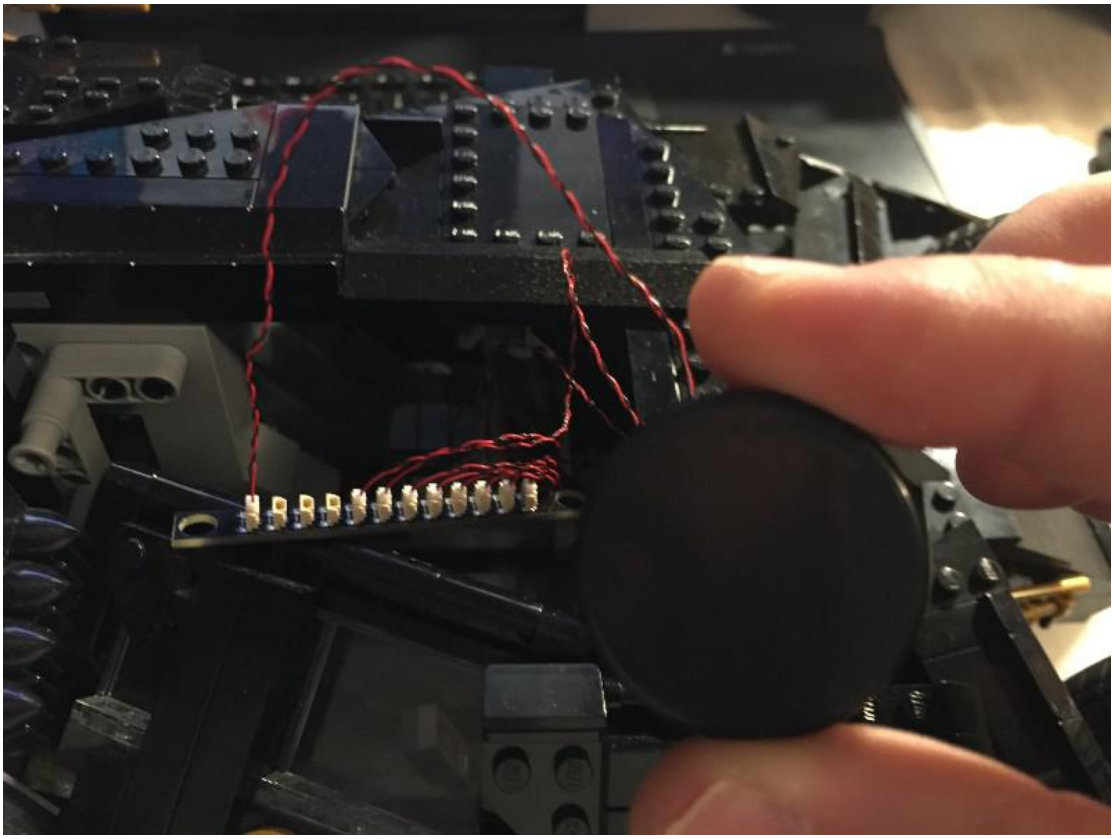


Replace the set of pieces that we have just been working with.

