

## Star\_Wars\_BB-8\_75187 LED Lighting Kit

### Package contents:

- 3x White 30cm Dot Lights
- 3x Red 30cm Dot Lights
- 2x Blue 30cm Dot Lights
- 1x Flashing White 30cm Dot Light
- 2x 6-Port Expansion Boards
- 1x Fire EGects Board
- 2x 5cm Connecting Cables
- 1x Flat Battery Pack (Requires 2x CR2032 Batteries)

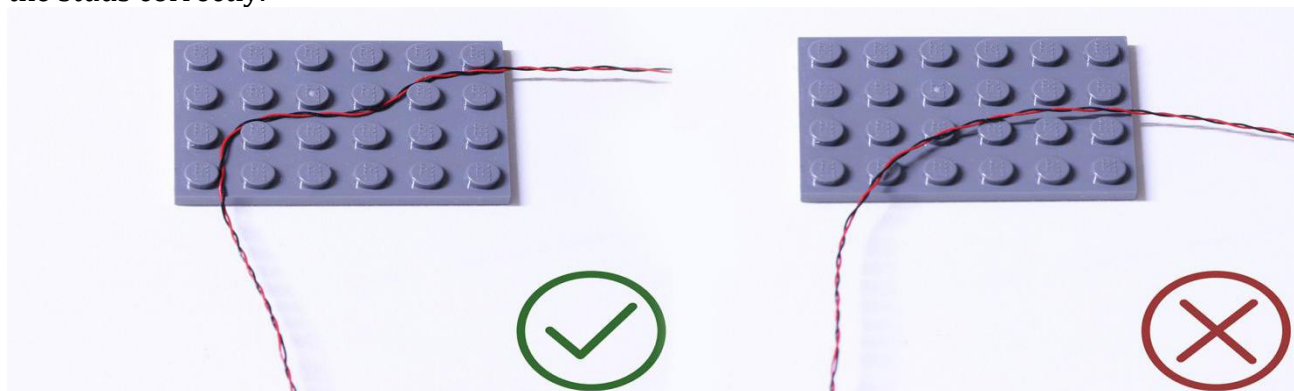
### LEGO Pieces

- 2x Plate 1x1 (Trans Red)
- 1x Plate 1x1 (Trans Light Blue)
- 1x Round Plate 1x1 (Trans Dark Blue)
- 1x Round Plate 1x1 (Trans Clear)
- 1x Round Plate 1x1 with open stud (Light Grey)
- 1x Plate 2x2 with Rounded Bottom (Trans Clear)

### Note:

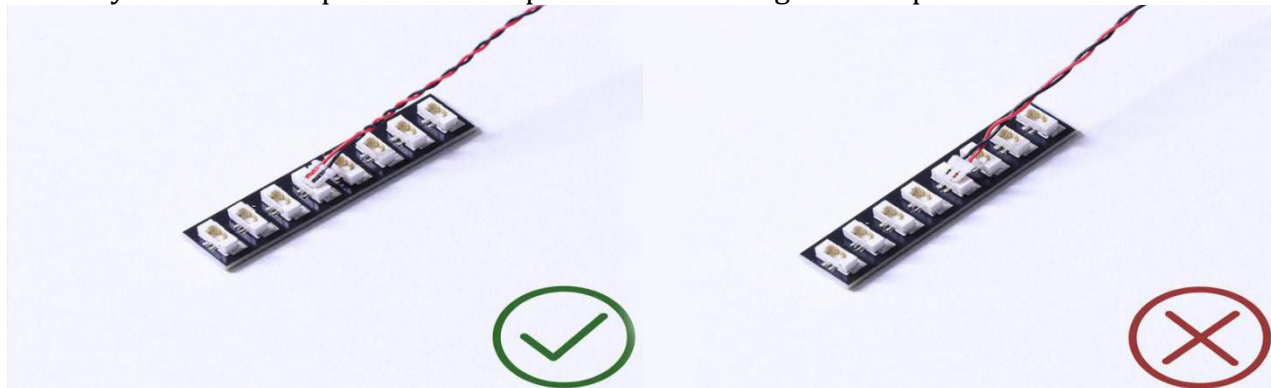
Place wires on the surface or under the LEGO building blocks.

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

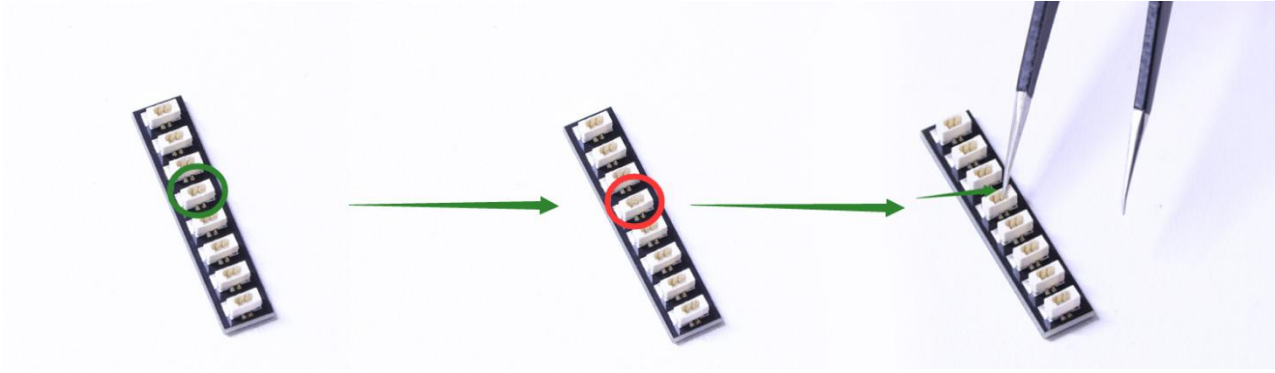


Insert the connectors to the ports.

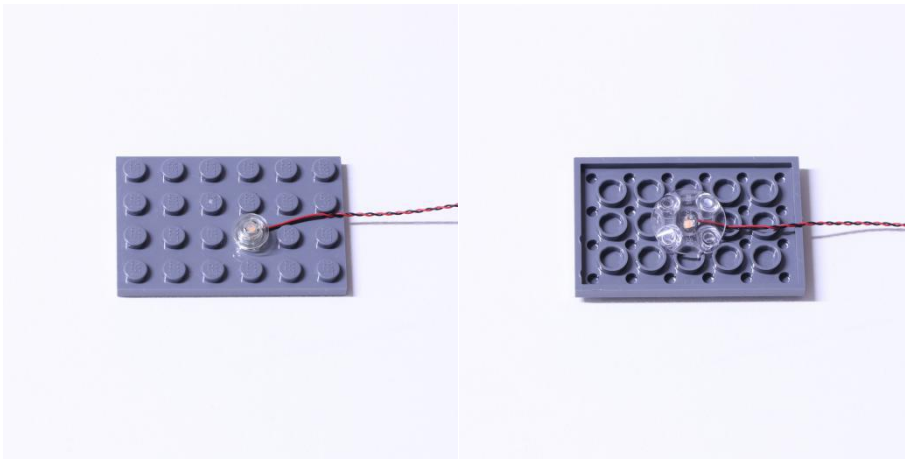
Be careful when you are operating, there's only one correct way to insert, make sure the expansion board is upward, find the soldered "=" sign on the left of the port. When you are inserting, the side which the wires can be seen should be faced to the "=" sign and if you feel hard to insert, please stop, 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 bentpins.

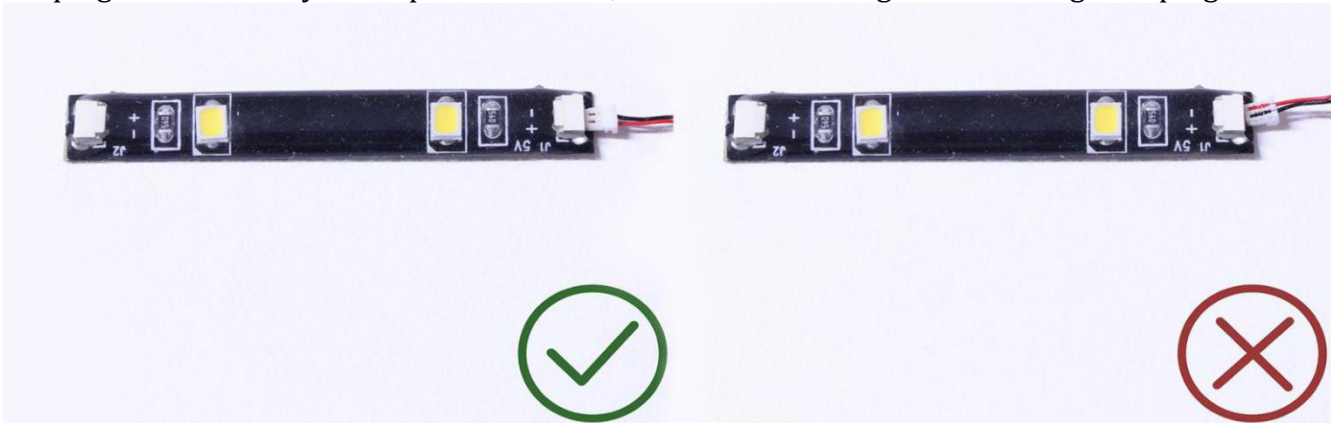


When installing dot lights, make sure they are correctly placed (Yellow LED package is exposed). You can put them either on the top of the studs or between studs.

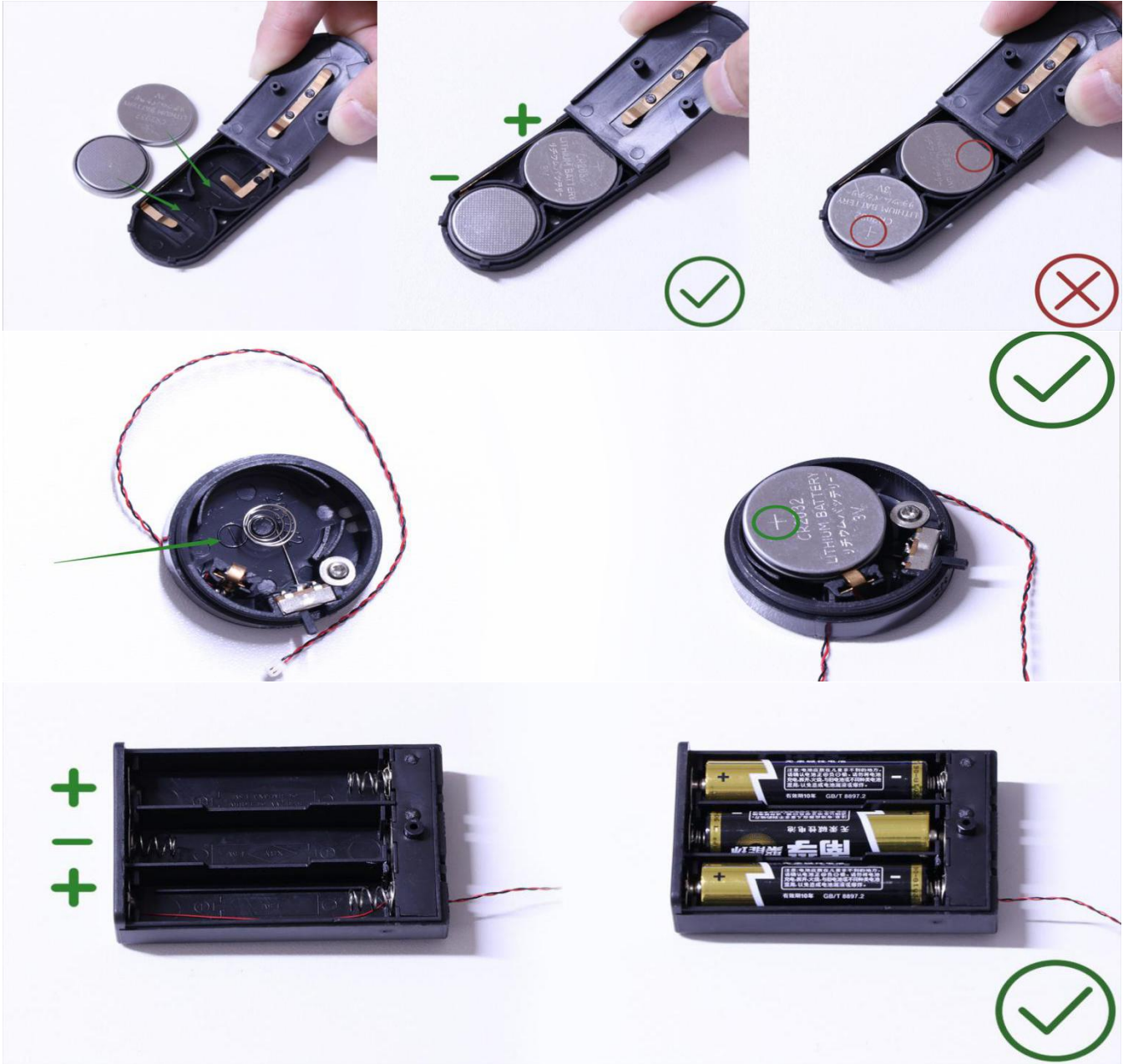


### Connecting cable connectors to Strip Lights

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.

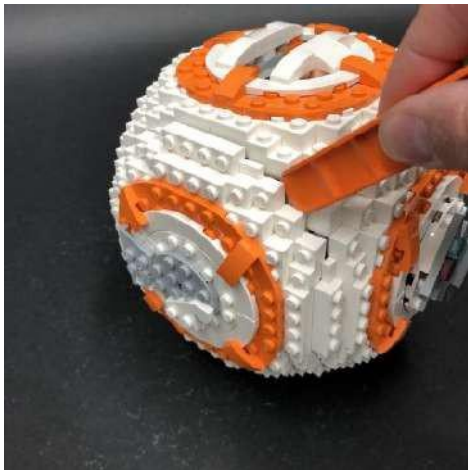


OK, Let's Begin!

#### Instructions for this Kit

1.) Start by removing BB-8's head and then turn the body around and using the LEGO removal tool, remove the back section.



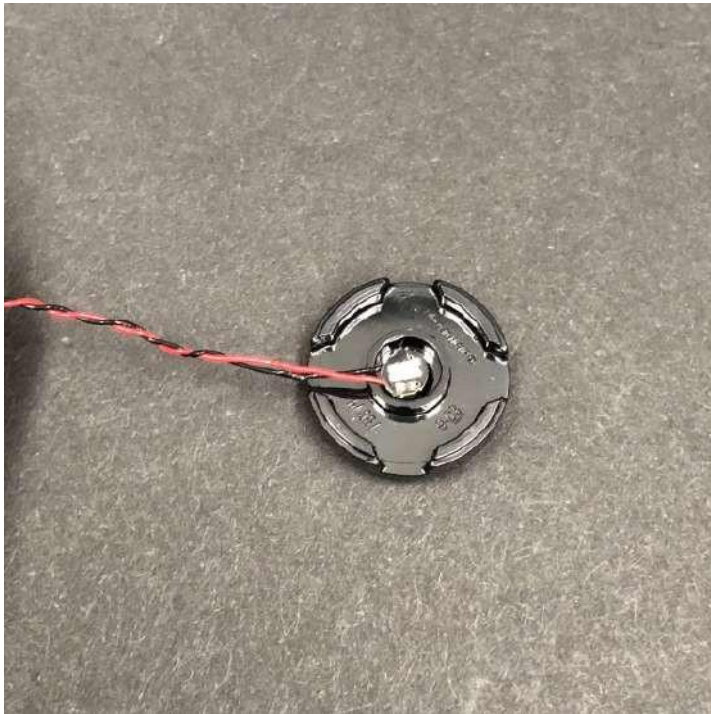


2.) Disconnect BB-8's eye section and then disassemble pieces as per below.





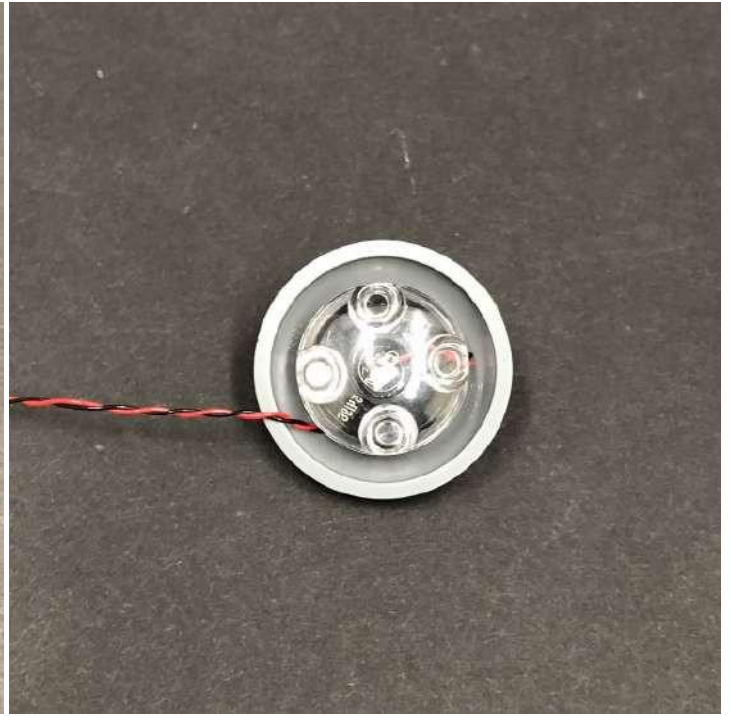
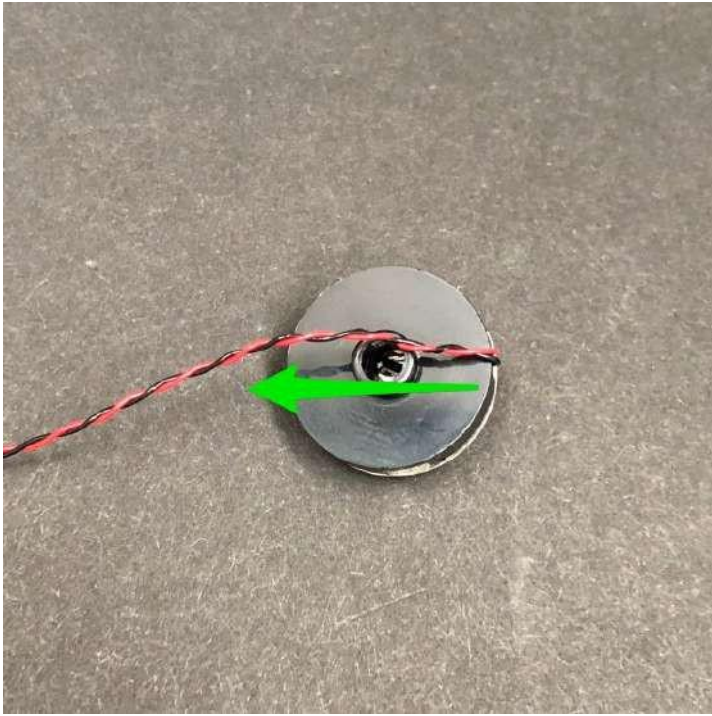
Take a Red 30cm Dot Light and then place the LED component in the centre of the round plate with stud. Take the provided LEGO Plate 2x2 with rounded bottom (Trans Clear) and connect it over the top securing the Dot Light in place.



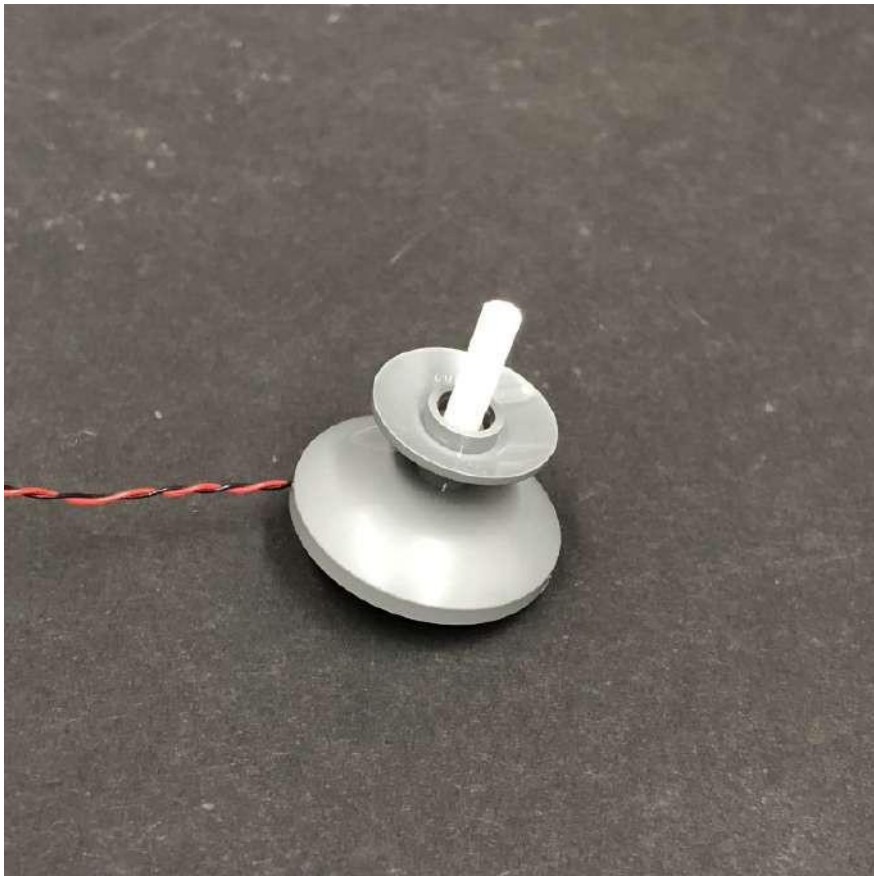
Ensure the LED component is facing up

Turn this section over and then pull the cable across before reconnecting this section back to the light grey dish piece. The cable should be neatly laid underneath in between the eye section.

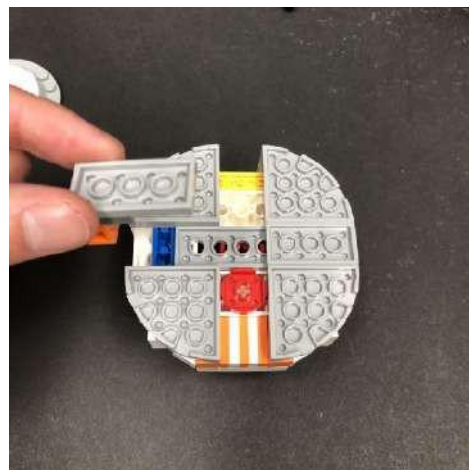
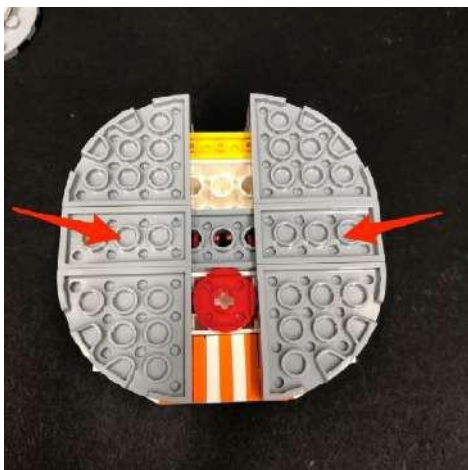
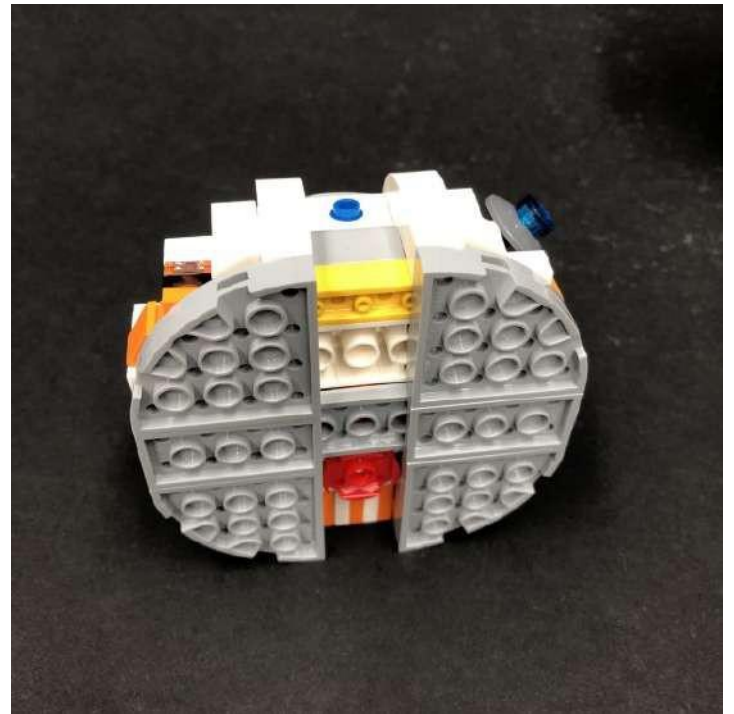
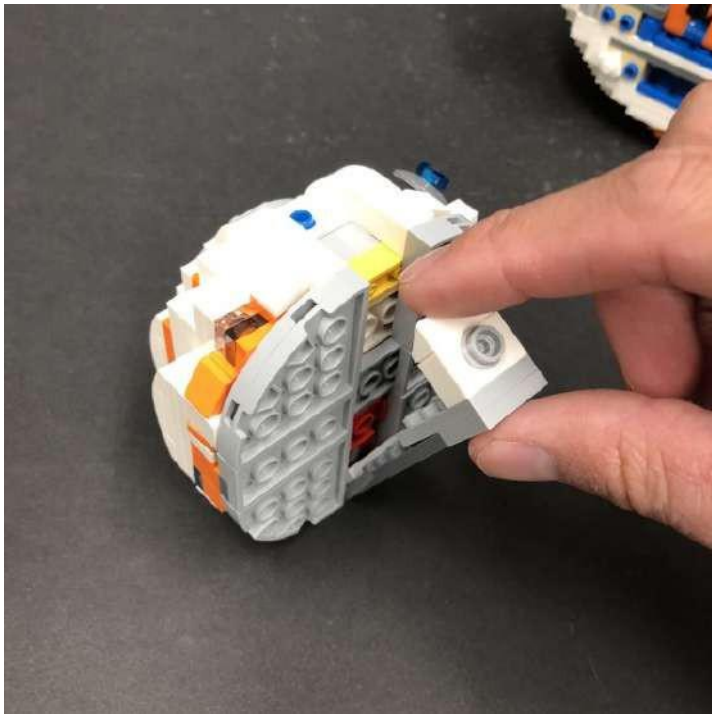
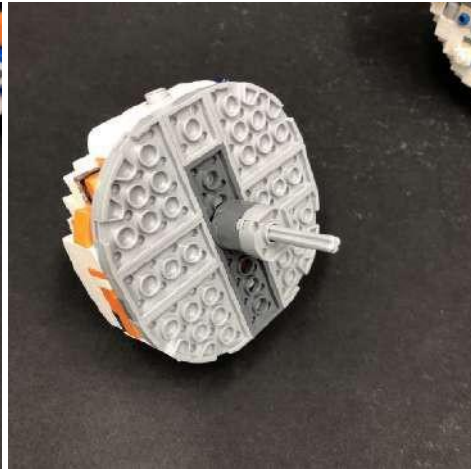




Reconnect the bar section underneath as per below.

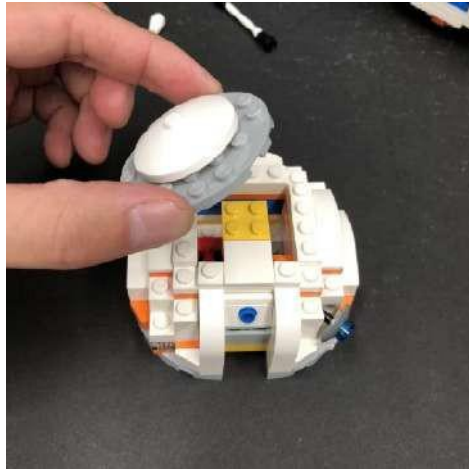


3.) Take BB-8's head and then turn it over to disconnect the following sections underneath.



Disconnect the following section from the top of BB'8's head.

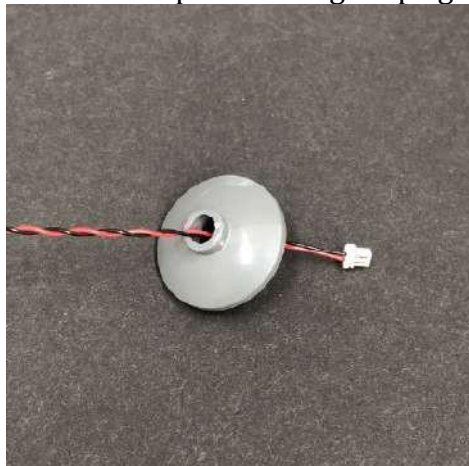
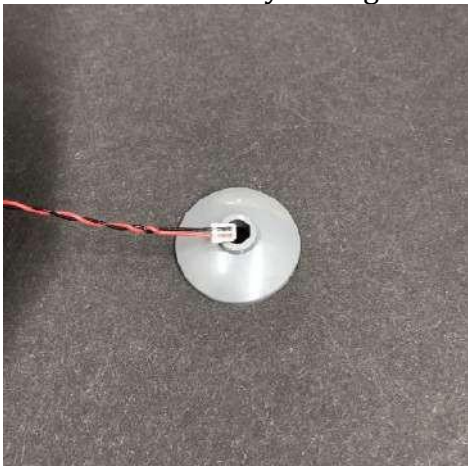




4.) Disconnect the dark grey dish from the front right and then disconnect the trans dark blue tile from the top.

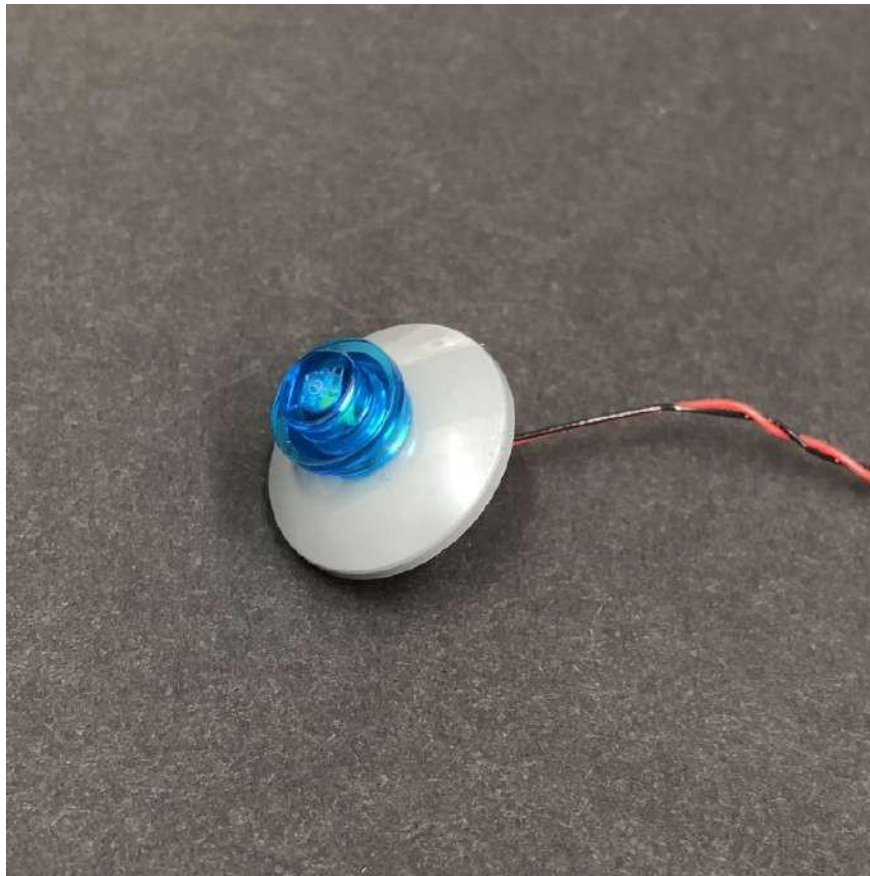


Take a Blue 30cm Dot Light and thread the connector side of the cable through the top of the dark grey dish. Thread it all the way through until the LED component is right up against the top of the dish.

