

Light My Bricks: High Speed Passenger Train Lighting Kit



Here is the instructions document for the LEGO High-Speed Passenger Train LED lighting kit. Please read and follow the steps carefully to ensure this lighting kit is installed properly.

If you run into any issues, please refer to the online **troubleshooting guide**.

Package contents:

- 5x **White 15cm Bit Lights**
- 2x **Flashing White 30cm Bit Lights**
- 4x **White Strip Lights**
- 3x **6-Port Expansion Boards**
- 1x **30cm Connecting Cable**
- 2x **15cm Connecting Cables**
- 2x **5cm Connecting Cable**
- 2x **Flat Battery Packs**
(requires 2x CR2032 batteries each battery pack = total 4x batteries)
- 4x **Adhesive Squares**

LEGO Pieces:

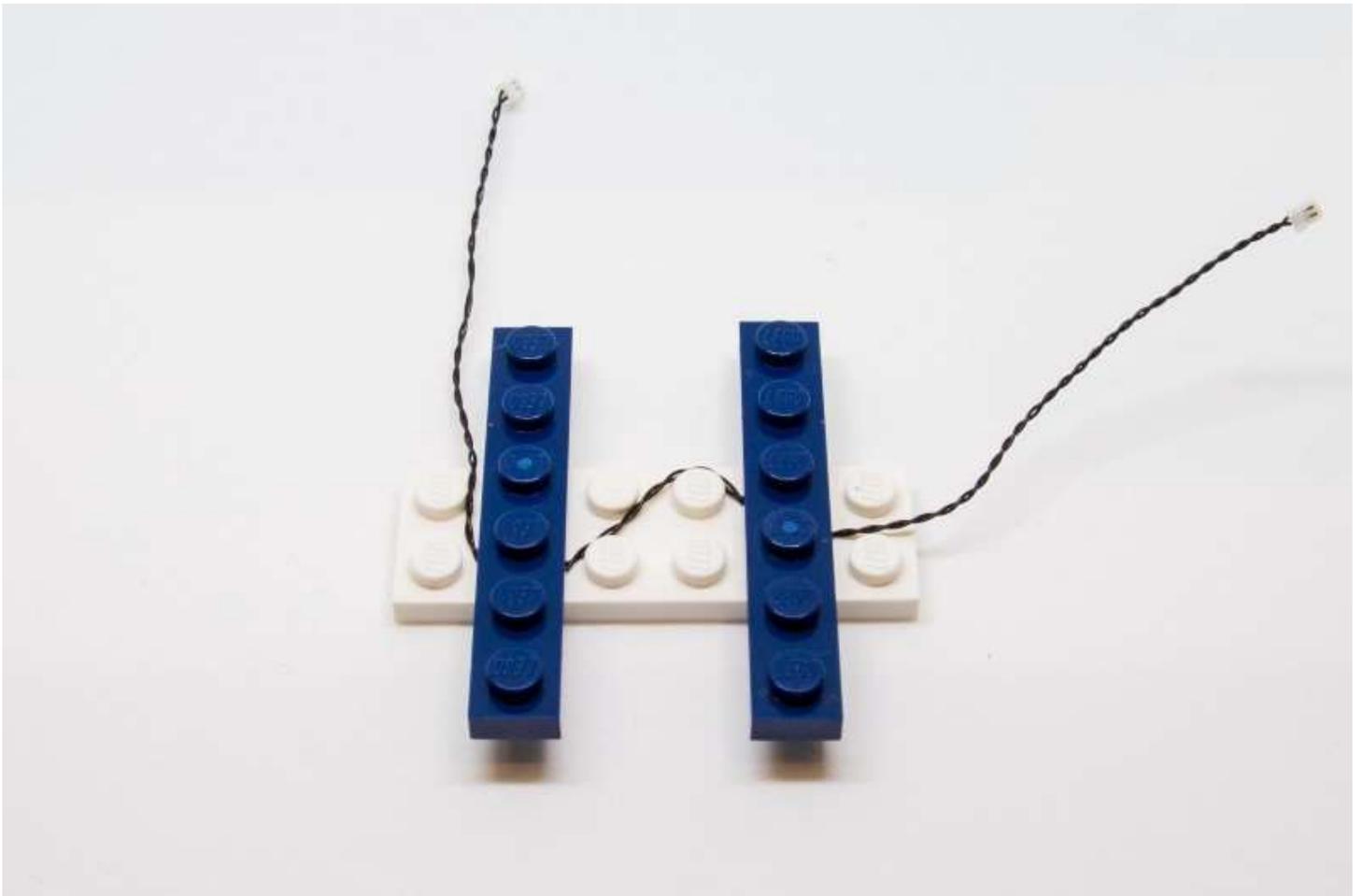
- 4x **Plate 1×6** (for mounting strip lights)
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Important things to note:

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.

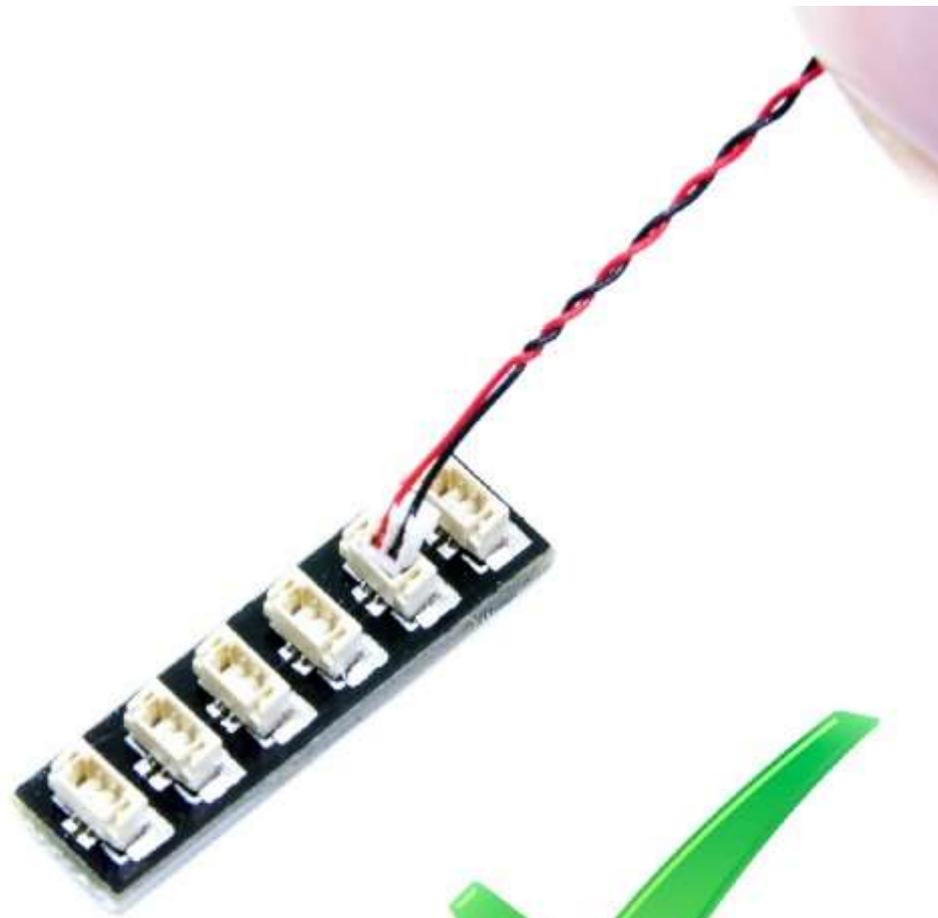


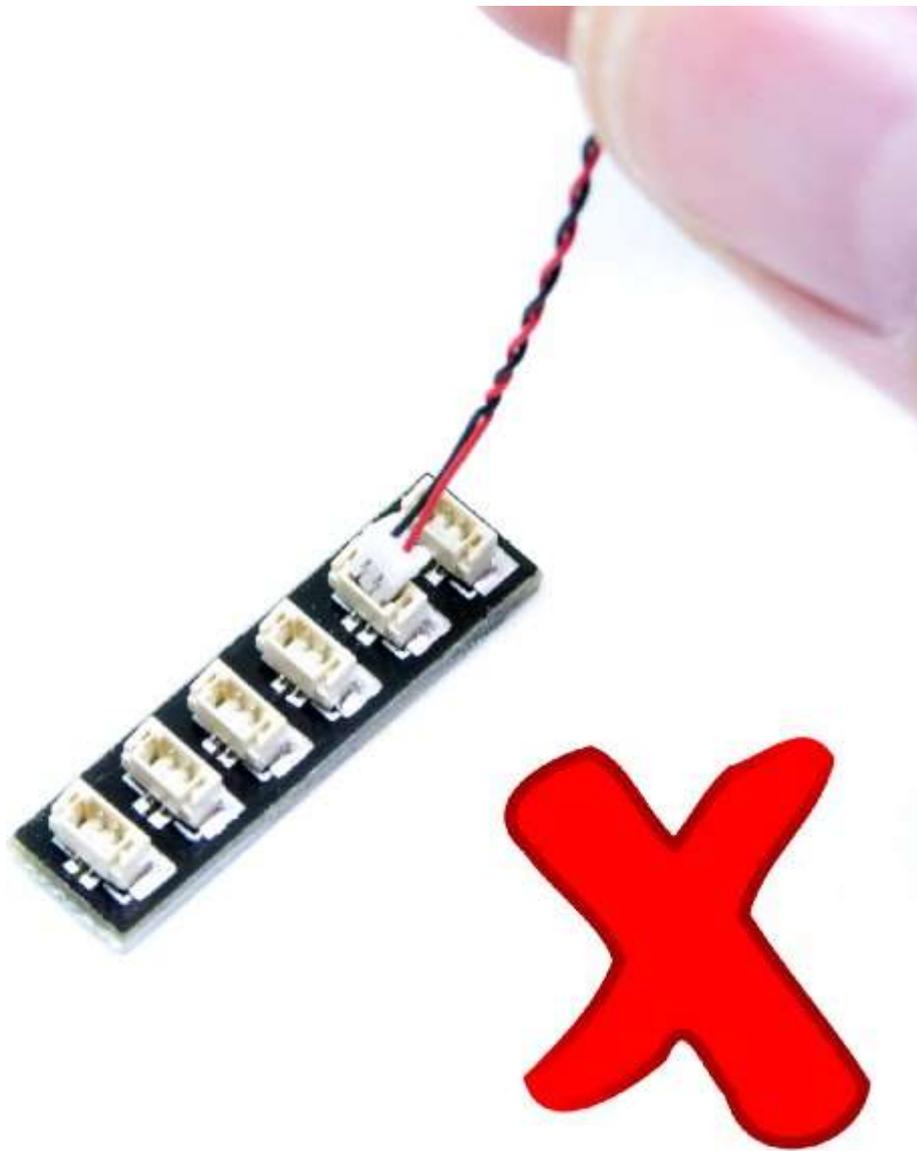


CAUTION: Forcing LEGO® to connect over a cable can result in damaging the cable and light.

Connecting cable connectors to 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.

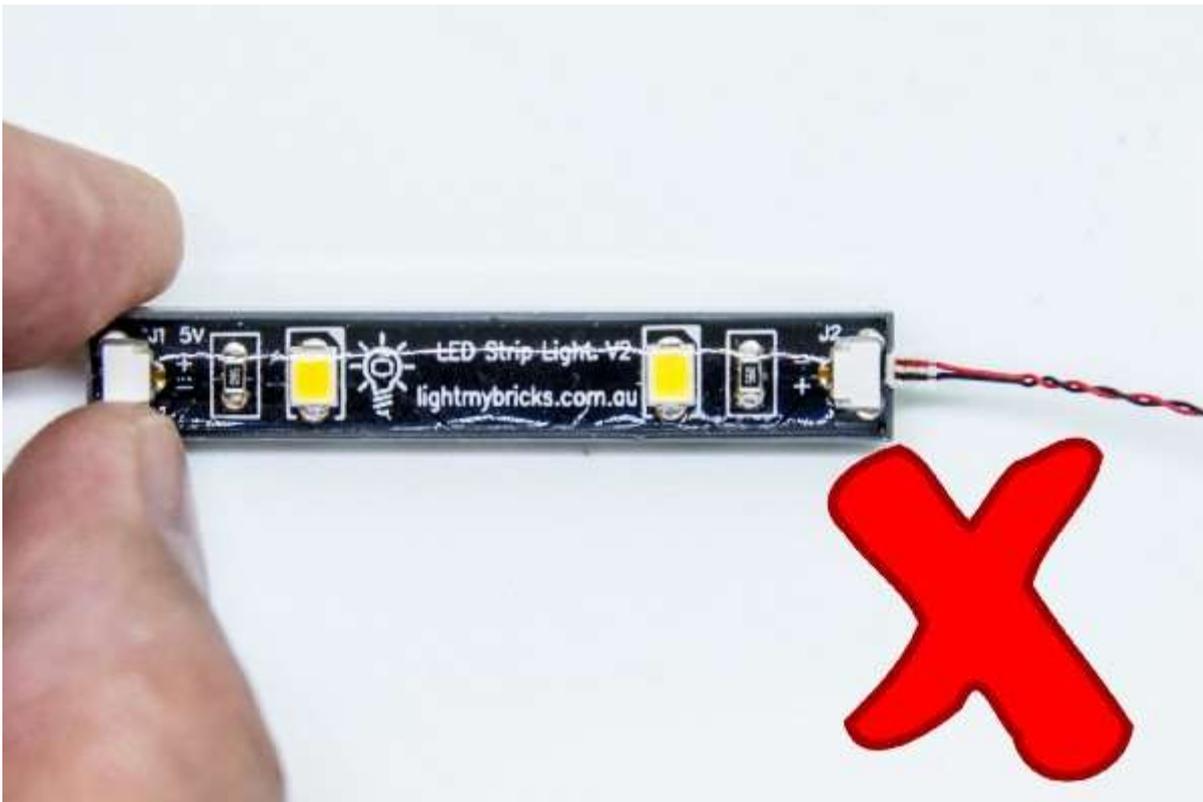
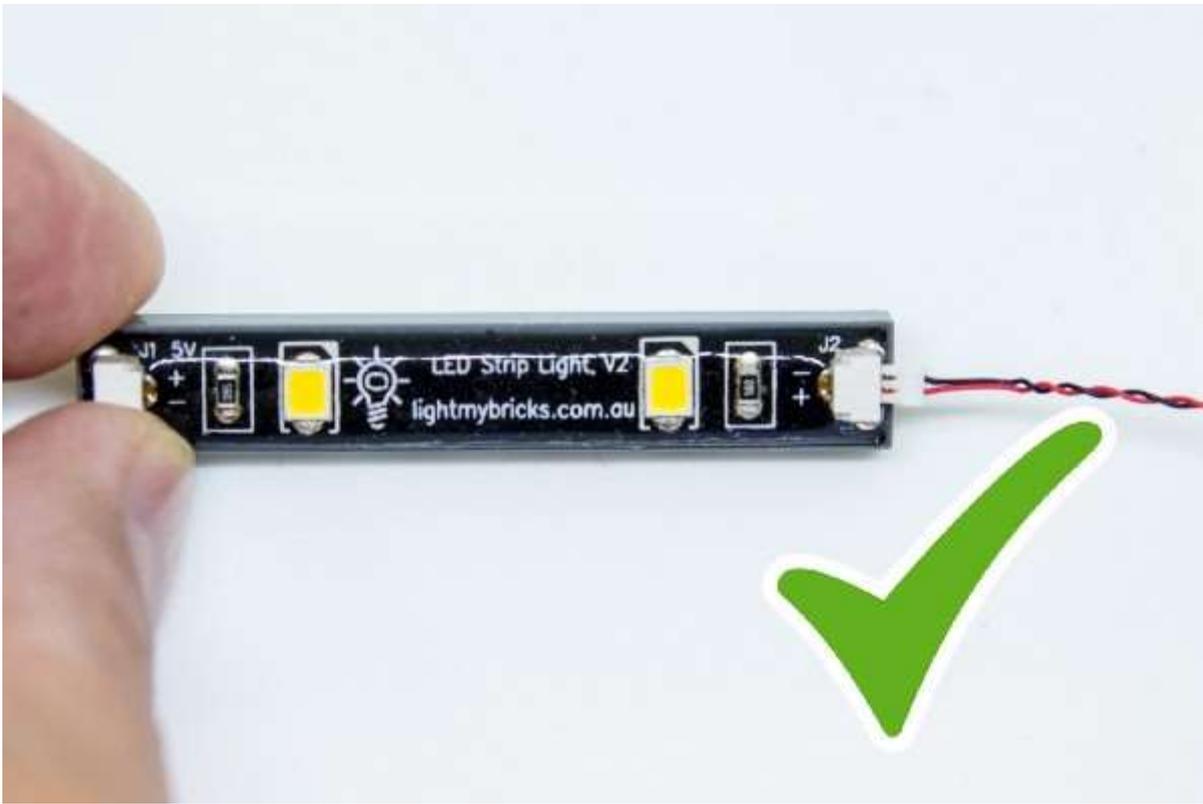




Incorrectly inserting the connector can result in bent pins inside the port or possible overheating of the expansion board when connected.

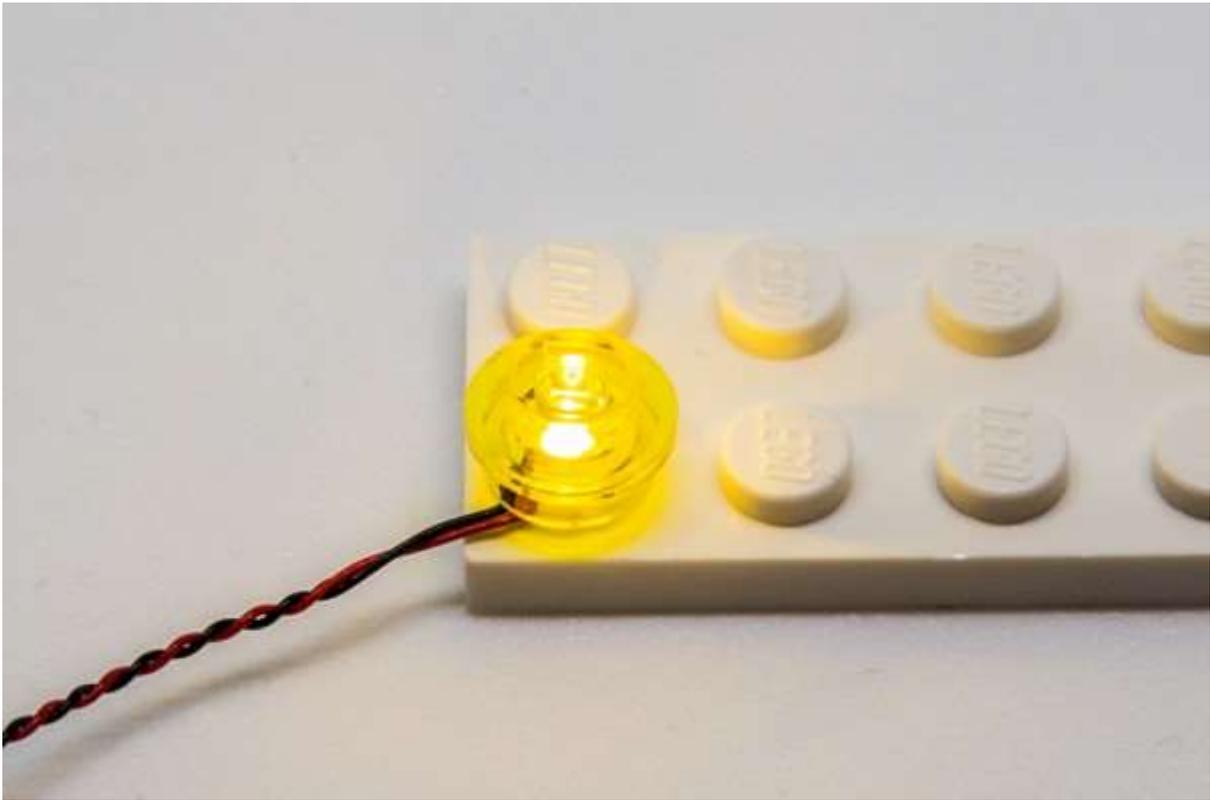
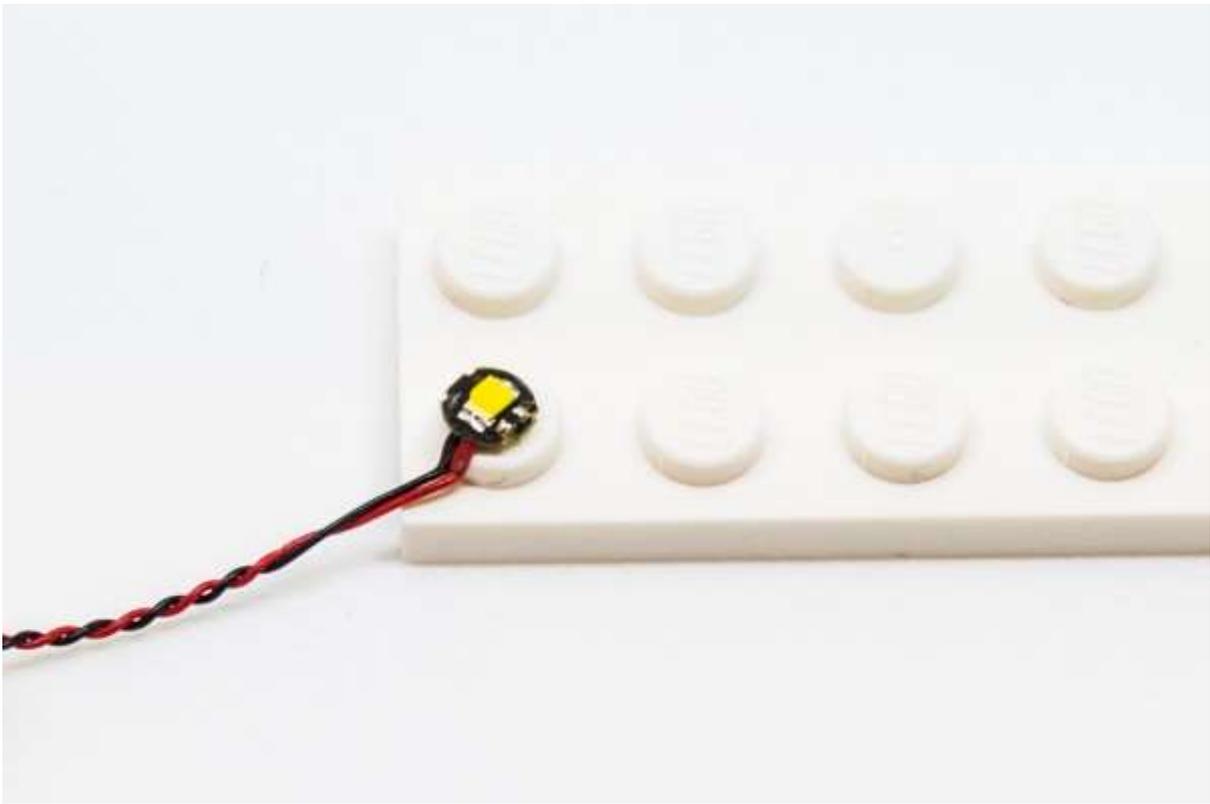
Connecting cable connectors to Strip Lights

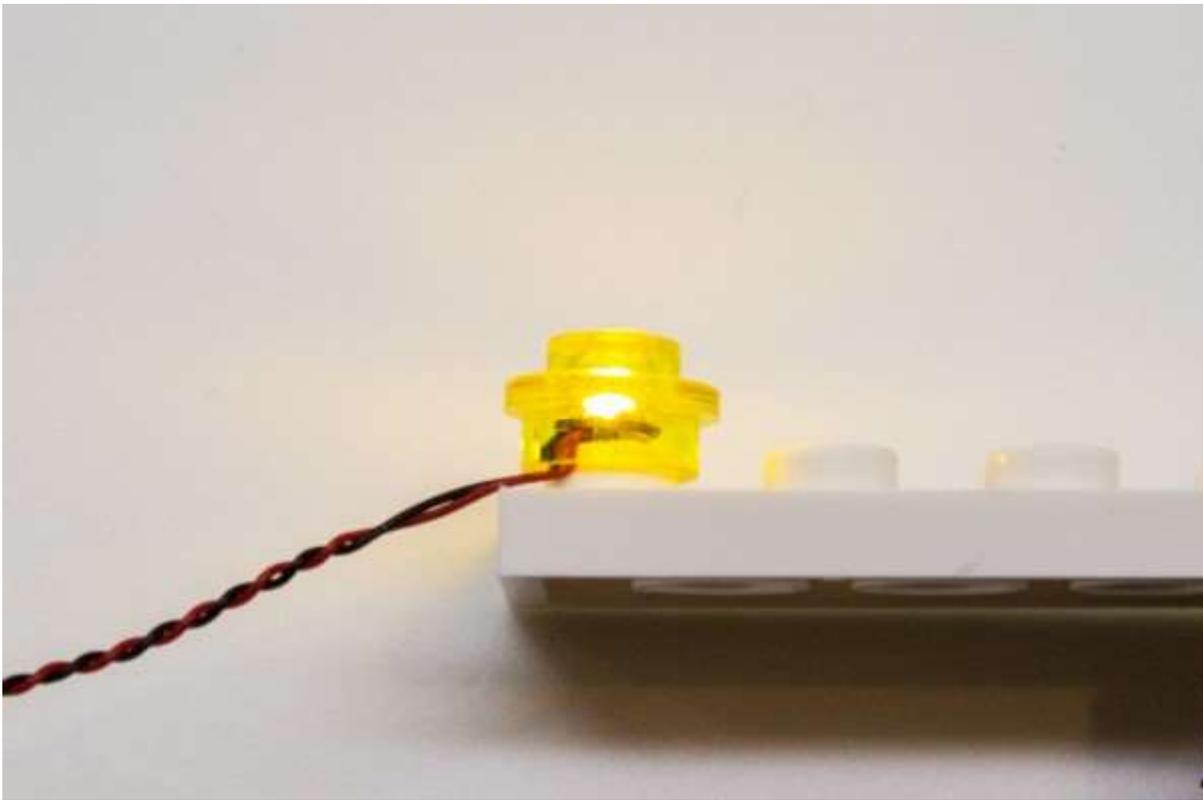
Take extra care when inserting connectors to ports on the Strip Lights. Connectors can be inserted only one way. With the Strip Light facing up, ensure the side of the connector with the wires exposed is facing down. If a plug won't fit easily into a port connector, don't force it. Doing so will damage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



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.





OK, Let's Begin!