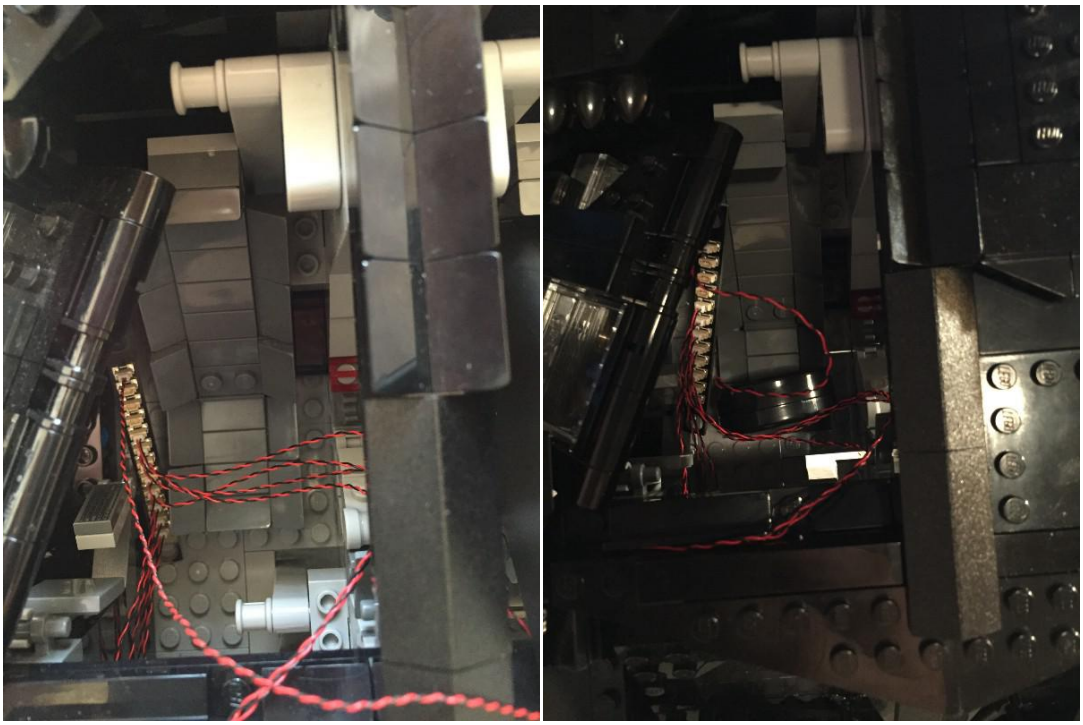




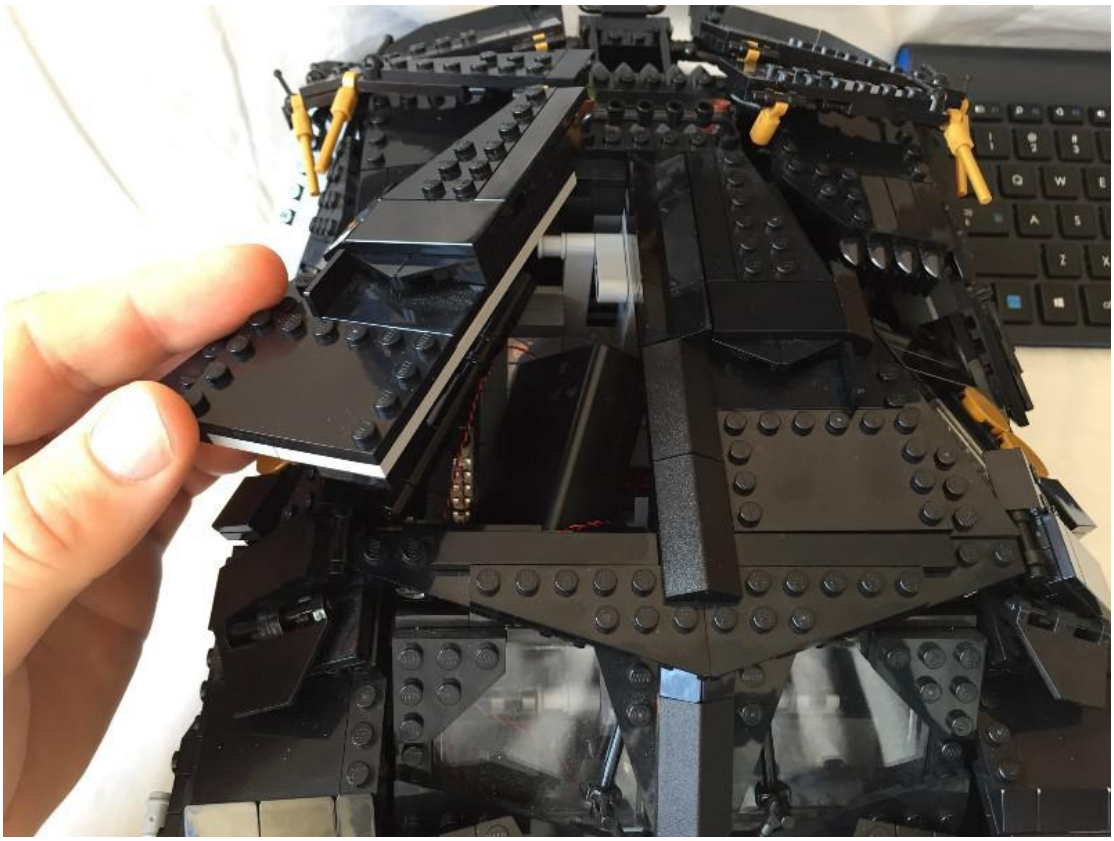
Connect the four dot lights that we have just fitted to the 12 port expansion board.



Connect the battery pack to the 12 port expansion board.



Push the 12 port expansion board down beside the seat.
Rest the battery pack on the seat and turn it on.



Replace the two top pieces and you're done! Enjoy.