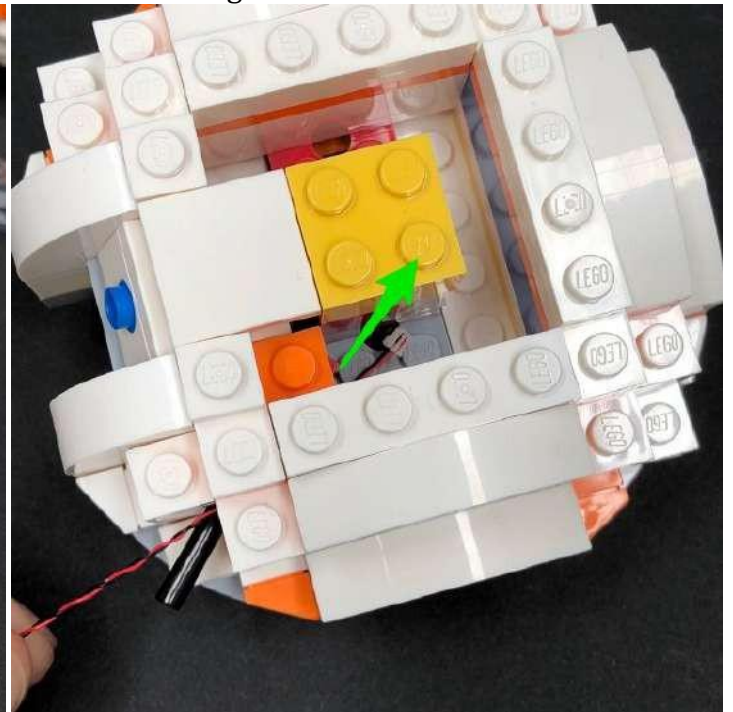
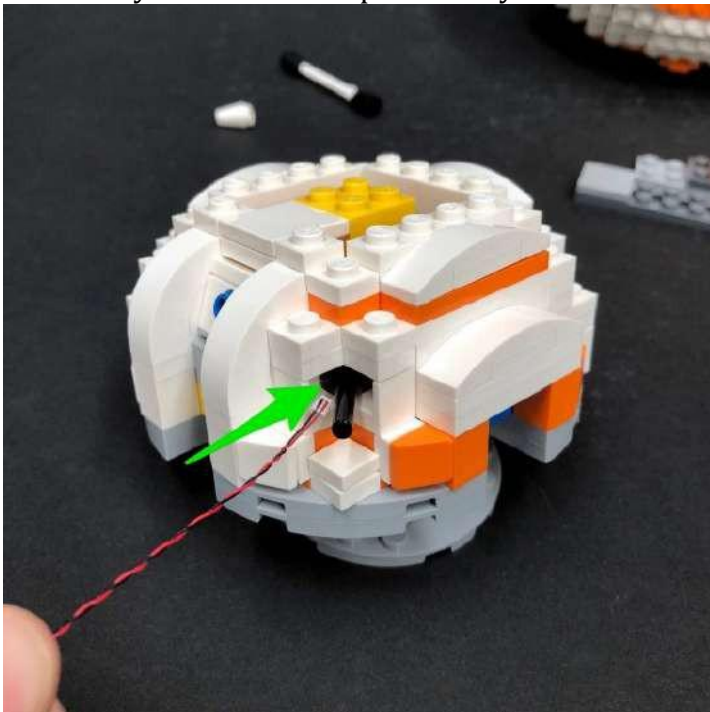


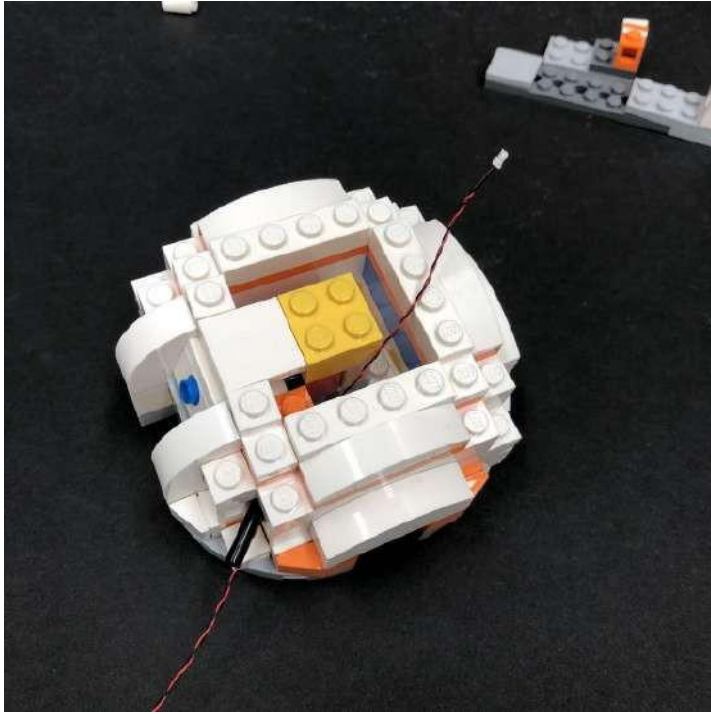


Secure the light in place by connecting a provided LEGO Round Plate 1x1 (Trans Dark Blue) over the top.

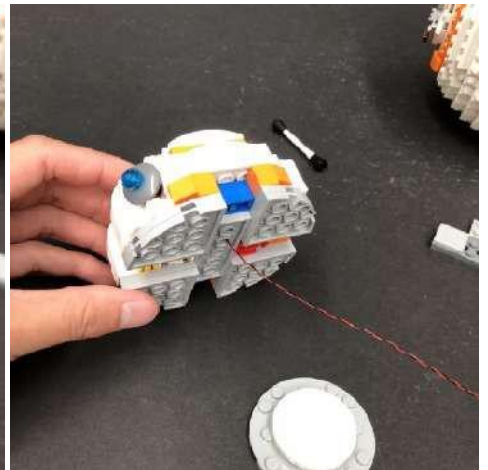
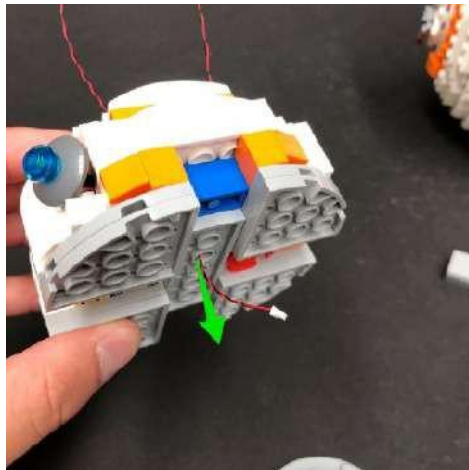
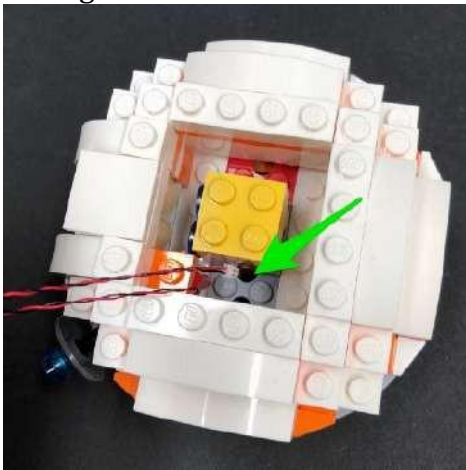


5.) Thread the other side of the Blue 30cm Dot Light through the space on the corner and then pull the cable all the way out from the top to allow you to then reconnect the blue light section.



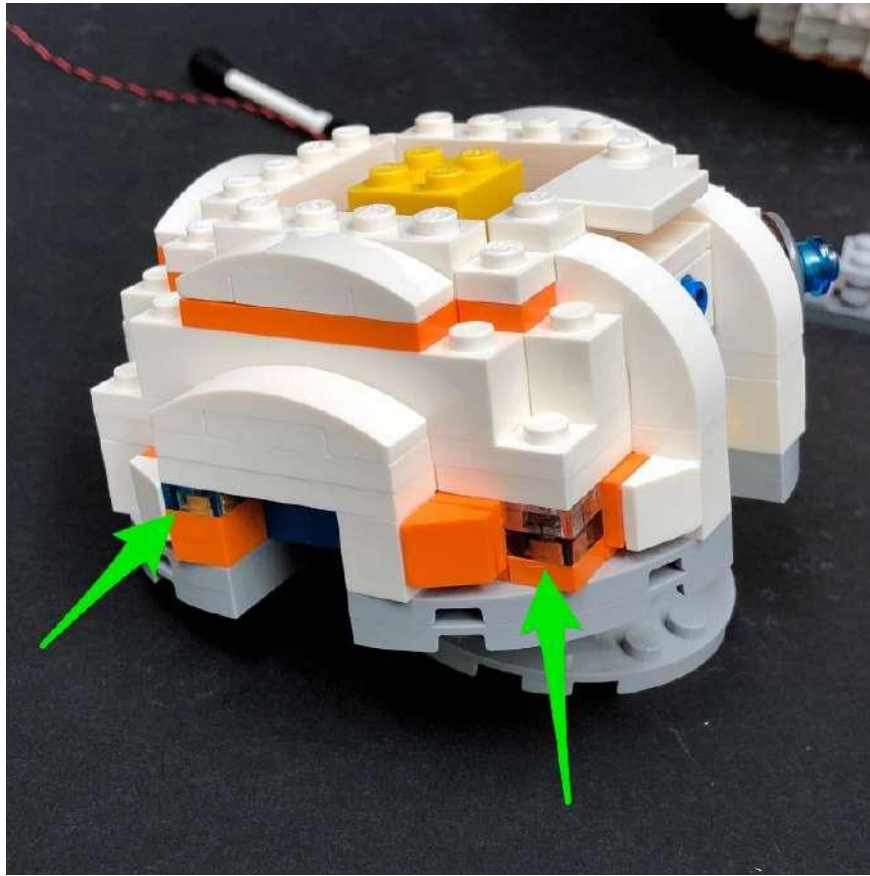


Thread the cable down through to the top of the head using the following hole and then pull it all the way through from underneath.

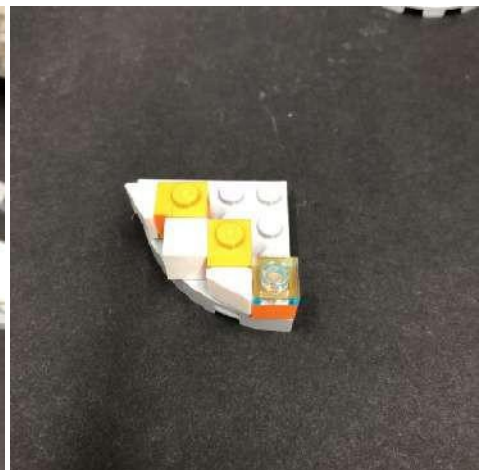
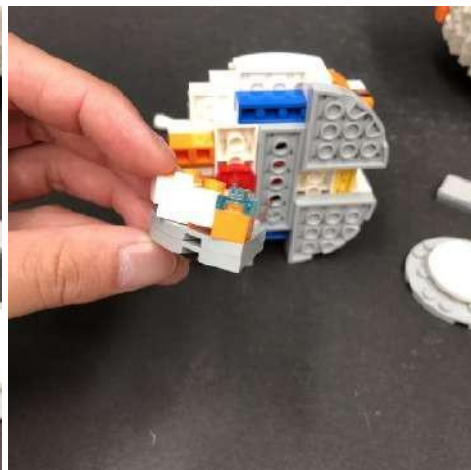
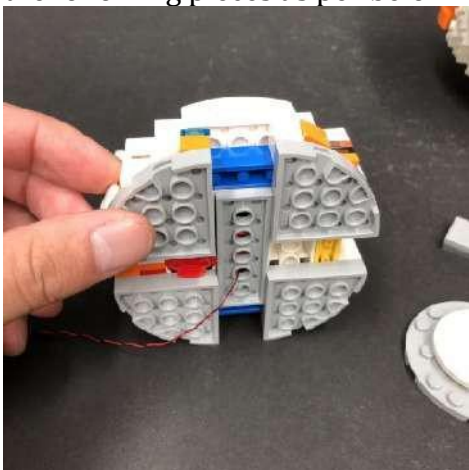


6.) We will now install lights for the following sections of BB-8's head.



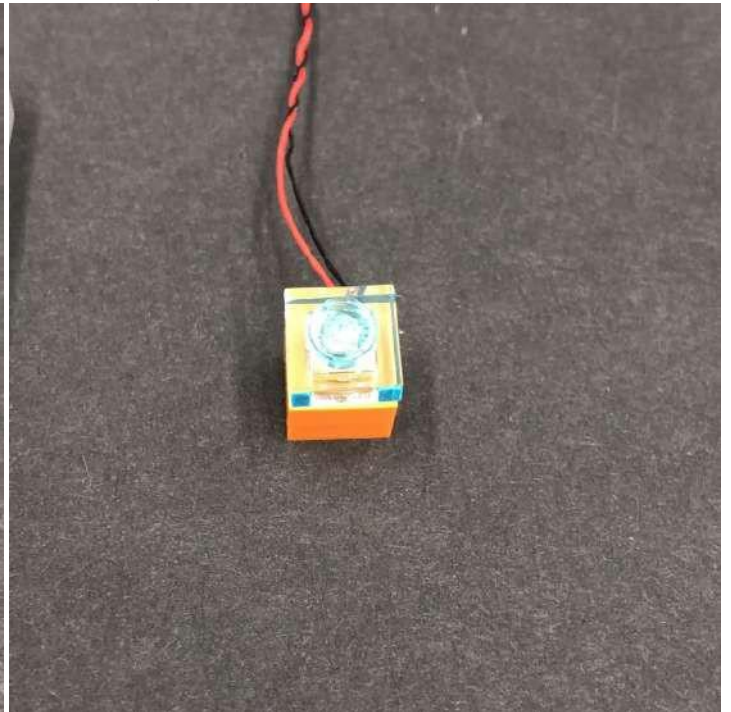
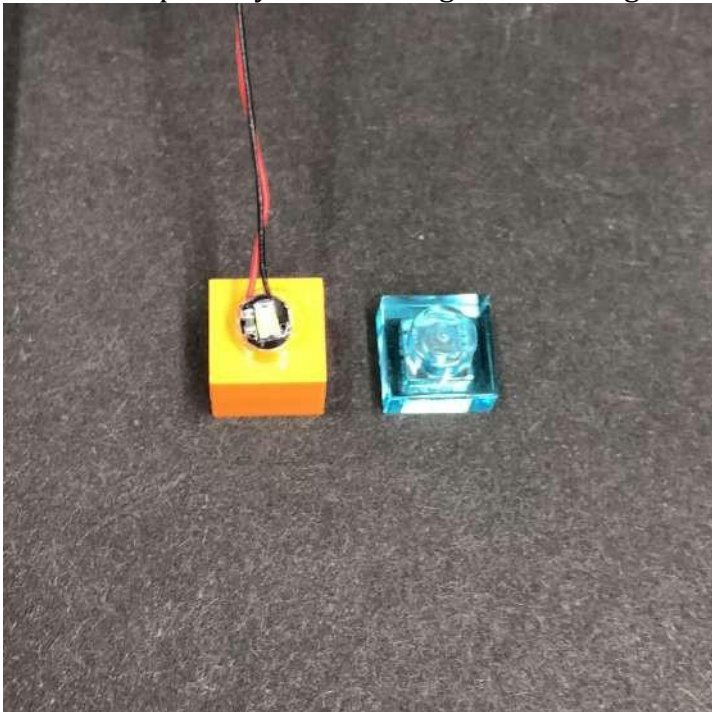


From underneath of the head section, disconnect the top left section and then disconnect and disassemble the following pieces as per below:

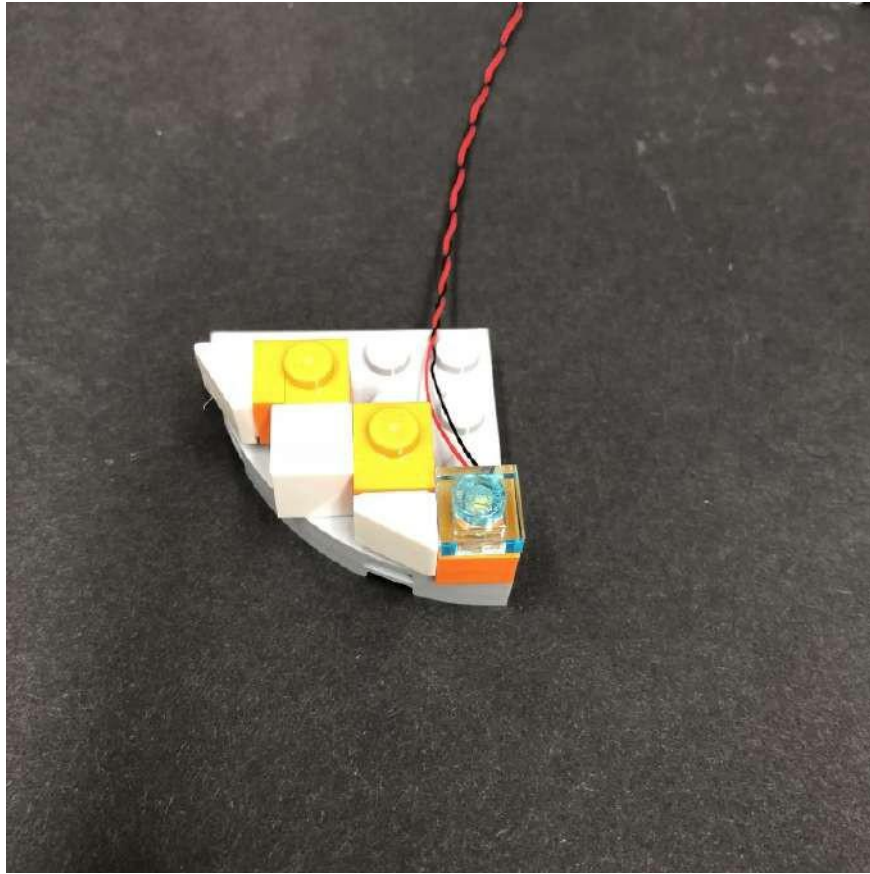




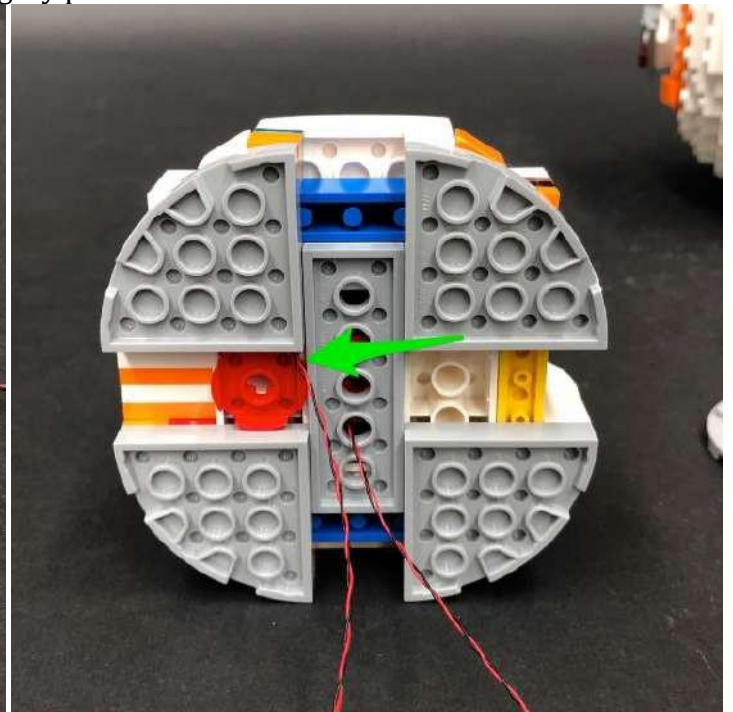
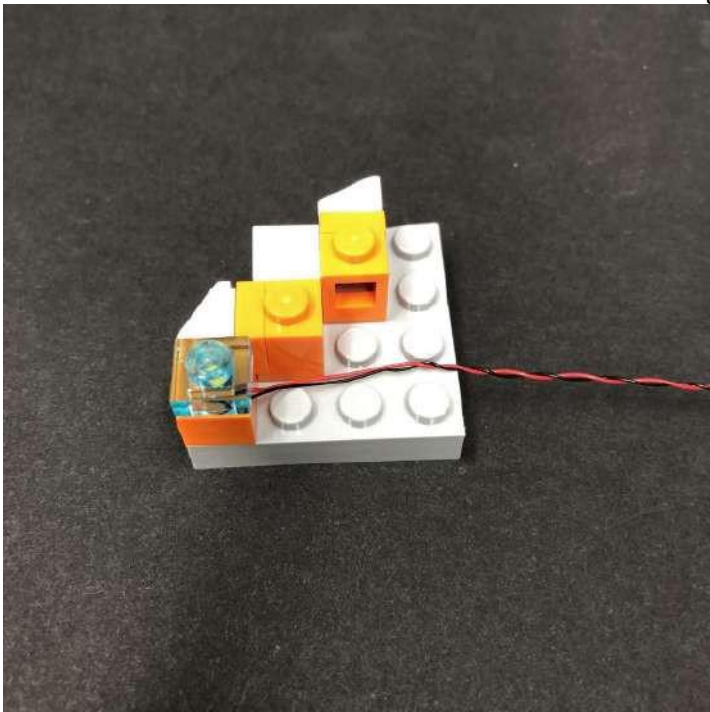
7.) Take a White 30cm Dot Light and then place it over the orange stud. Ensuring the cable is facing up, secure it in place by reconnecting the Trans Light Blue 1x1 Plate, then reconnect this section back to the rest.

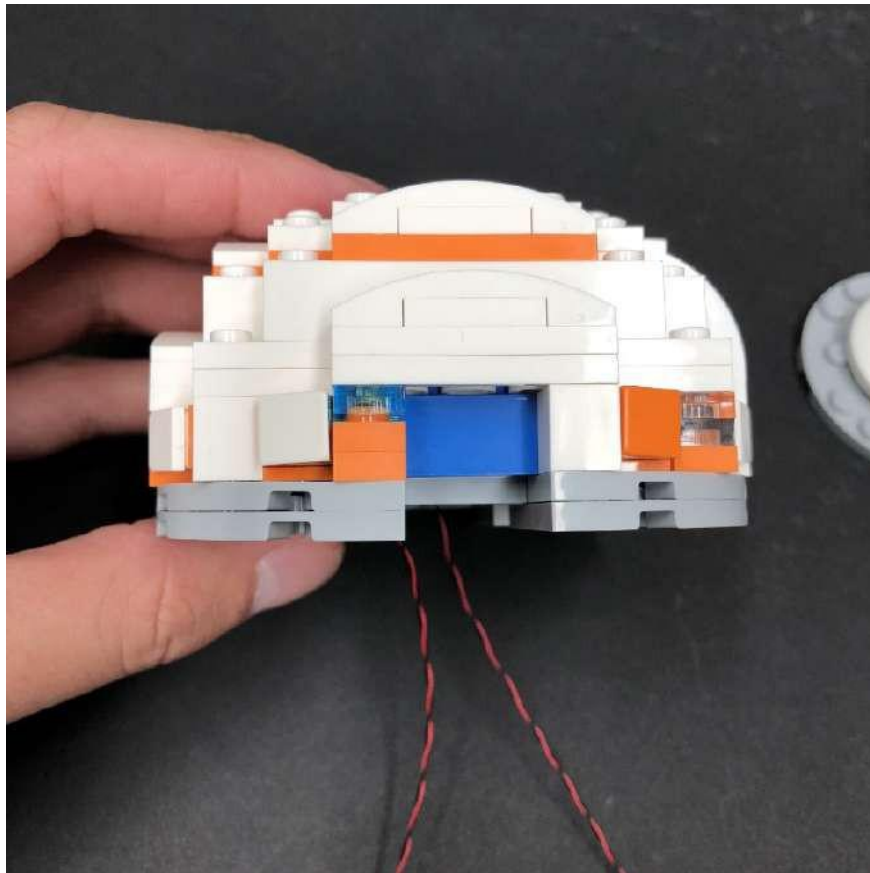




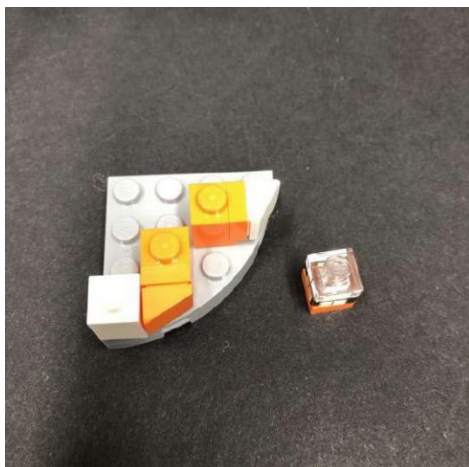
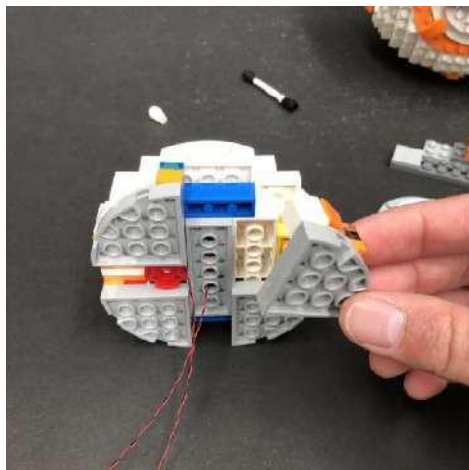
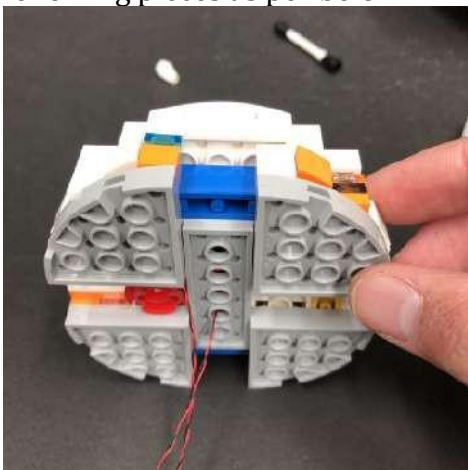


Ensure the cable is laid neatly in between studs before reconnecting this section back underneath the head. The cable should be laid out in between the red and grey pieces as shown below.



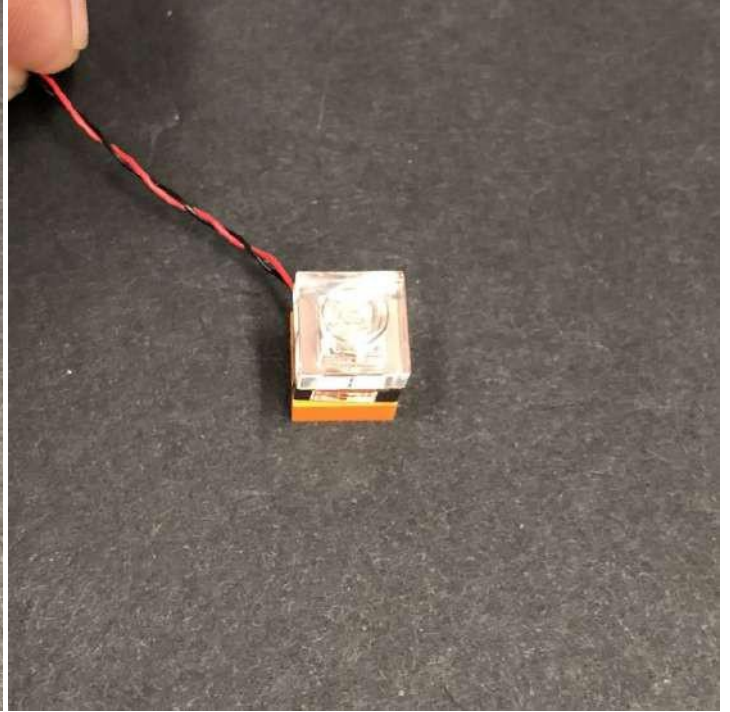
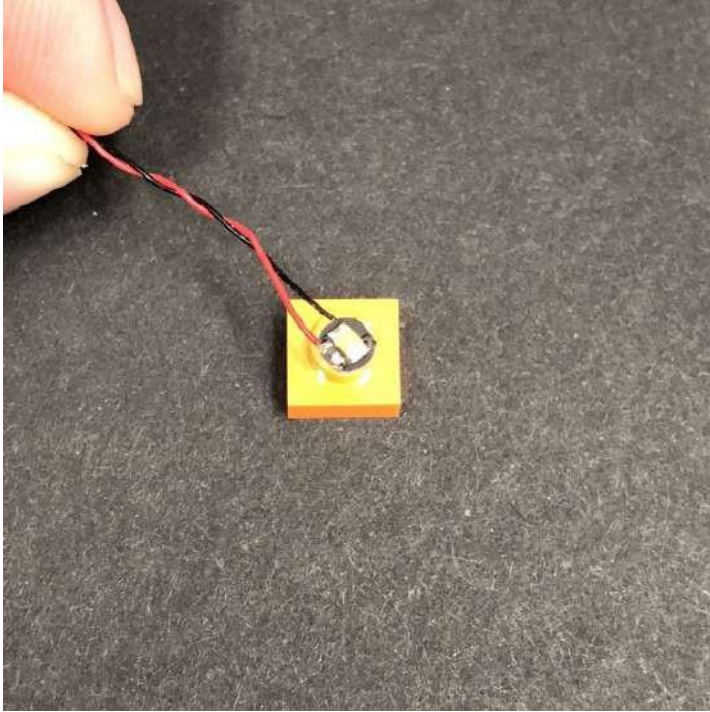


8.) Disconnect the section on the top right underneath the head and then disconnect and disassemble the following pieces as per below:

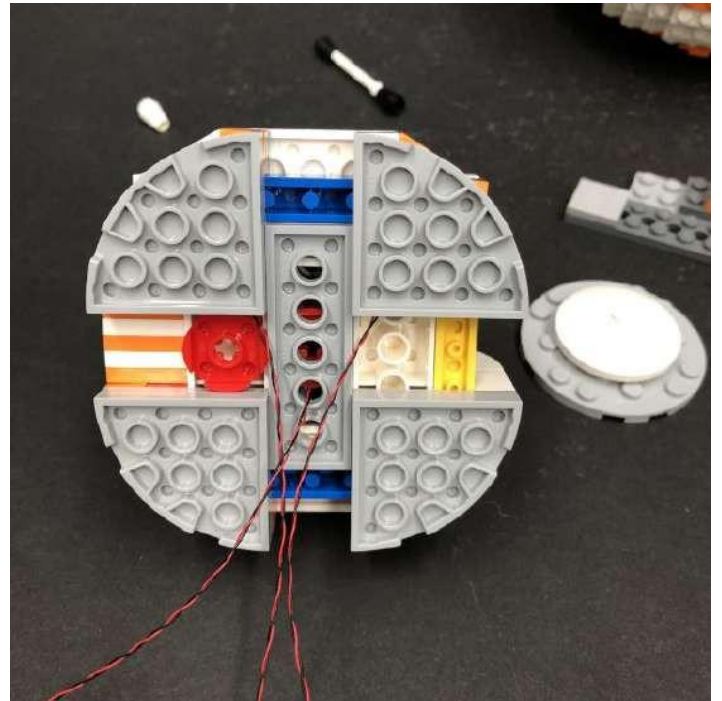
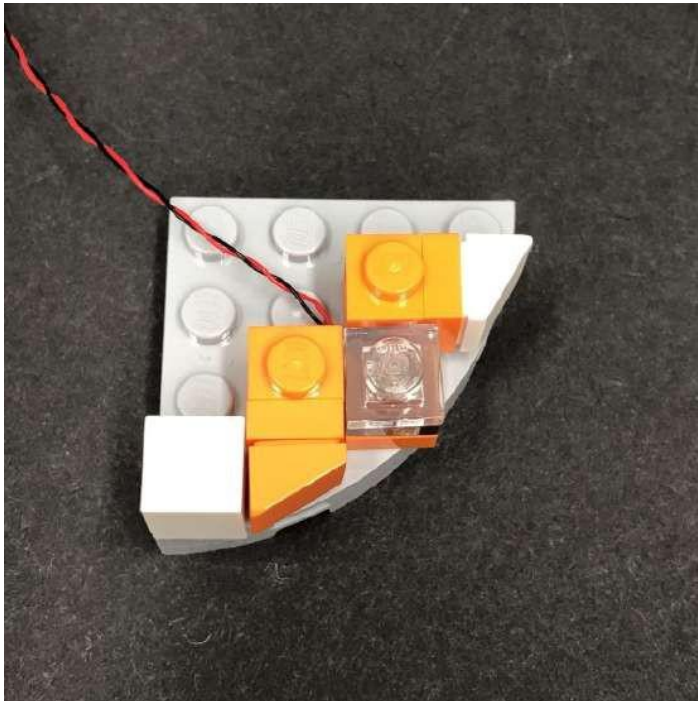


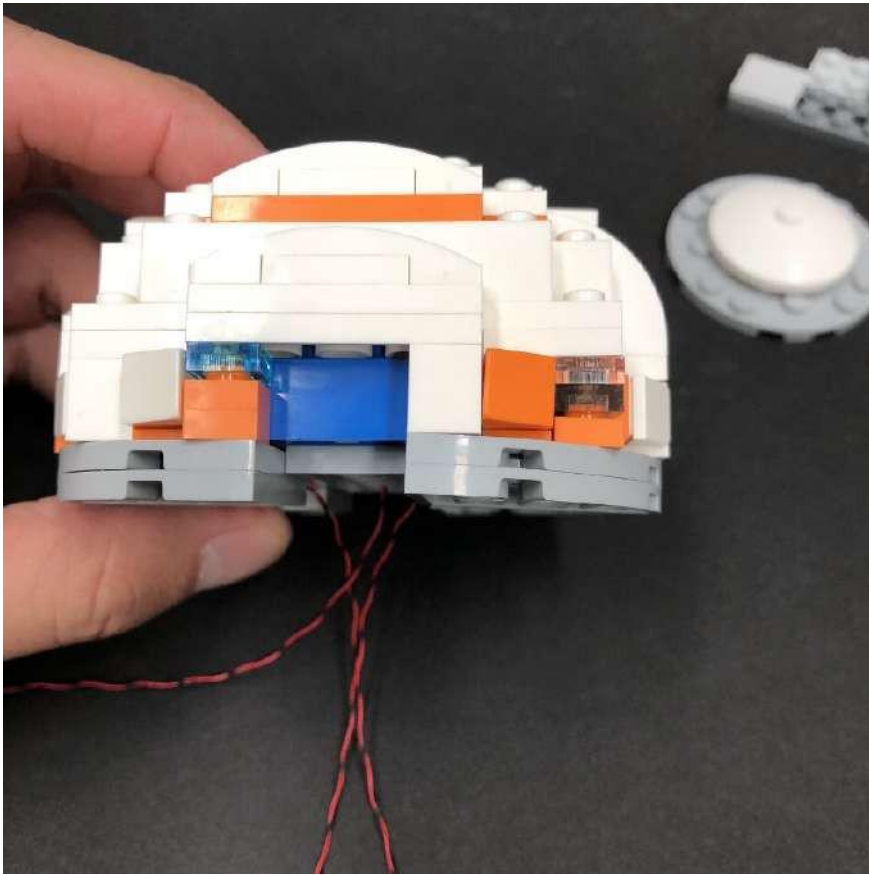


Take a White 30cm Dot Light and then place it over the orange stud with the cable facing diagonally to the top left. Secure it in place by reconnecting the two Trans coloured 1x1 Plates.