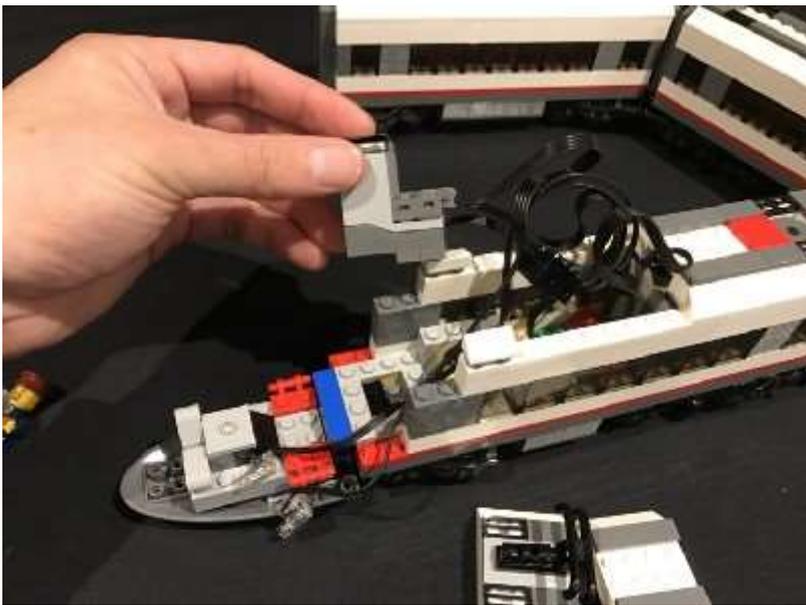
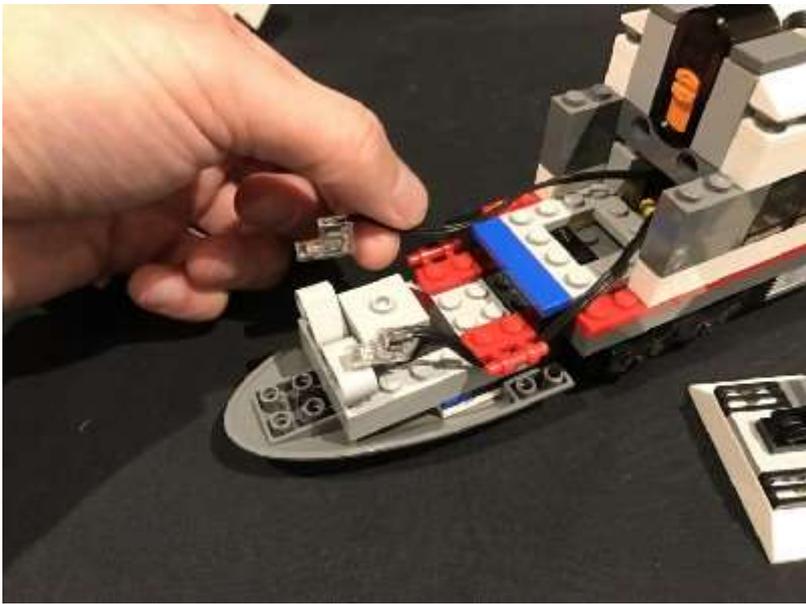
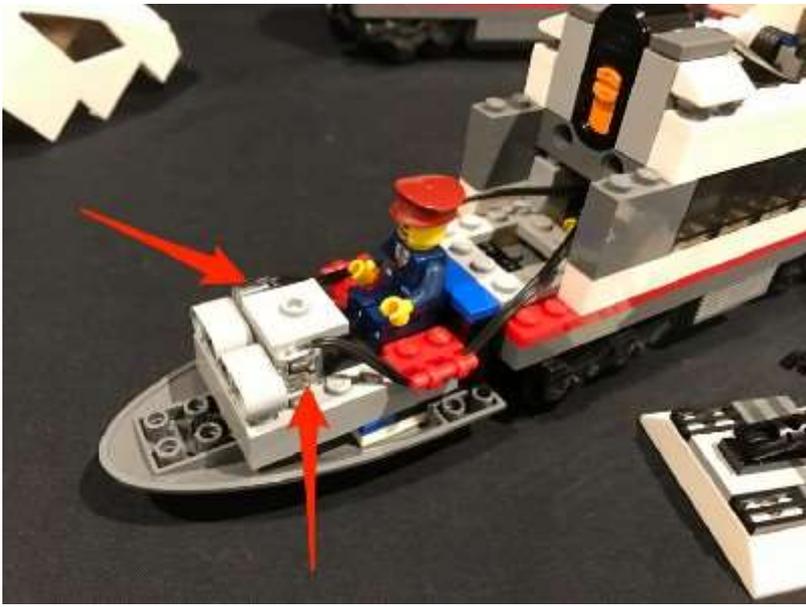
Installing Lights to the Train

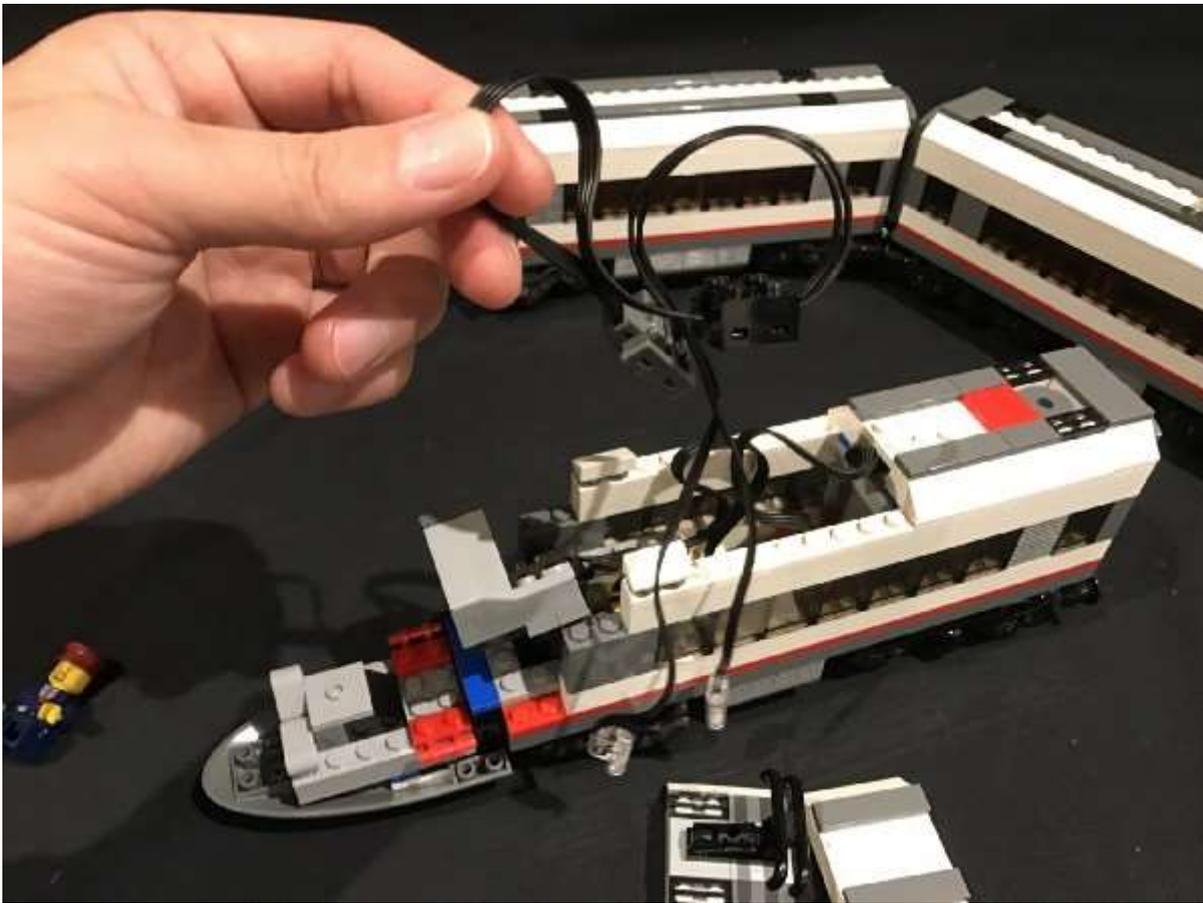
1.) We will start with installing lights to the front of the passenger train. First remove the front section as well as the following sections from the front carriage.



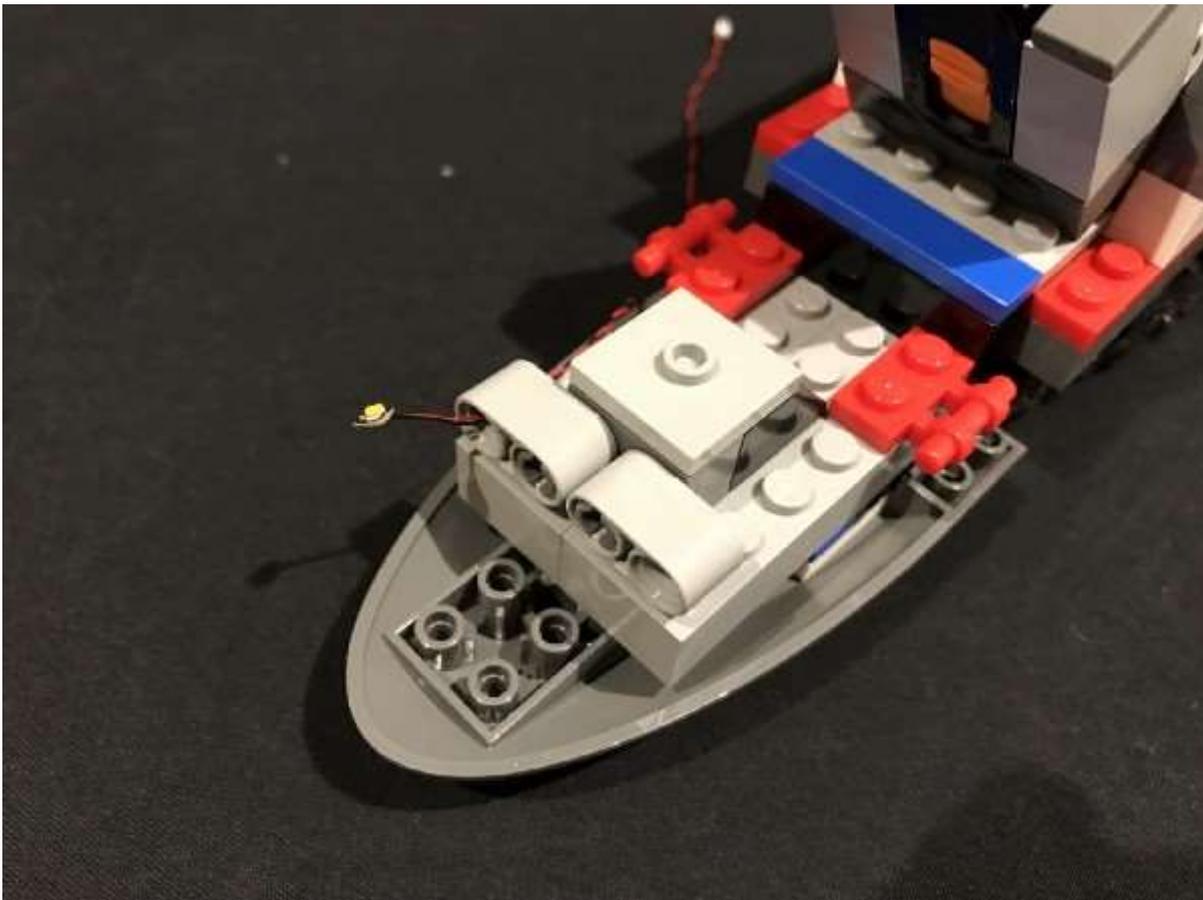
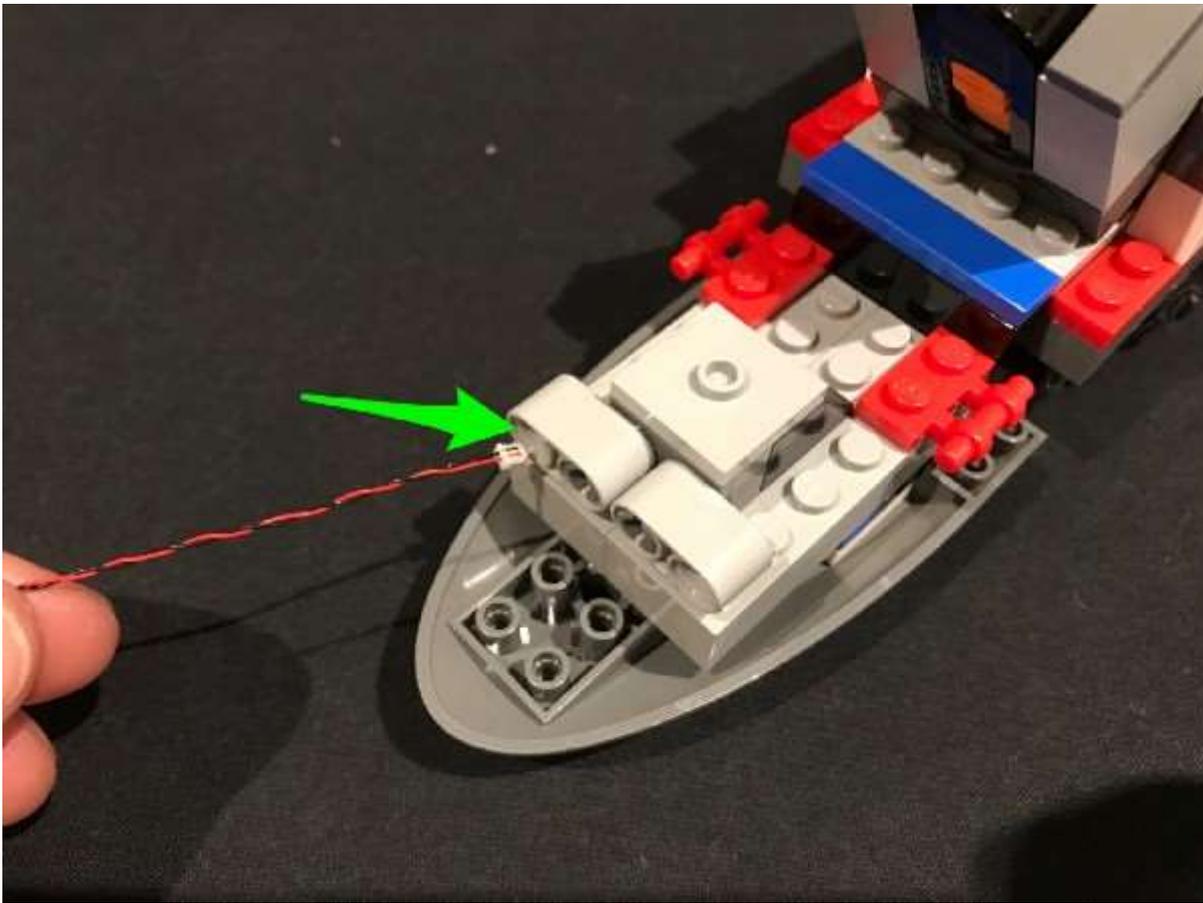


2.) We will be replacing the original power functions lights with our much brighter Bit Lights. Remove the power functions lights as per below.

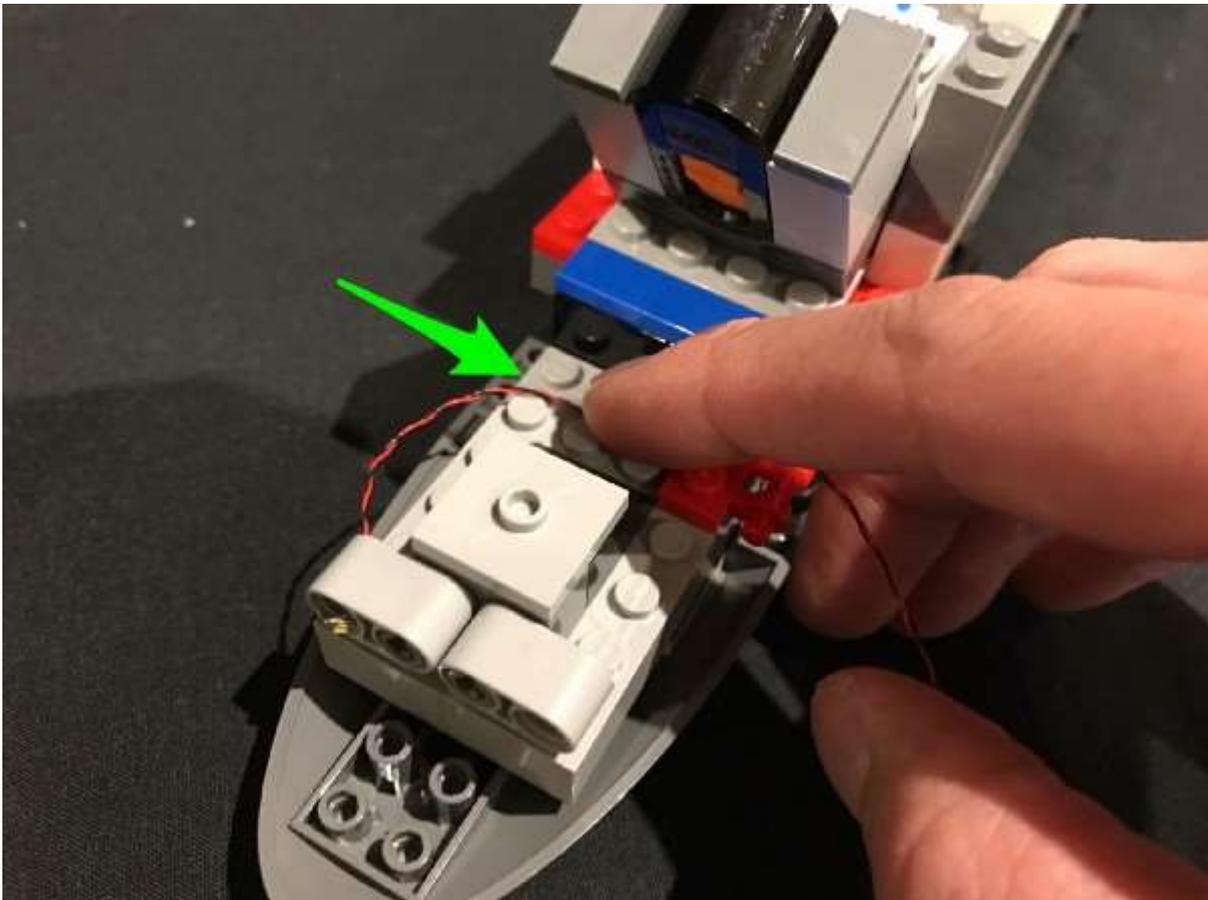
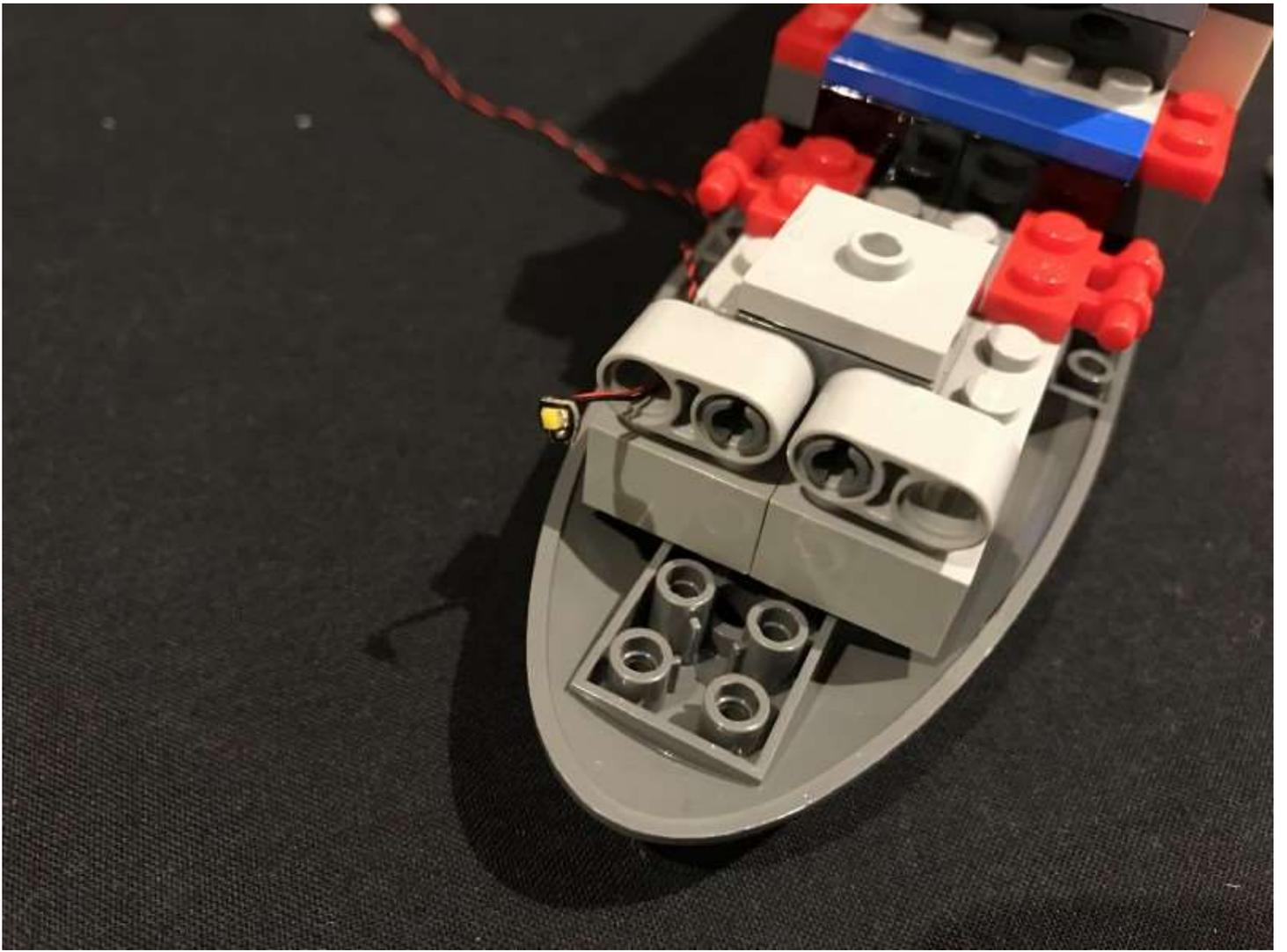


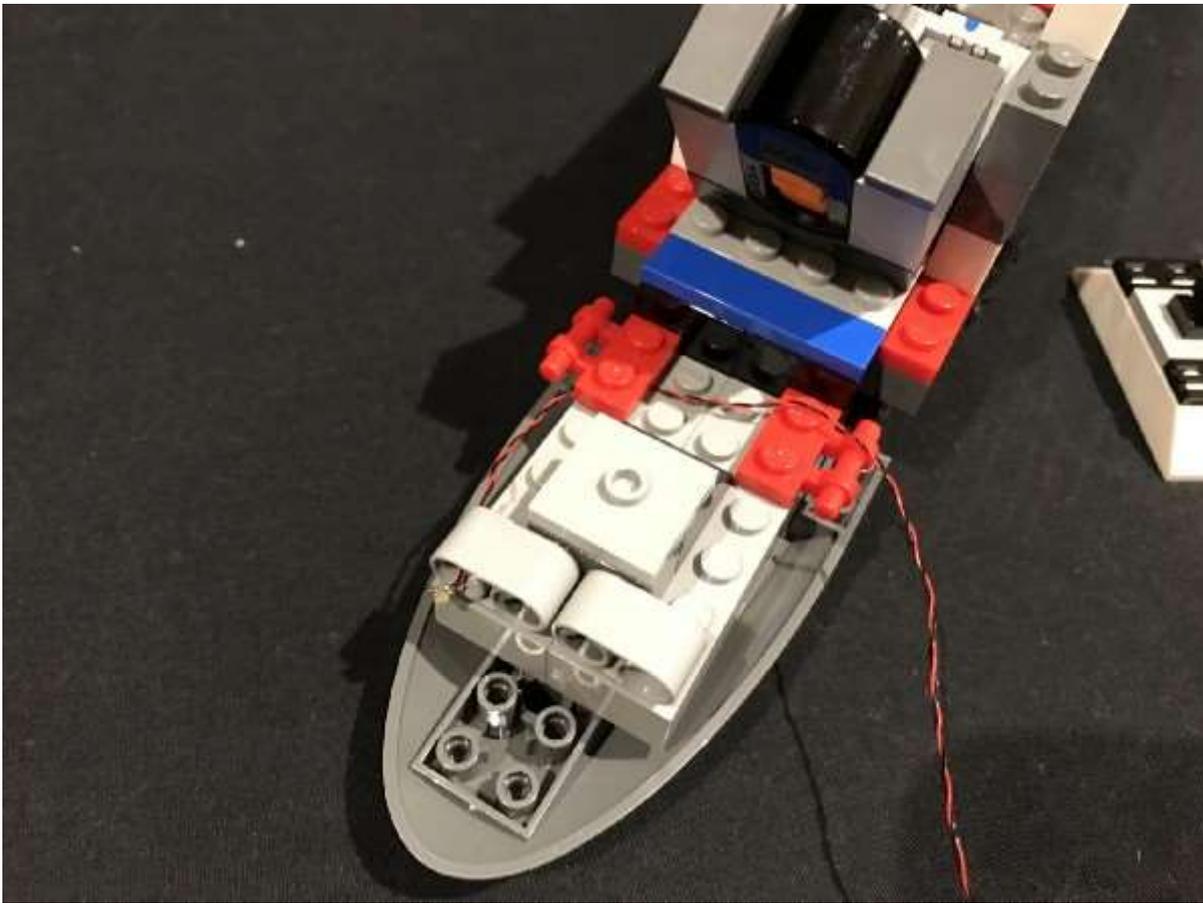


3.) Take one of the **White 15cm Bit Lights** and then thread it through one of the the holes for one side of the headlight.