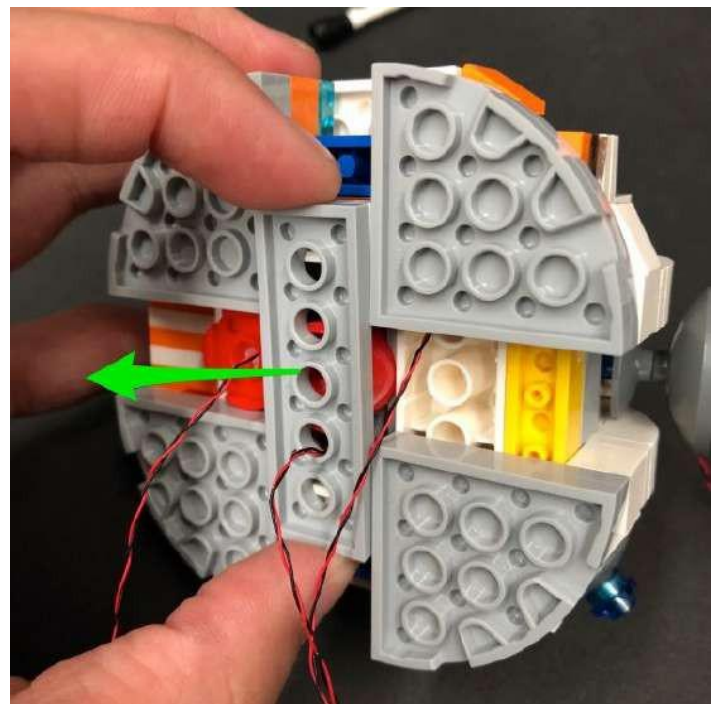
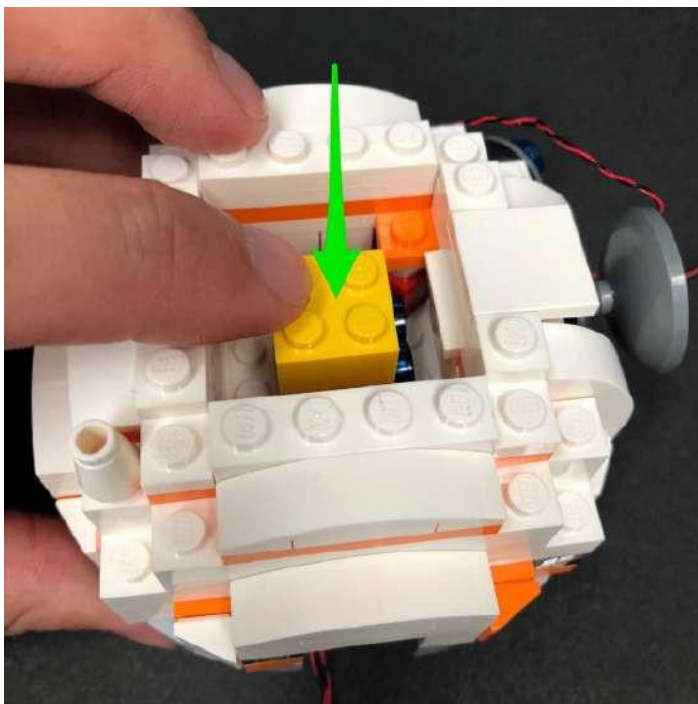


Reconnect this section back ensuring the cable is top left and laid neatly in between bricks then reconnect this section back underneath the head.

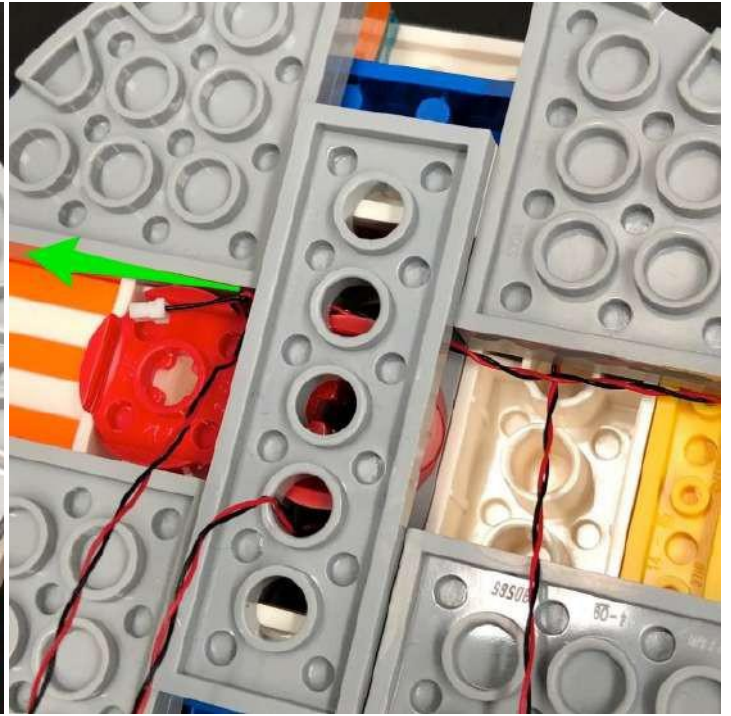
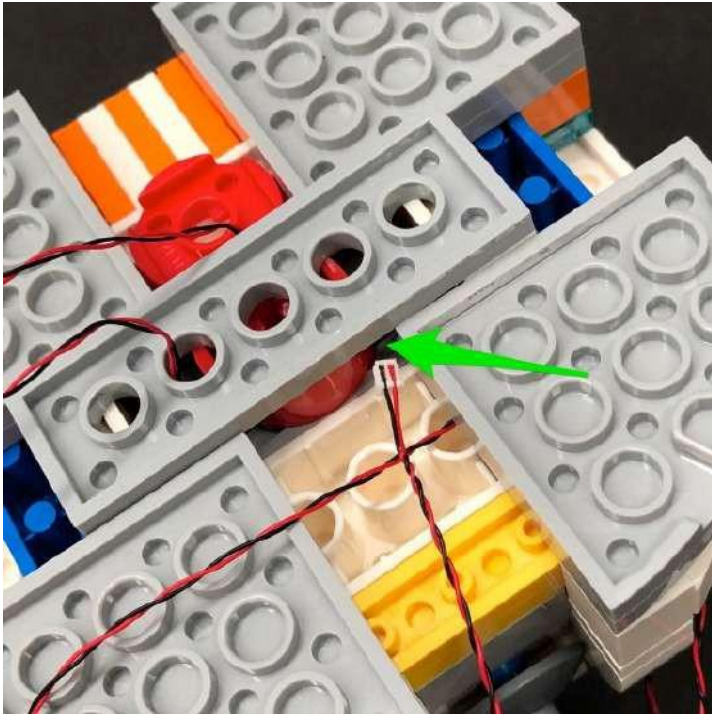




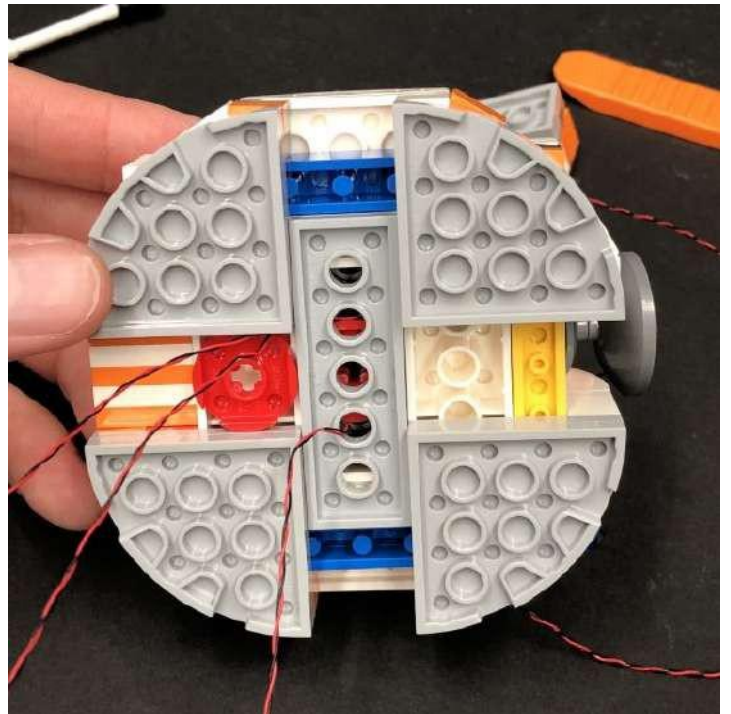
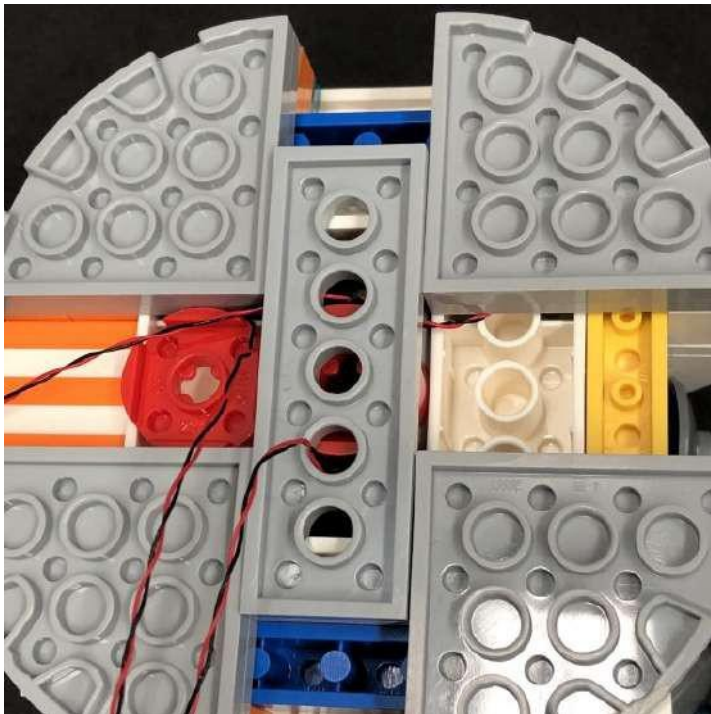
9.) From the top of the head, push the following section down by pressing down the yellow 2x2 brick. The middle section underneath should come down slightly. Thread the cable from the top right section in through the space as per below:



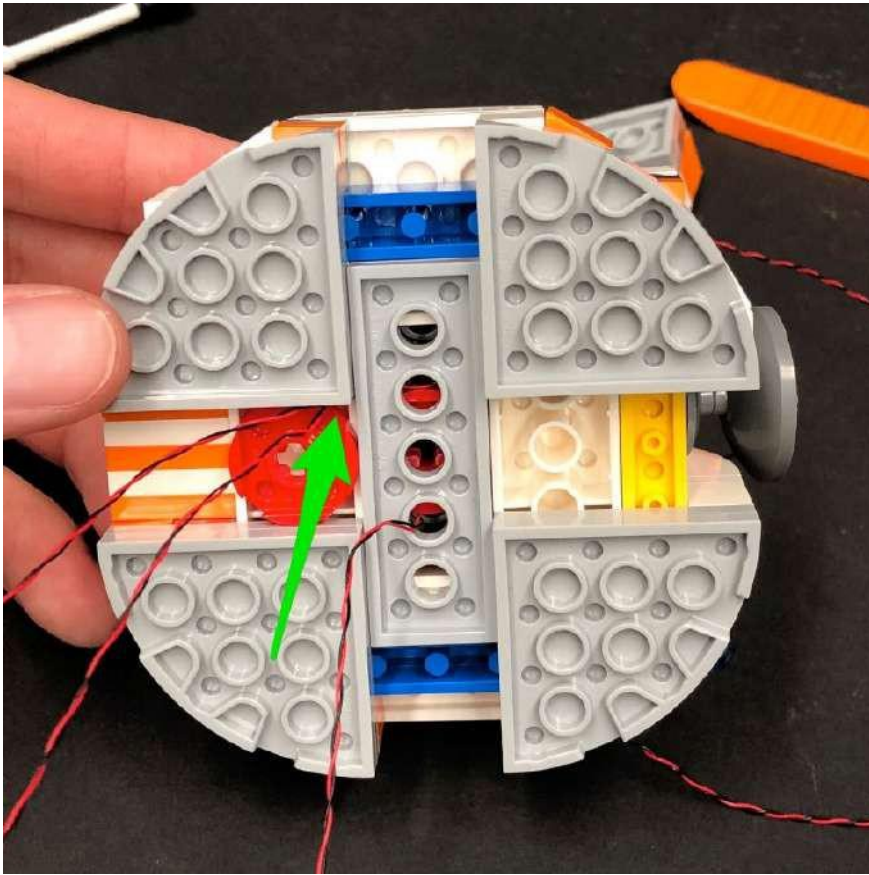




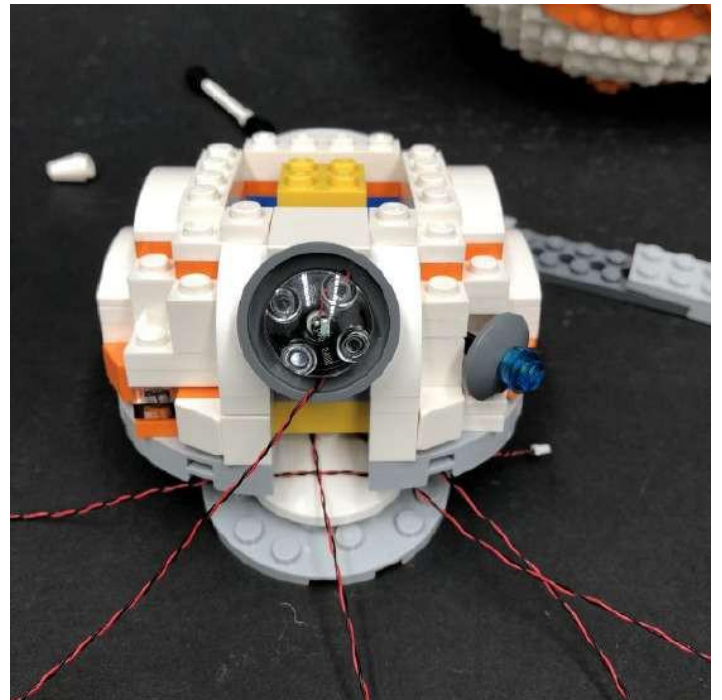
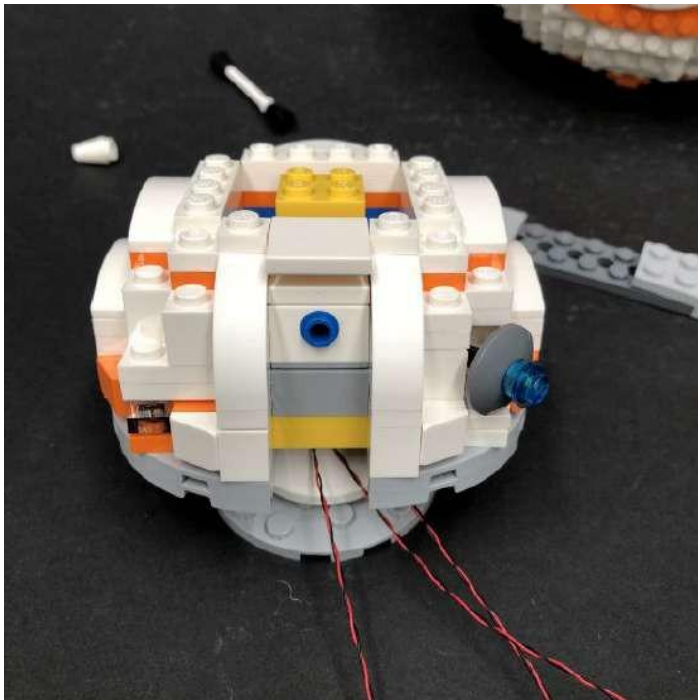
Pull the cable all the way through and then push the middle section up to secure it back into place.



Both cables should now be laid out in between the red and grey pieces as shown below.

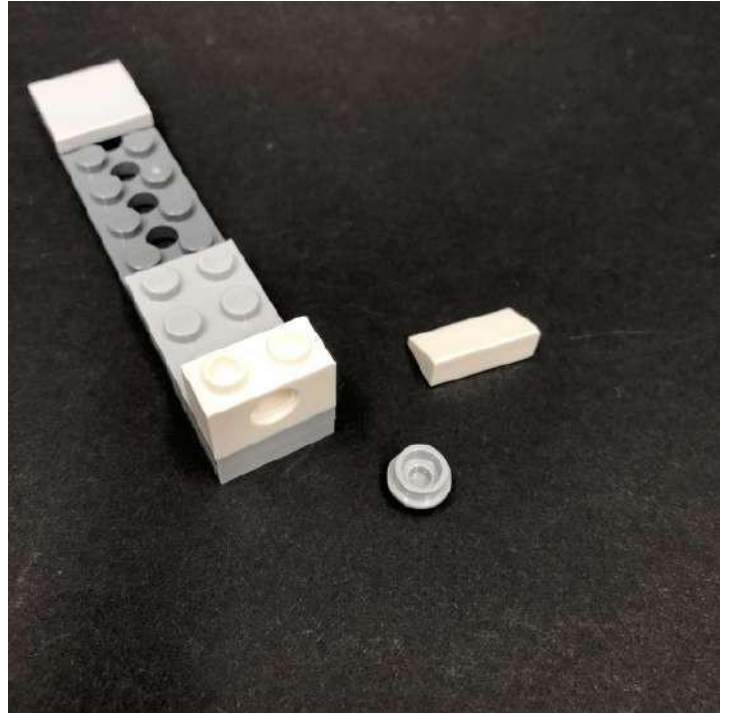
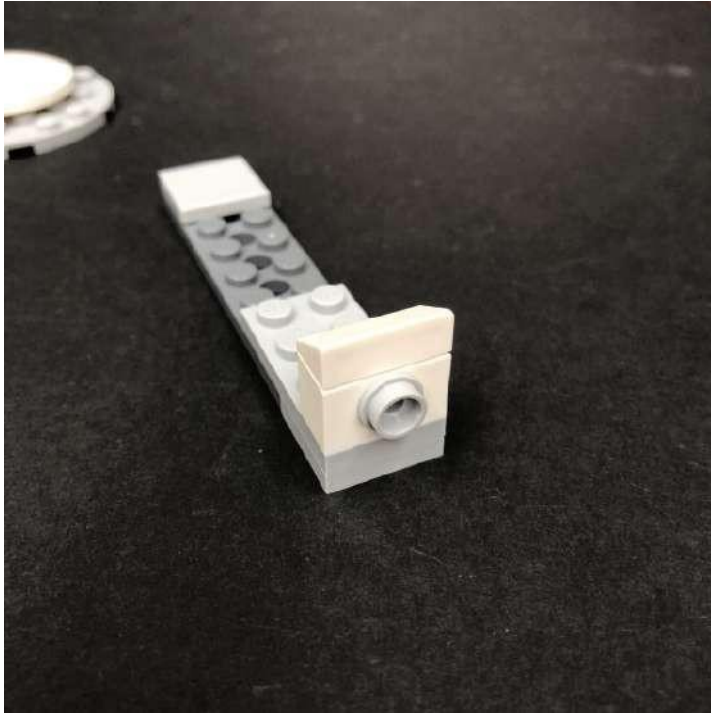


10.) Reconnect BB-8's eye section ensuring the cable from the eye light is facing down.

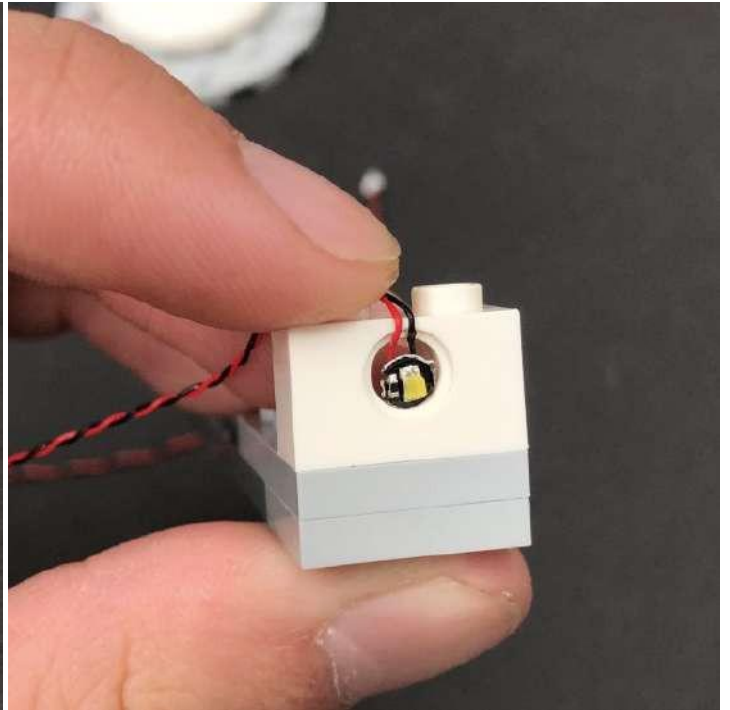
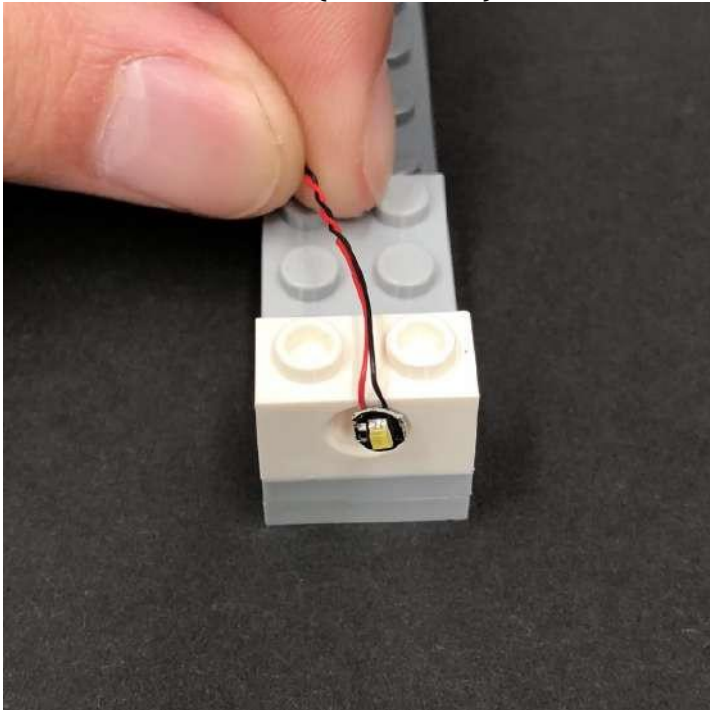


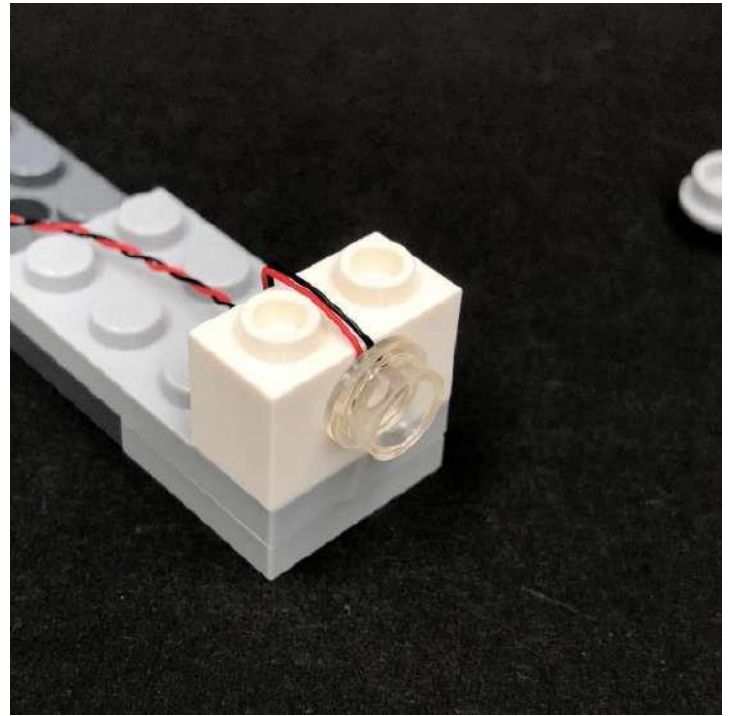


11.) Take the following section we removed earlier and then disconnect the following pieces as per below:

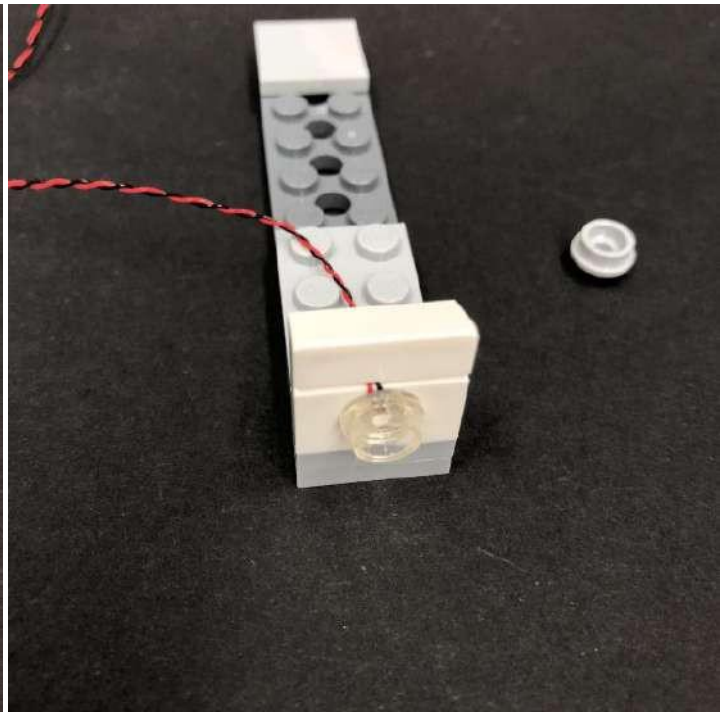
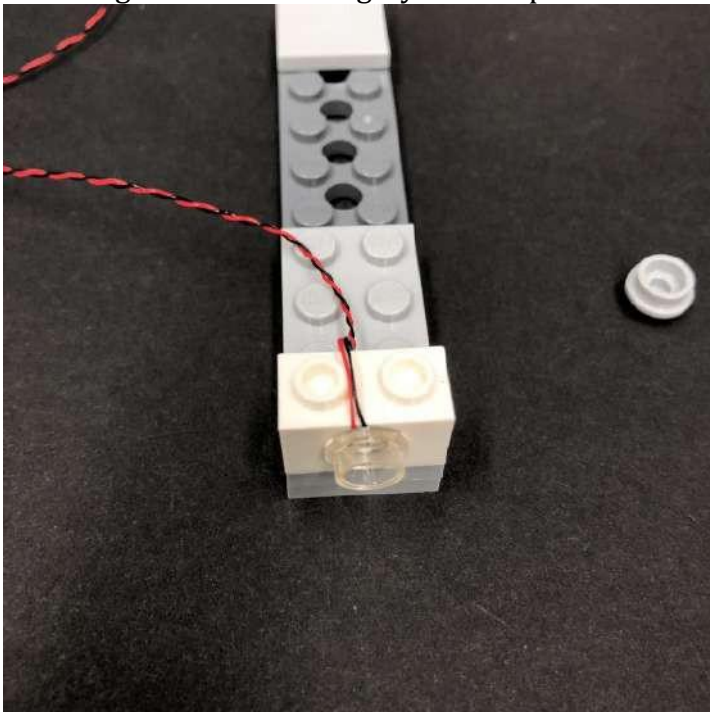


12.) Take the Flashing White 30cm Dot Light and then place it over the hole of the white technic brick with cable facing up. Push the Dot Light inside the whole and then secure it in place by connecting the provided LEGO Round Plate 1x1 (Trans Clear).

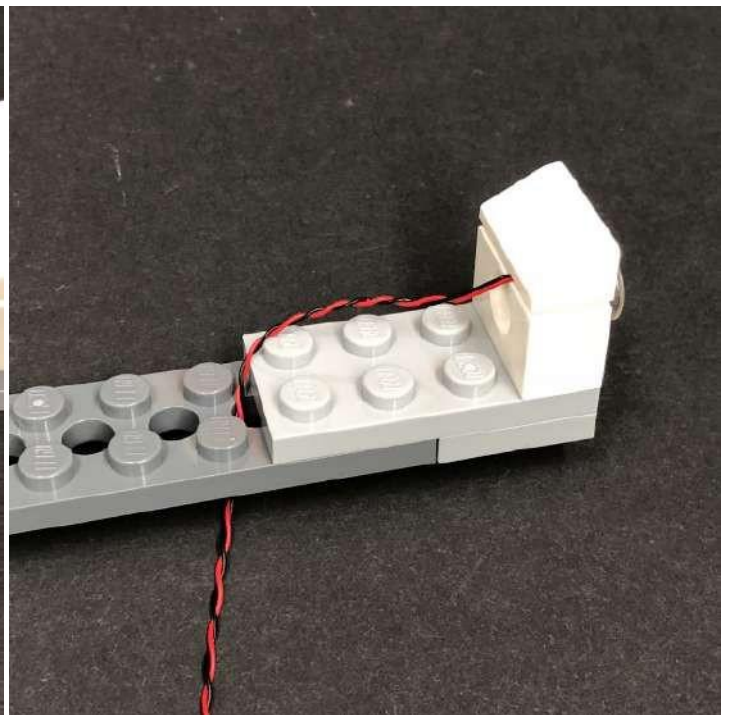
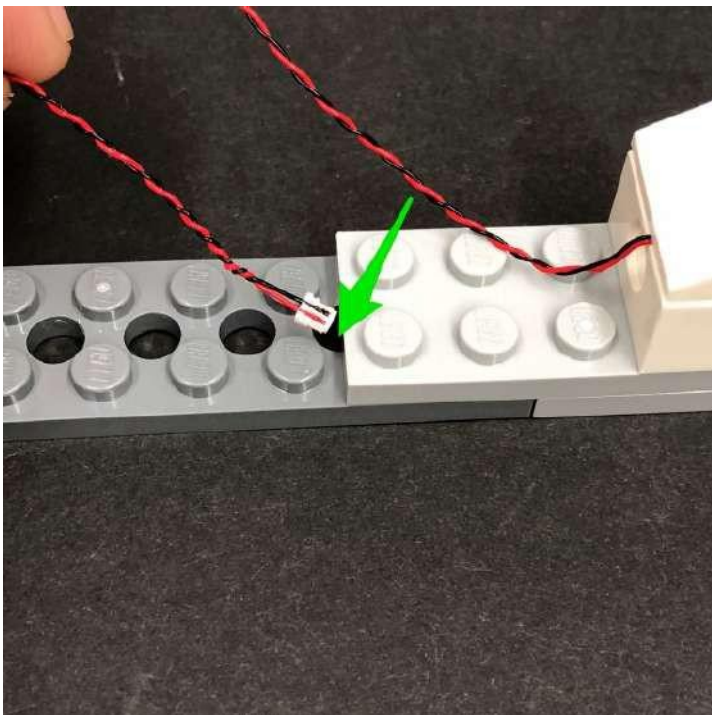
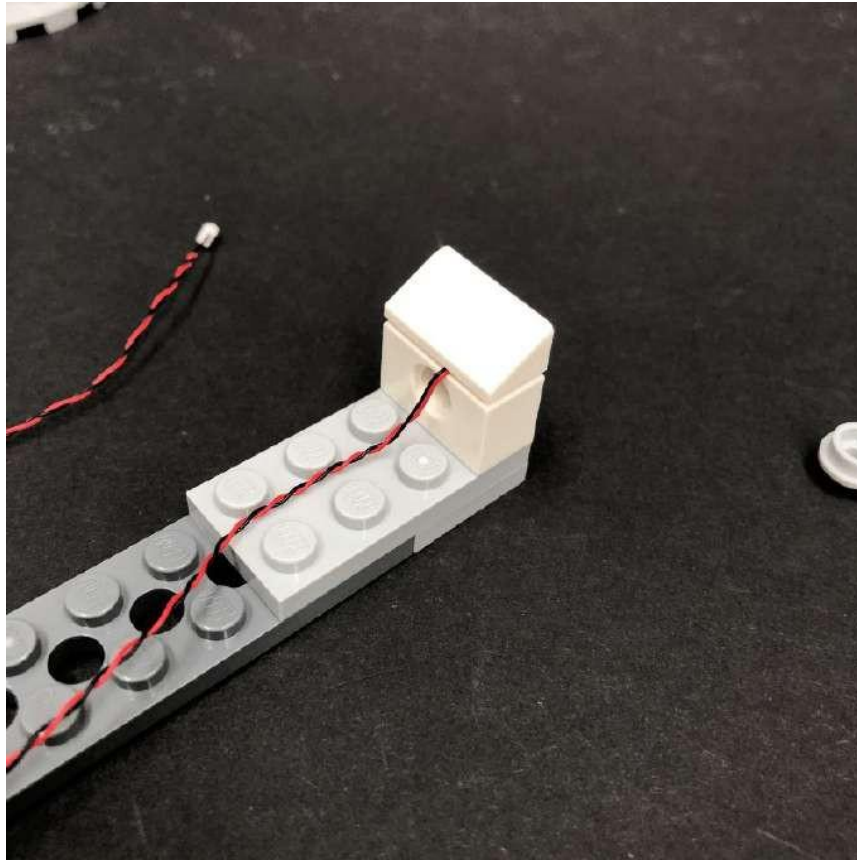




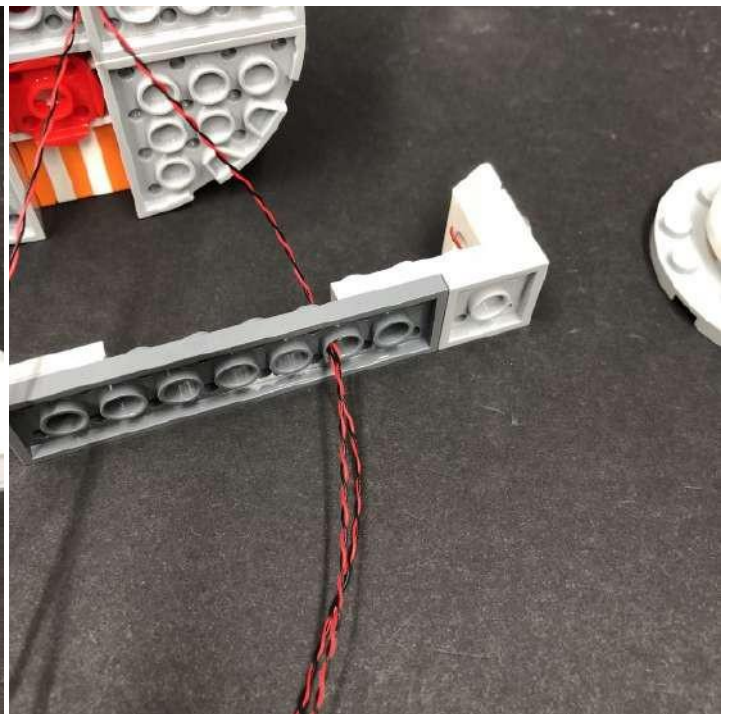
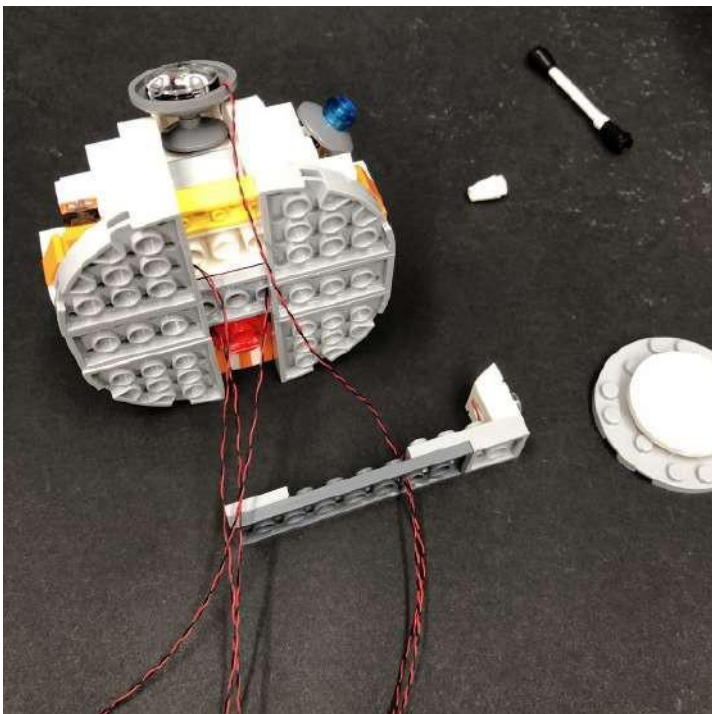
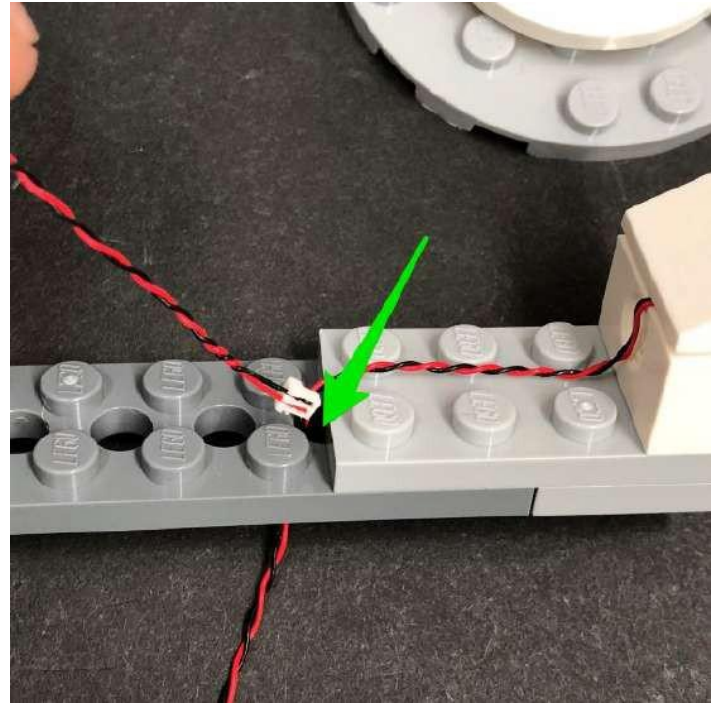
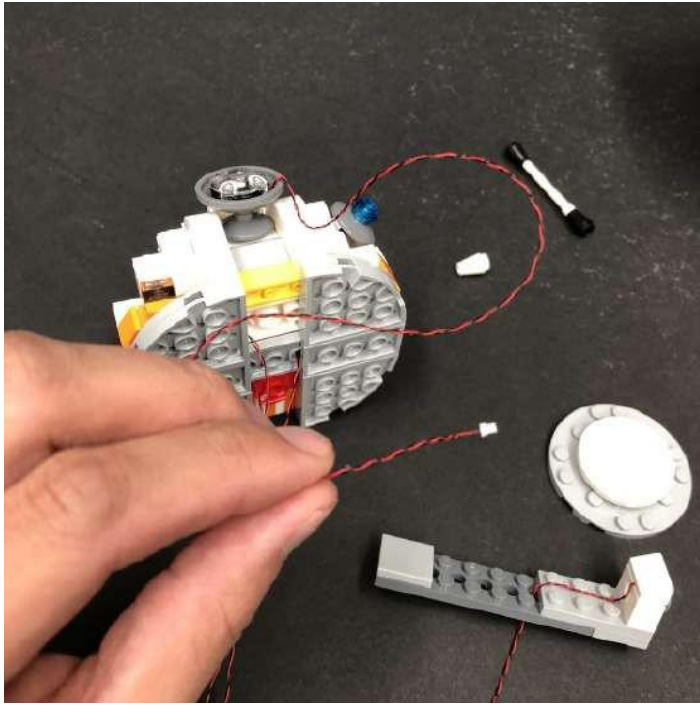
13.) Reconnect the triangular white plate and then thread the end of the cable all the way down through the following hole of the dark grey technic plate.





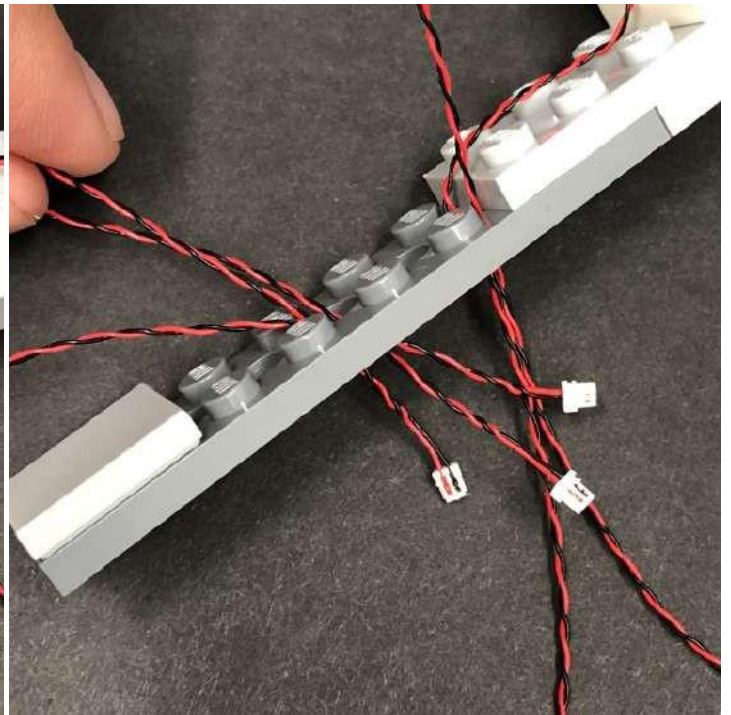
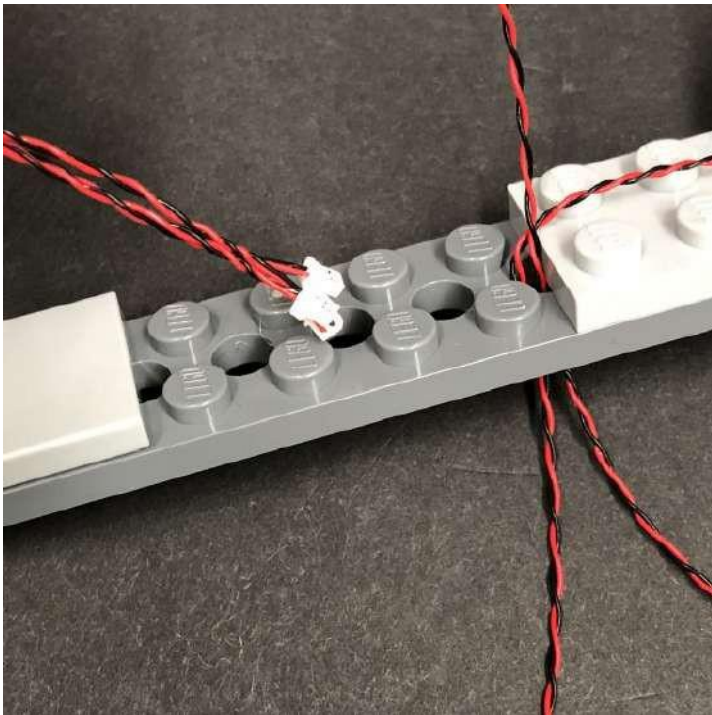
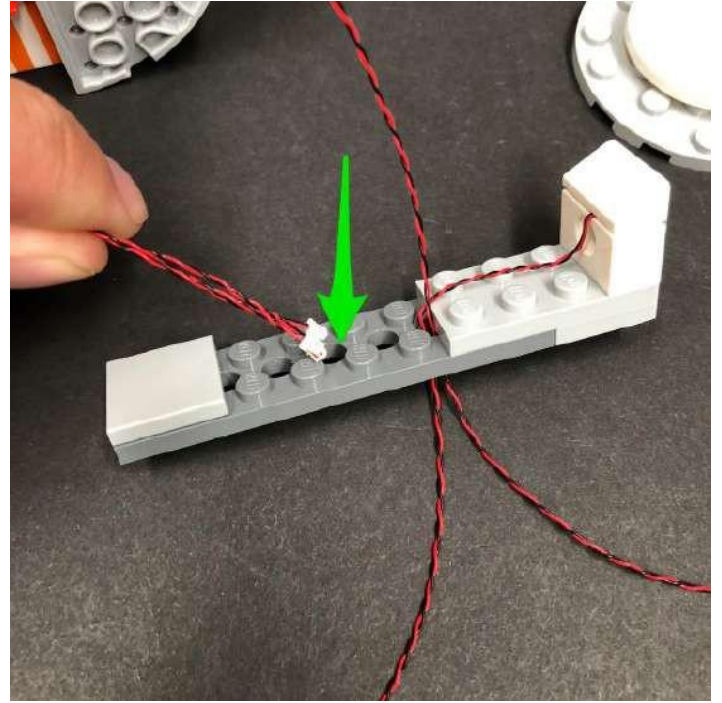
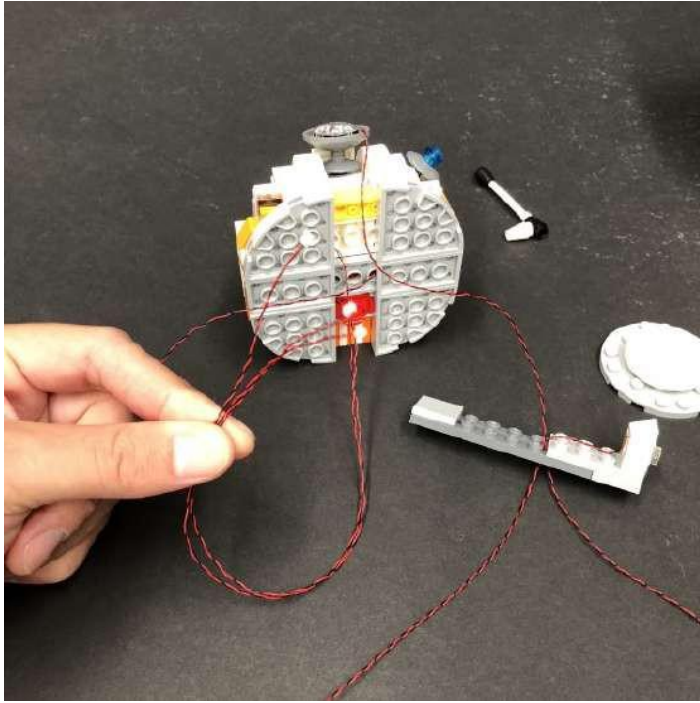


14.) Thread the end of the cable from BB-8's eye down through the same hole in the previous step.

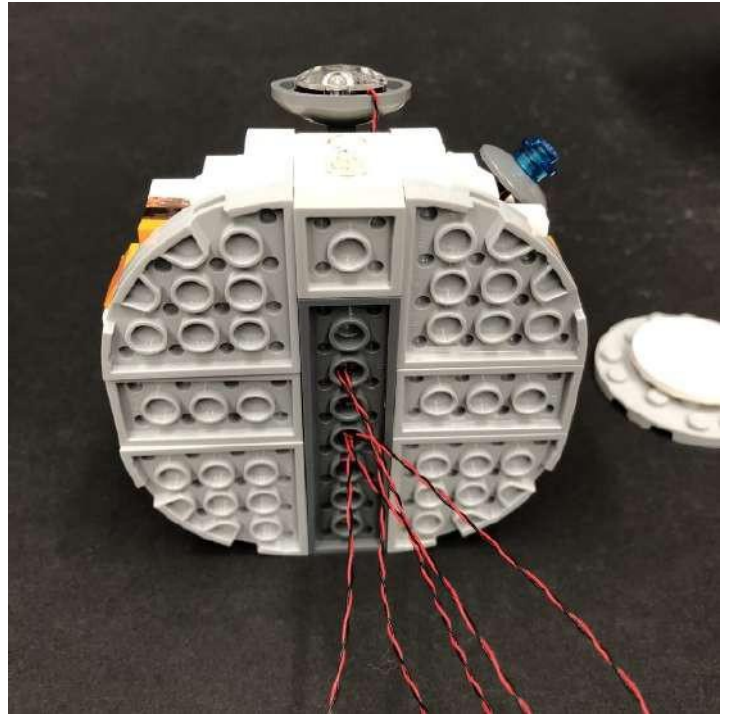
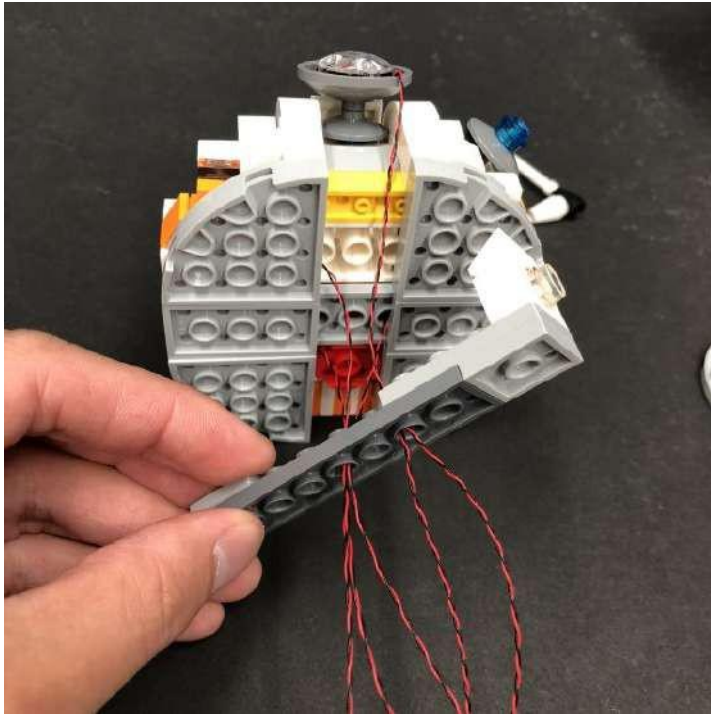


15.) Group the three other cables from BB-8's head and thread them through the following hole of the dark grey technic plate.

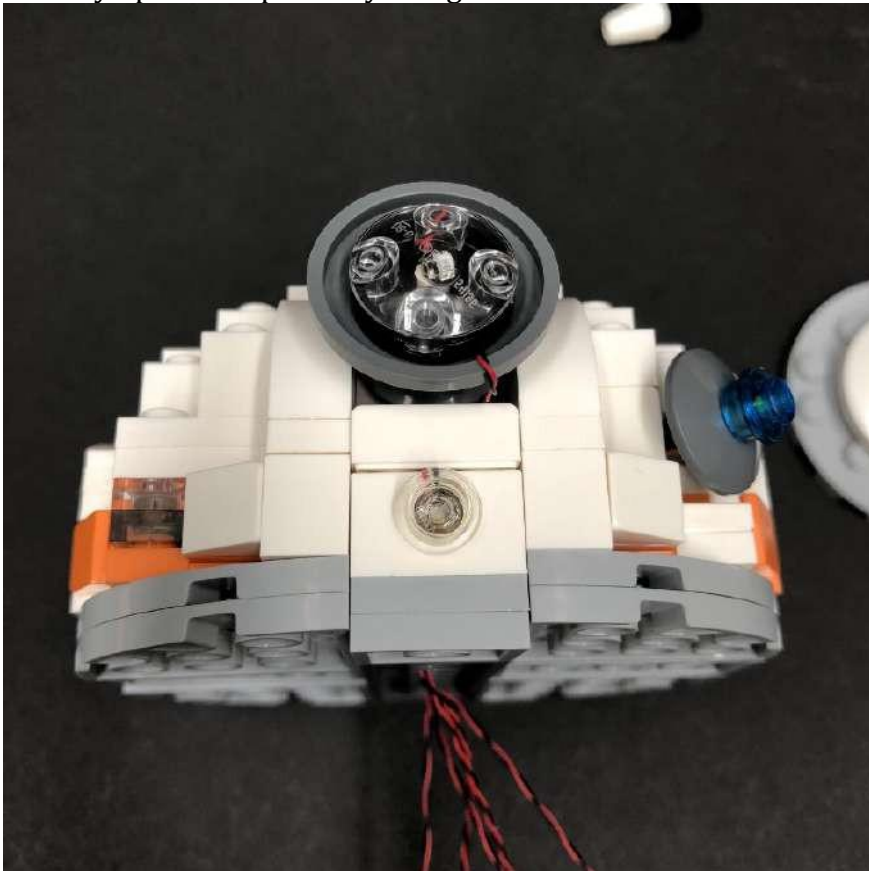




16.) With all the cables thread through the holes, bring the bottom section up and then reconnect it underneath the head section.



If you look directly at the front of BB-8's head, you will notice that the front plate section does not connect all the way up. This is perfectly fine given the cables underneath and will not impact the final design.

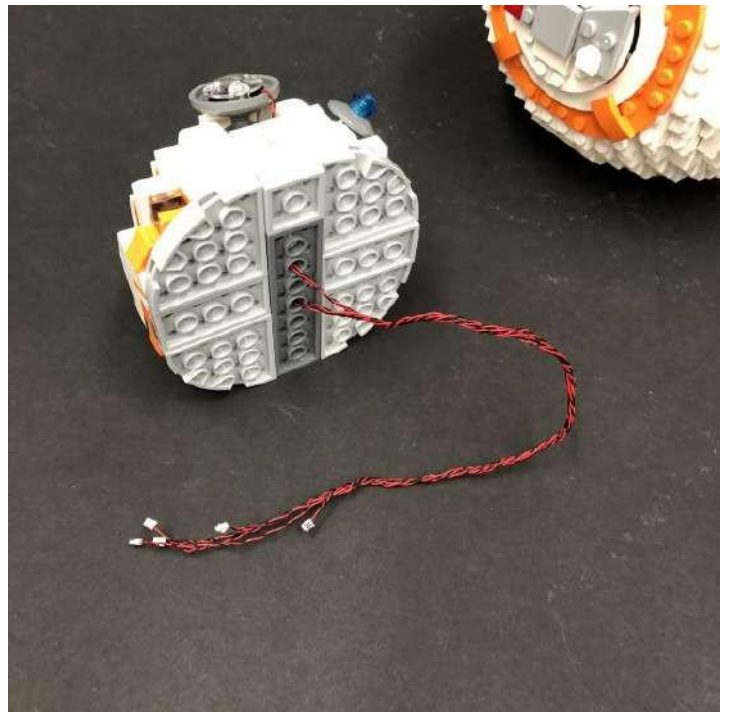
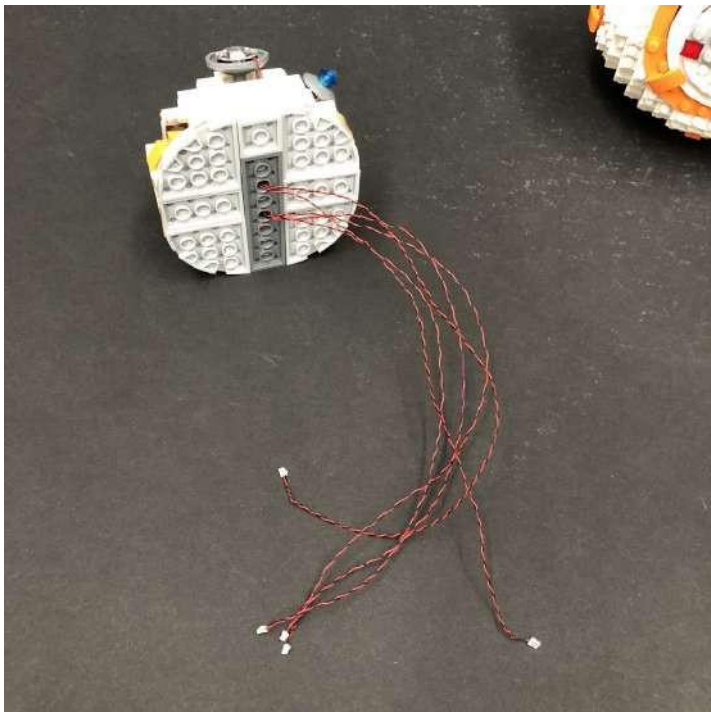


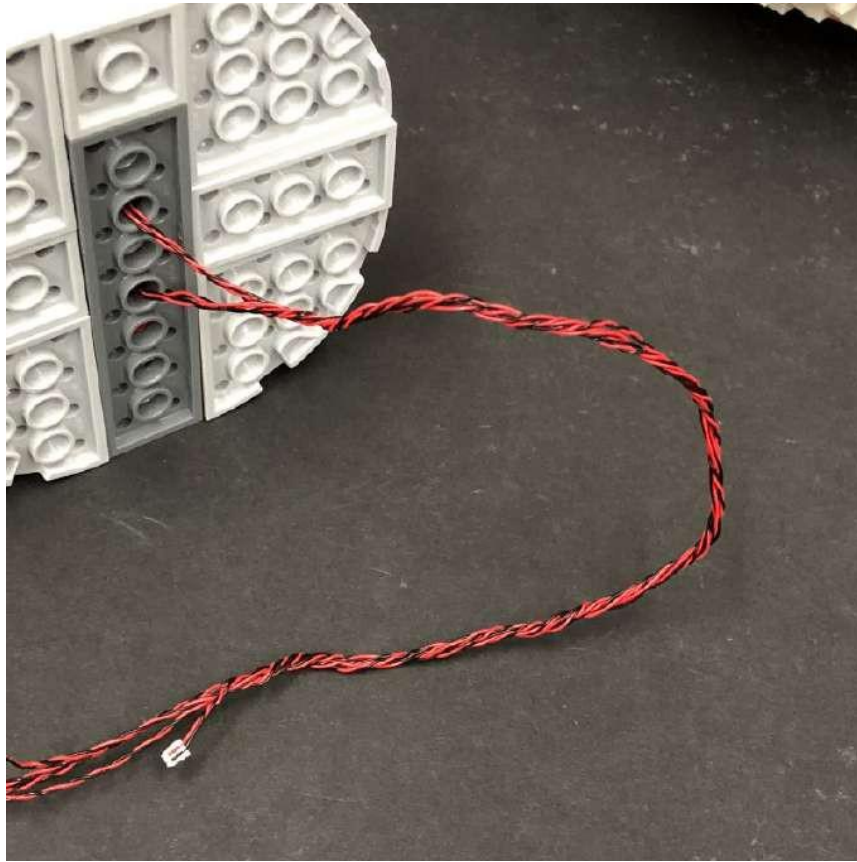
Reconnect the section back on top of BB-8's head



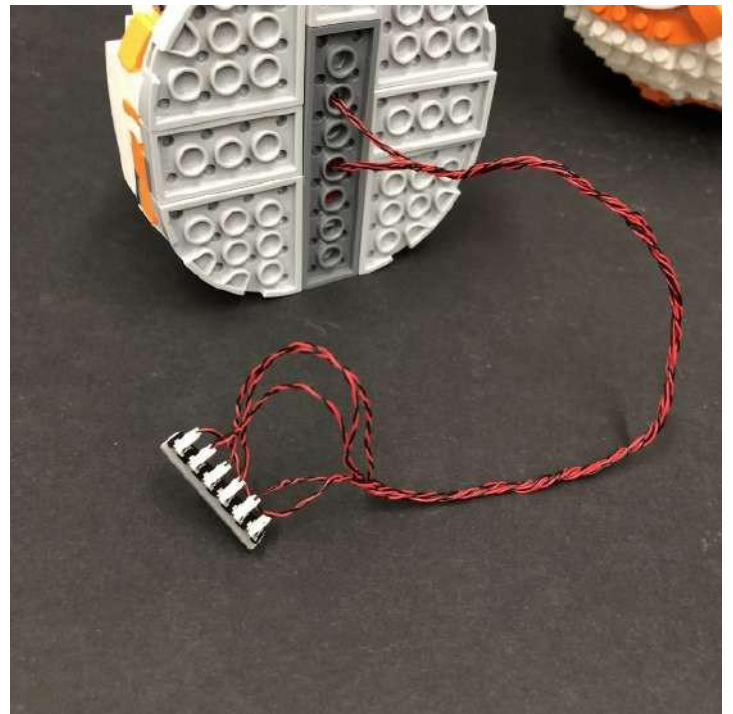
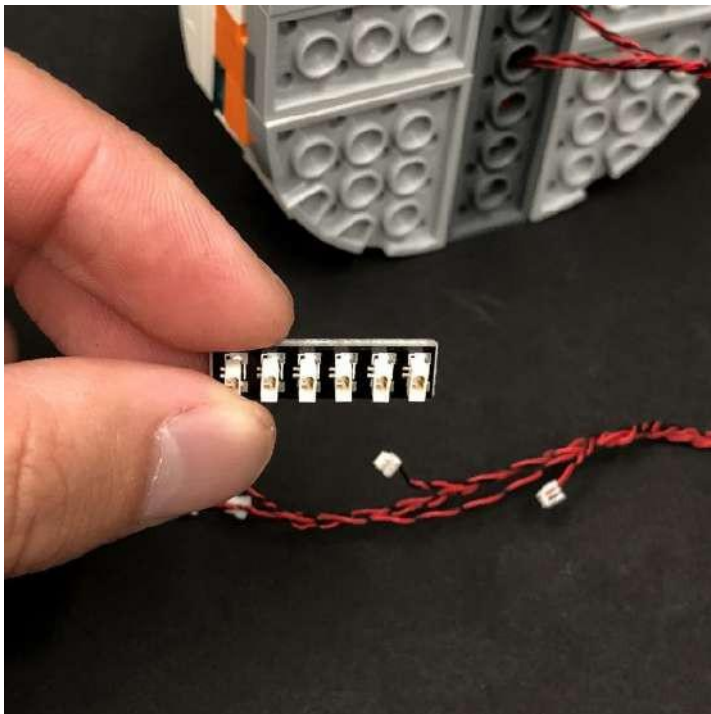


17.) Group all 5 cables together and then twist them around each other to neaten and form one large cable.