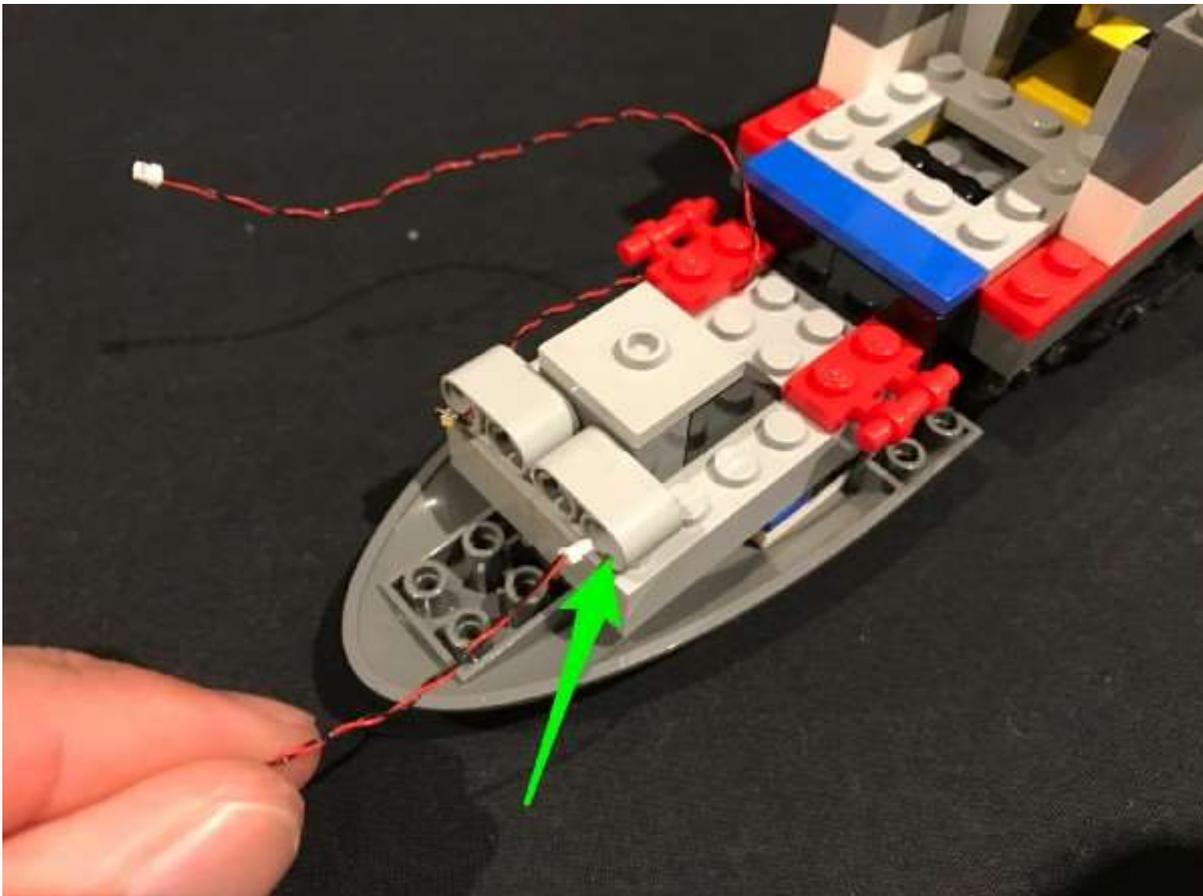


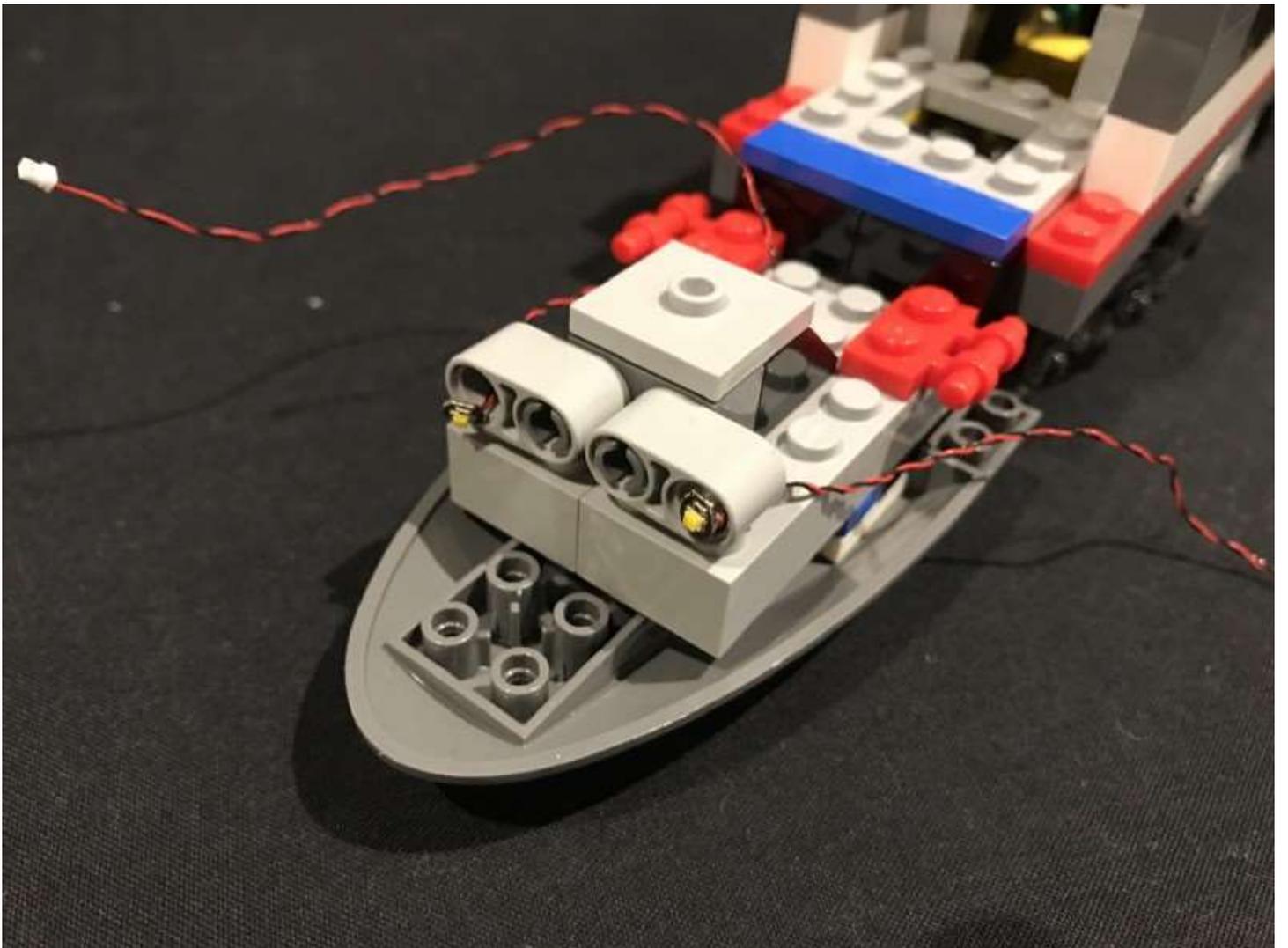
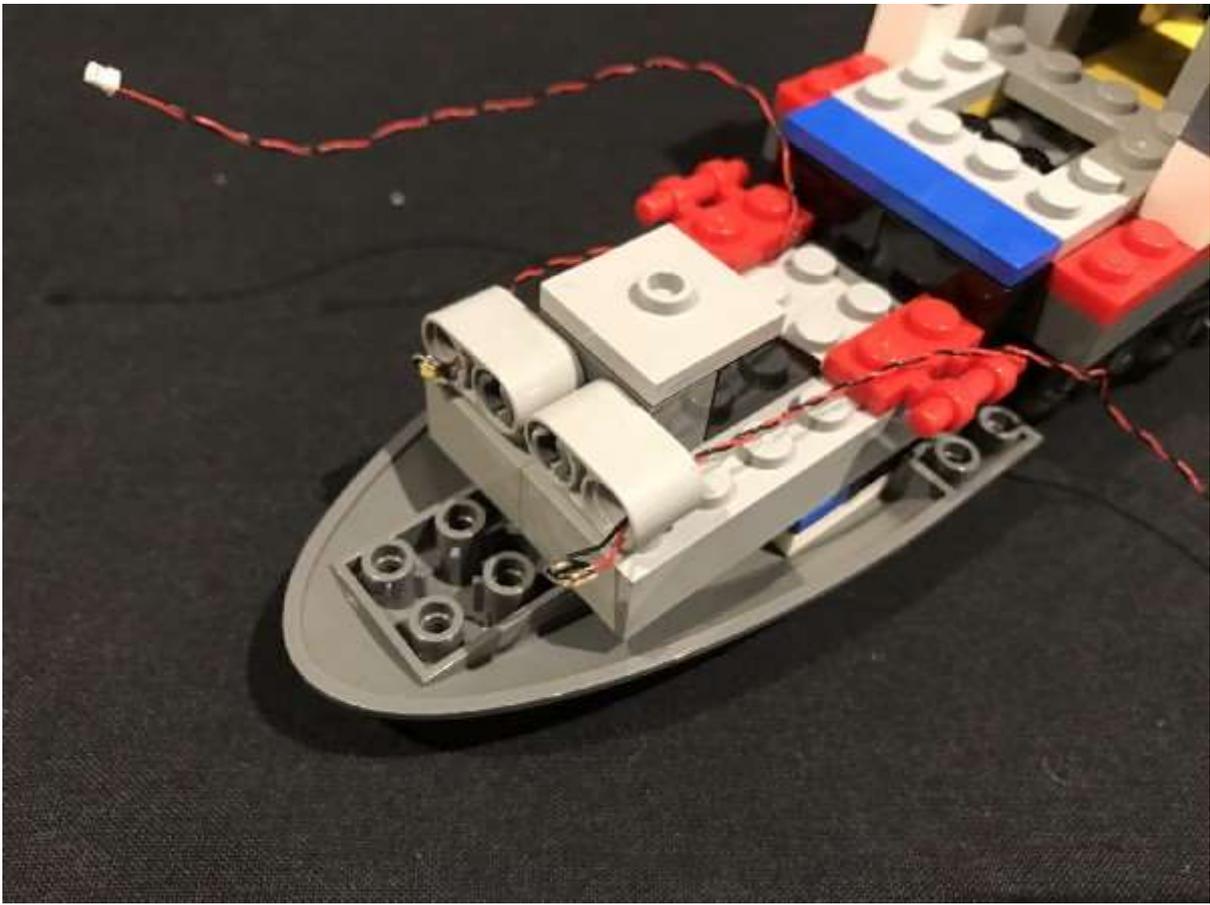
Bend the Bit Light on a slight angle so that it is shining straight ahead and then secure the light cable in place by connecting the cable under the red 1×2 plate as per below. Ensure that the cable is laid in between studs and facing the inside of the train before reconnecting the plate.

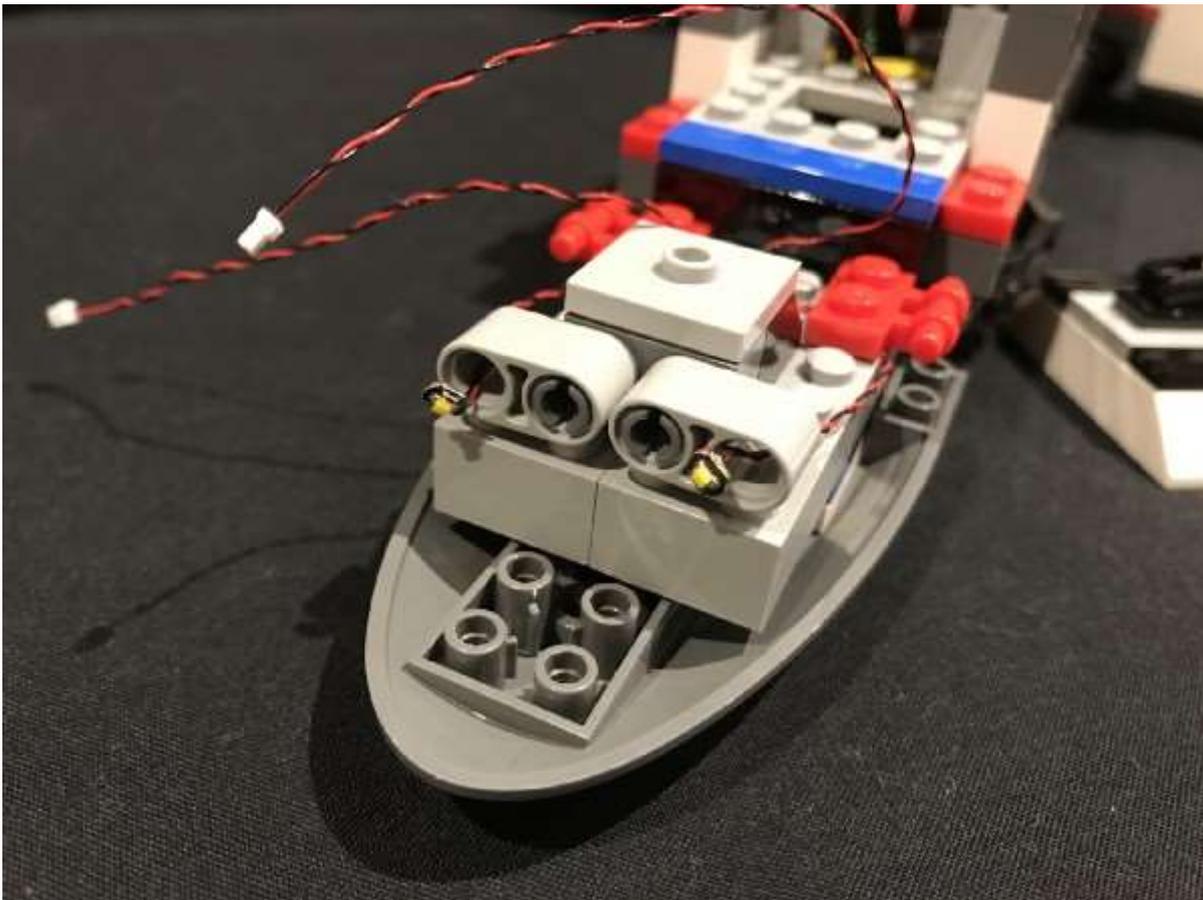
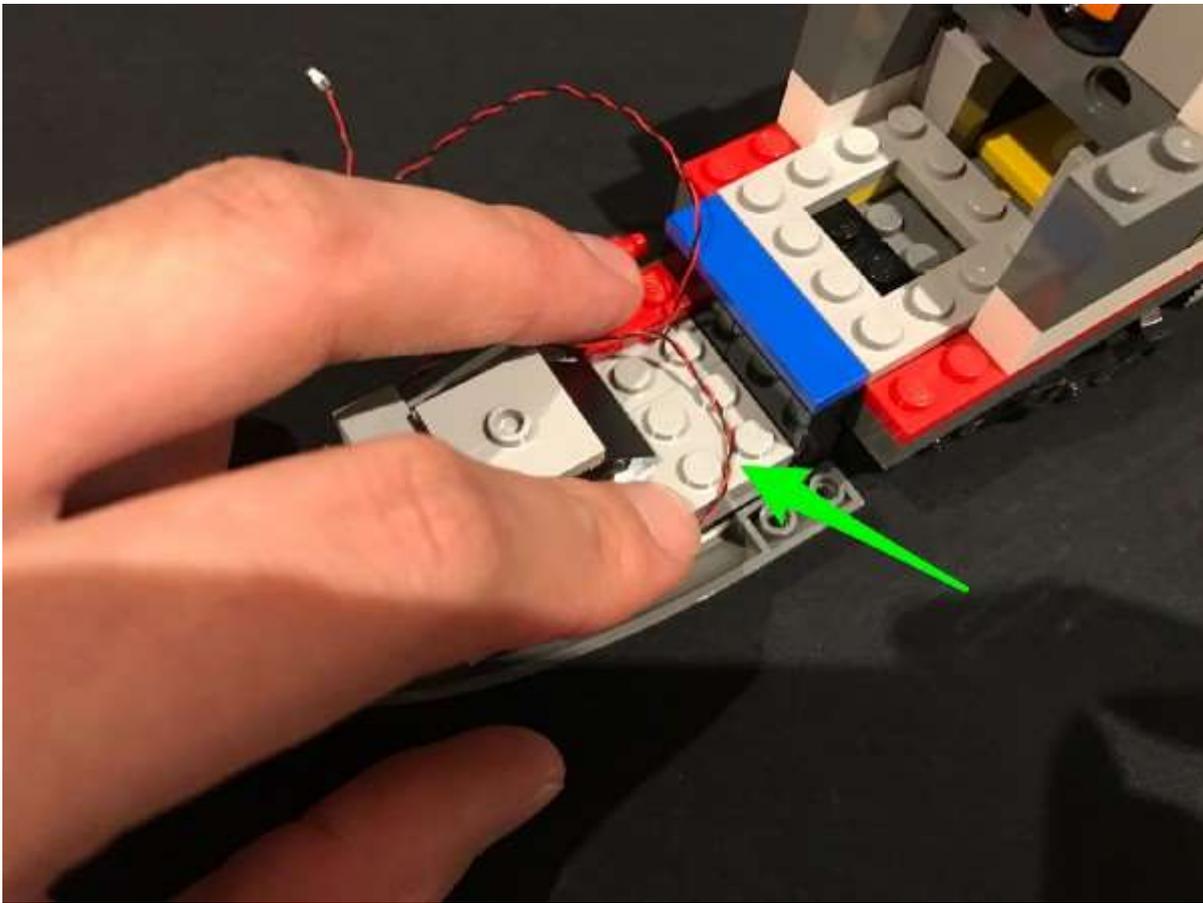




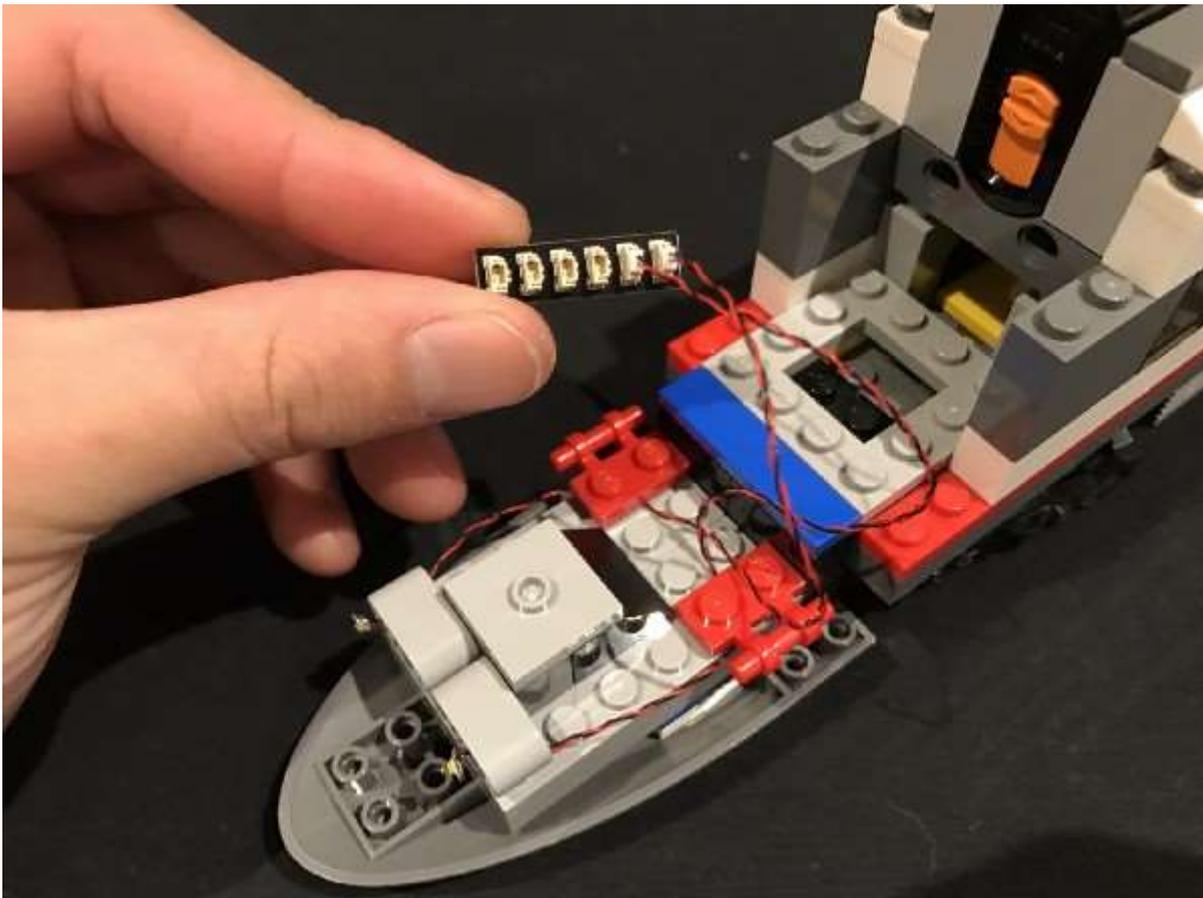
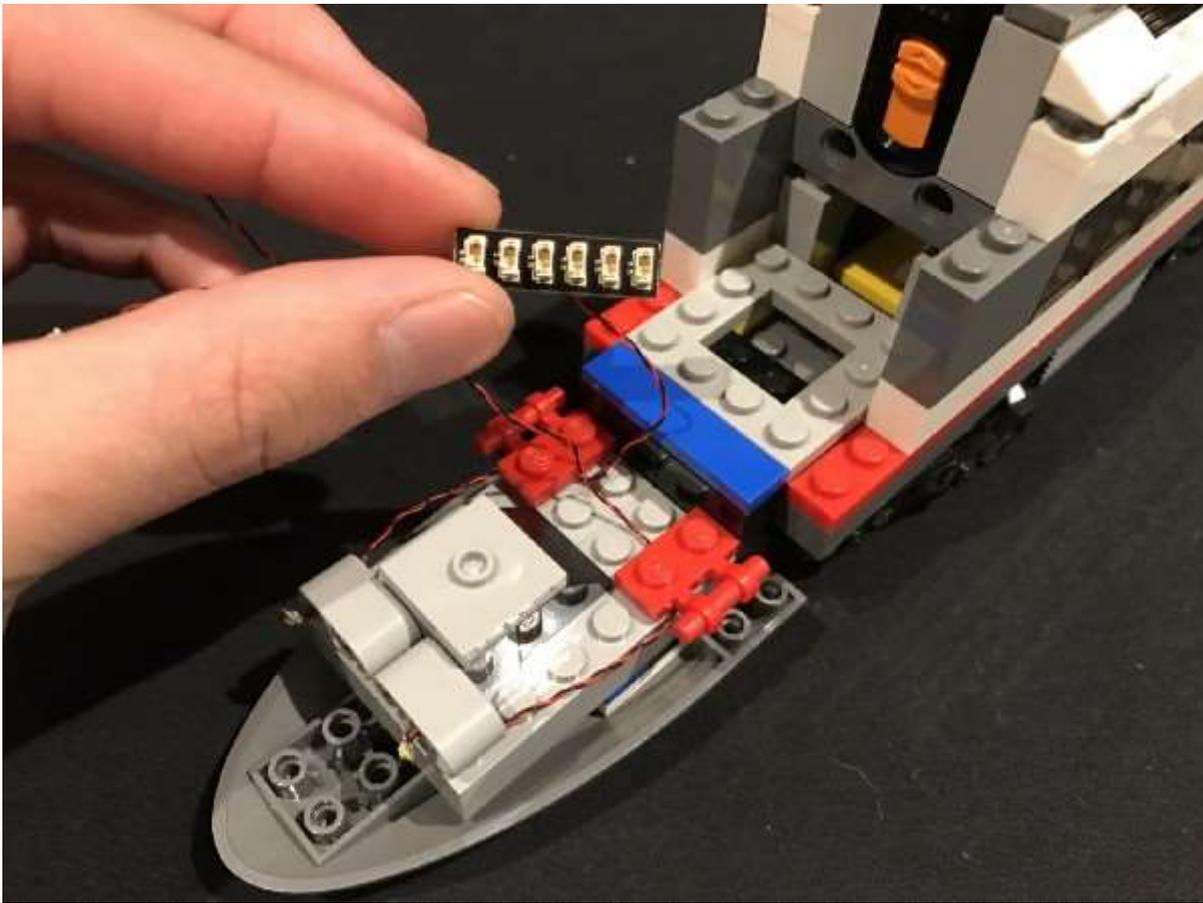
4.) Repeat the previous step to install another **White 15cm Bit Light** for the other headlight.



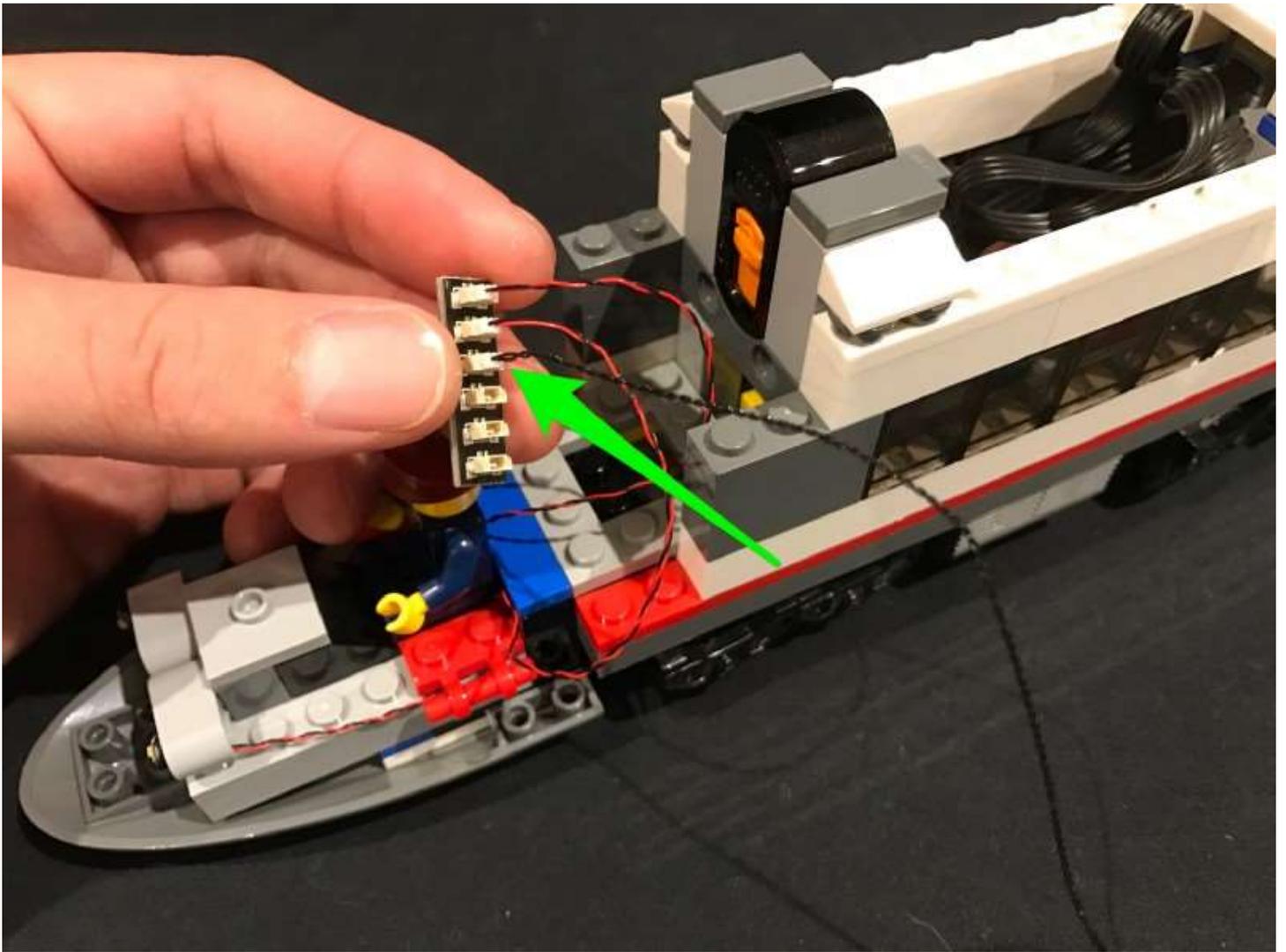




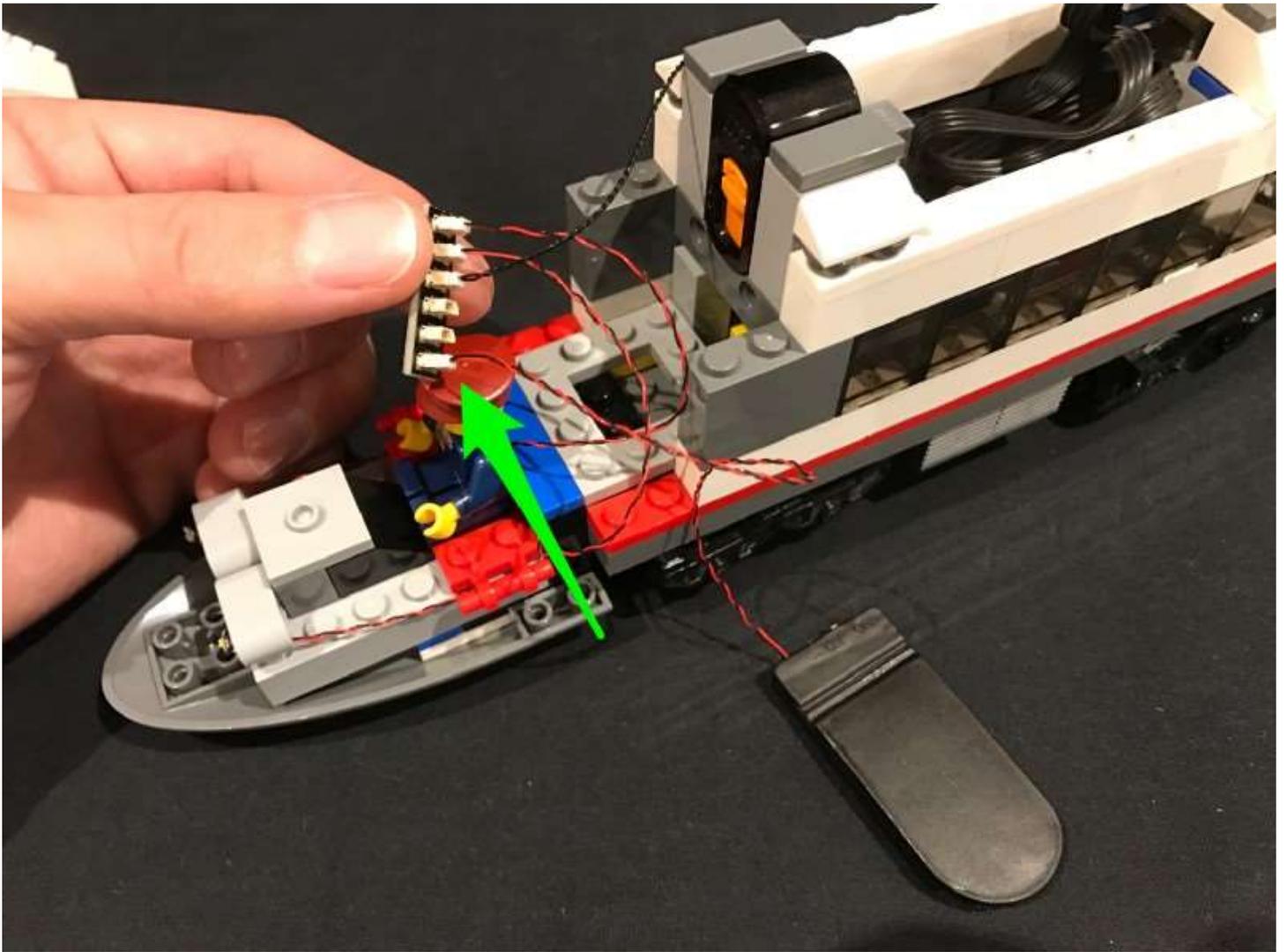
5.) Take a **6-Port Expansion Board** and then connect the two Bit Light cables we just installed to the available ports.