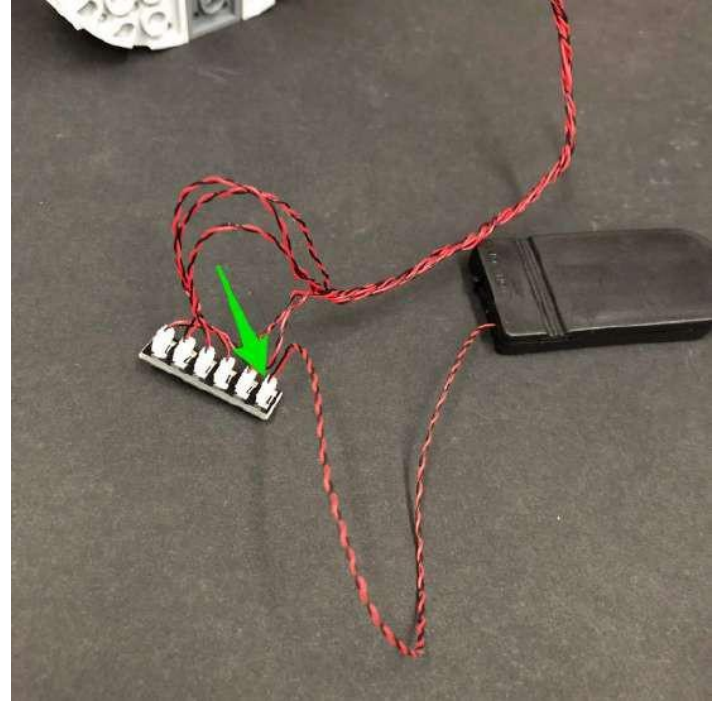


18.) Take a 6-Port Expansion Board and then connect all 5 cables to it.

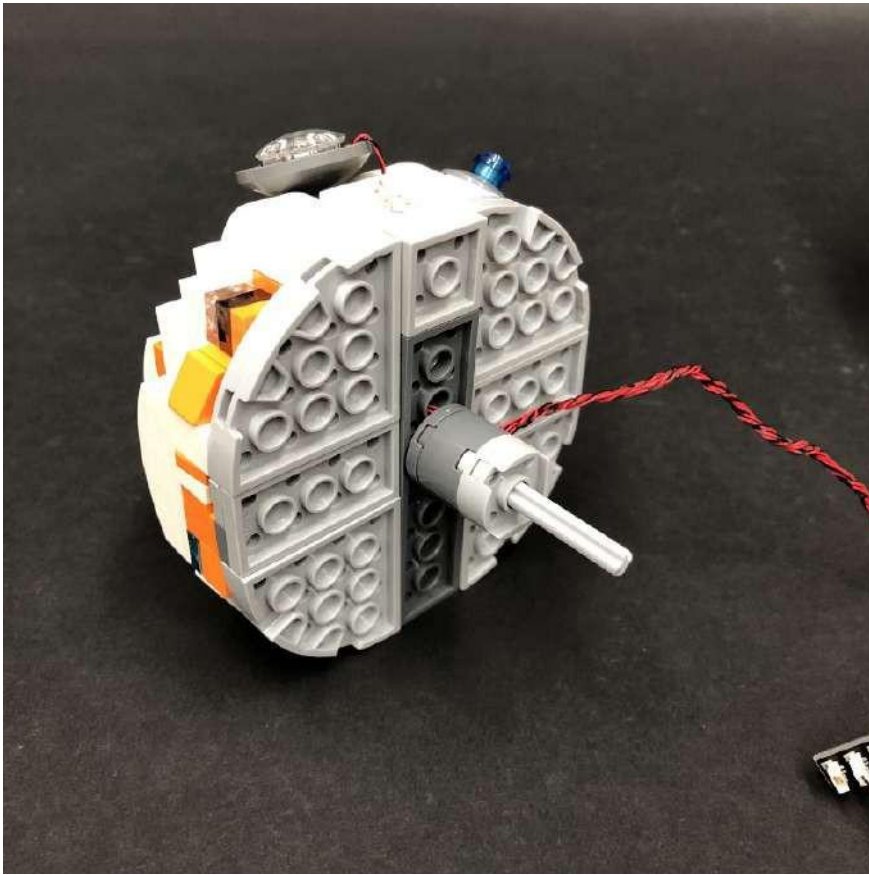


Test the lights we have installed so far by taking the Flat Battery Pack and inserting 2x CR2032 Batteries to it. Connect the battery pack cable to the spare port on the expansion board and then turn on the battery pack.

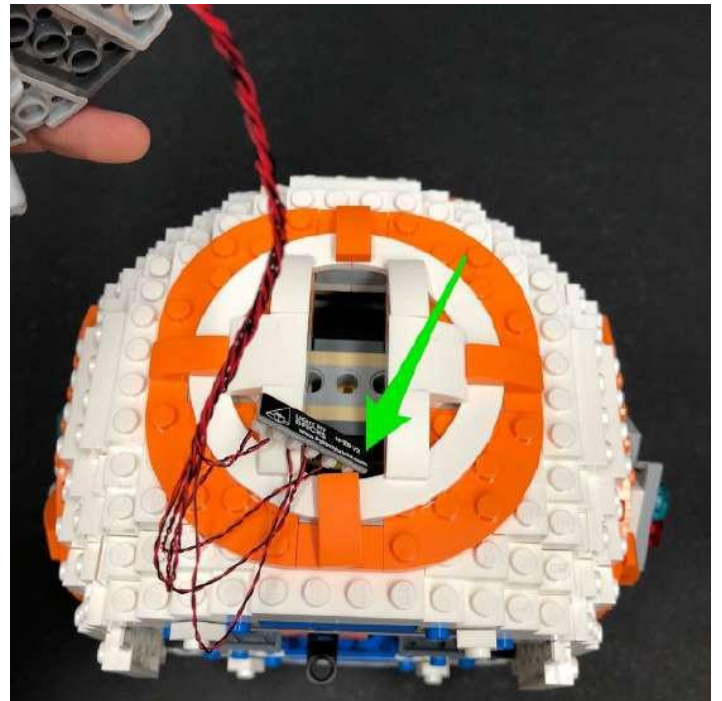
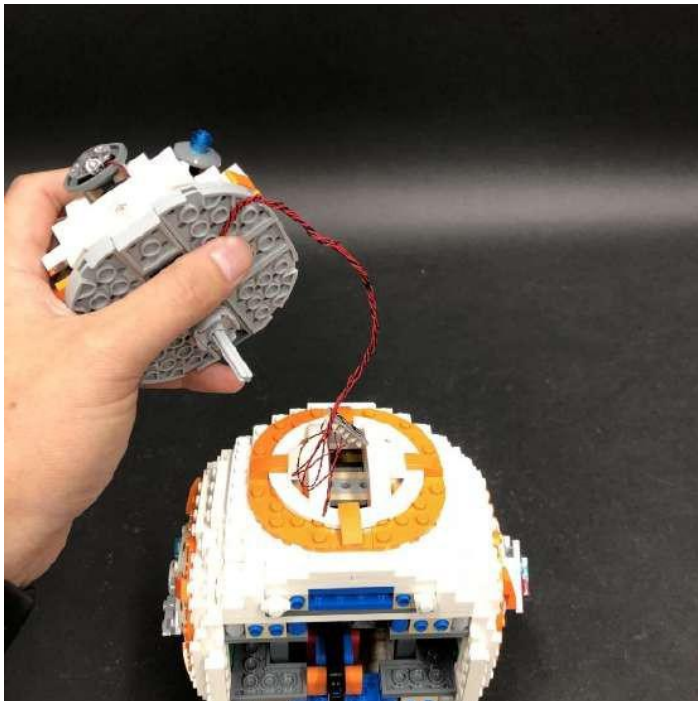




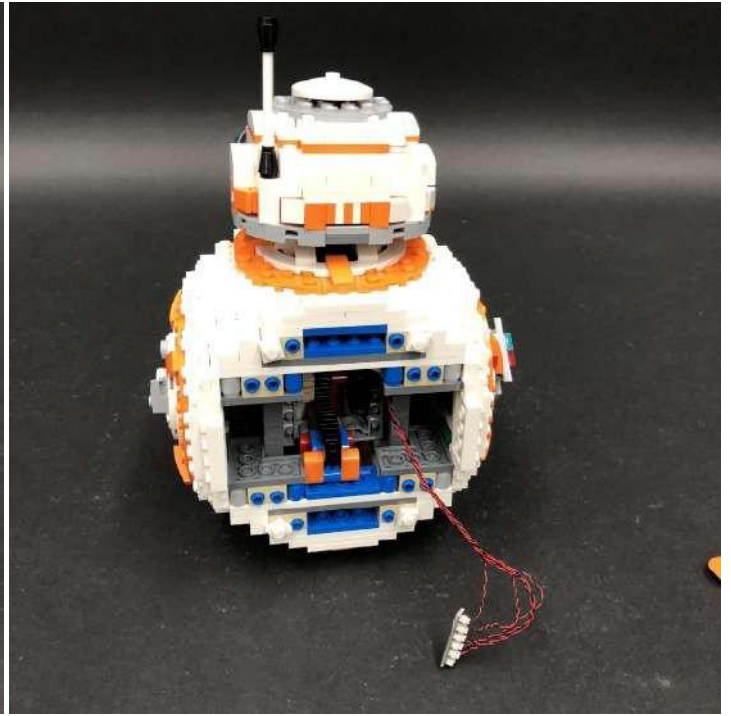
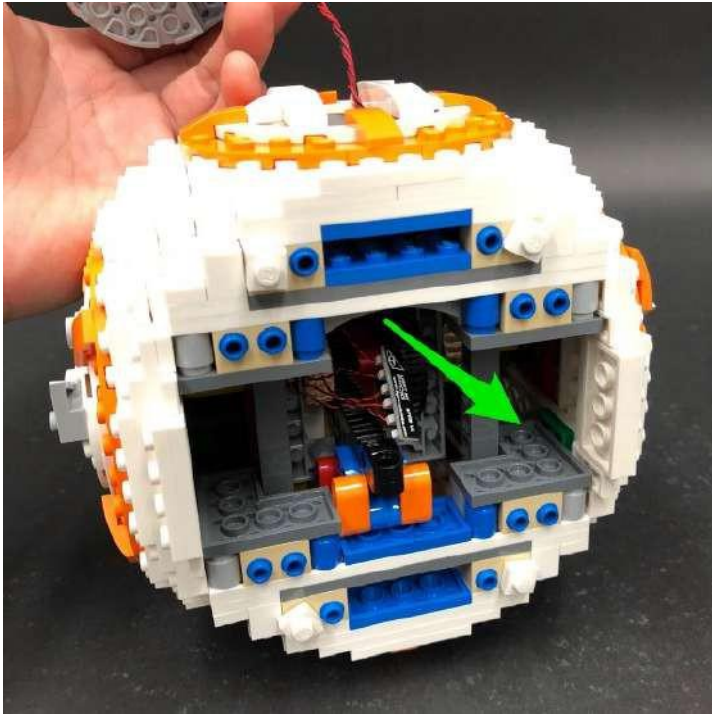
Once you have confirmed all is working OK, disconnect the battery pack and then reconnect the middle shaft section we disconnected at the start.



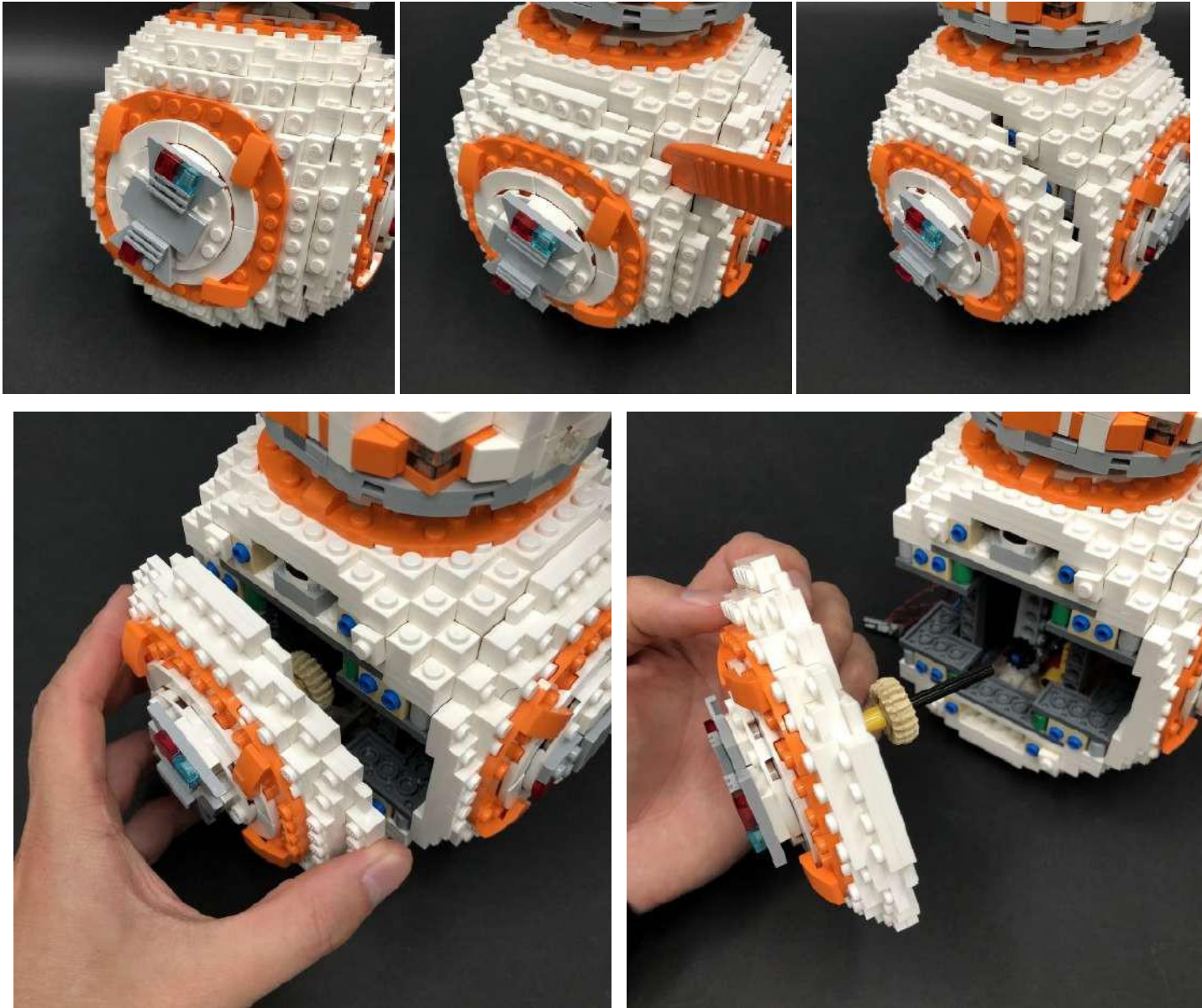
19.) Take the head section over the top of the body and then thread the expansion board and cables down through the top of the body. Pull everything all the way down from the inside and then reconnect BB-8's head.





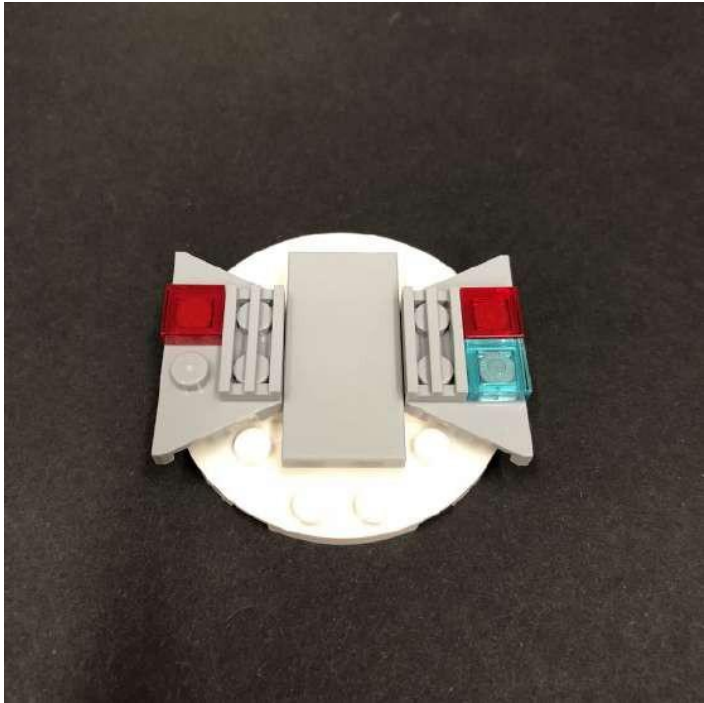
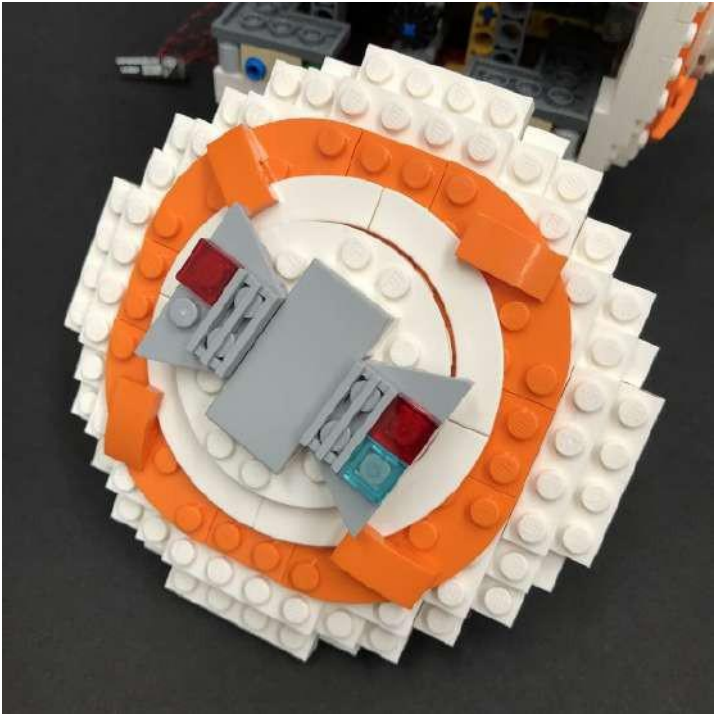


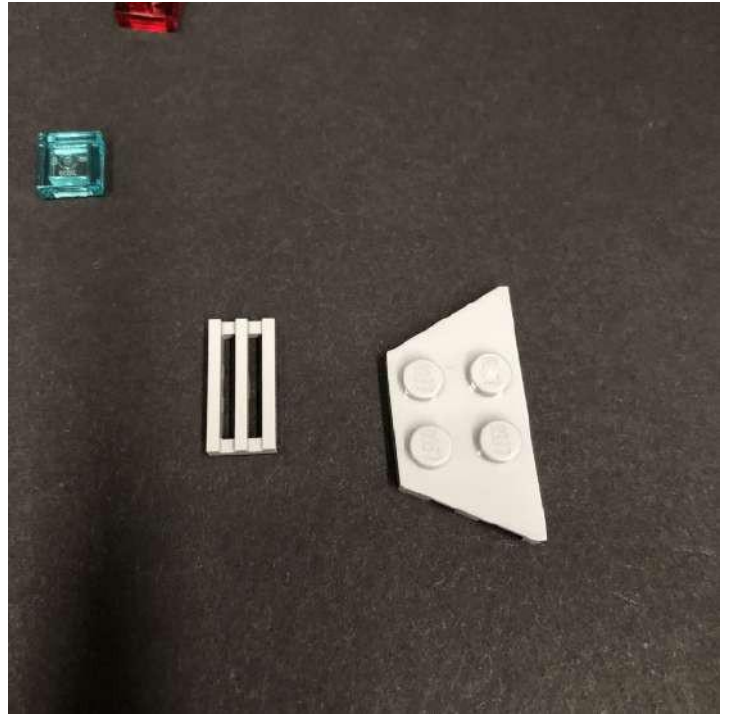
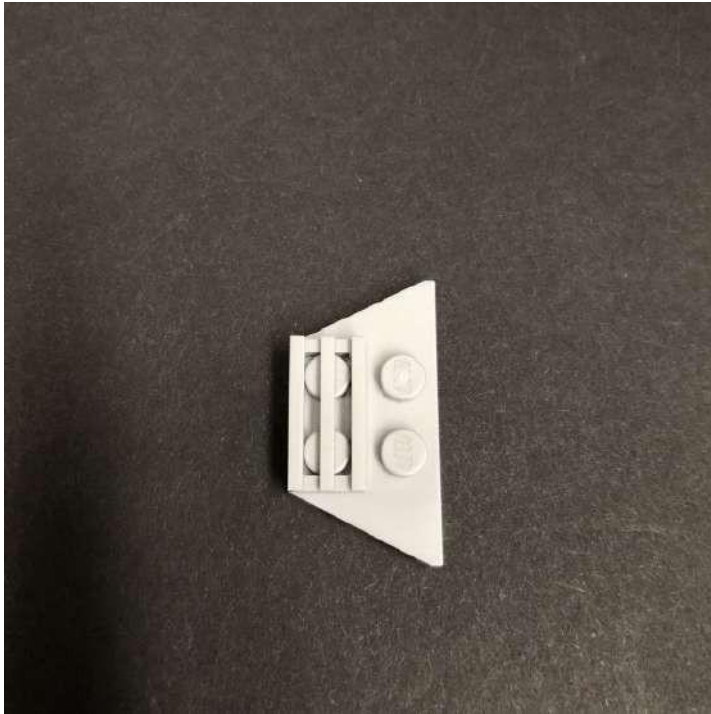
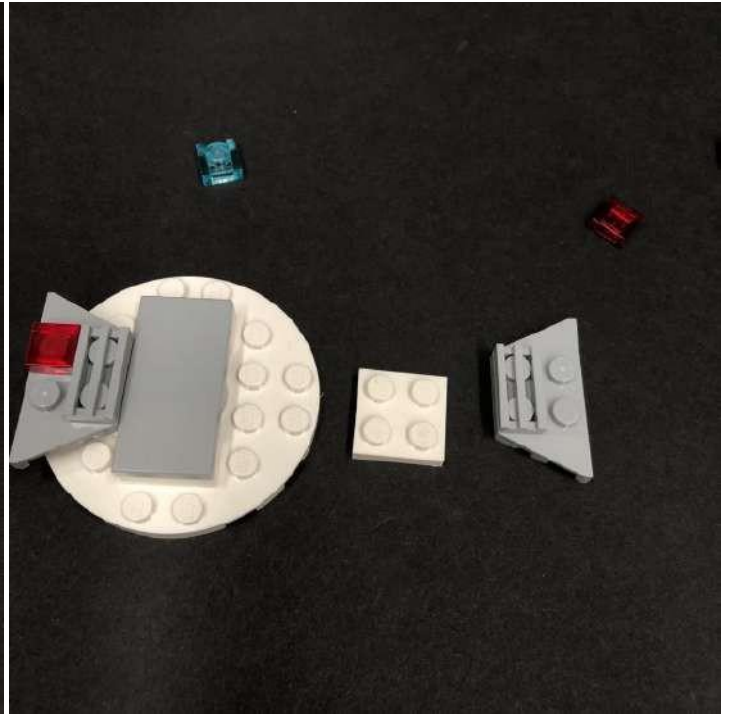
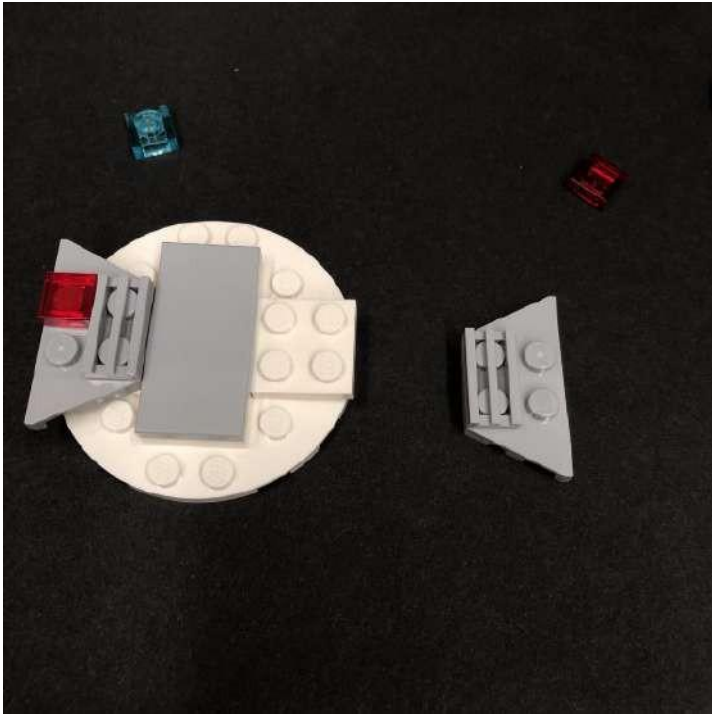
20.) We will now install lights to the left side. Using the LEGO removal tool, disconnect the left side section as per below.



21.) Disconnect the top of the side section and then disassemble the following pieces.

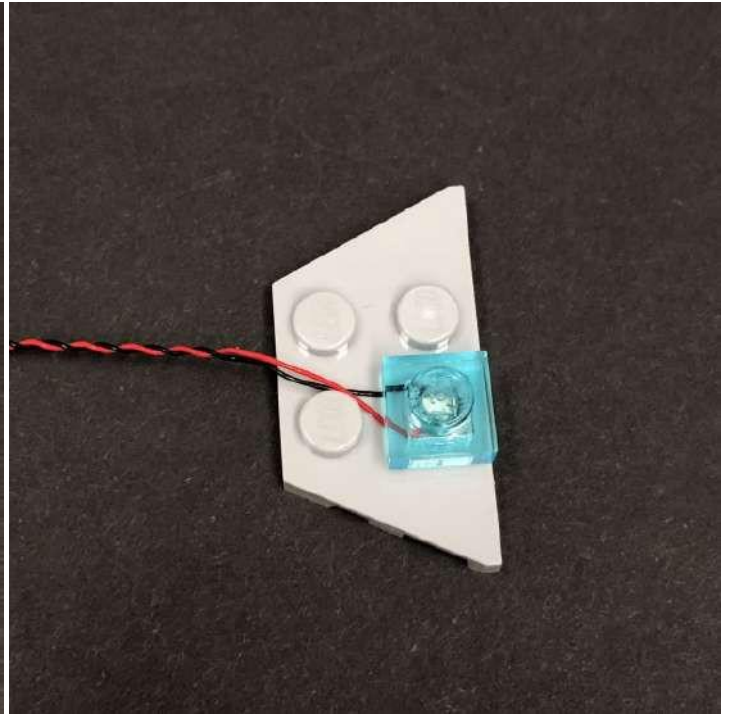
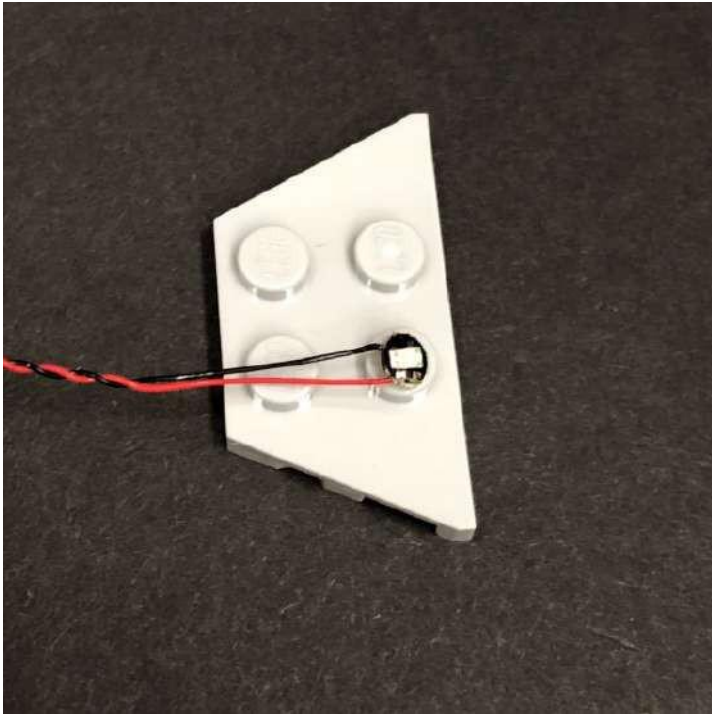




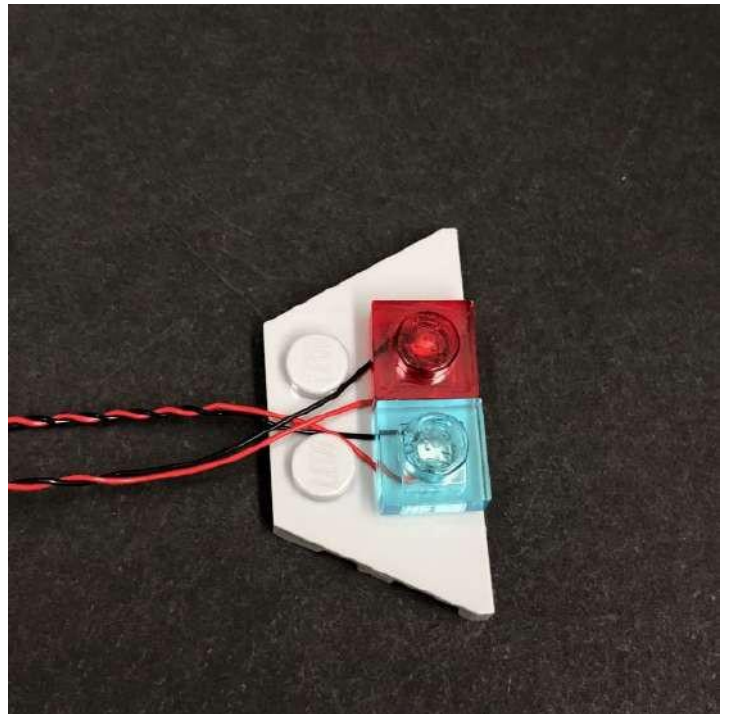
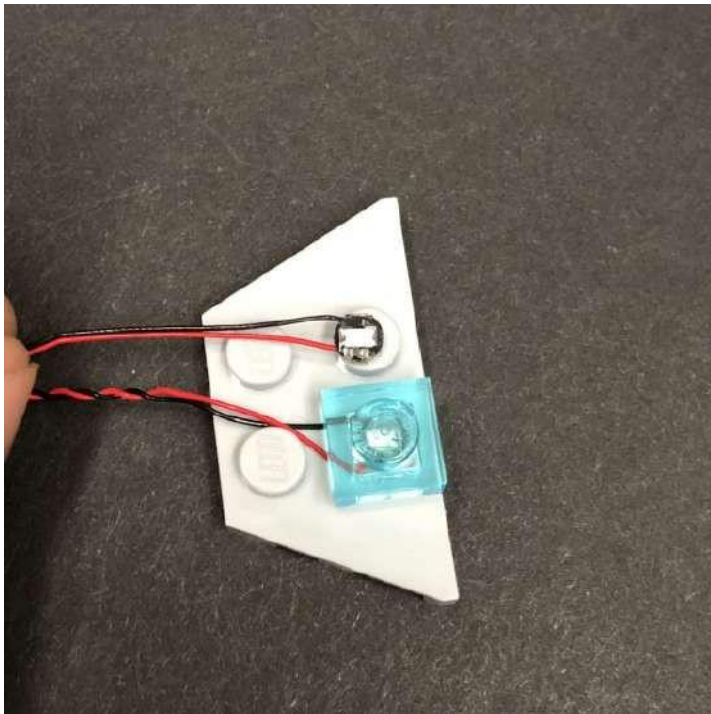


22.) Take a Blue 30cm Dot Light and with the cable facing toward the left, place it directly over the following stud. Secure it in place by connecting a provided LEGO Plate 1x1 (Trans Light Blue) over the top.

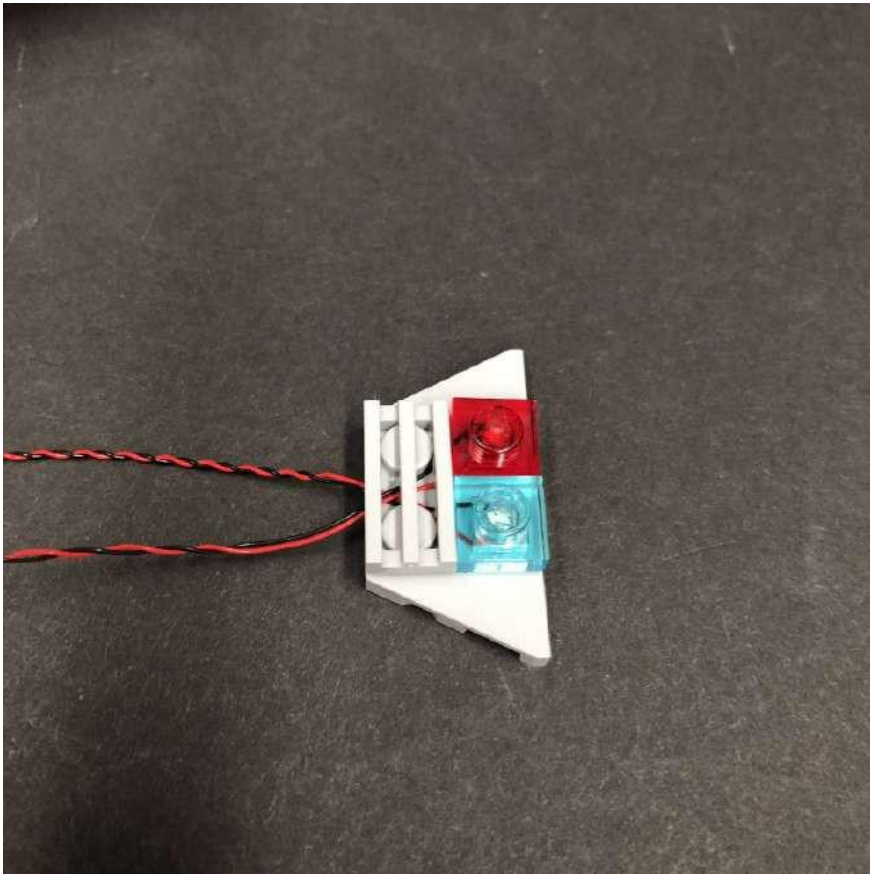




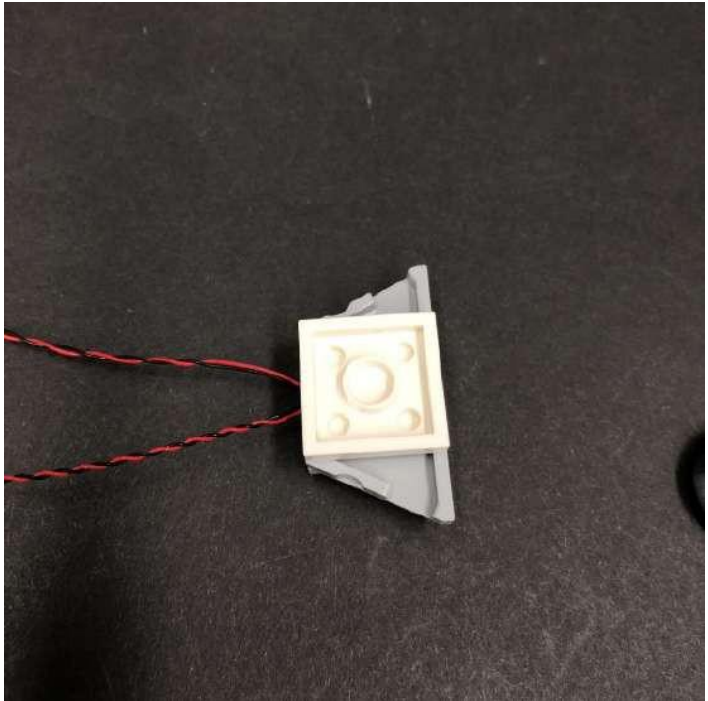
23.) Take a Red 30cm Dot Light and with the cable facing toward the left, place it directly over the following stud. Secure it in place by connecting a provided LEGO Plate 1x1 (Trans Red) over the top.



24.) Ensure both cables are laid in between studs, then reconnect the following LEGO piece.

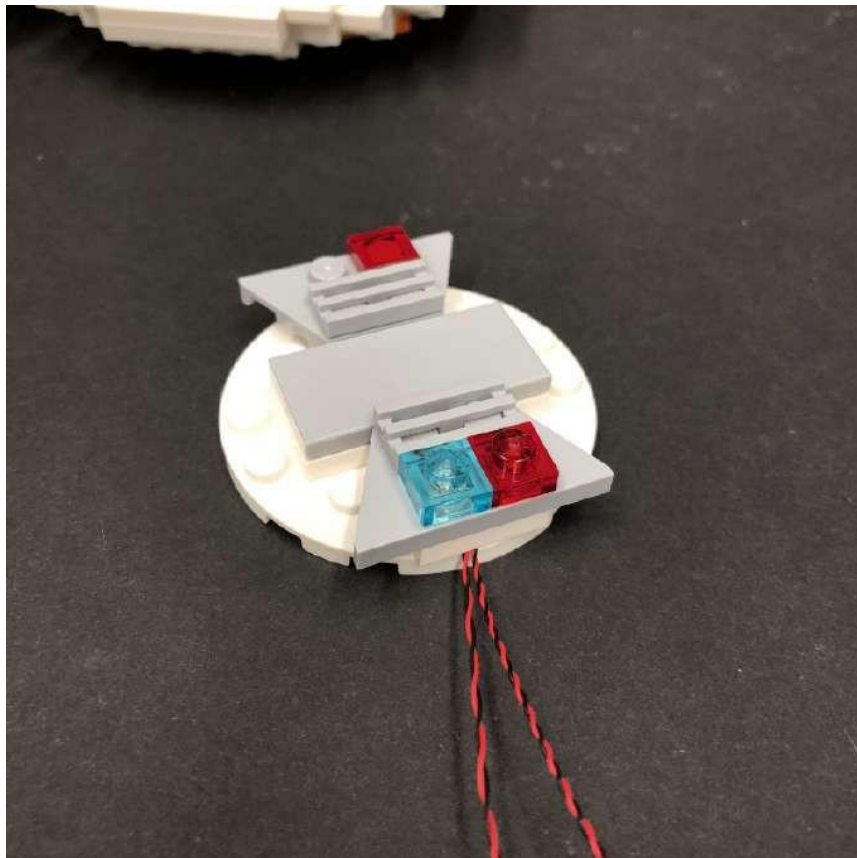
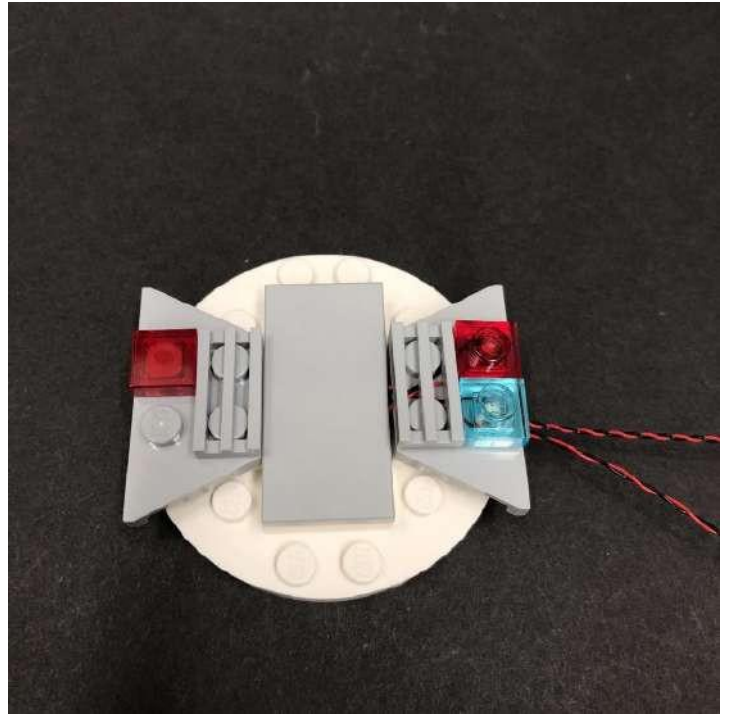
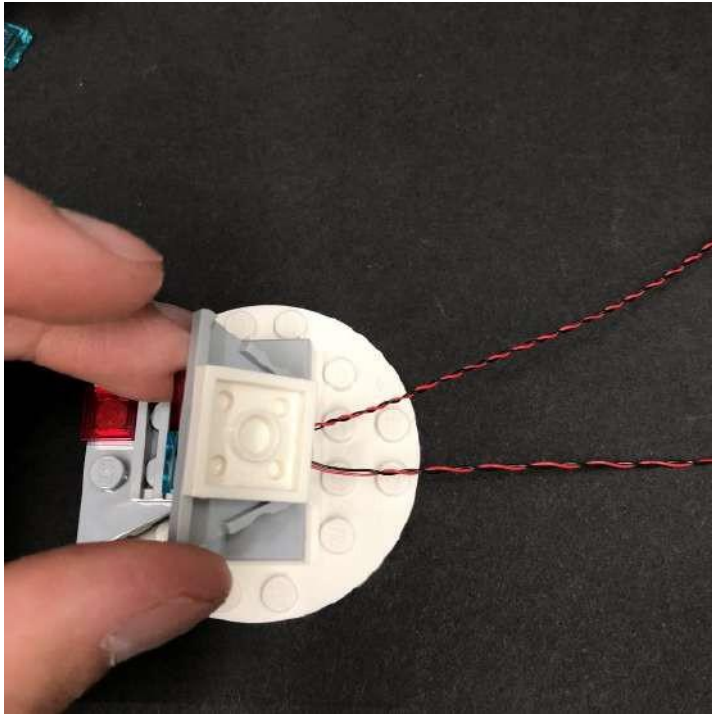


Turn this section over and reconnect the white 2x2 plate.

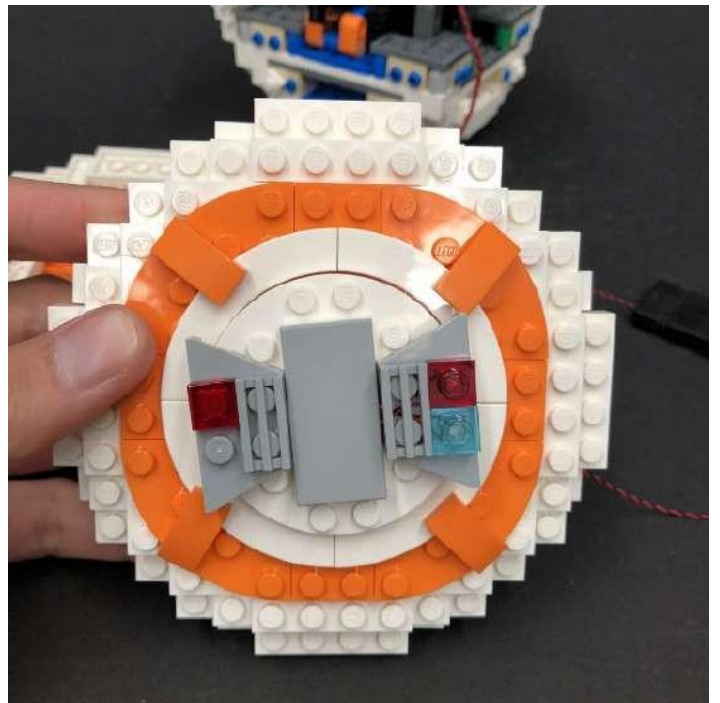
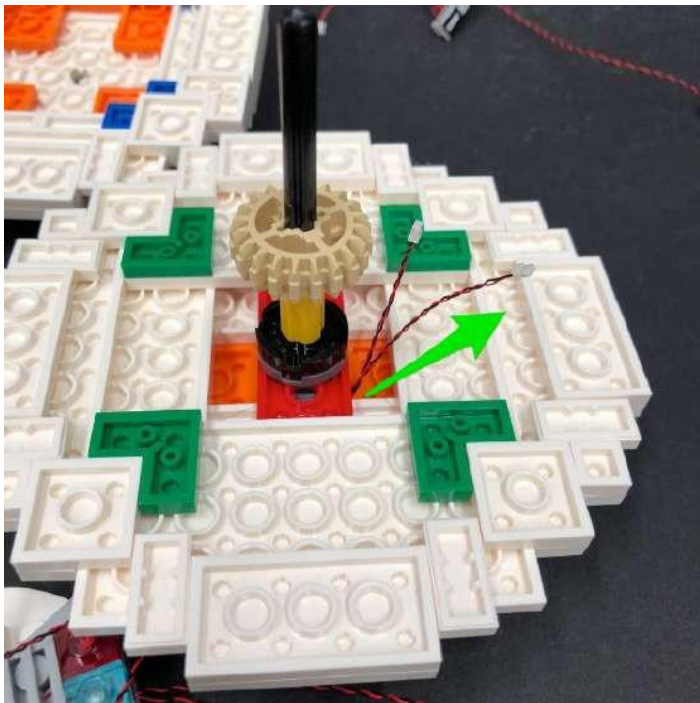
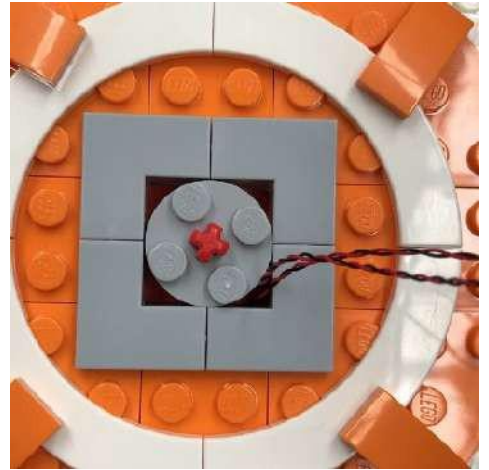
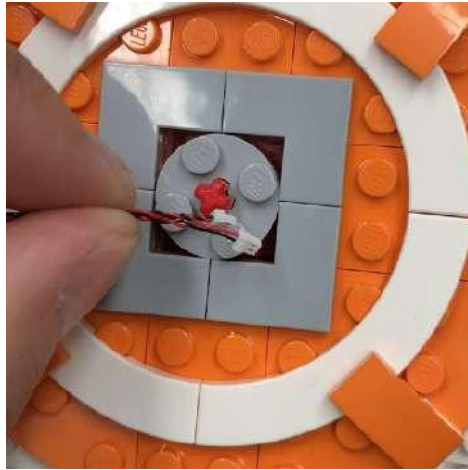
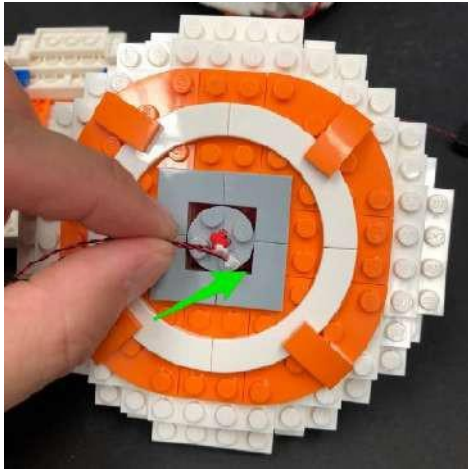




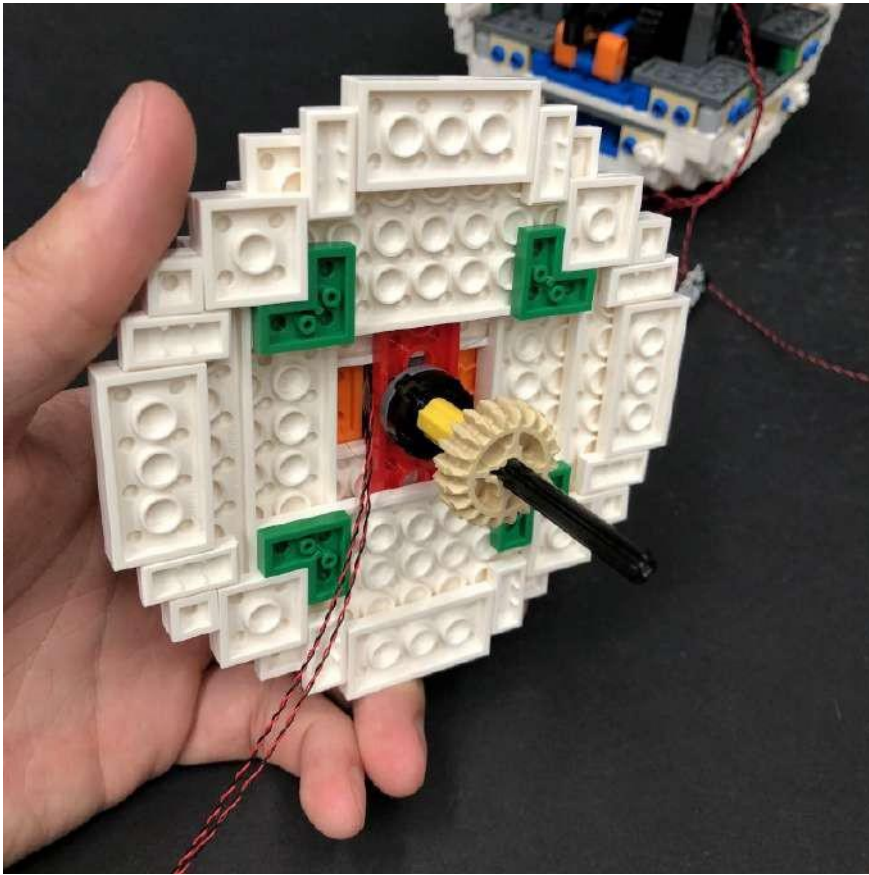
Ensure the two cables are laid underneath before reconnecting this section back to the top section. Ensure cables are neatly laid in between studs as per below:



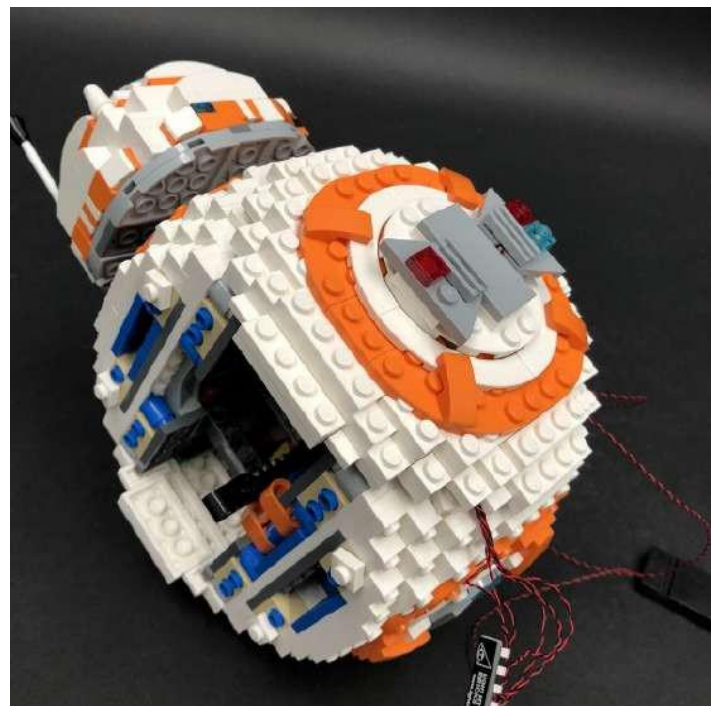
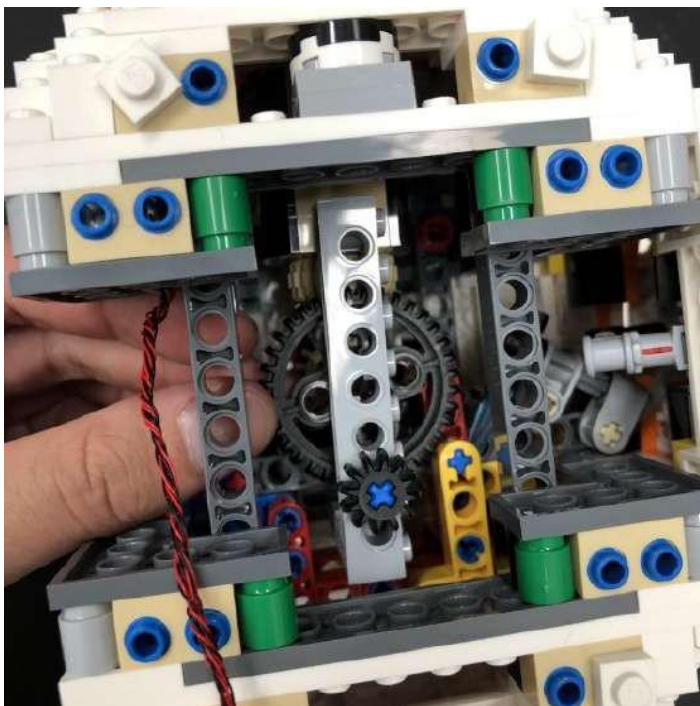
25.) Thread the two cables from the lights we just installed through the corner space of the side section. Pull the cables all the way through from the other side before reconnecting the top section.



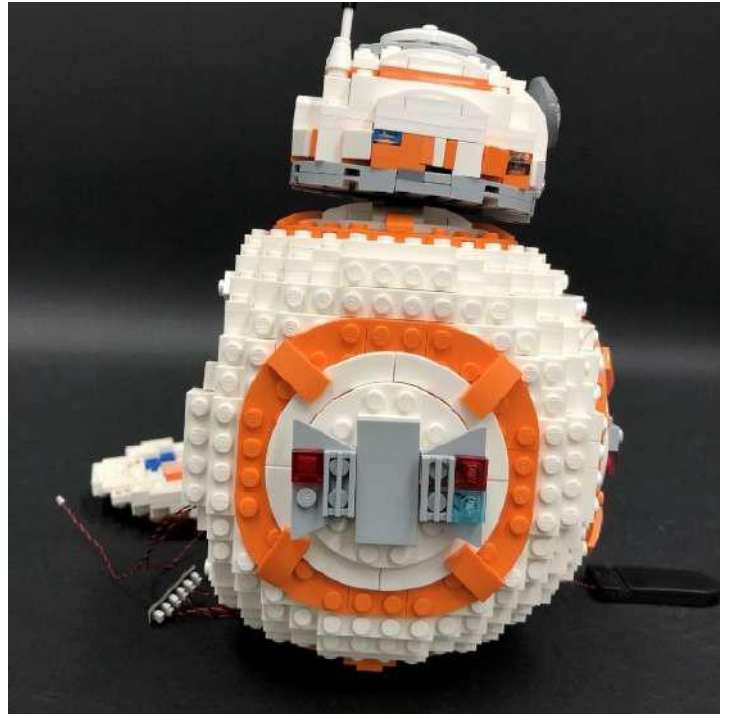
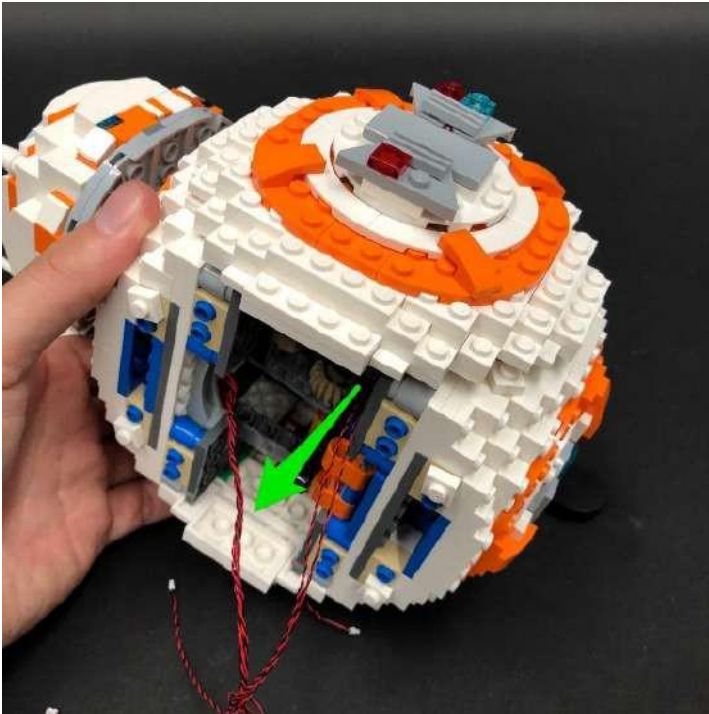




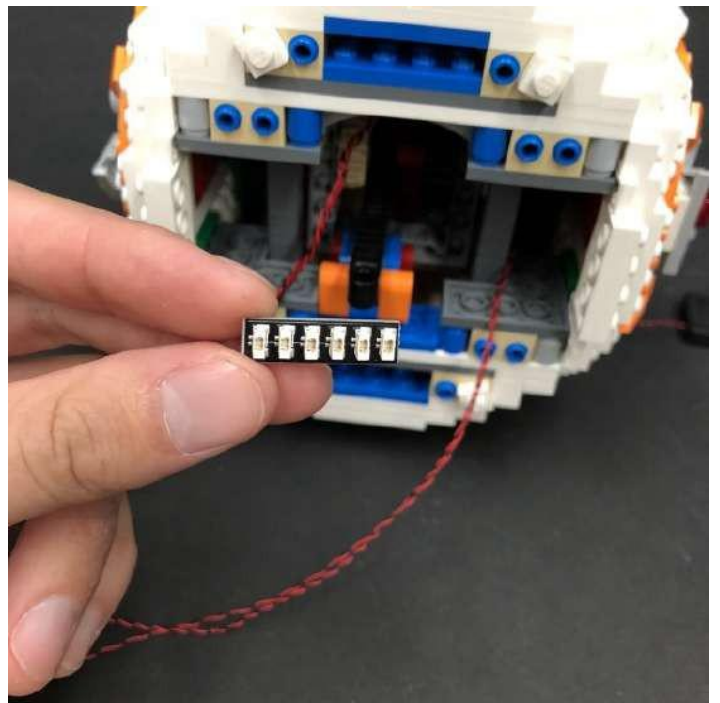
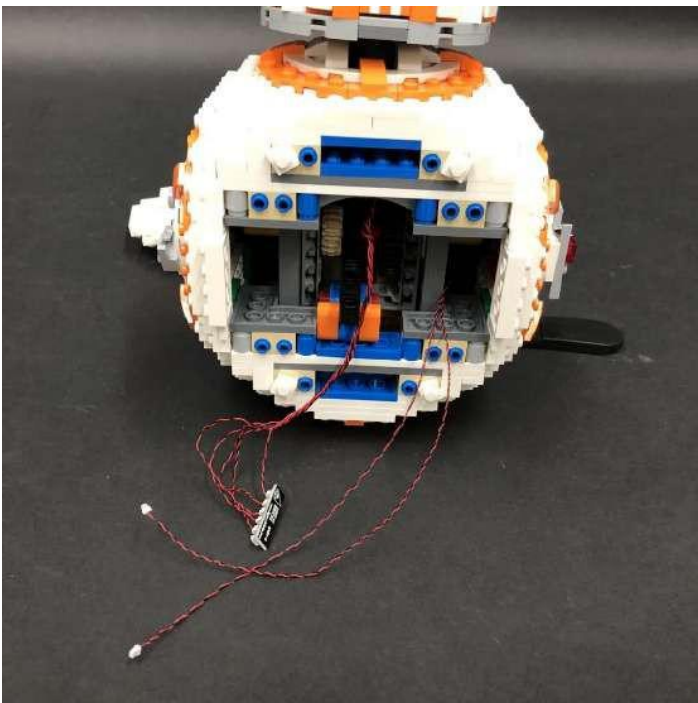
26.) Reconnect this whole side section back to the body but before doing so, ensure that the black technic wheel is in correct position (neatly seated at the correct hole in between light grey technic bricks).