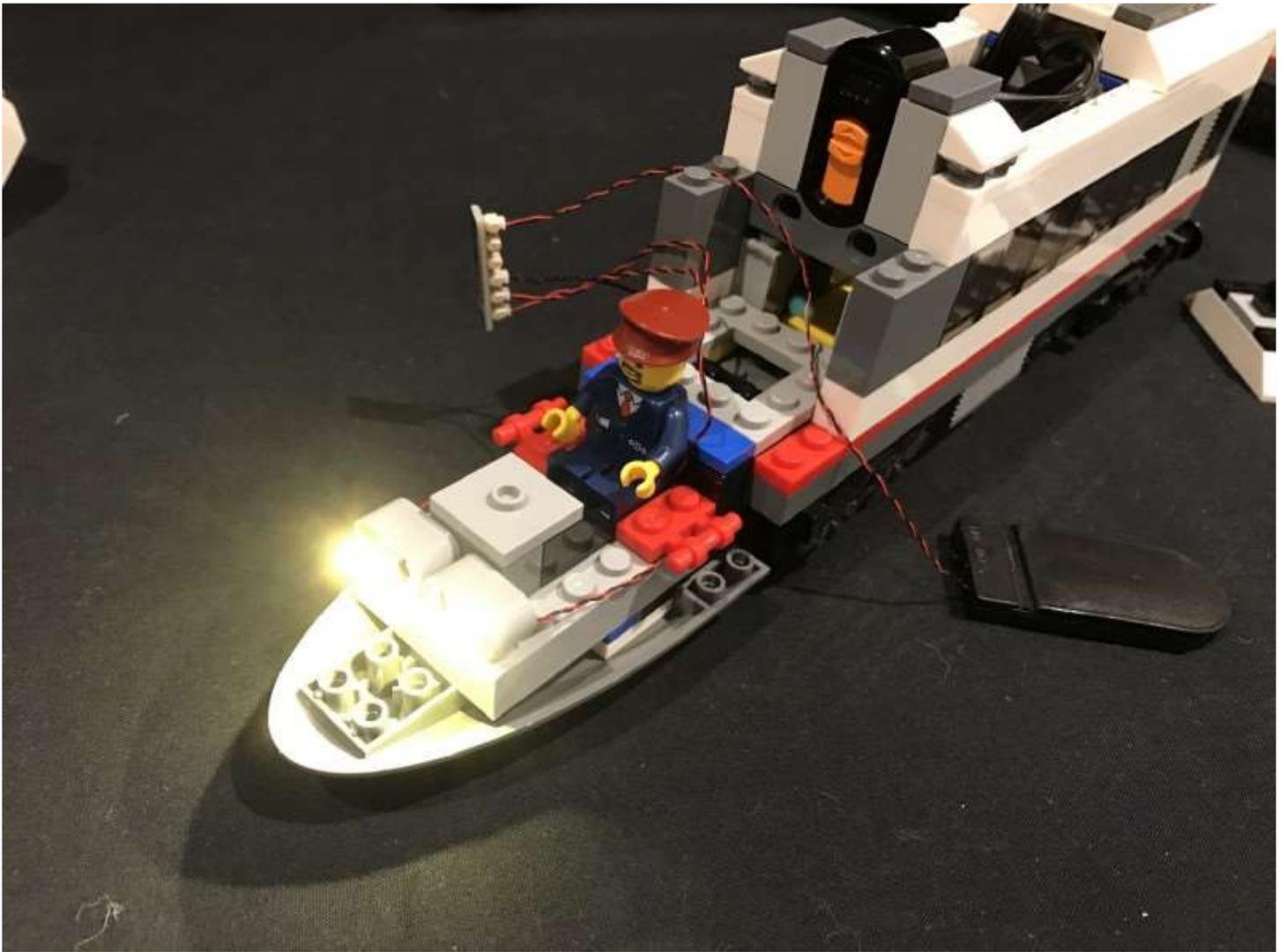
6.) Take a **15cm Connecting Cable** and connect one side to one of the available ports on the expansion board.



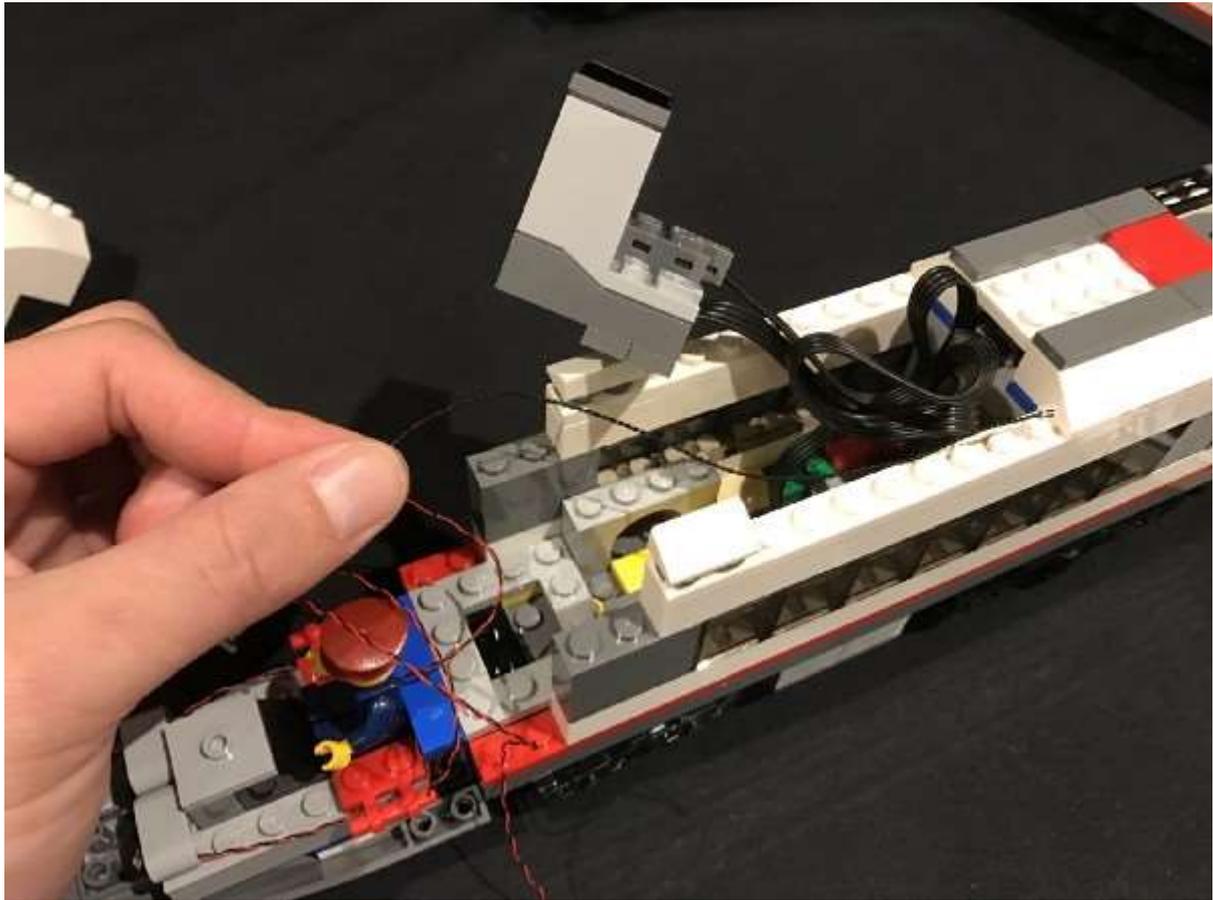
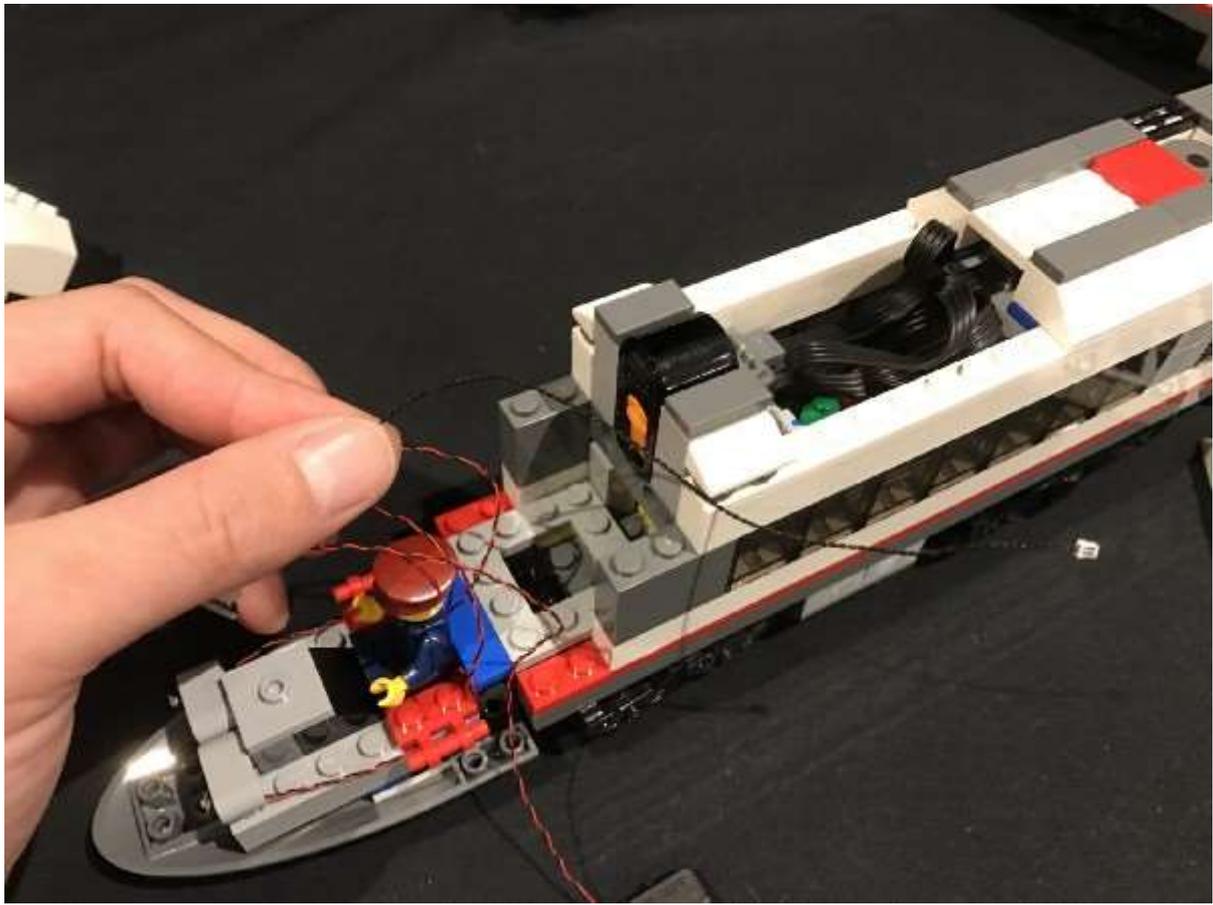
7.) Take a **Flat Battery Packs** and insert 2x CR2032 batteries into it. Connect the battery cable to the expansion board.

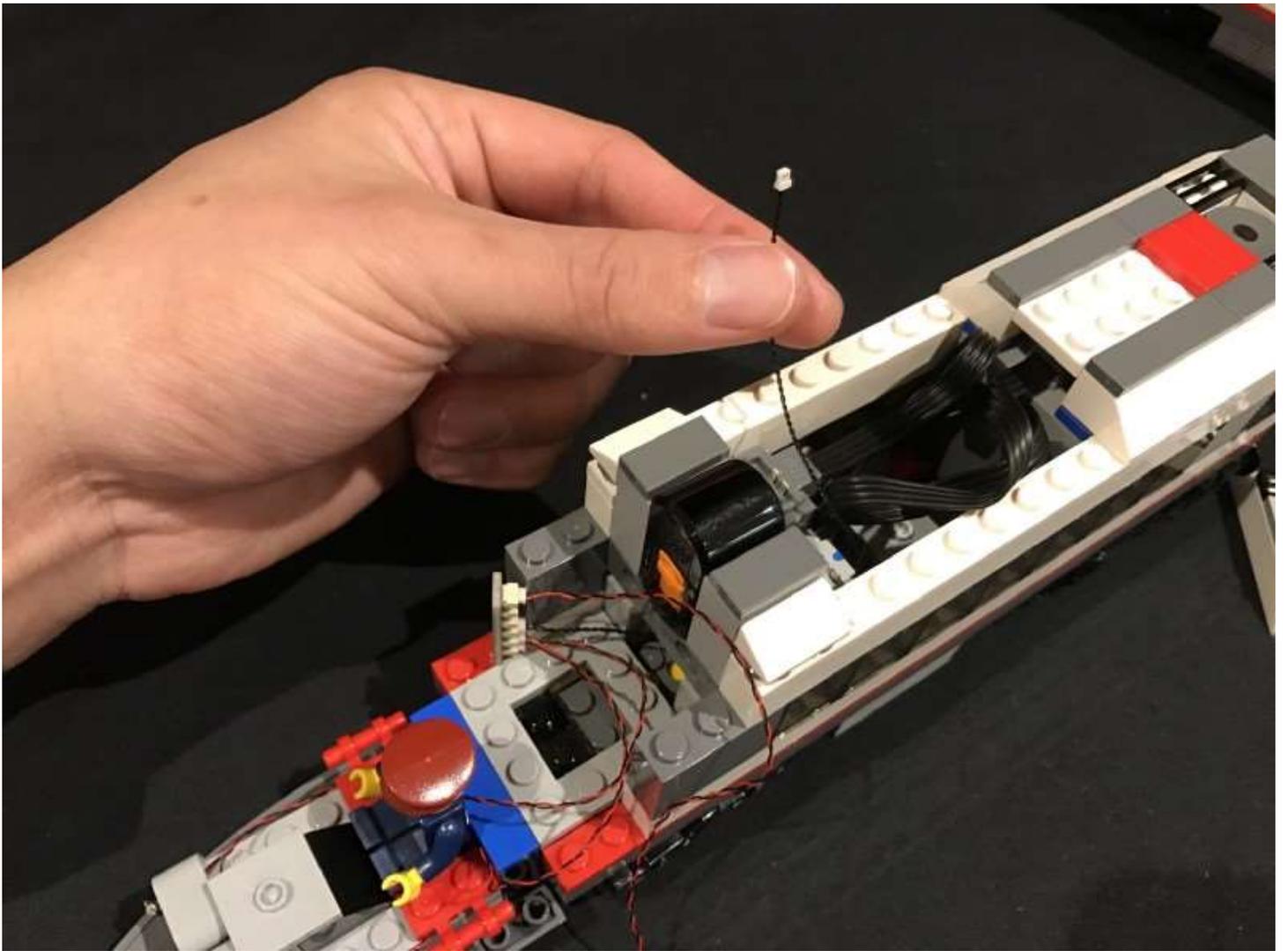


Turn the battery pack 'ON' to test the lights are working OK.

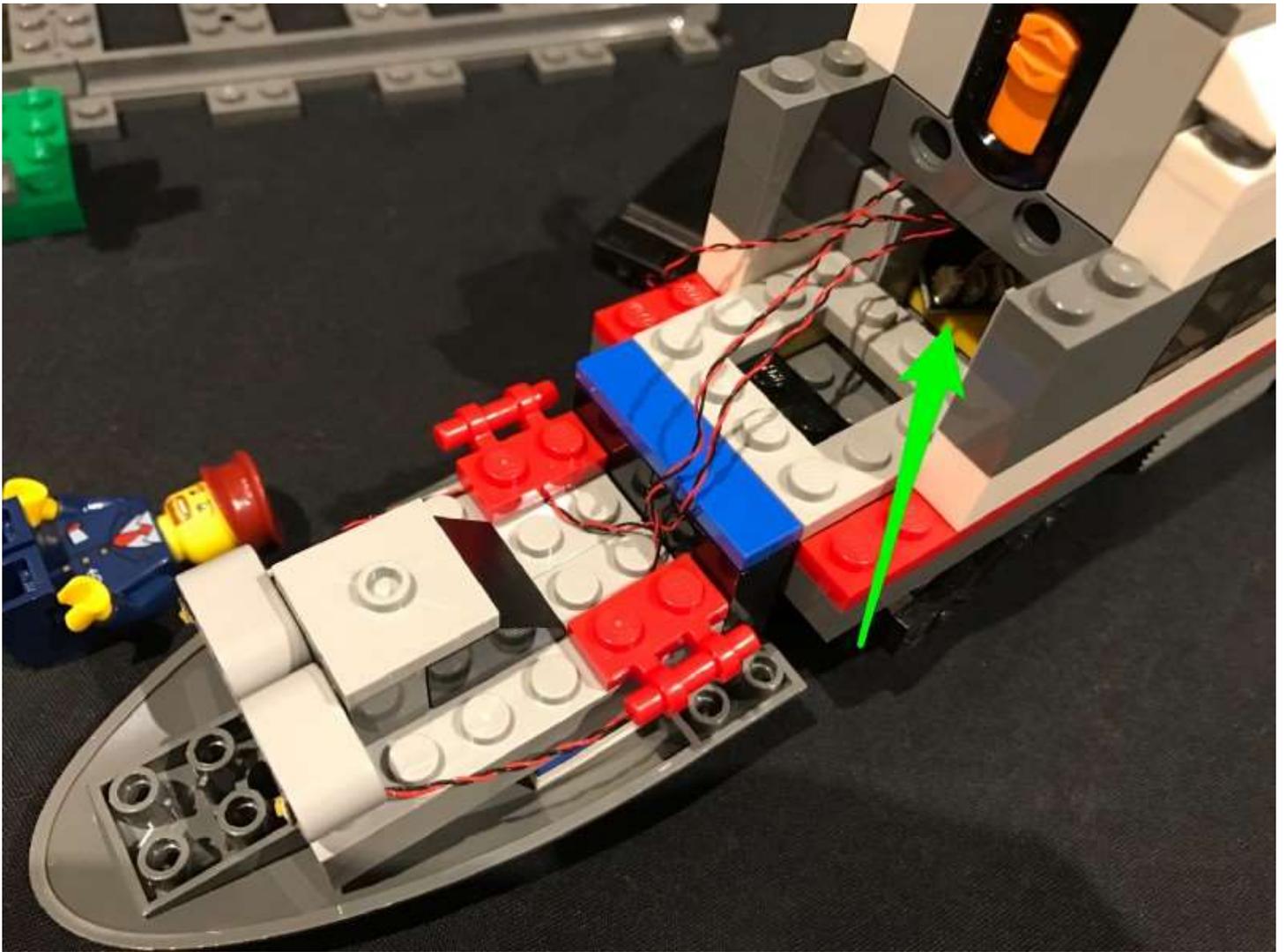


8.) Take the other end of the 15cm Connecting Cable and then bring it underneath the remote sensor.

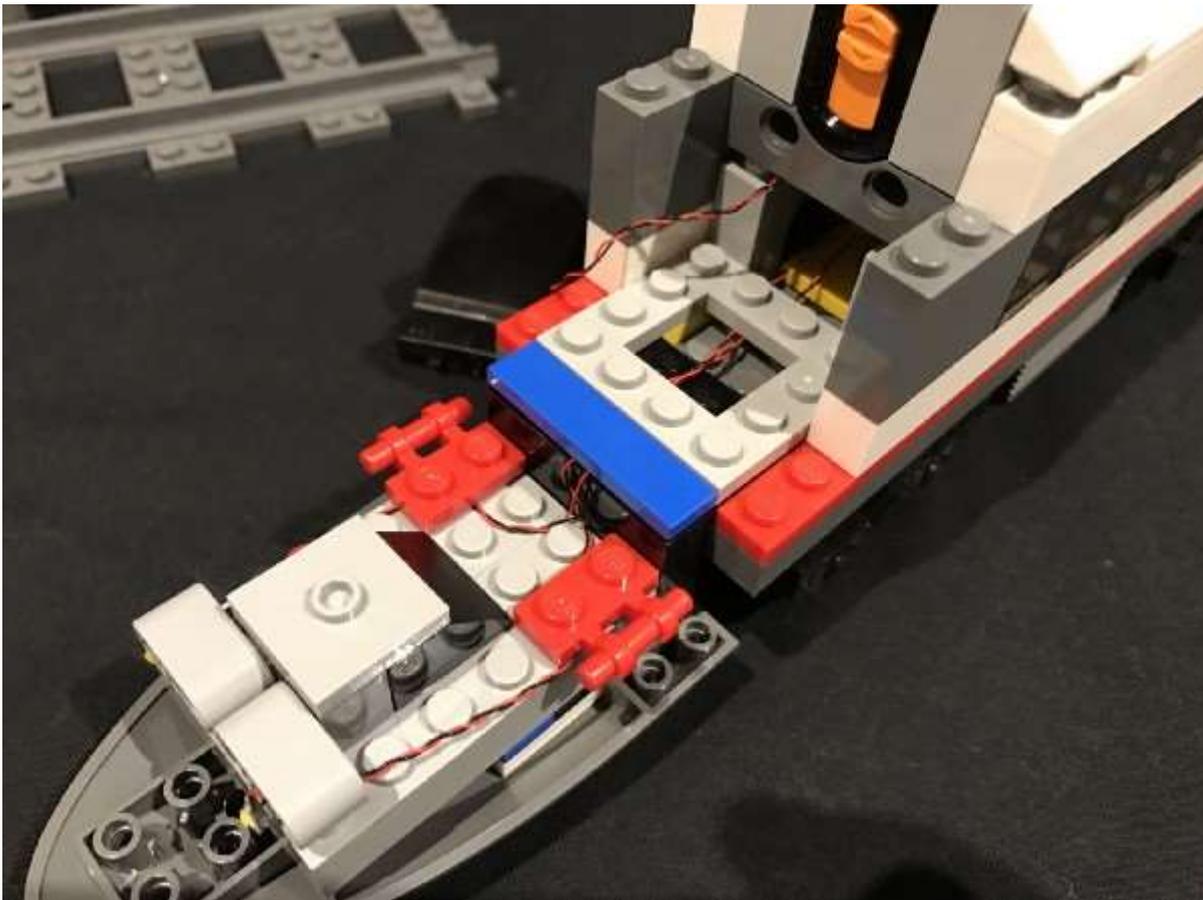
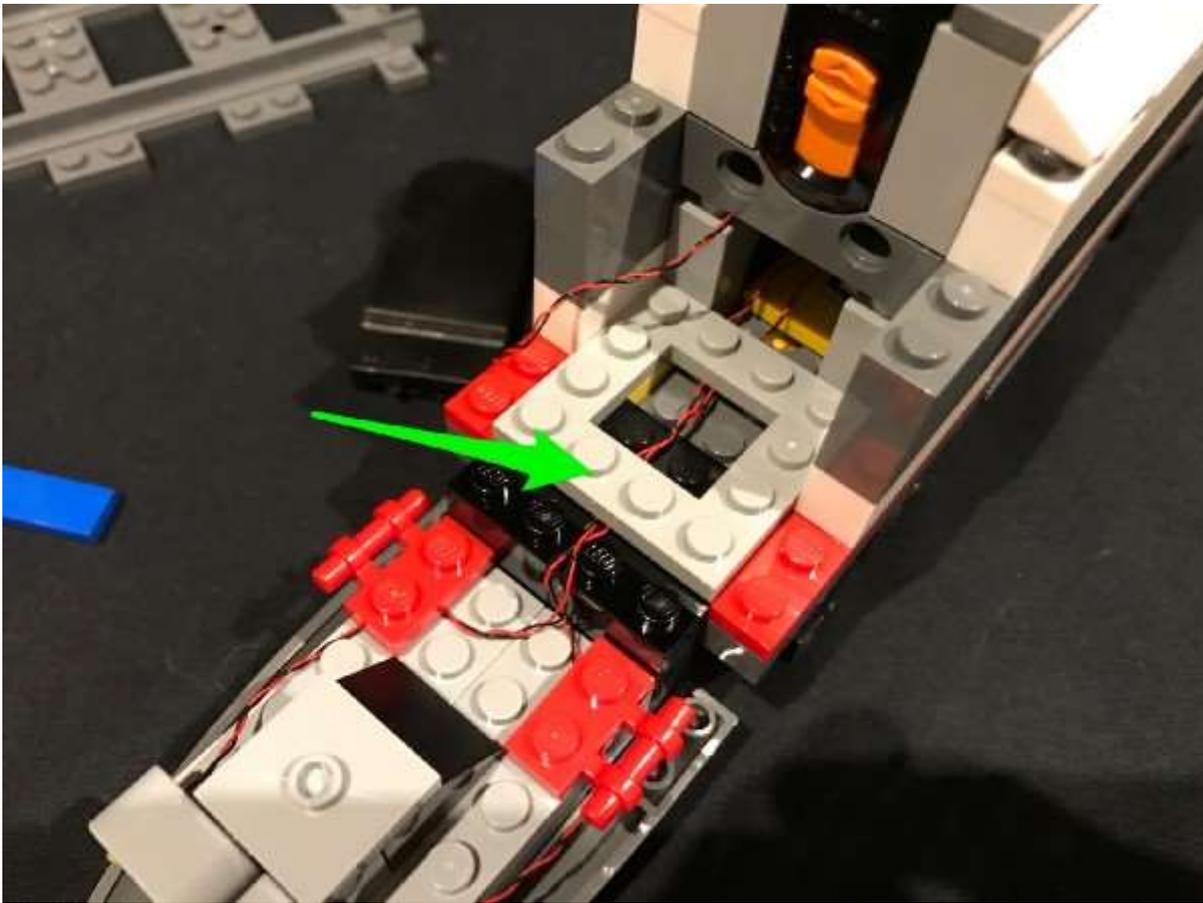




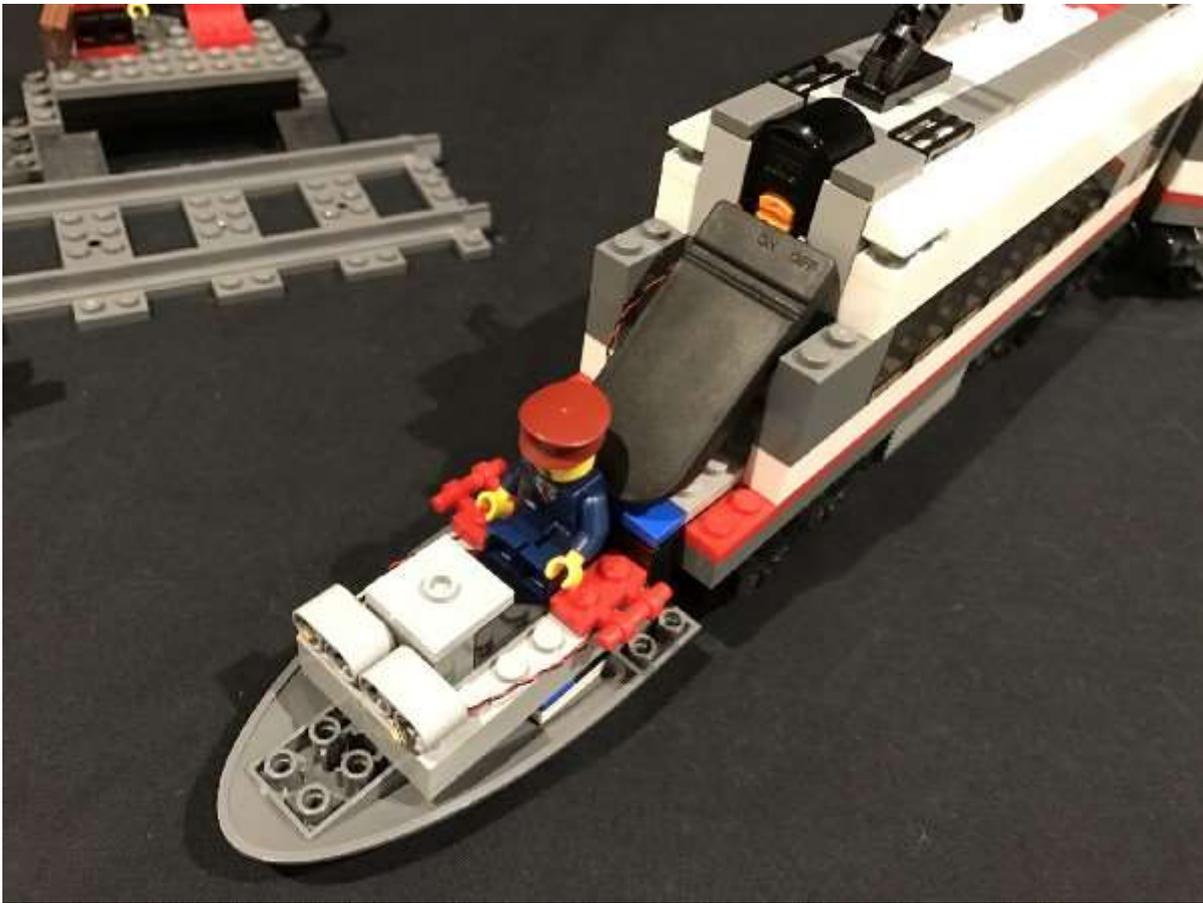
Tuck the expansion board and excess cables underneath the remote sensor