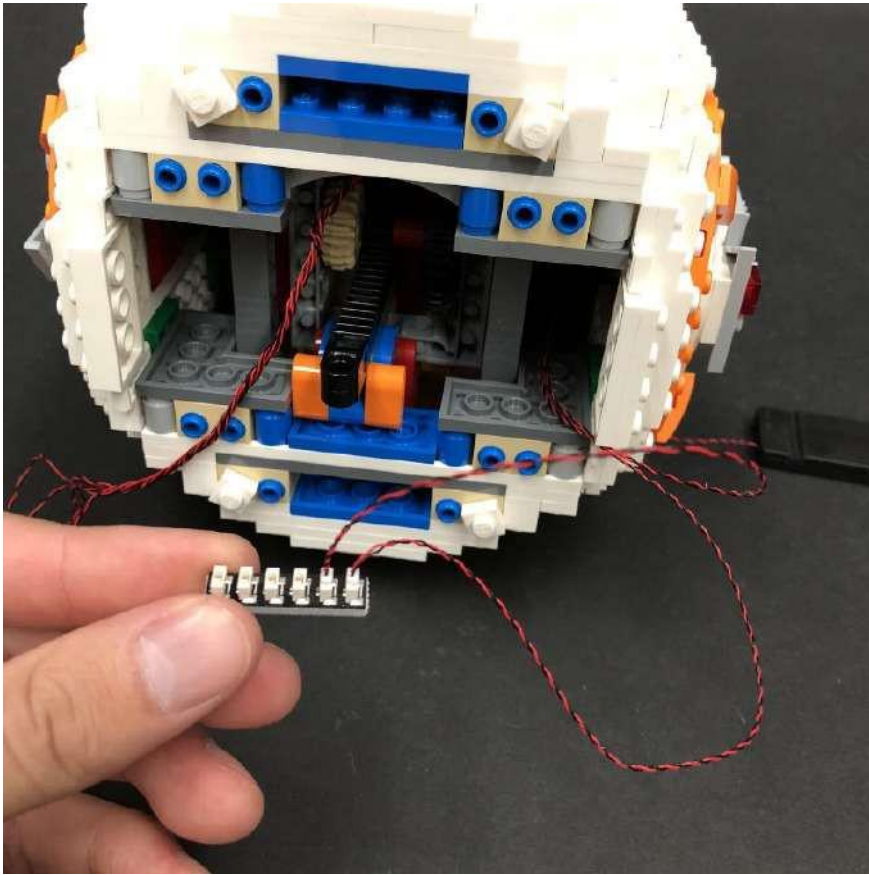
Before completely securing the side section in place, ensure you pull out all the cables so that they are being laid out the back of BB-8's body.



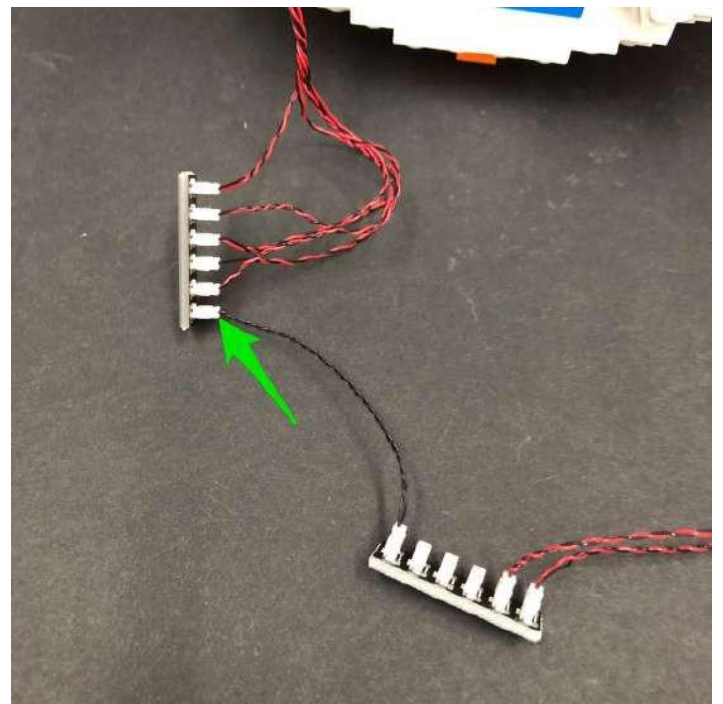
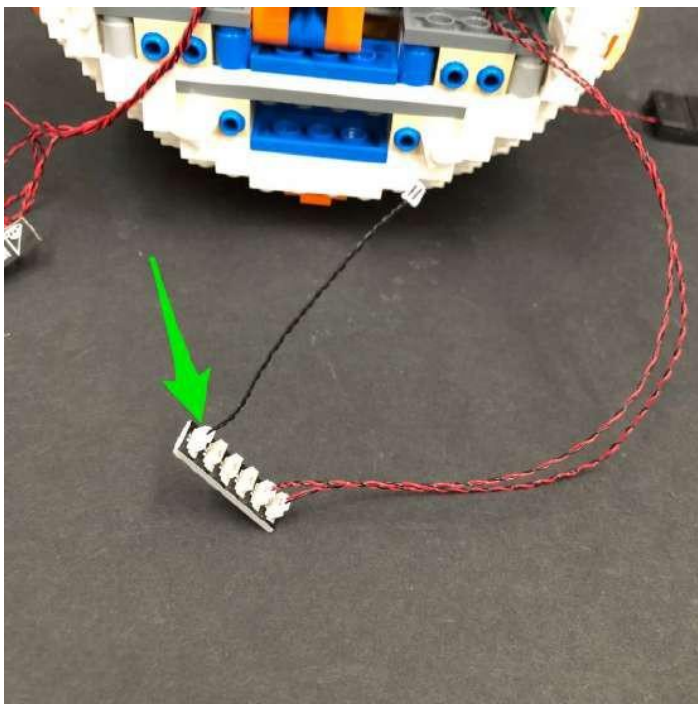
27.) Take a new 6-Port Expansion Board and connect the two cables from the side to spare ports.







28.) Take a 5cm Connecting Cable and connect it to the last port on the expansion board. Connect the other end of the cable to the remaining port on the first expansion board.



29.) Take the Flat Battery Pack and connect the cable into one of the spare ports on the second expansion board. Turn on the battery pack to confirm all lights are working OK.



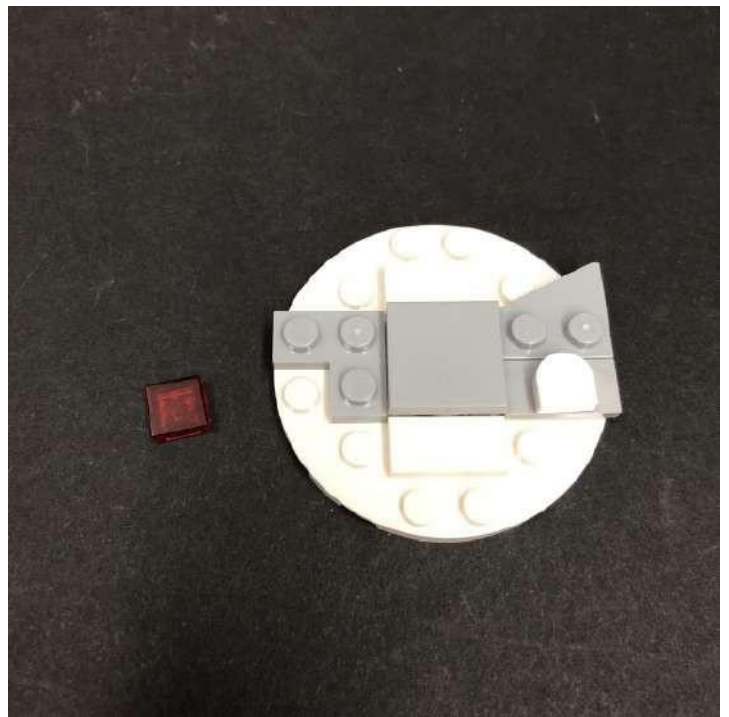
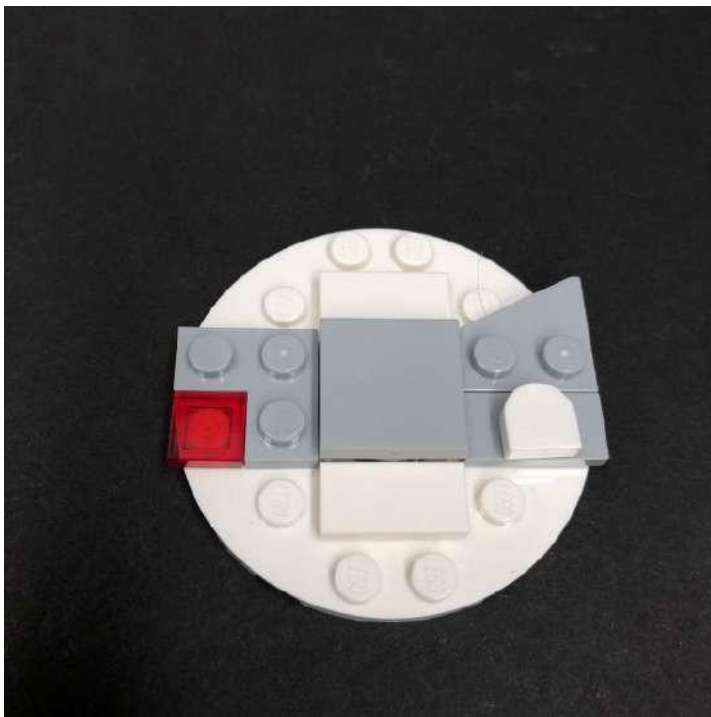
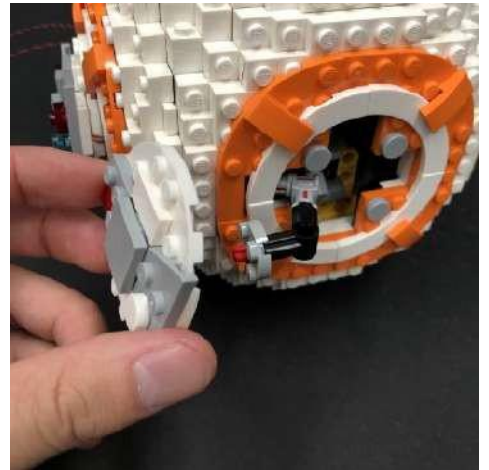
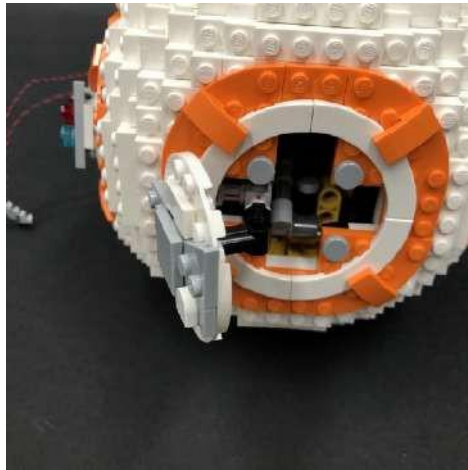
Caution: Now that we have wired lights inside BB8's body, this will remove the ability to completely turn the head around 360 degrees. Given the cables, BB8's head should be limited to only turning left and right 90 degrees each way. Do NOT forcefully turn it's head otherwise this will damage the cables.



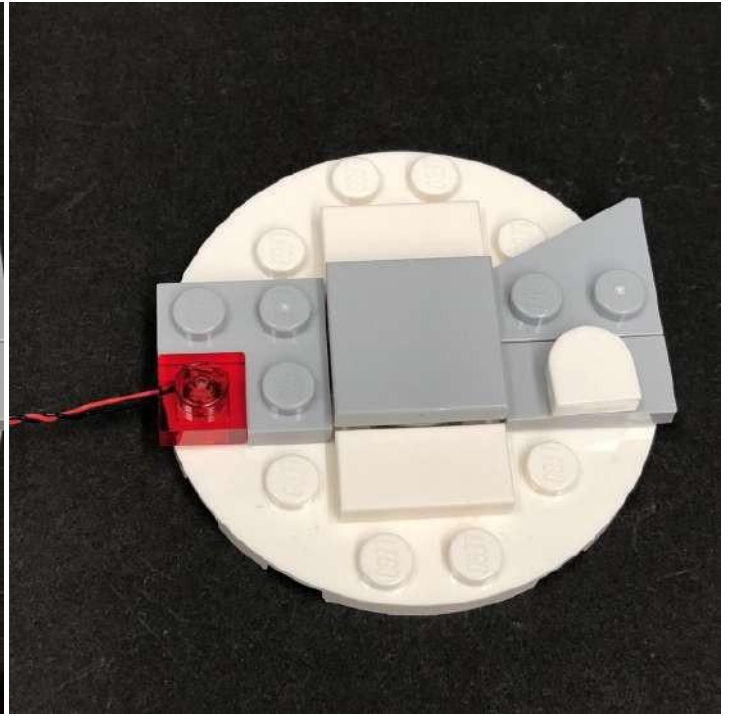
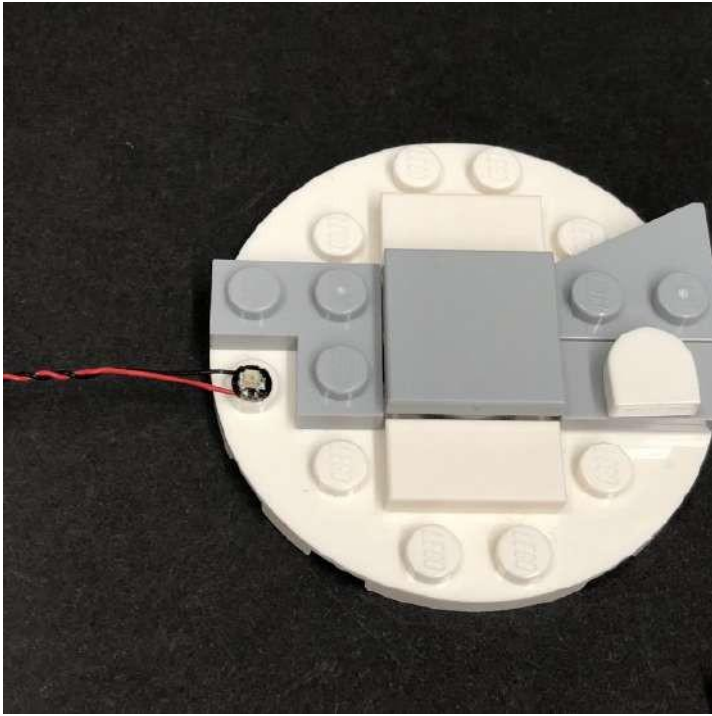


Once you have confirmed all the lights are working OK, disconnect the battery pack and proceed to the next step.

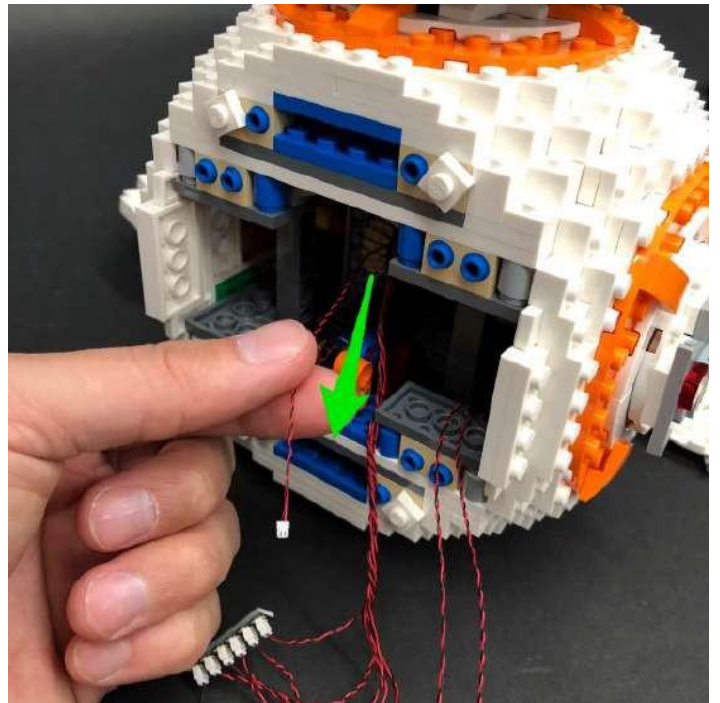
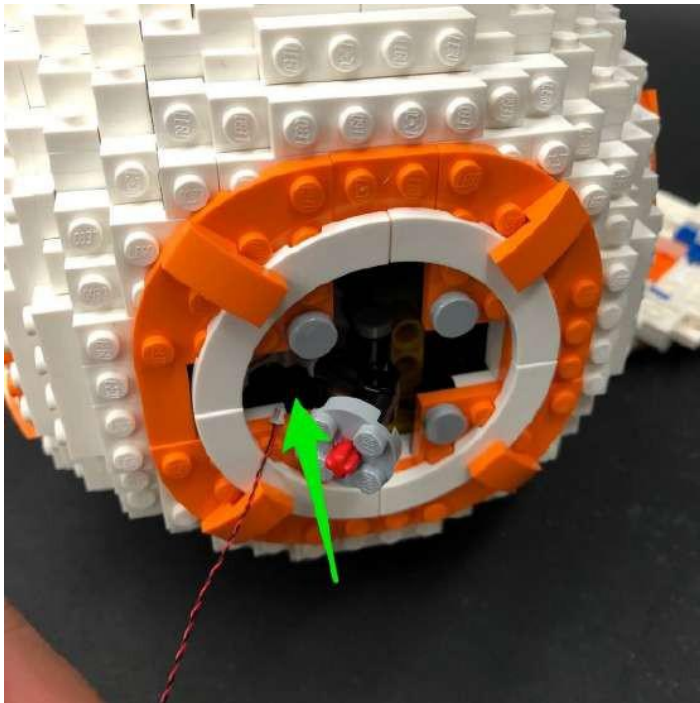
30.) We will now light up the front door panel. First disconnect the front panel section and then disconnect the trans red tile.



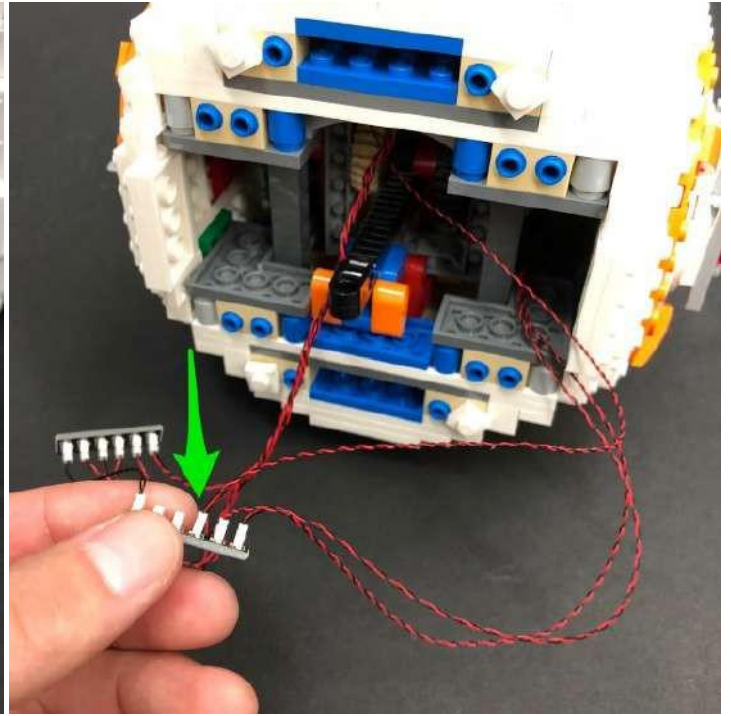
Take the remaining Red 30cm Dot Light and then place it over the top of the stud with the cable facing the left. Secure it by connecting the provided LEGO Plate 1x1 (Trans Red) over the top of Dot Light.



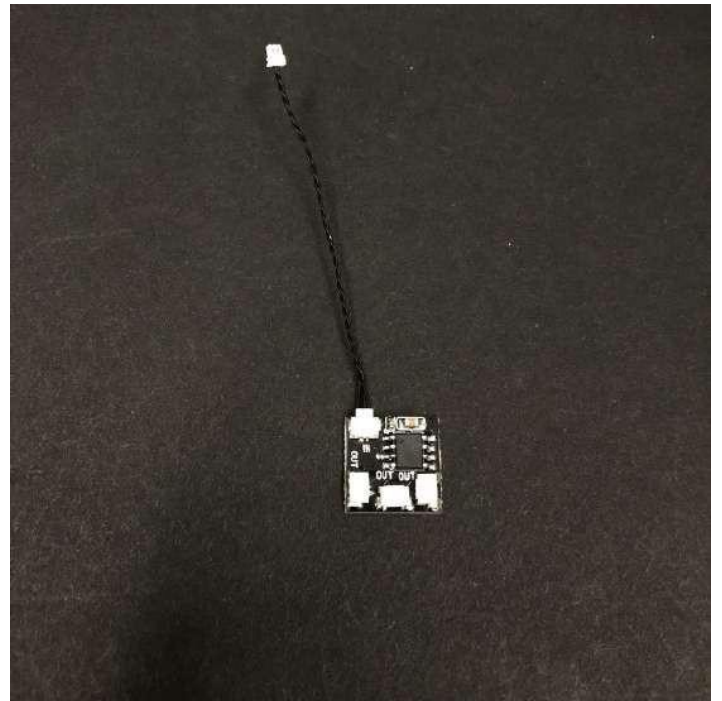
Thread the cable through the middle of the body and then pull the cable all the way through from the other side of the body. Connect it to the spare port on the second expansion board.

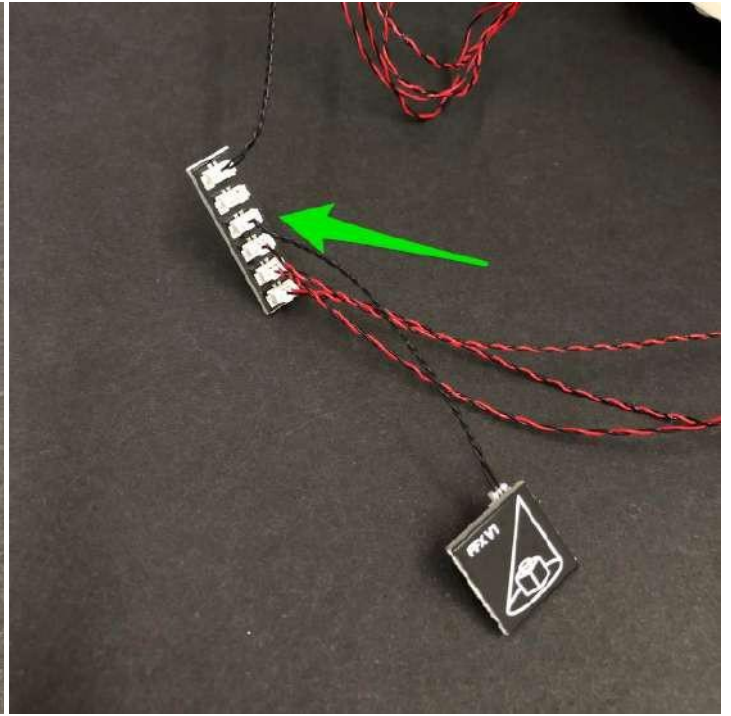
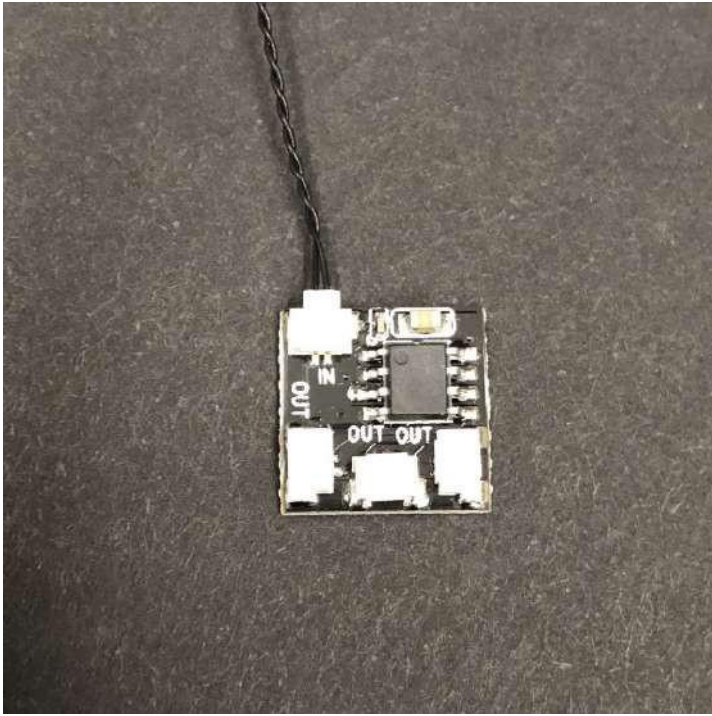




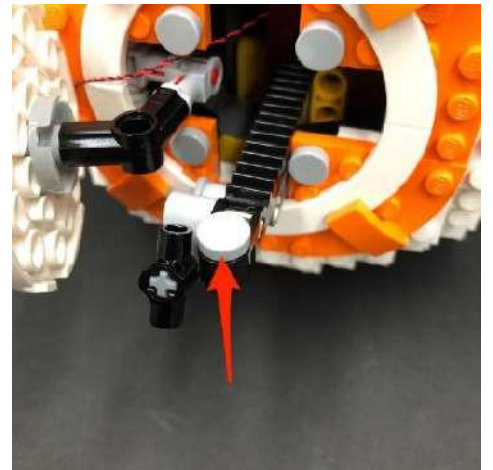


31.) Take the remaining 5cm Connecting Cable and connect it to the input port on Fire EGect Board . Connect the other side of the 5cm connecting cable to a spare port on the second expansion board.





32.) Disconnect the trans blue fire piece as well as the the light grey round tile to the left of it.



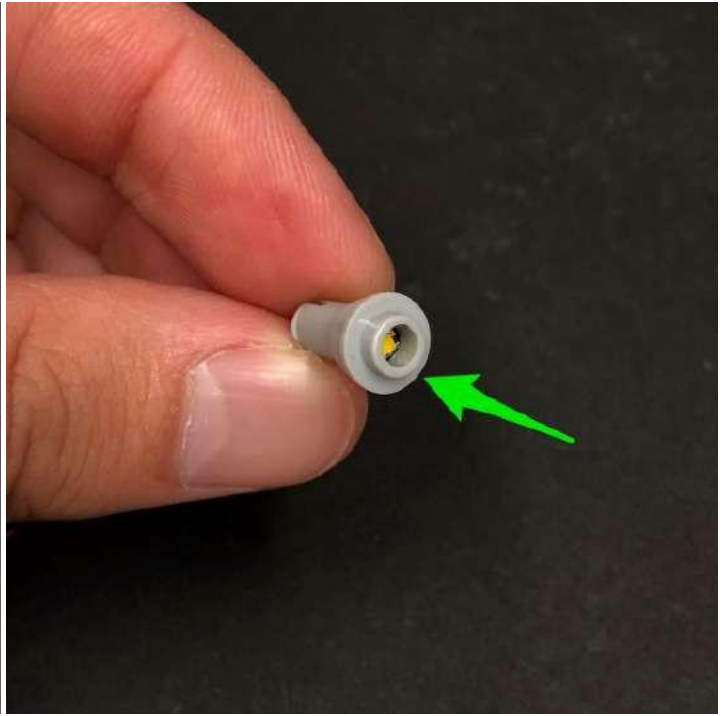
Use the LEGO Removal tool to remove the technic light grey 1/2L pin underneath and then find the provided Round Plate 1x1 with open stud (Light Grey) which came in this light kit.



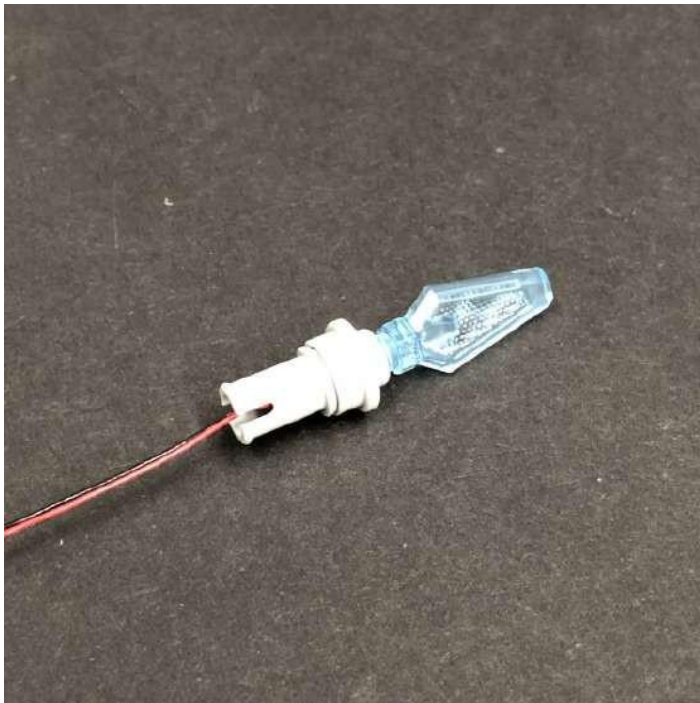


33.) Take the White 30cm Dot Light and thread the connector side of the cable through the top of the technic light grey 1/2L Pin. Thread the cable all the way through until the LED is right up against to the edge of technic 1/2L pin. Bend the LED so that it is sitting kat against the technic pin and then connect the provided Round Plate 1x1 with open stud (light grey) over the top.