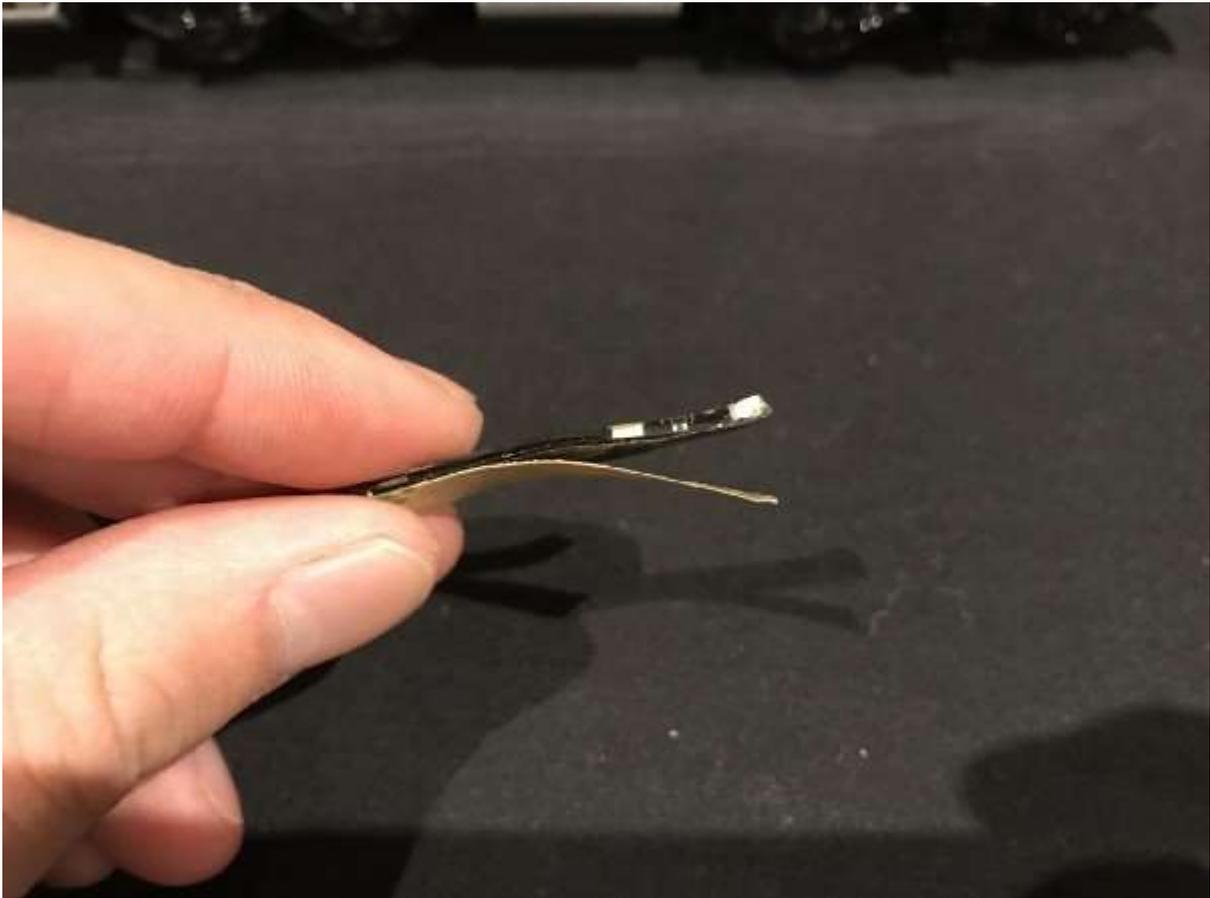
9.) Secure cables underneath the grey and blue LEGO pieces ensuring the cables are laid neatly in between studs

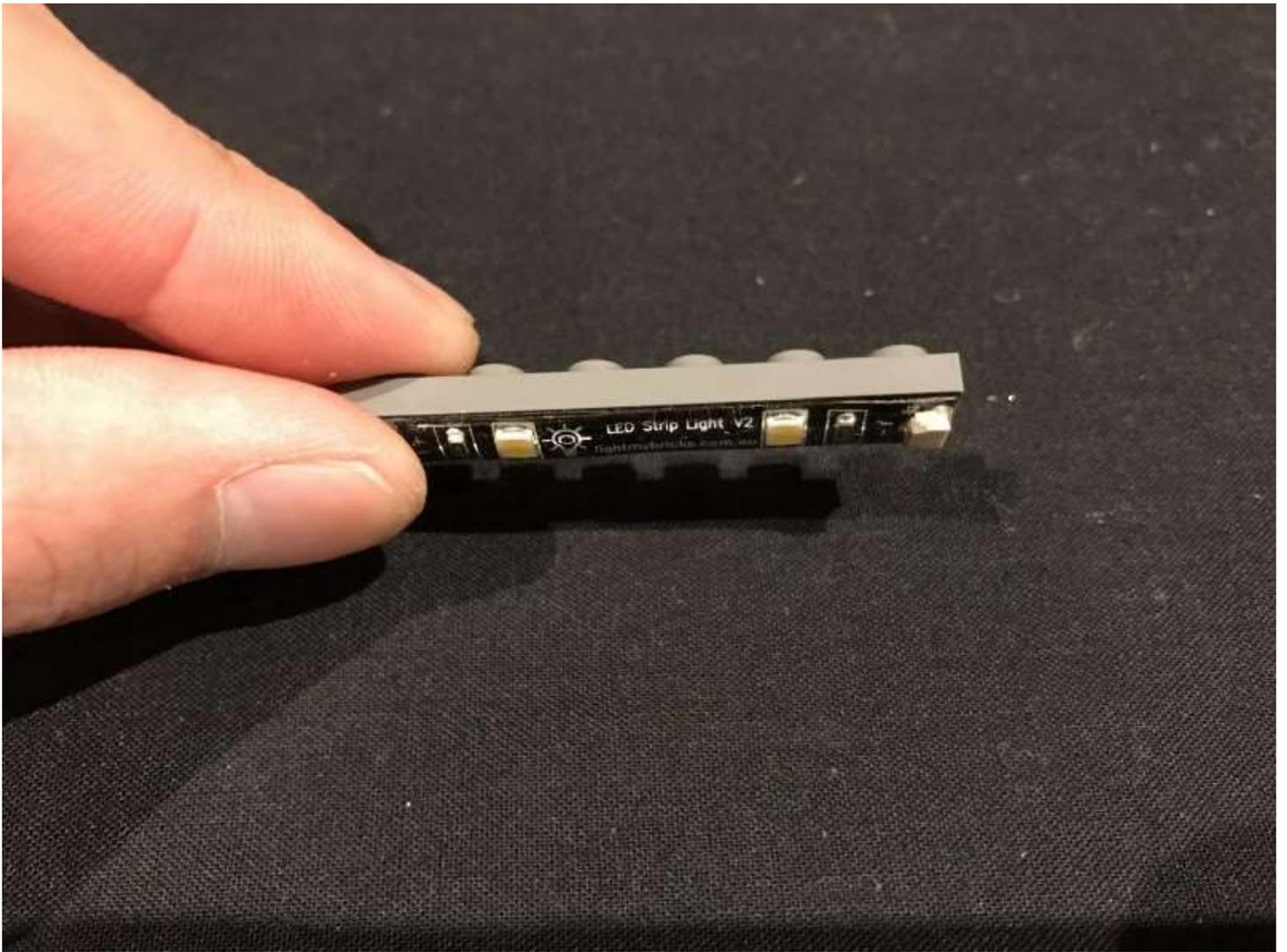


Position the battery pack neatly behind the driver and then reconnect the front section of the train.

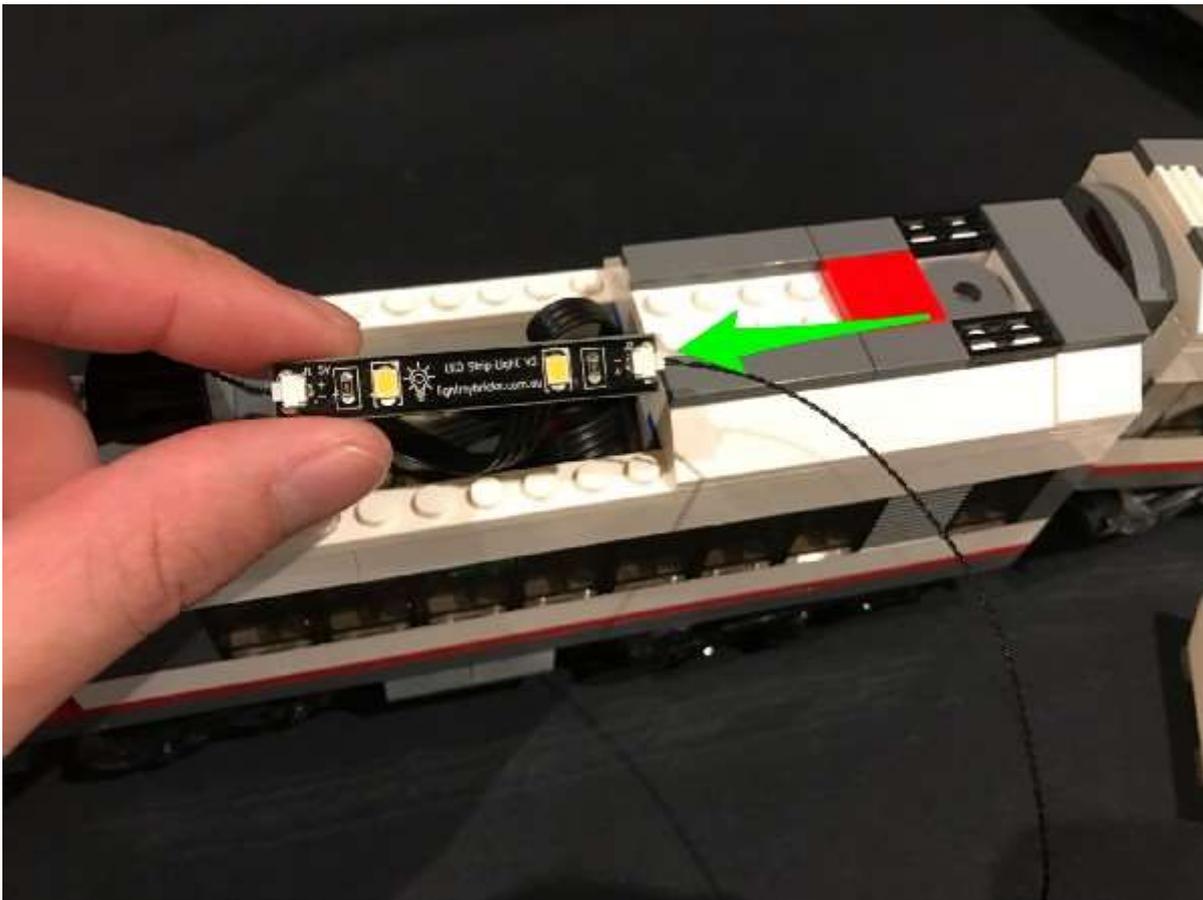
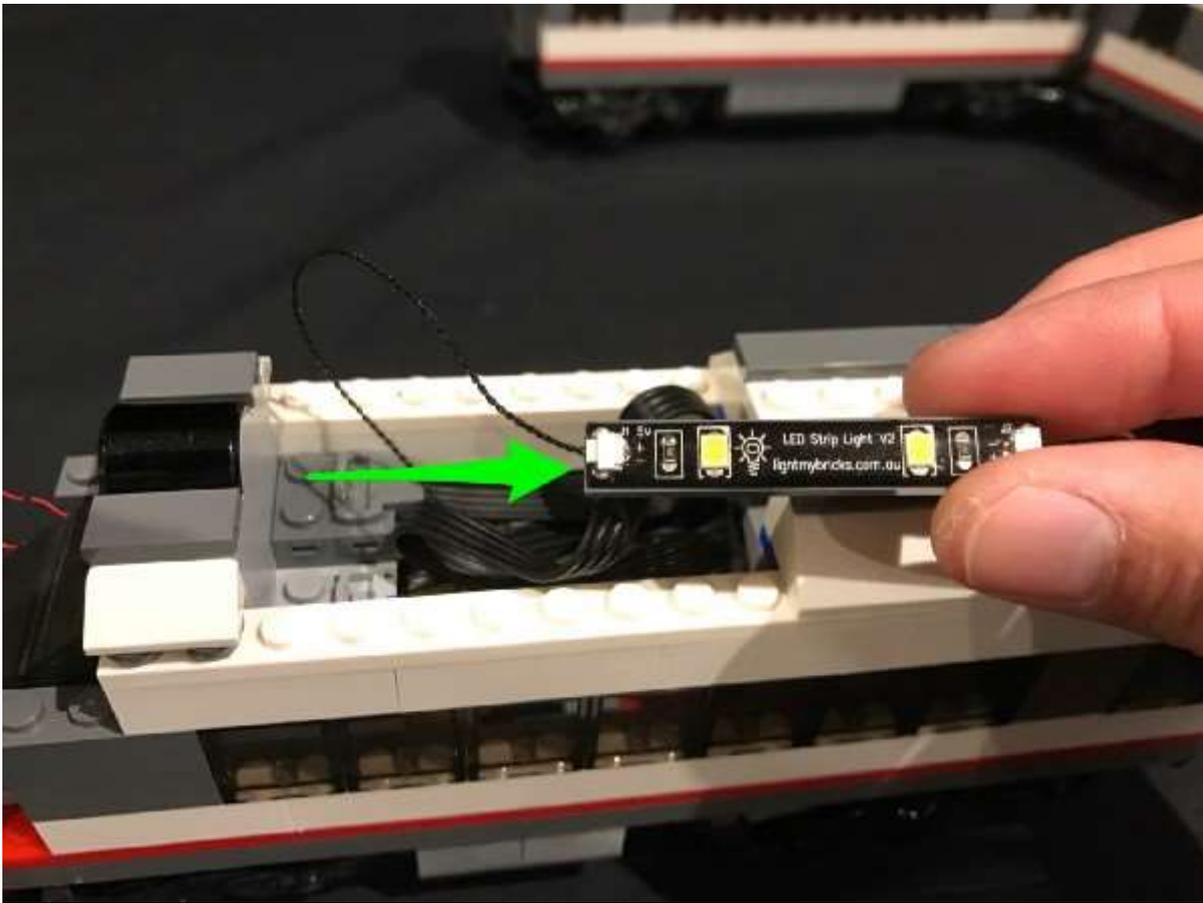


10.) Take a **White Strip Light** and then stick it onto one of the provided **LEGO 1×6 Plates** using it's adhesive backing.

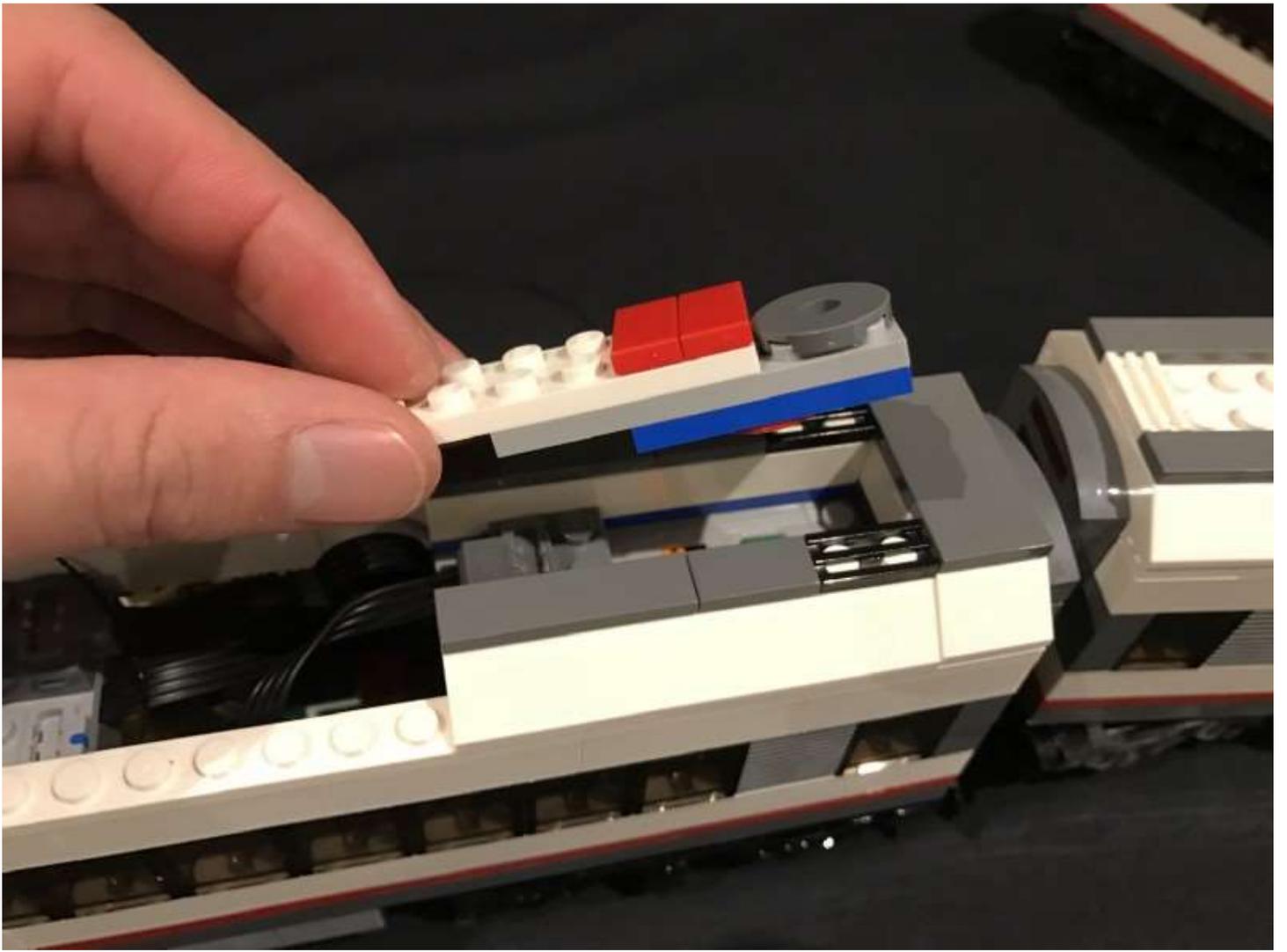




Connect the other end of the 15cm connecting cable from the front to the left port and then take a **30cm Connecting Cable** and connect it to the right port.

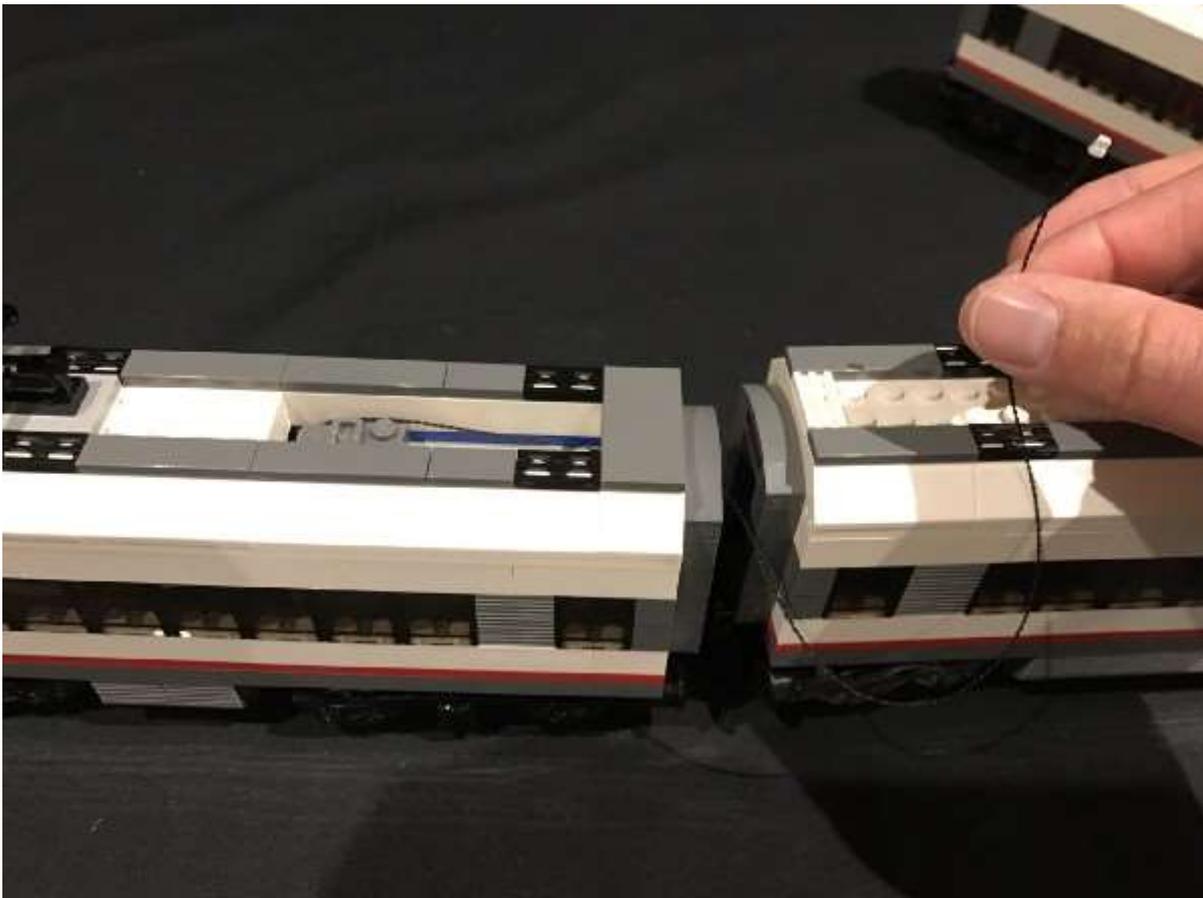
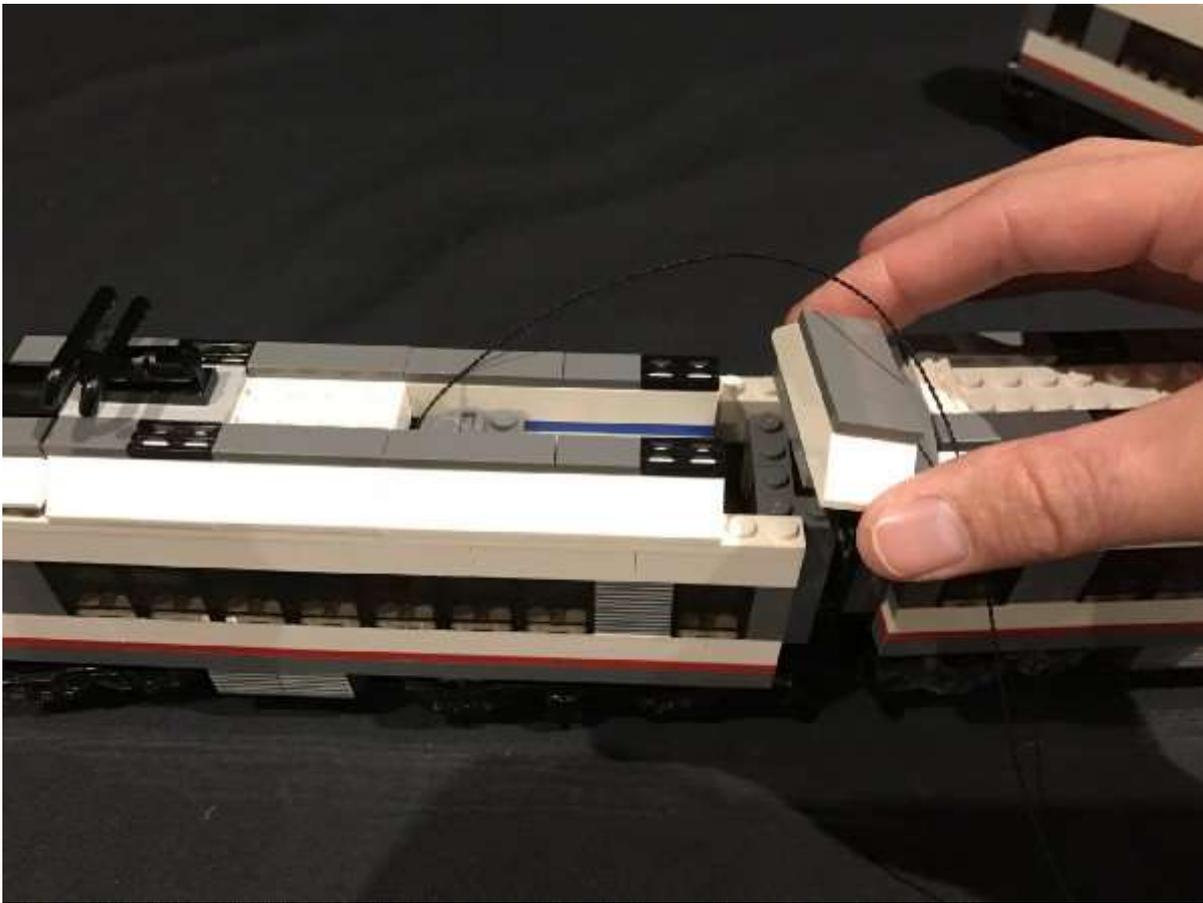


11.) Take the roof sections we disconnected earlier and place them together and turn them upside down. Mount the Strip Light underneath in the following position.





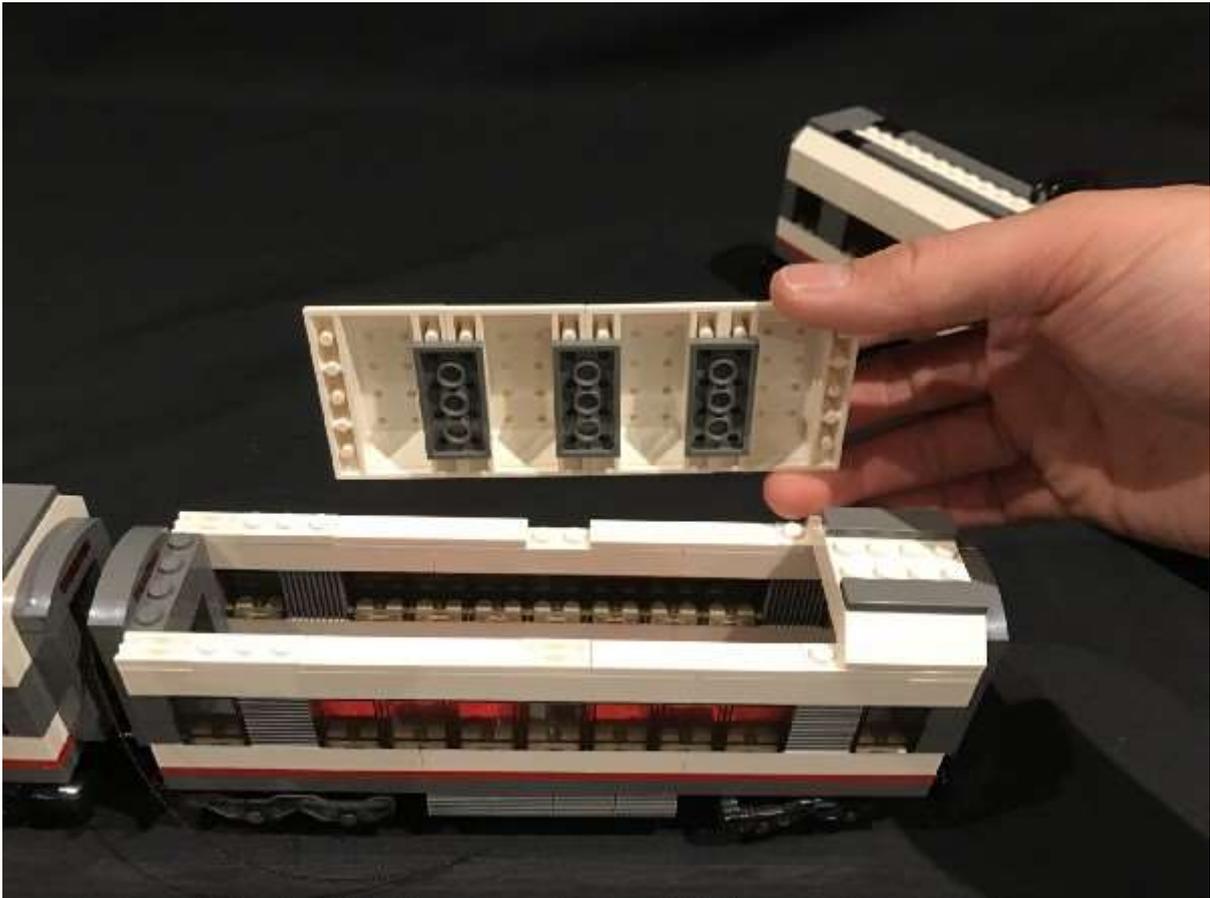
12.) Remove the following section from the back of this carriage and then bring the cable across to the next carriage. Reconnect the section over the cable ensuring the cable is laid in between studs.

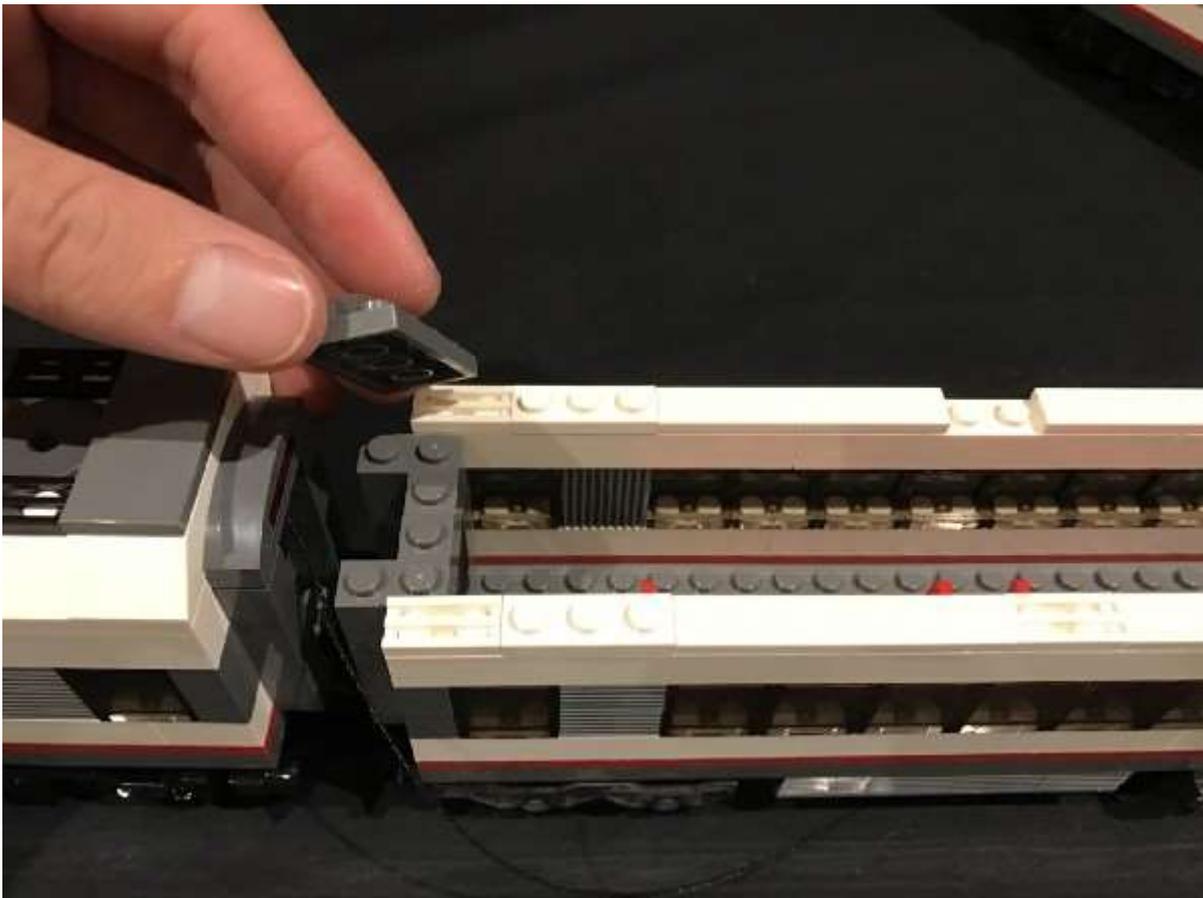
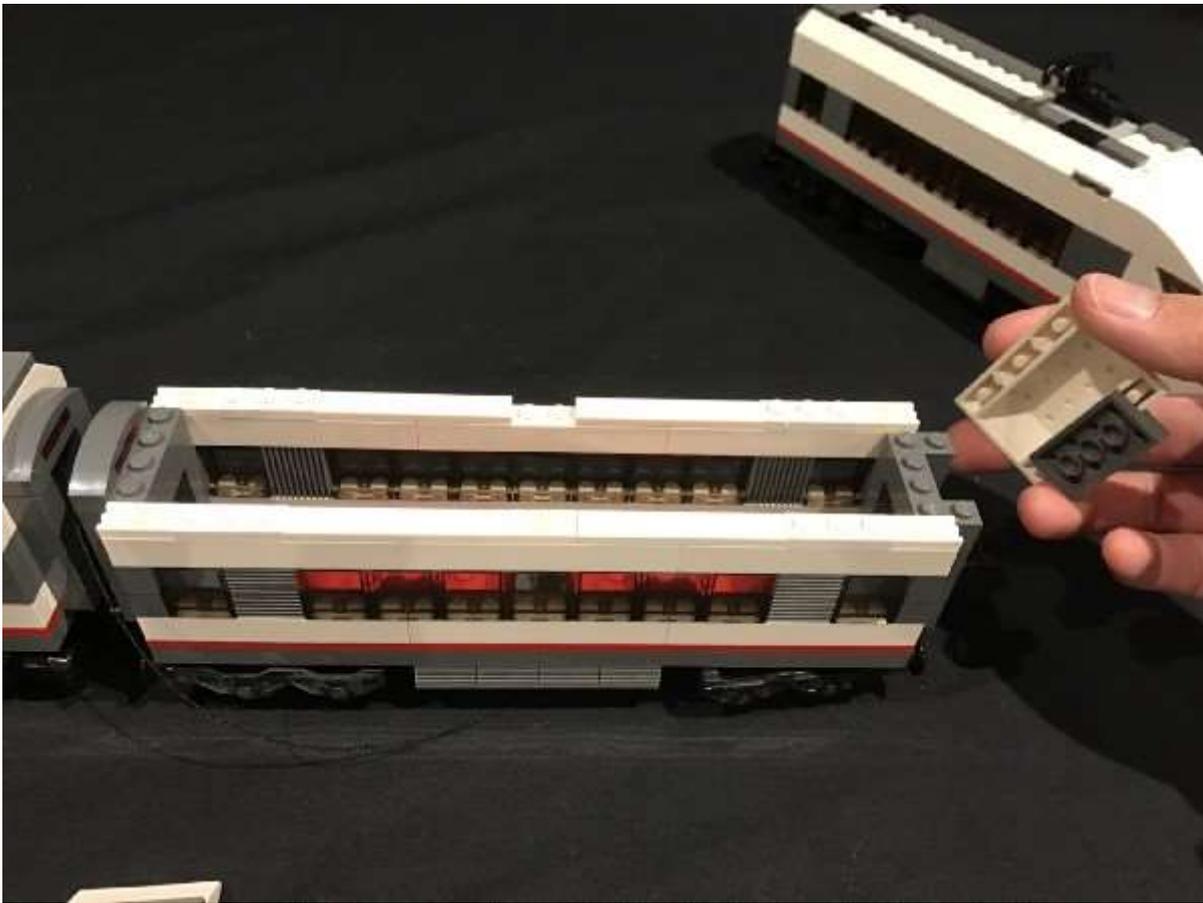


Reconnect the power button section we removed earlier.

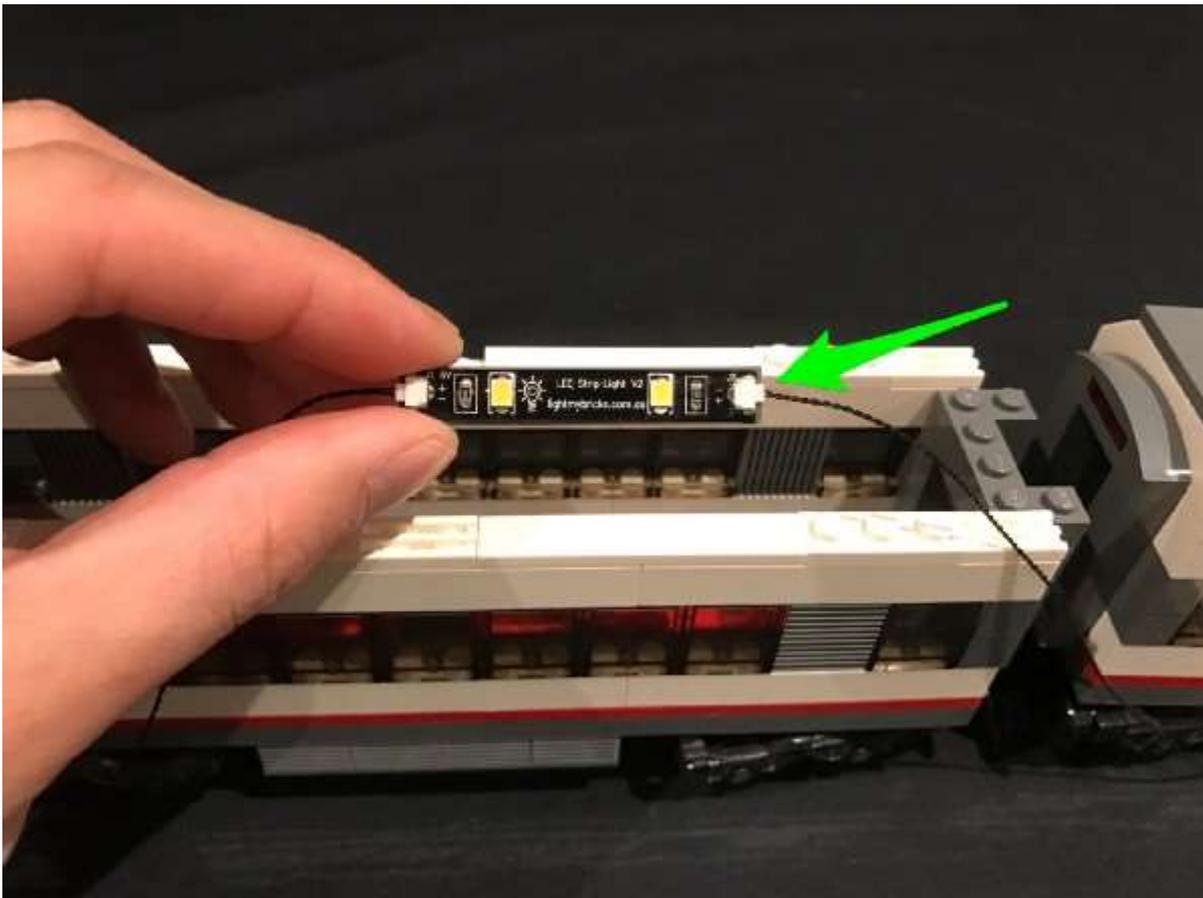
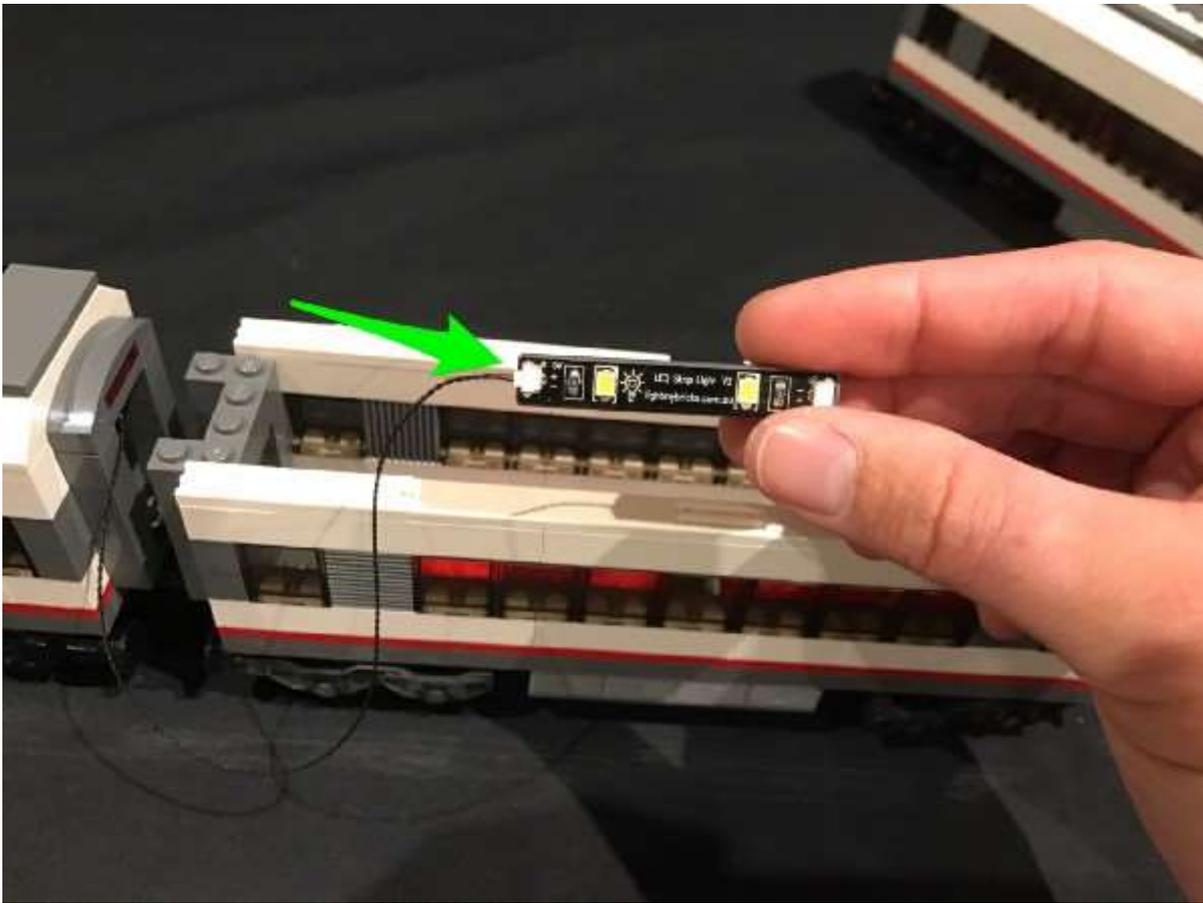


13.) Remove the roof off of the next carriage followed by the front and back sections on the top.

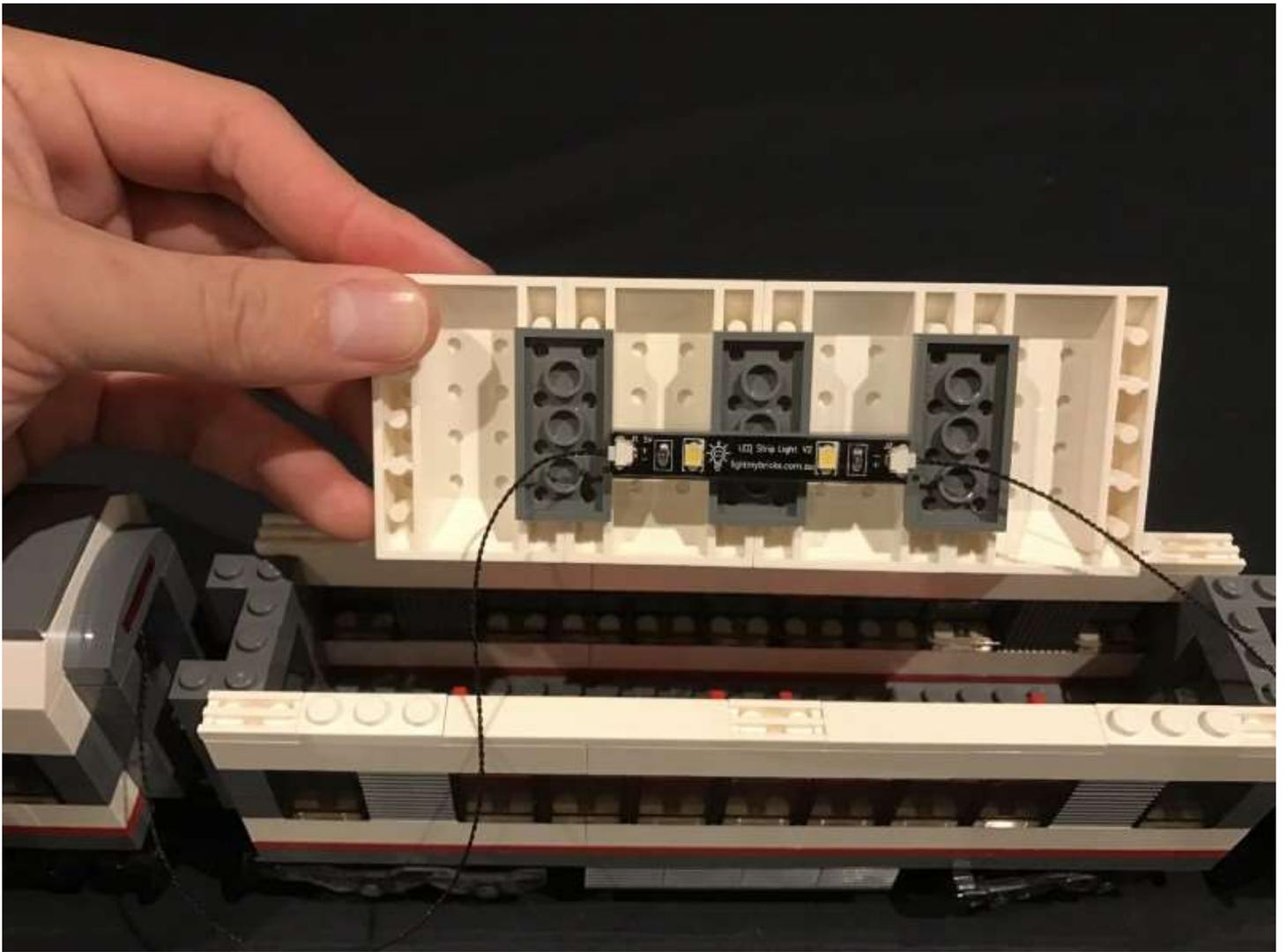




14.) Take another **White Strip Light** and stick it to the base of another **provided LEGO 1x6 Plate**. Connect the other end of the 30cm Connecting Cable from the front carriage to the left port of the strip light and then take a **15cm Connecting Cable** and connect it to the right port.



15.) Mount the strip light underneath the carriage roof in the following position.



Neaten the 30cm cable between the front and middle carriage as per below, before reconnecting the roof and top front section.

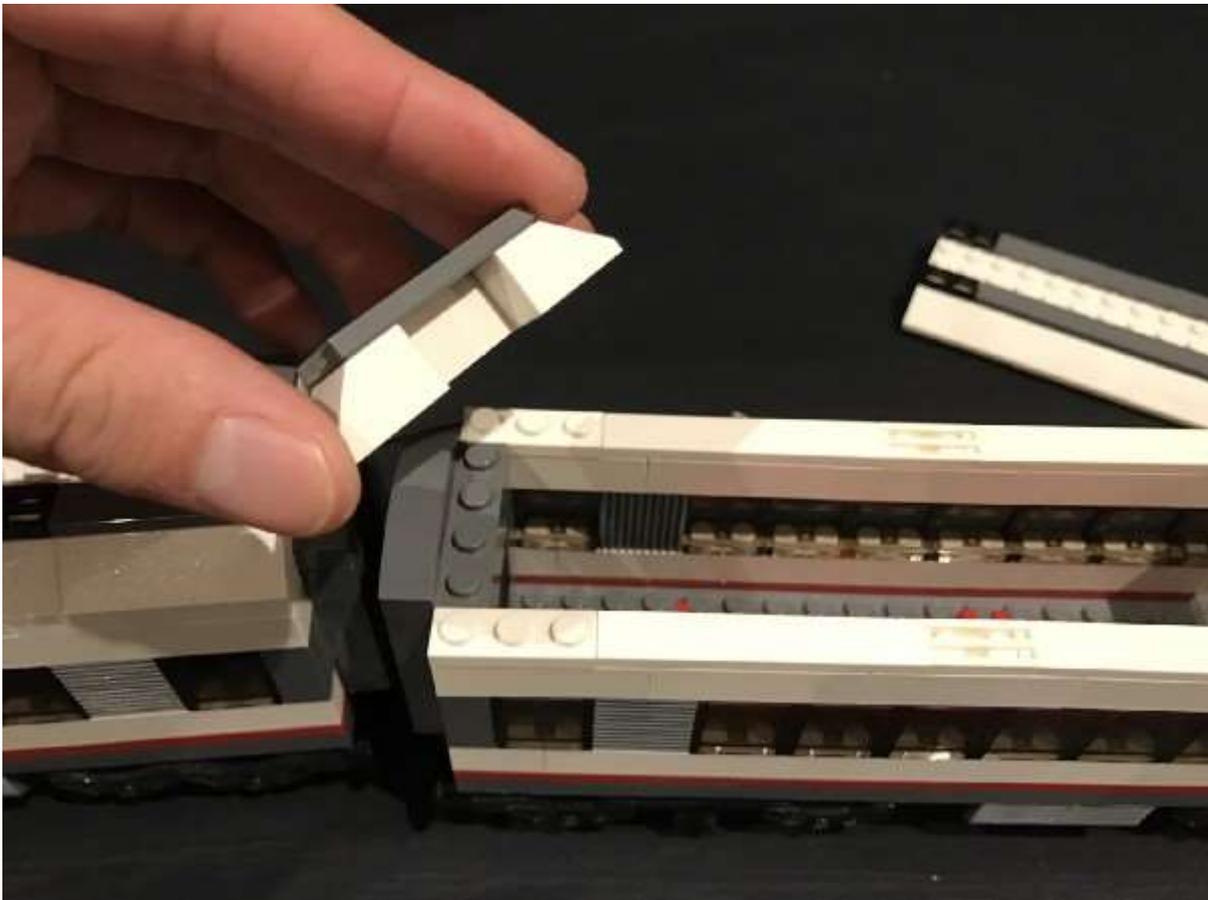
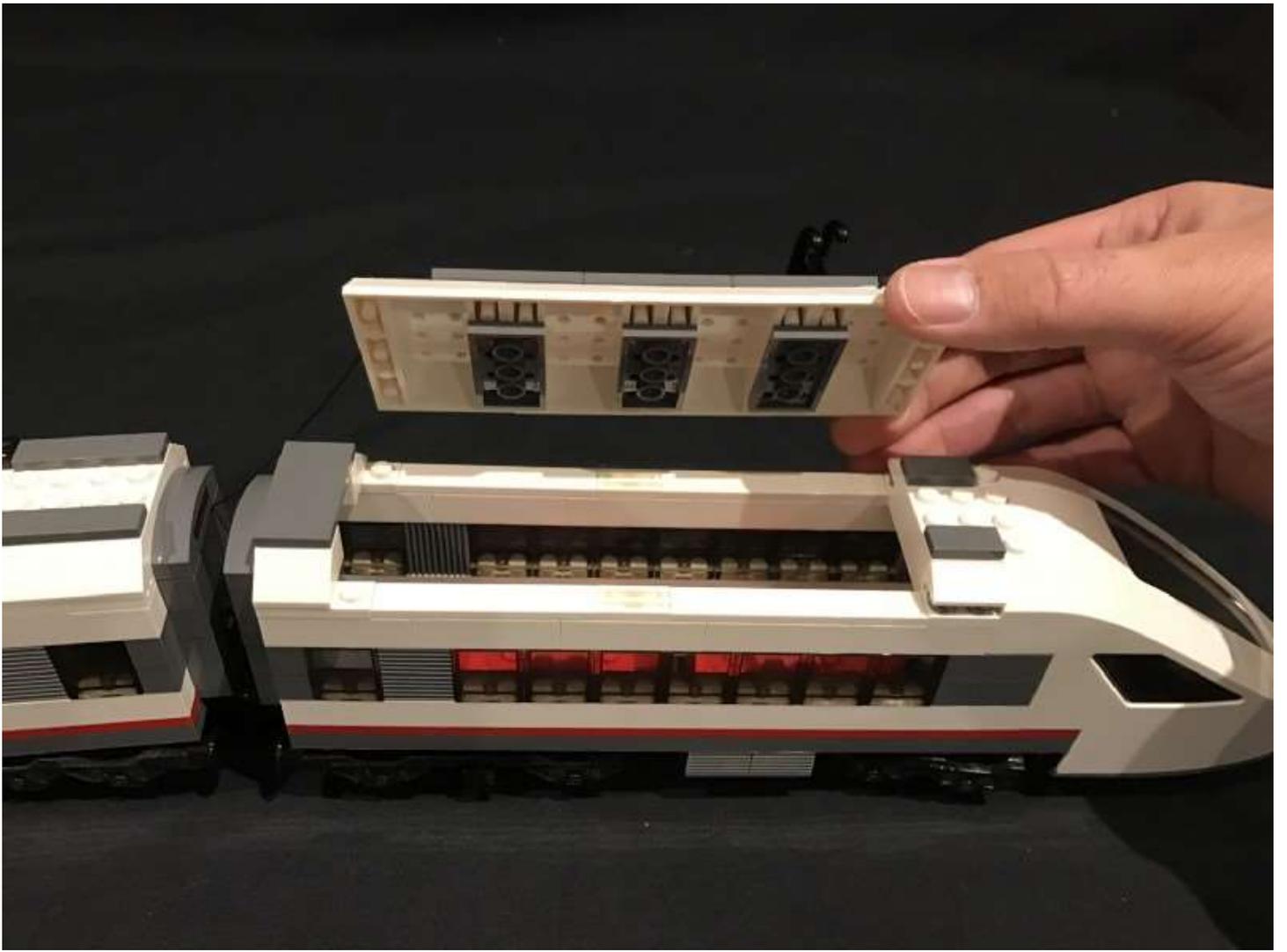


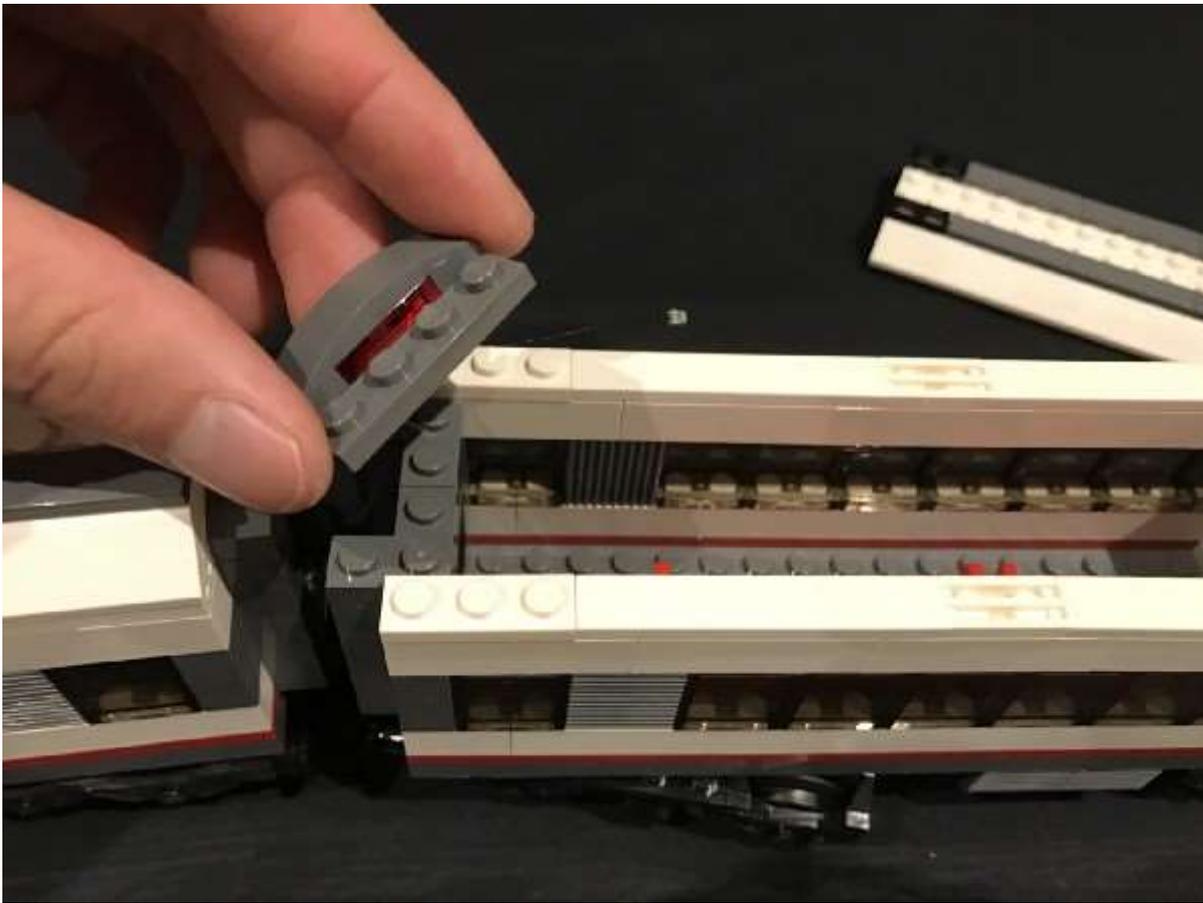


16.) Pull the other end of the 15cm Connecting Cable across to the back carriage before reconnecting the pieces on top of the back of the middle carriage.