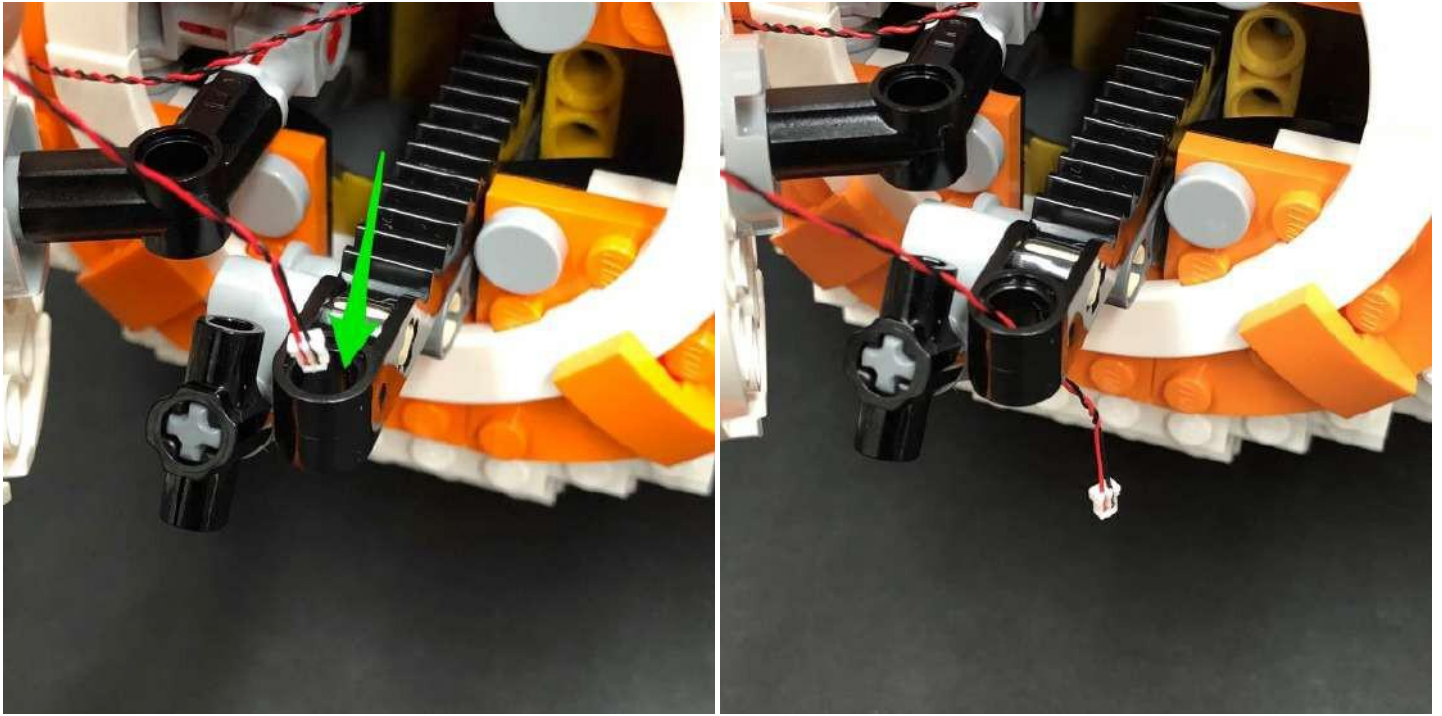




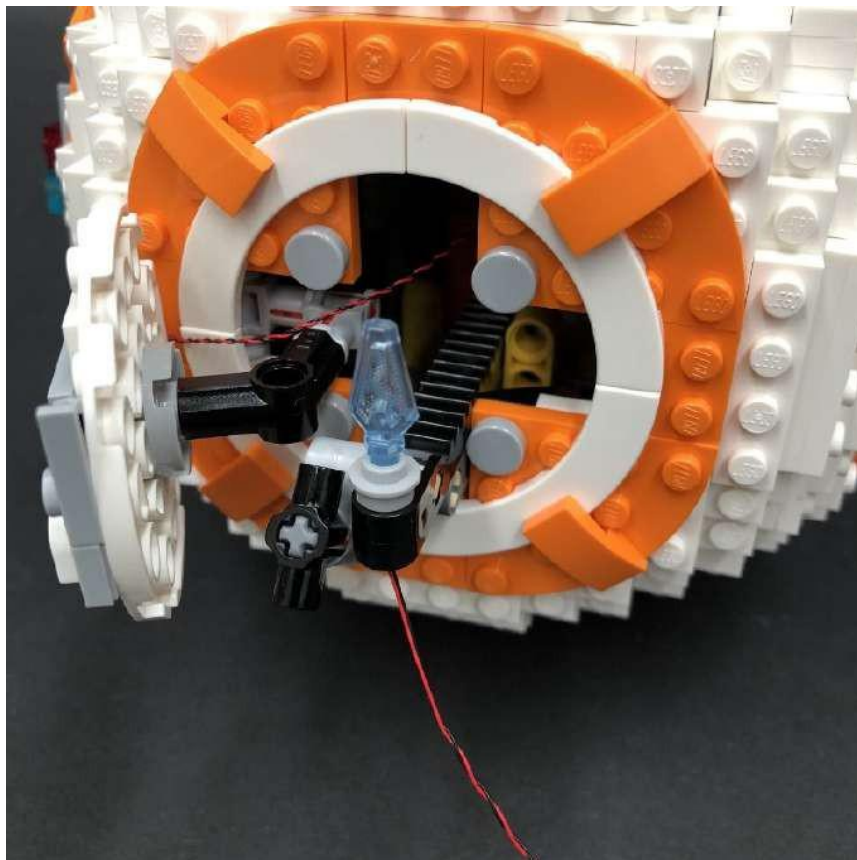
Connect the trans blue fire piece over the top and then thread the connector side of the cable through the top of the following black technic hole.



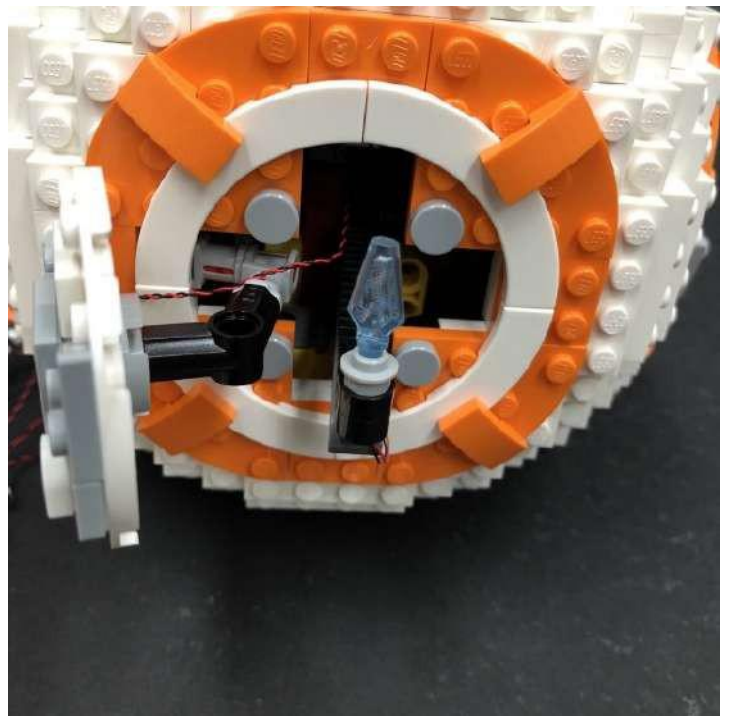
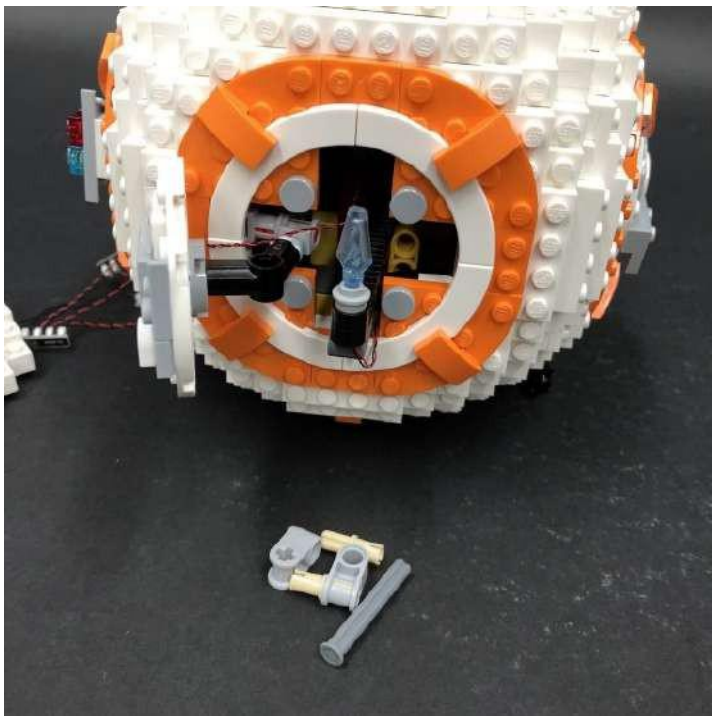
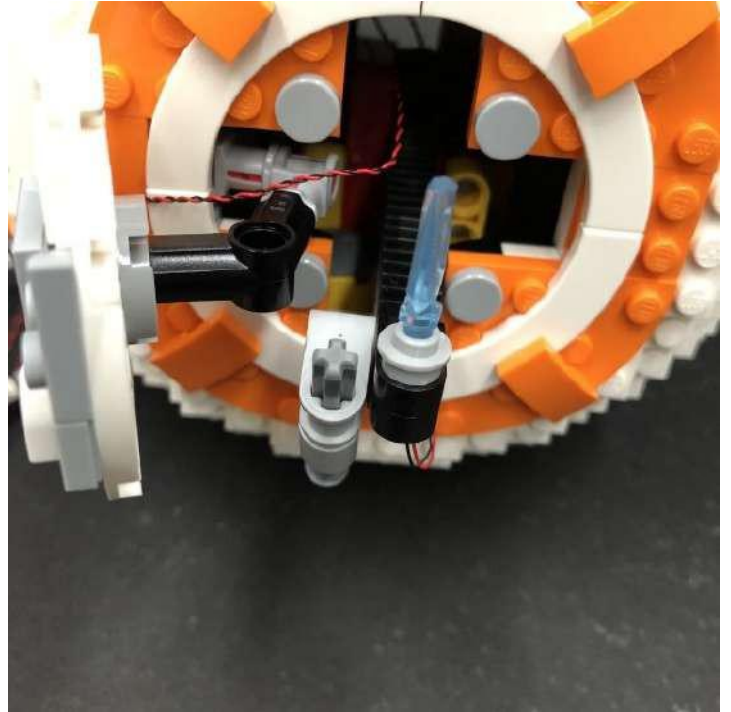
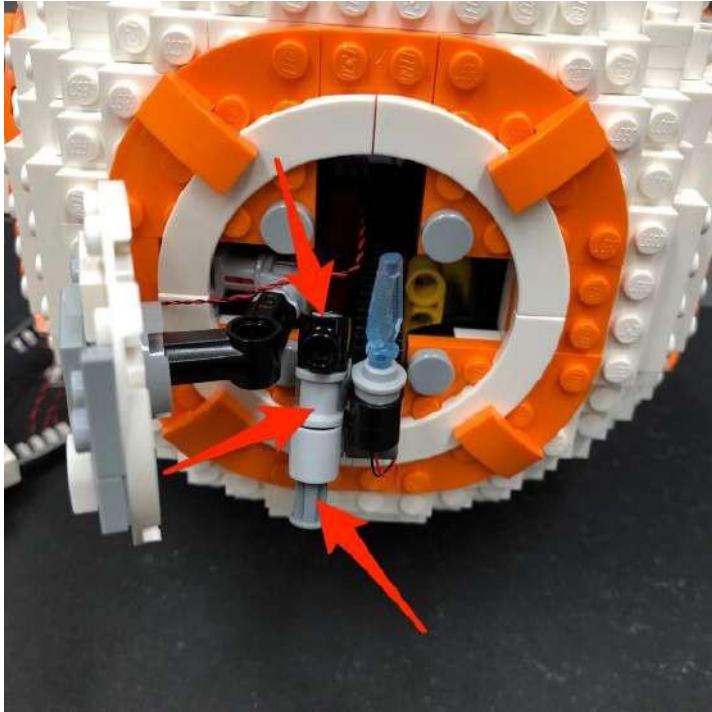




Thread it all the way through and then connect the fire piece section on top as per below.

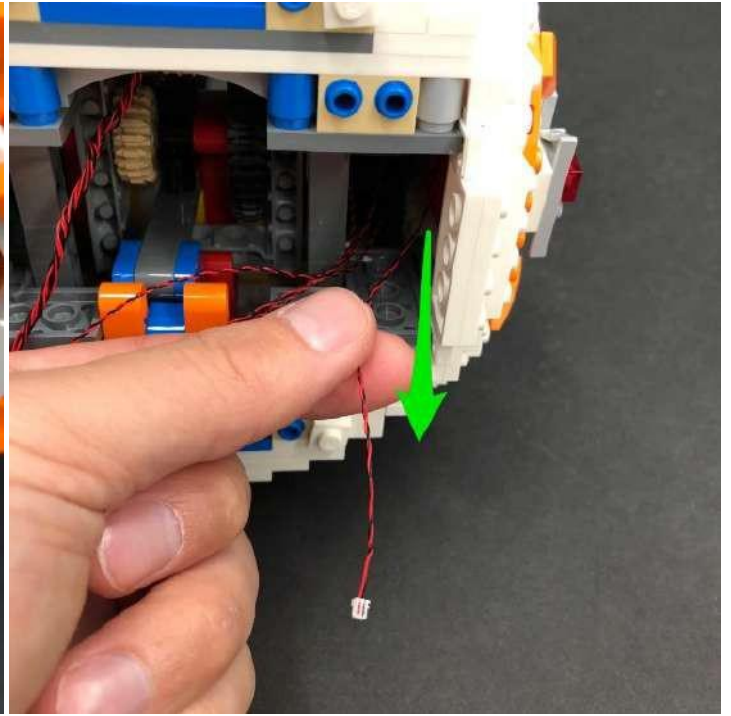
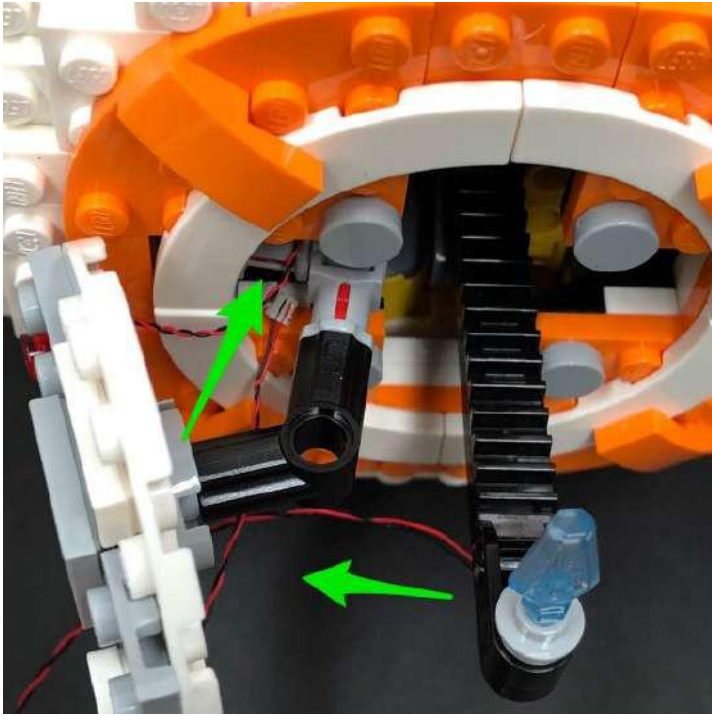


34.) Remove and discard the following pieces toward the left side of the kame section.

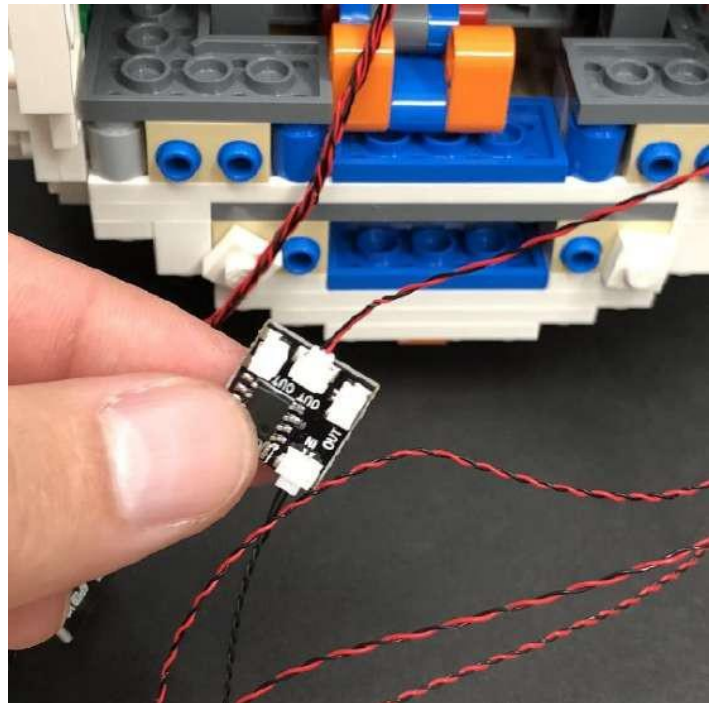
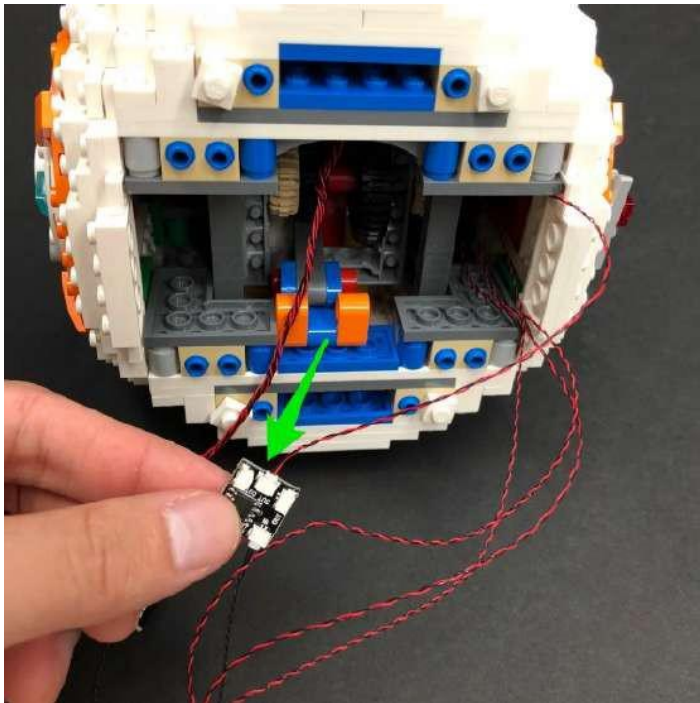


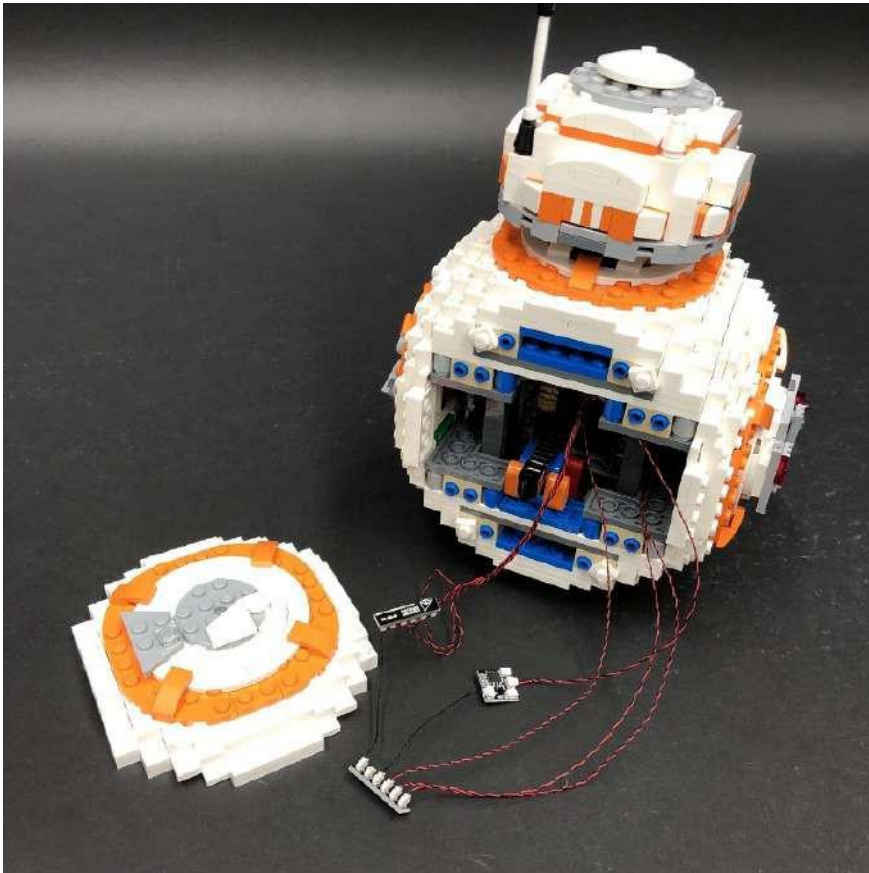
35.) Thread the other end of fire Dot Light through BB-8's body toward the left side and then pull it out from the back.



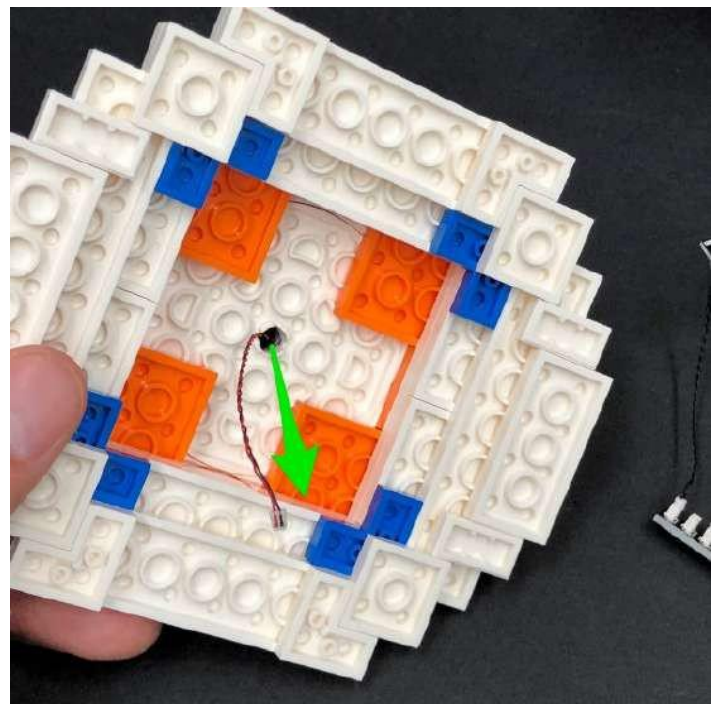
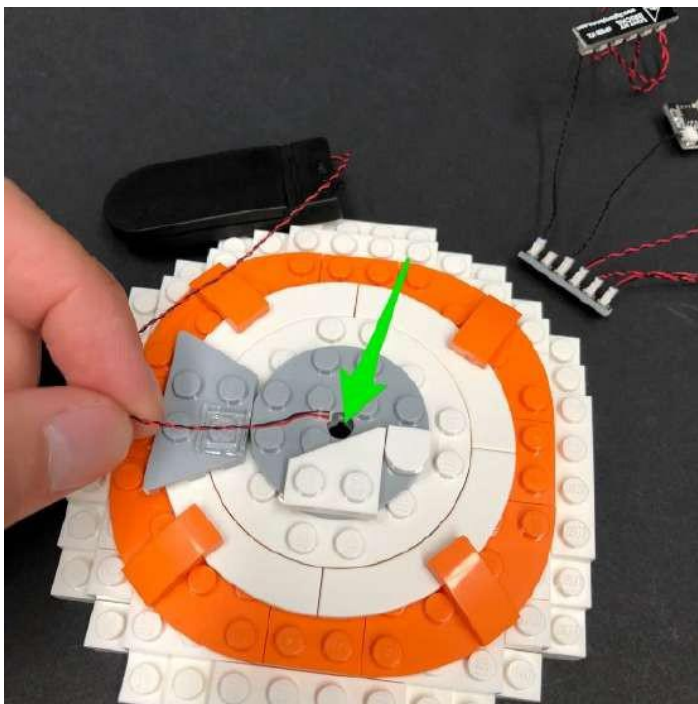


Pull the cable all the way out and then connect it to one of the the output ports on the Fire Effects Board.

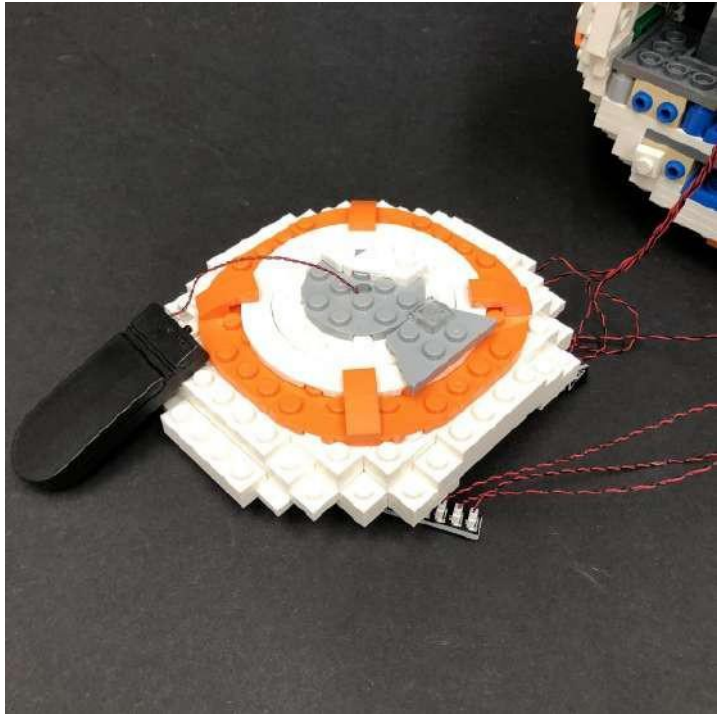
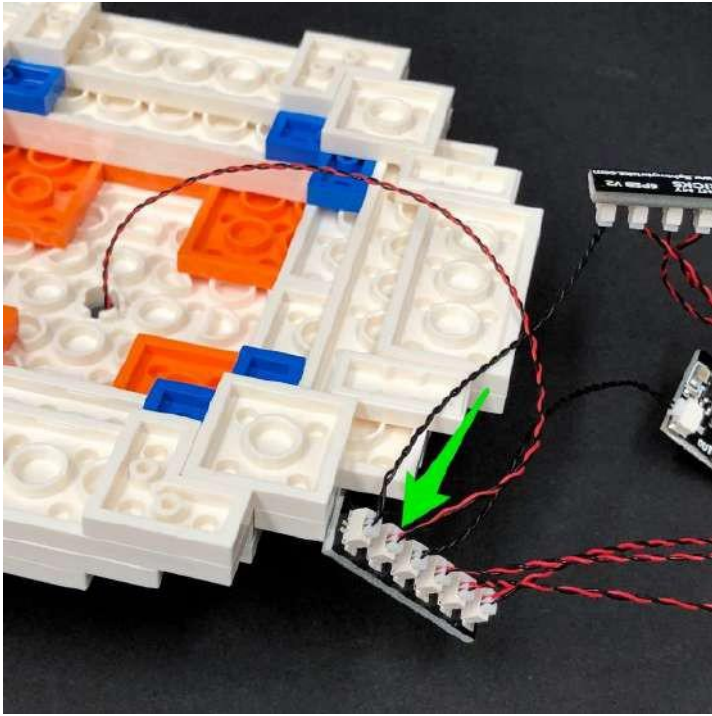




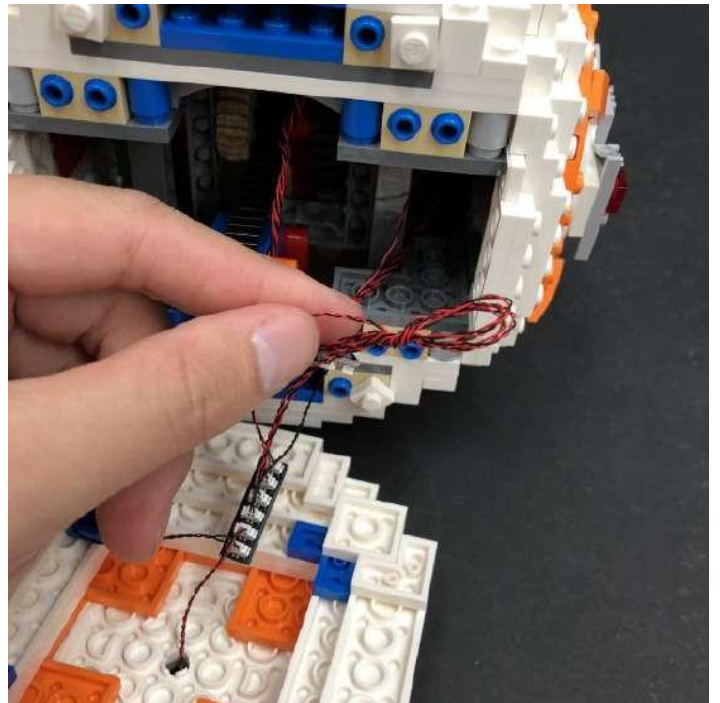
36.) Take the Flat Battery Pack and thread the battery pack cable through the hole of the back section of the body. Thread the cable all the way through and connect it to a spare port on the second expansion board.

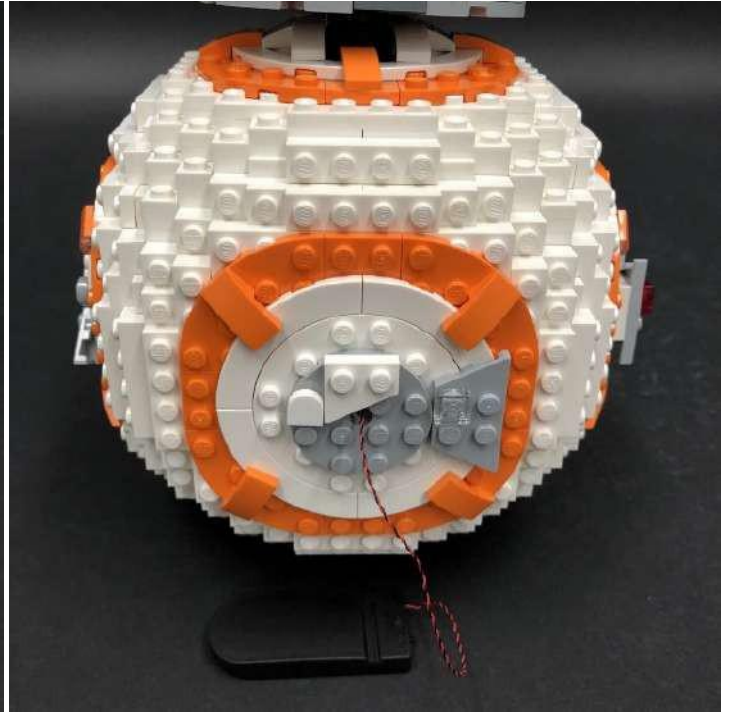
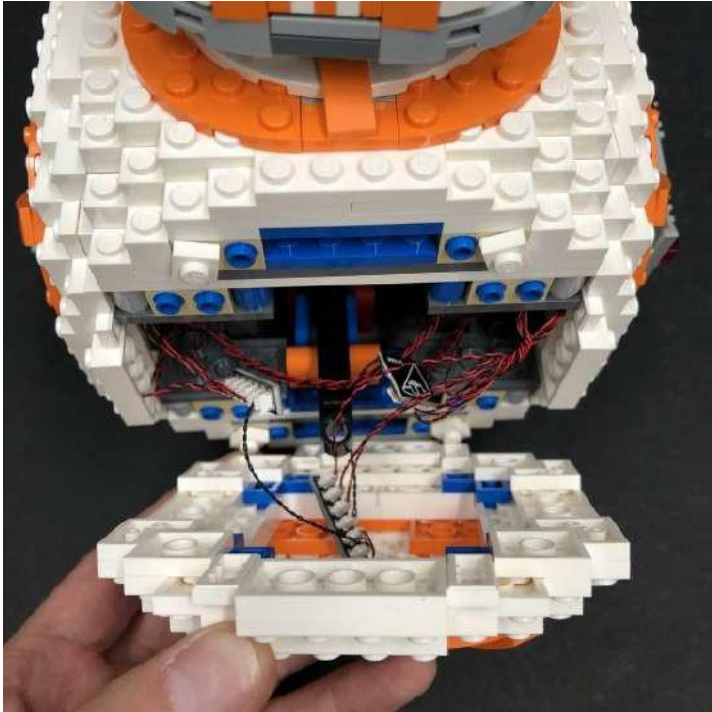






Neaten all the cables by grouping them all together and place them inside the body of BB-8 before reconnecting the back wall.





This finally completes installation of the BB-8 Light Kit. Now turn on your battery pack and ENJOY!