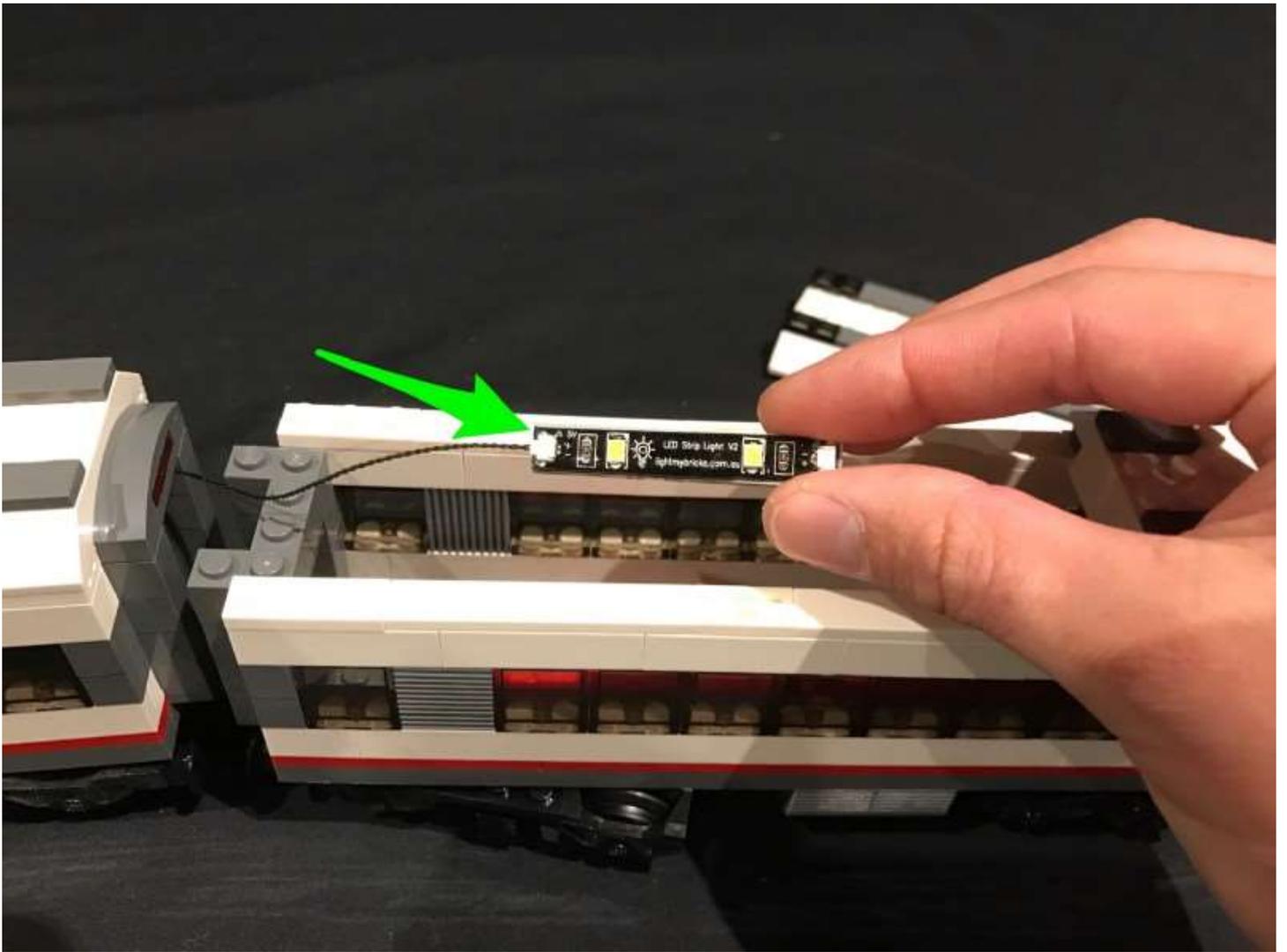


17.) Remove the roof off the back carriage as well as the front pieces on top.

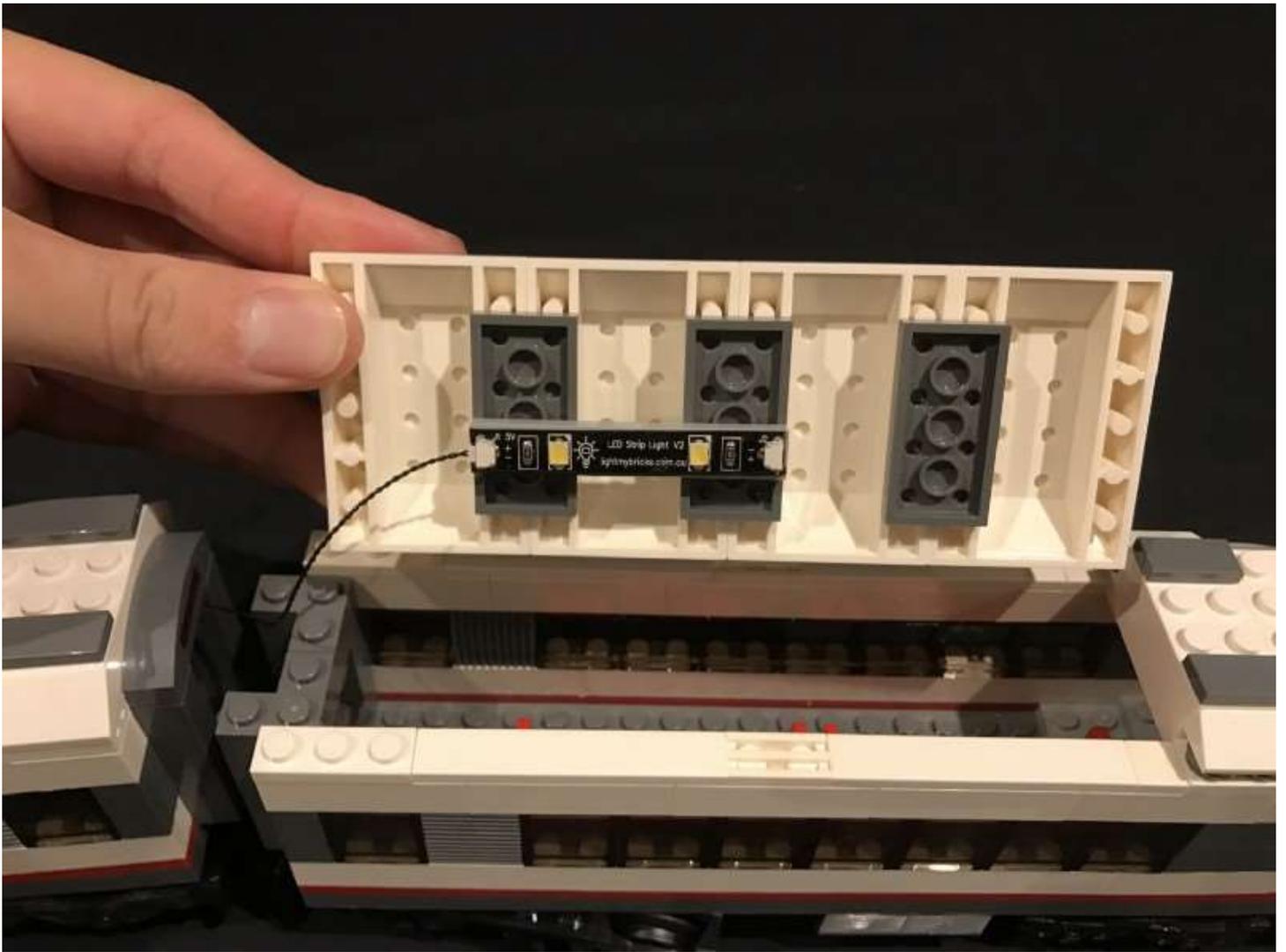




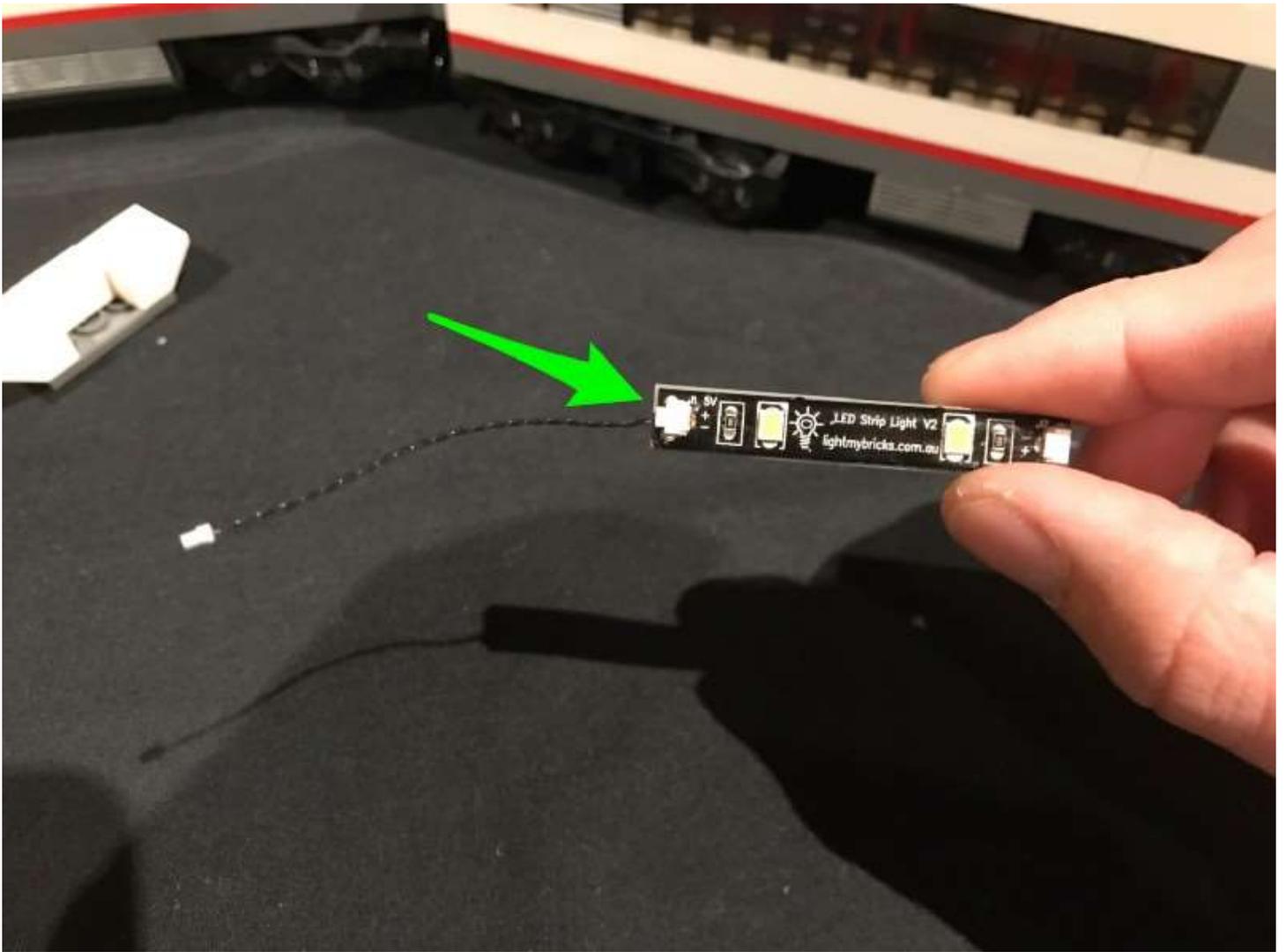
18.) Take another **White Strip Light** and stick it to the base of another **provided LEGO 1×6 Plate**. Connect the other end of the 15cm connecting cable from the middle carriage to the left port of the strip light.



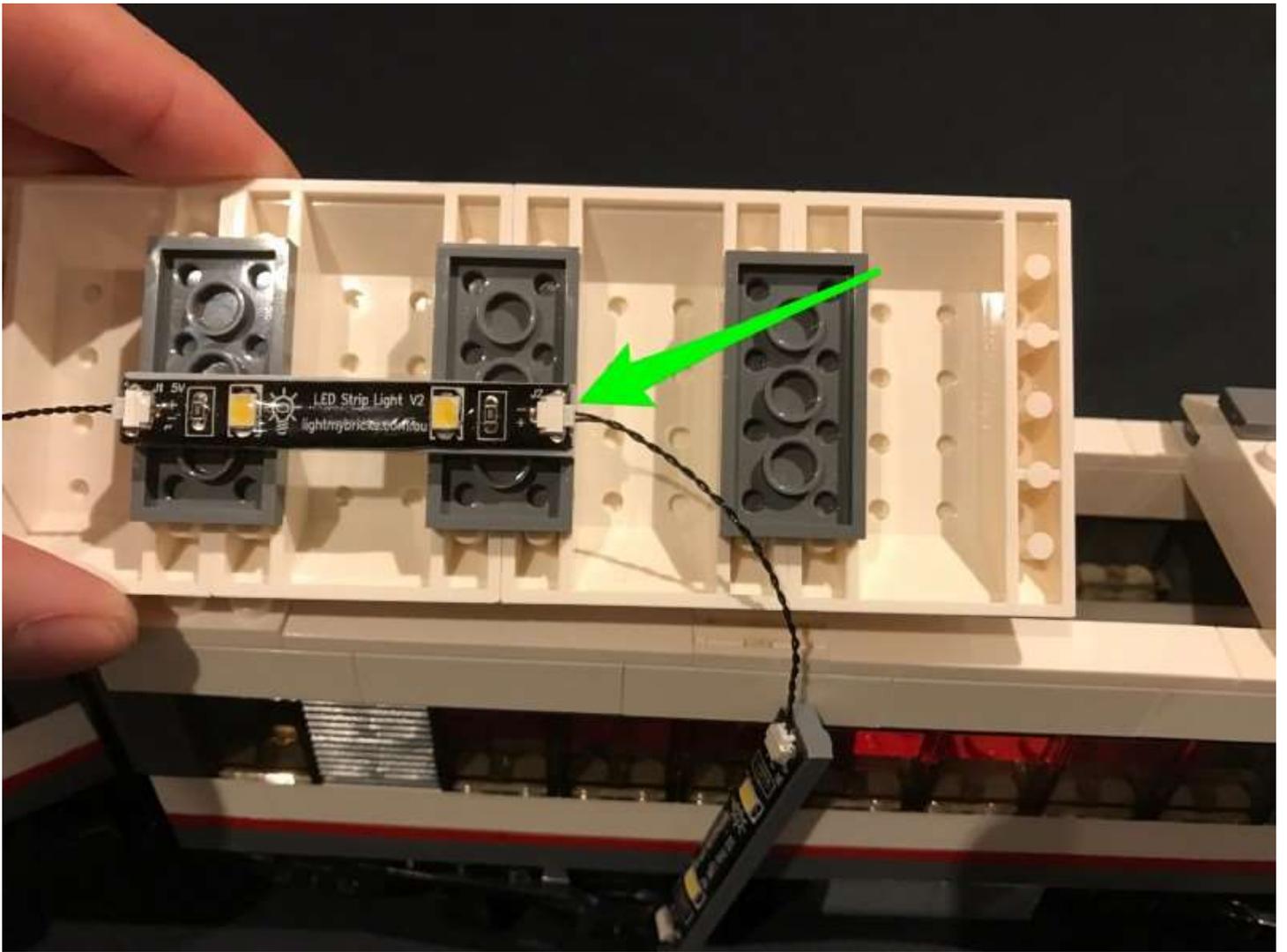
Mount the strip light underneath the roof in the following position.



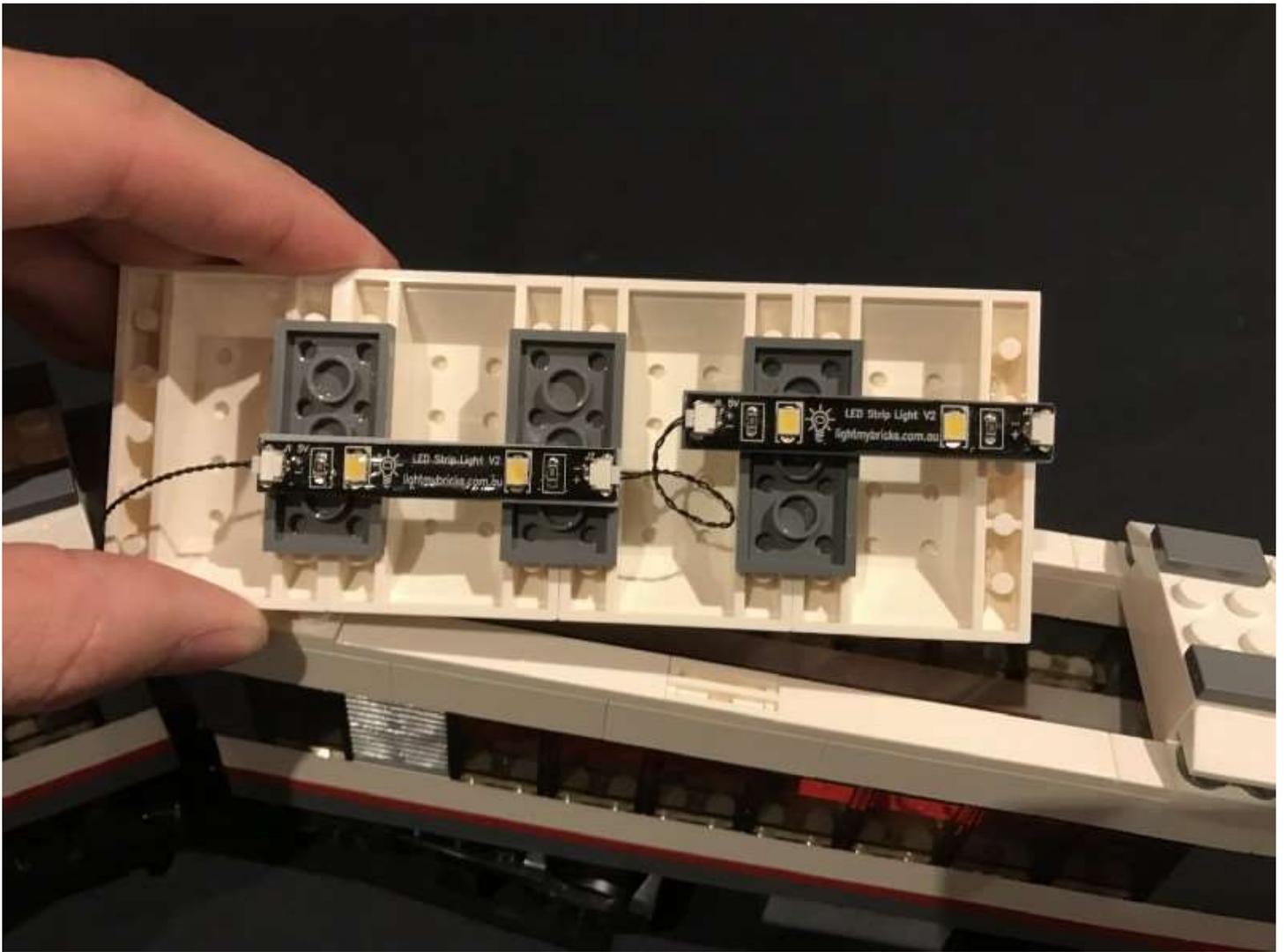
19.) Take the remaining **White Strip Light** and stick it to another provided **LEGO 1×6 Plate**. Take a **5cm Connecting Cable** and connect it to the right port.



Connect the other end of the 5cm connecting cable to the left port on the other Strip Light we already mounted.

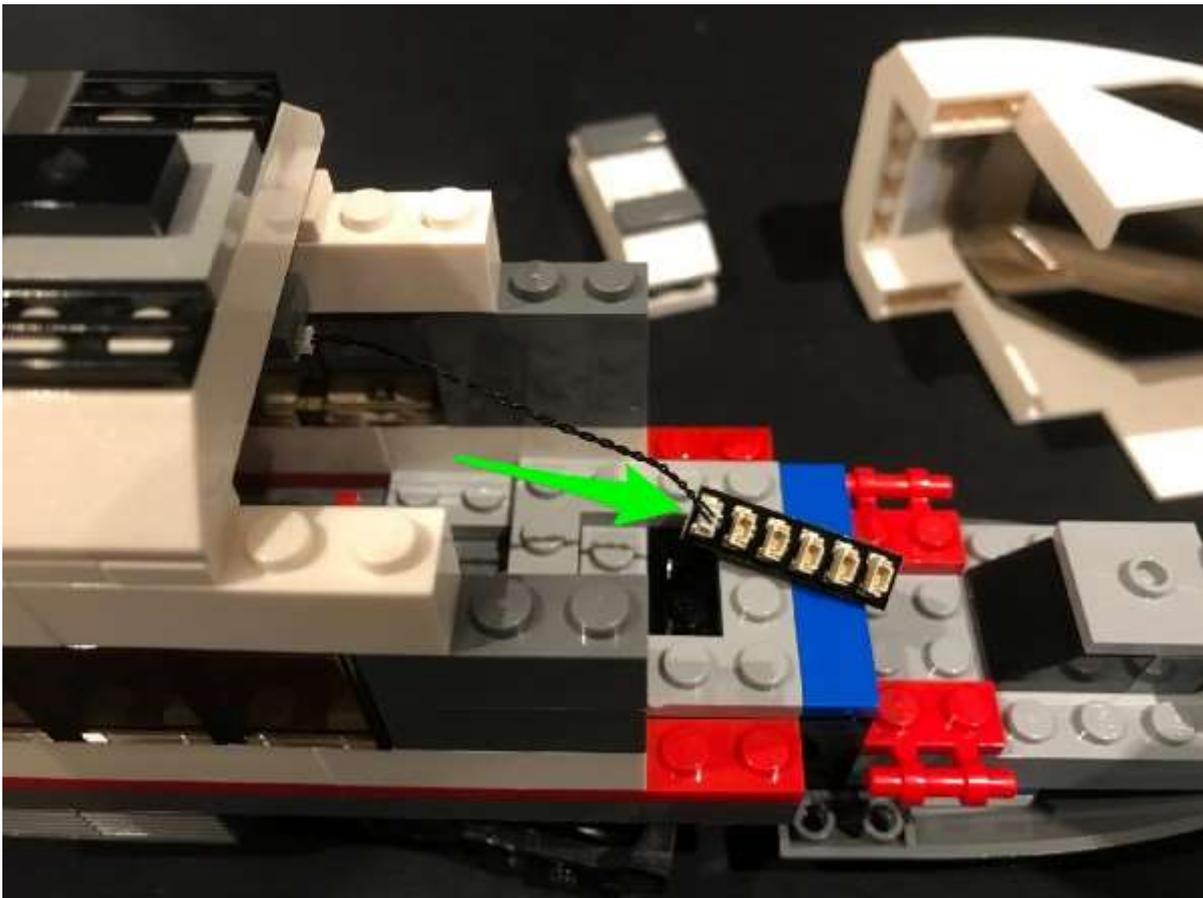
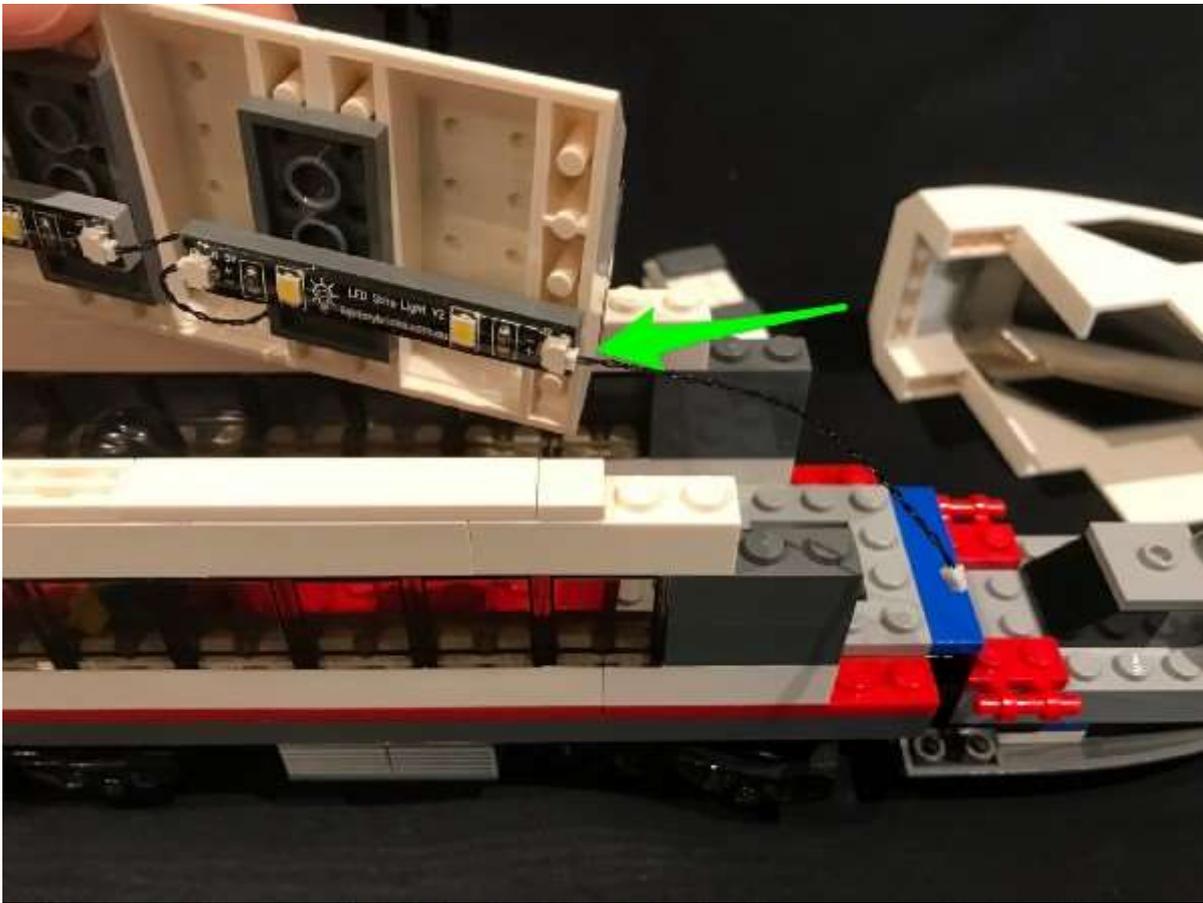


Mount the last strip light in the following position.

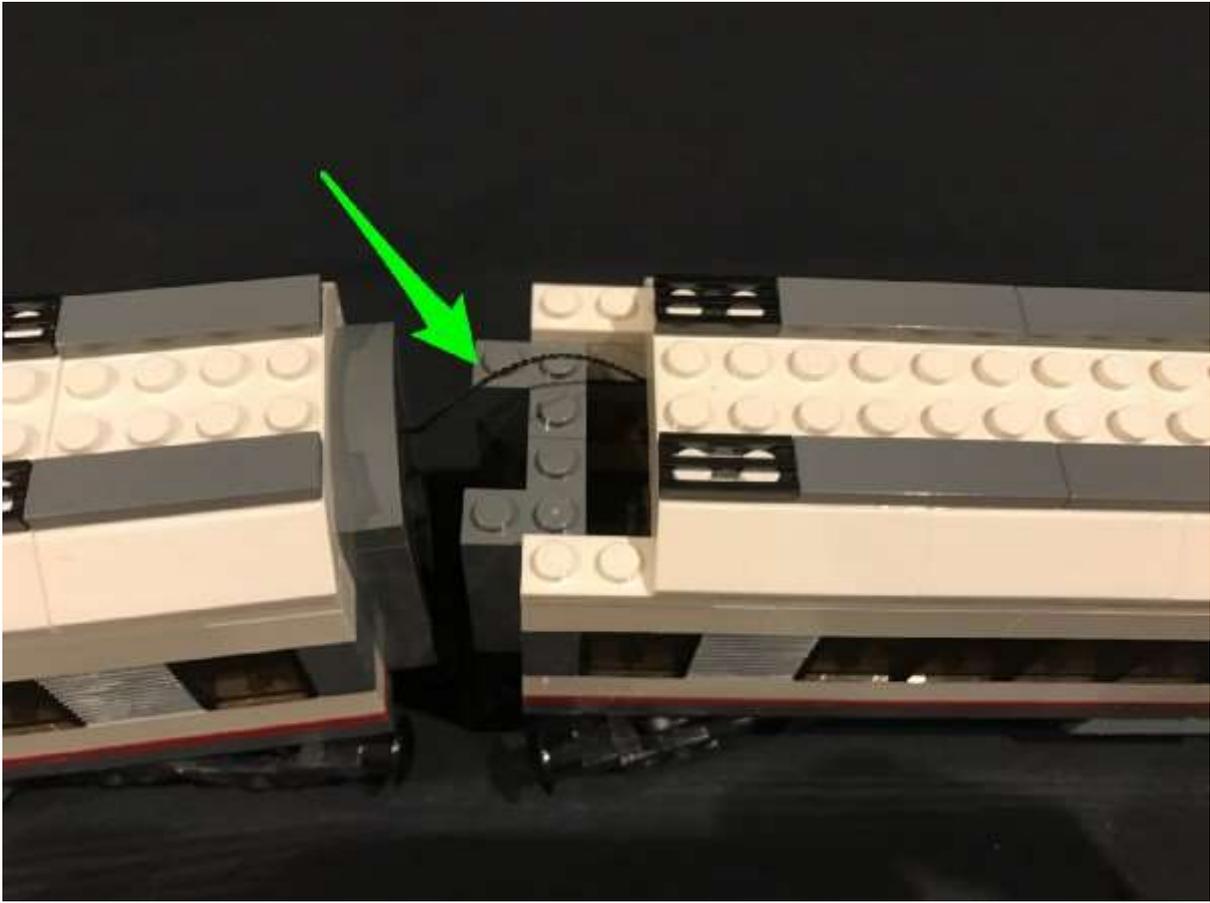


20.) Remove the back of the carriage as pictured below and then take a **5cm Connecting Cable** and connect it to the spare port on the end Strip Light. Connect the other end of the cable to a **6-Port Expansion Board**.



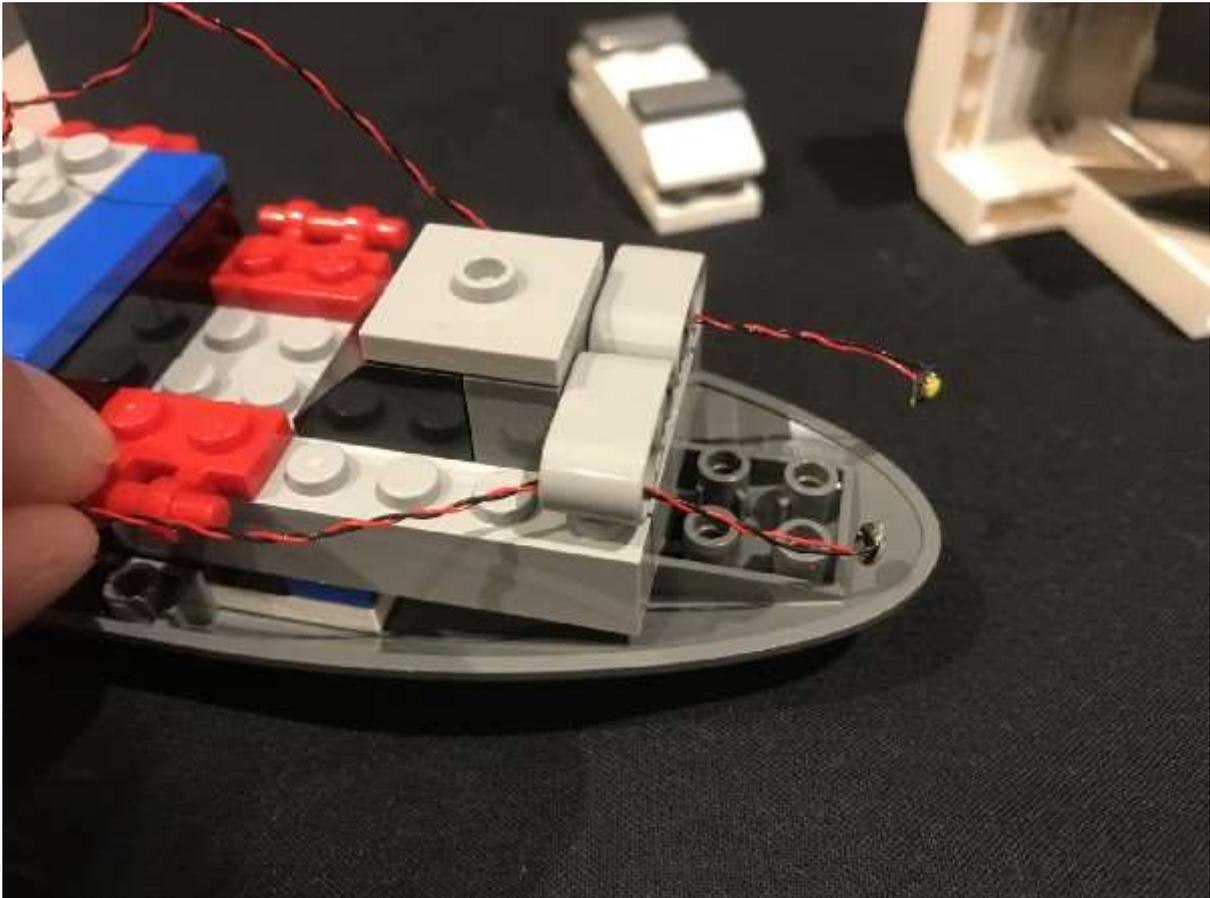
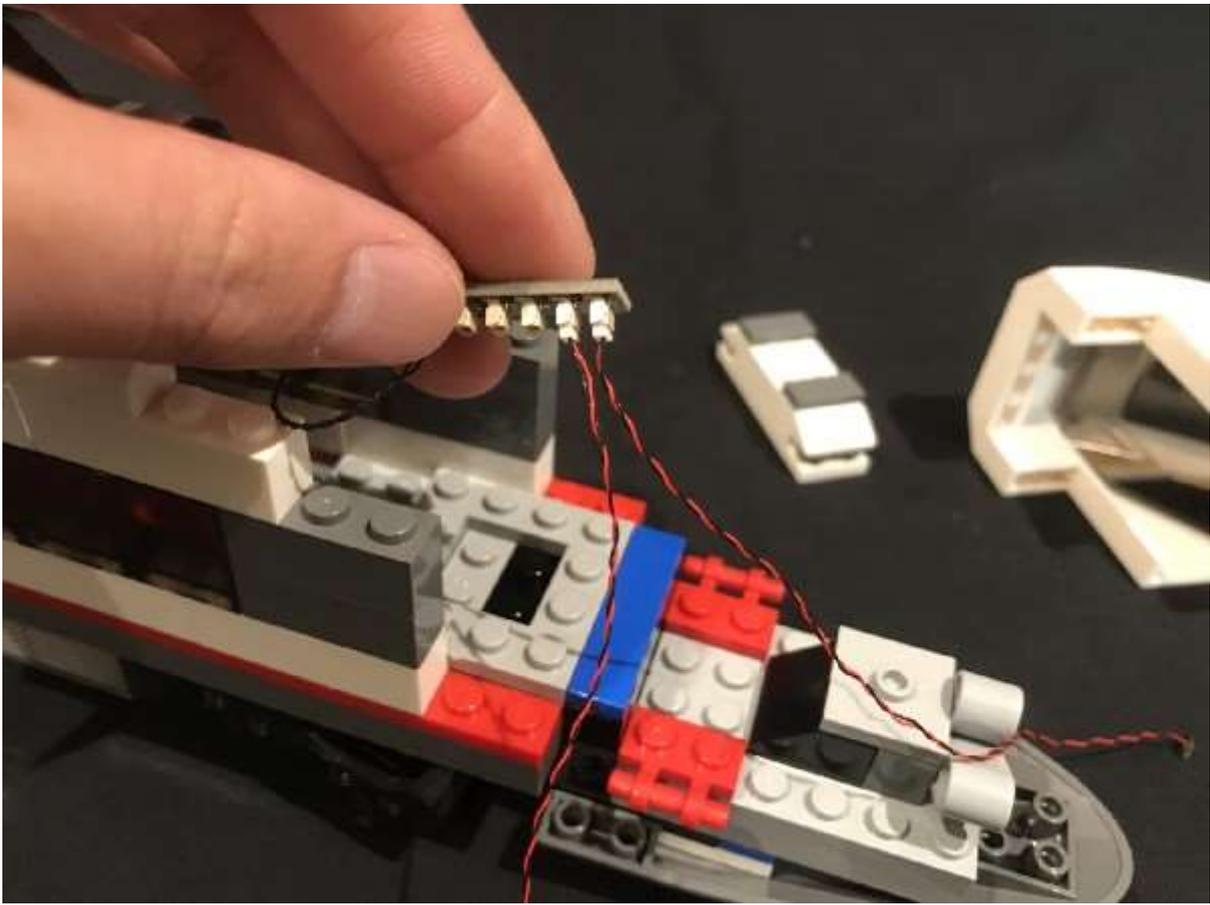


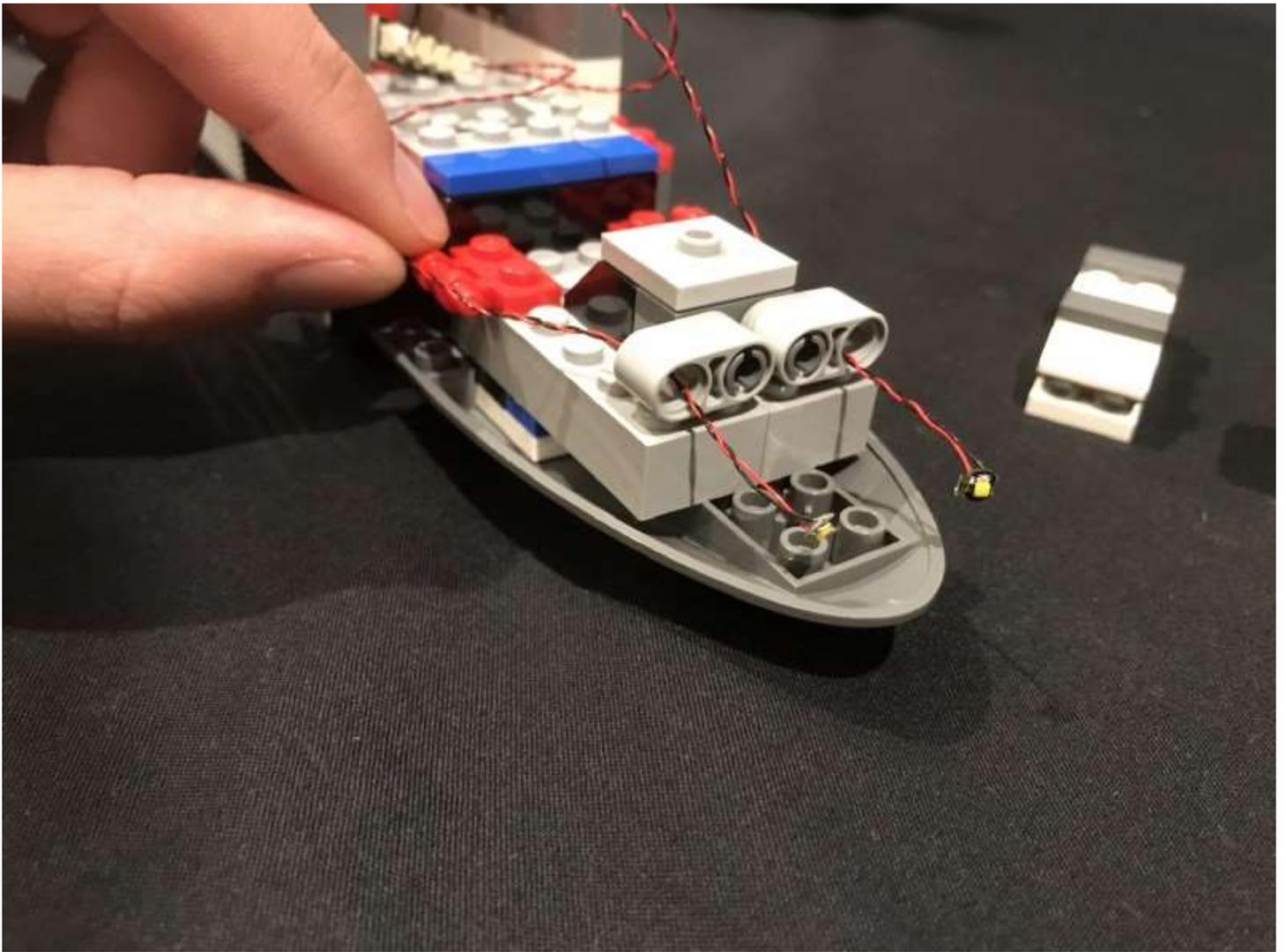
21.) Reconnect the top middle section of the roof and ensure you leave enough cable length in between carriages for the carriages to be able to turn on the railway tracks.



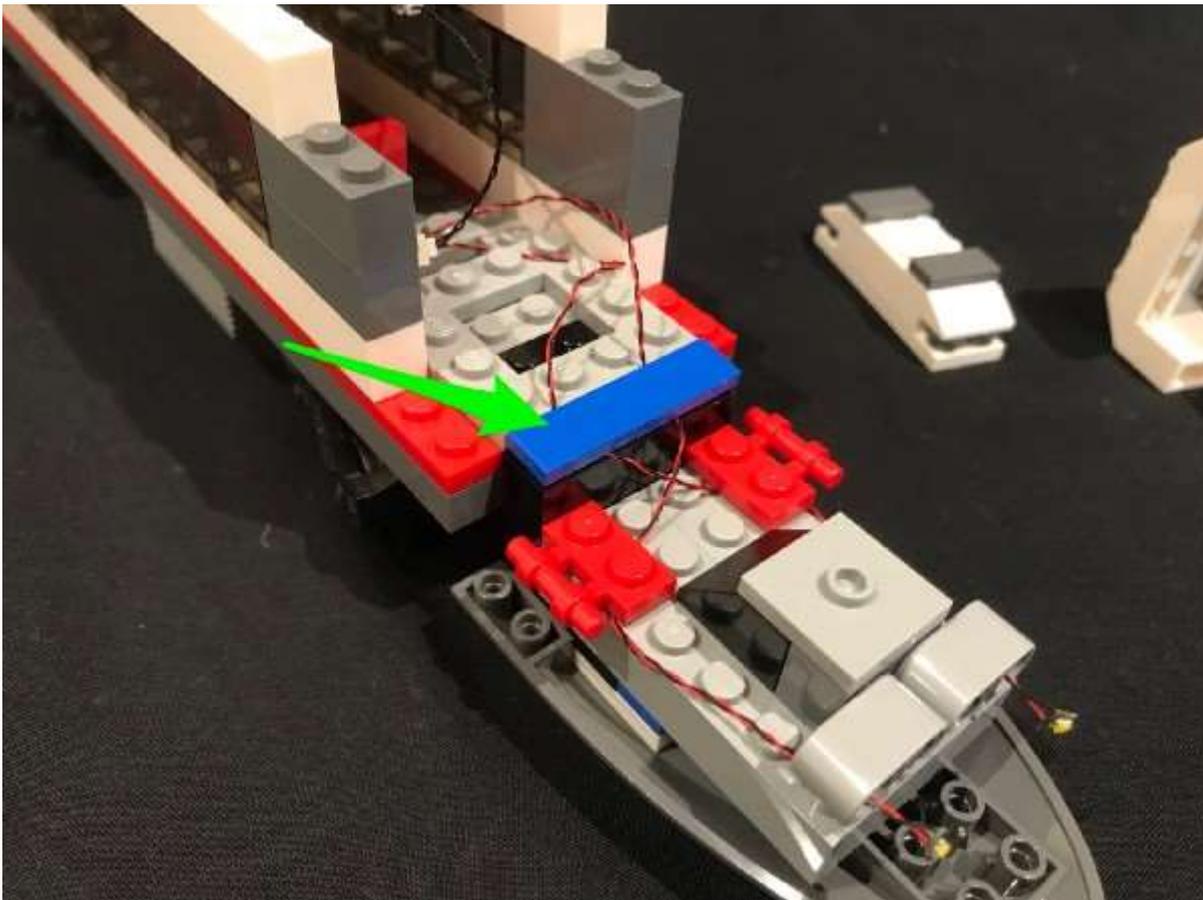
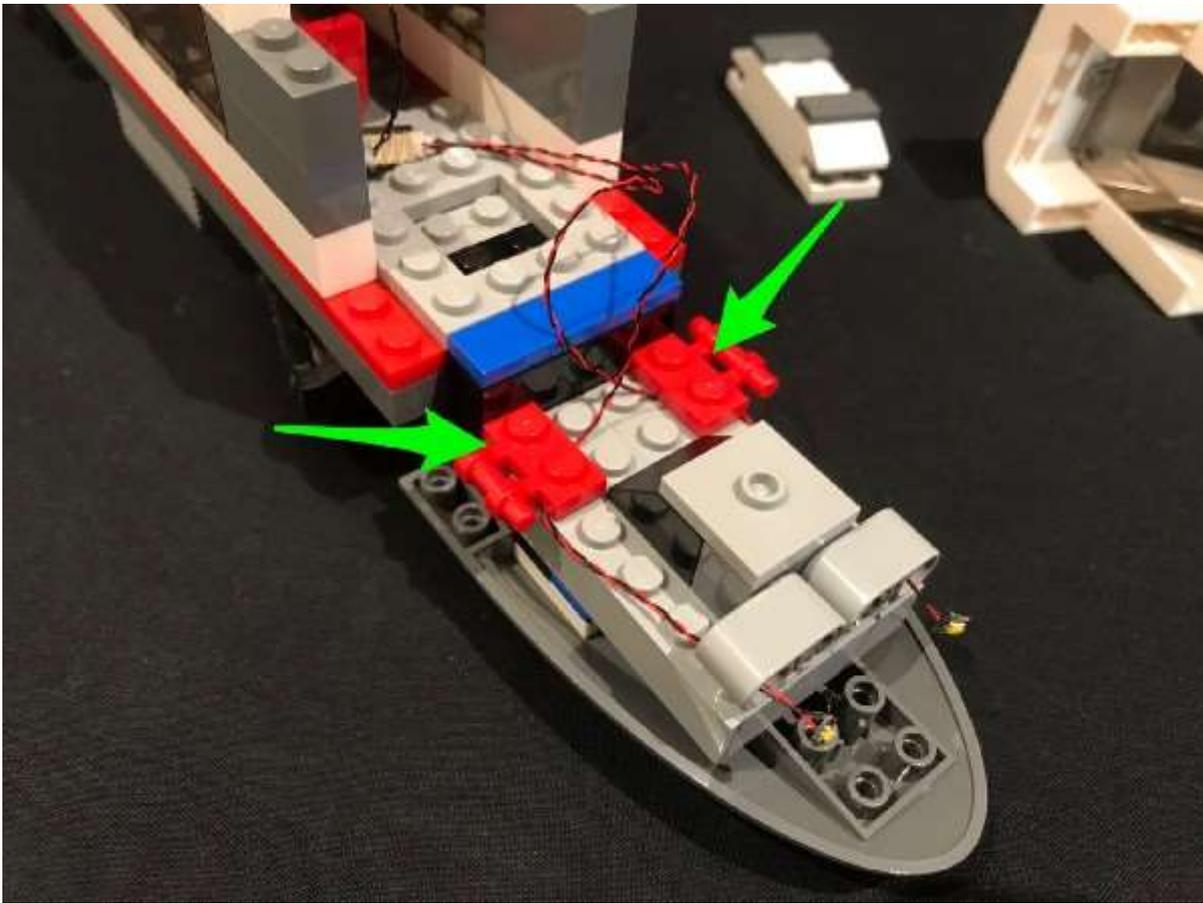


22.) Take 2x **White 15cm Bit Lights** and connect them to the expansion board. Thread the other end of the Bit Lights through the holes of the light grey technic pieces for the tail lights. Bend both ends of the Bit Lights on an angle so they are facing forward.

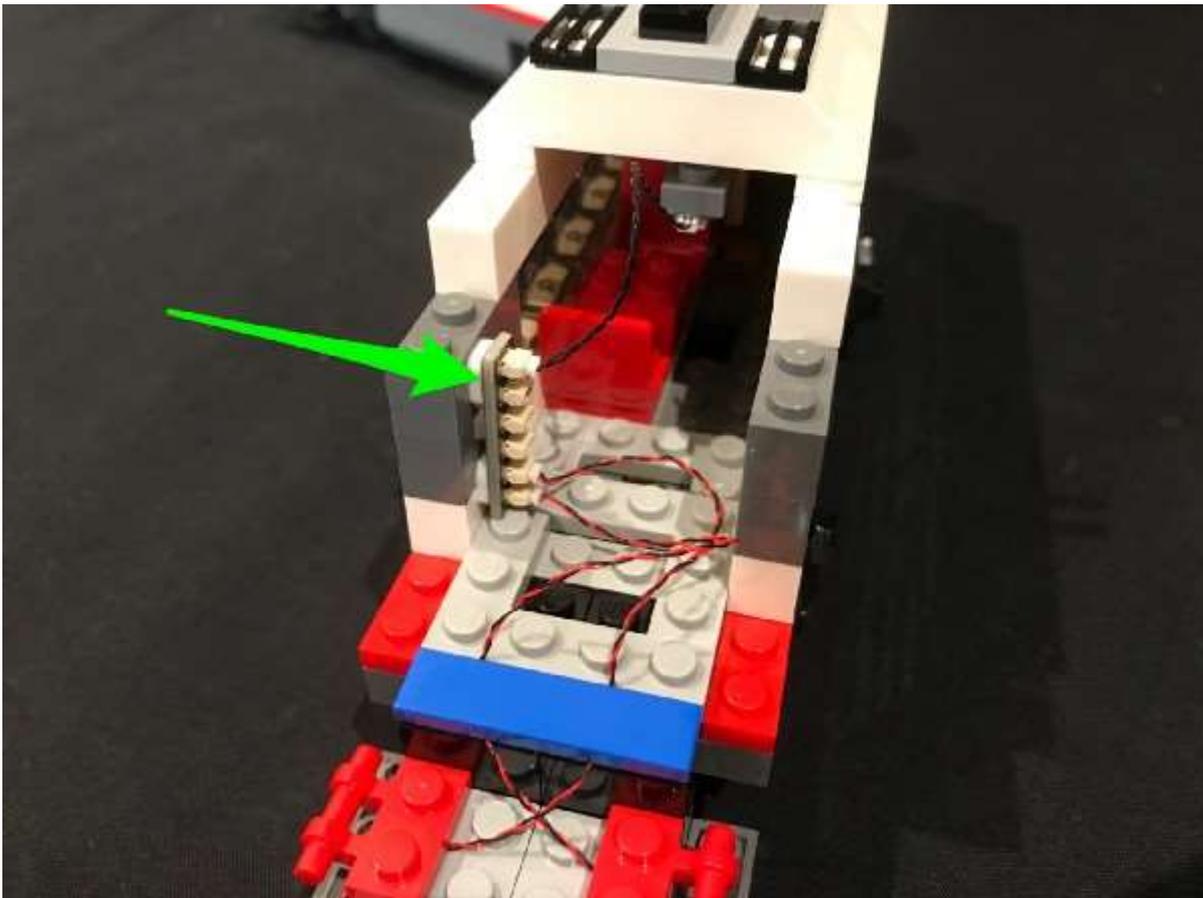
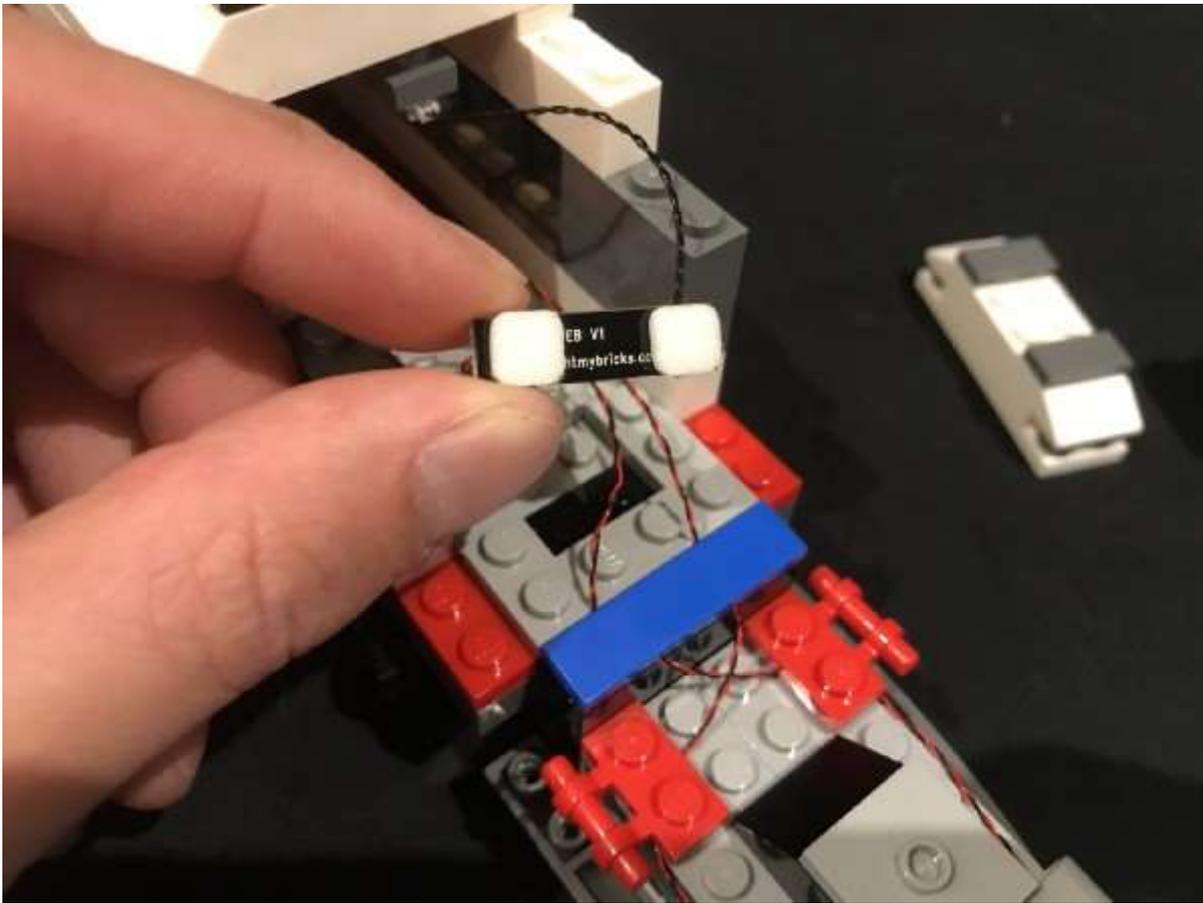




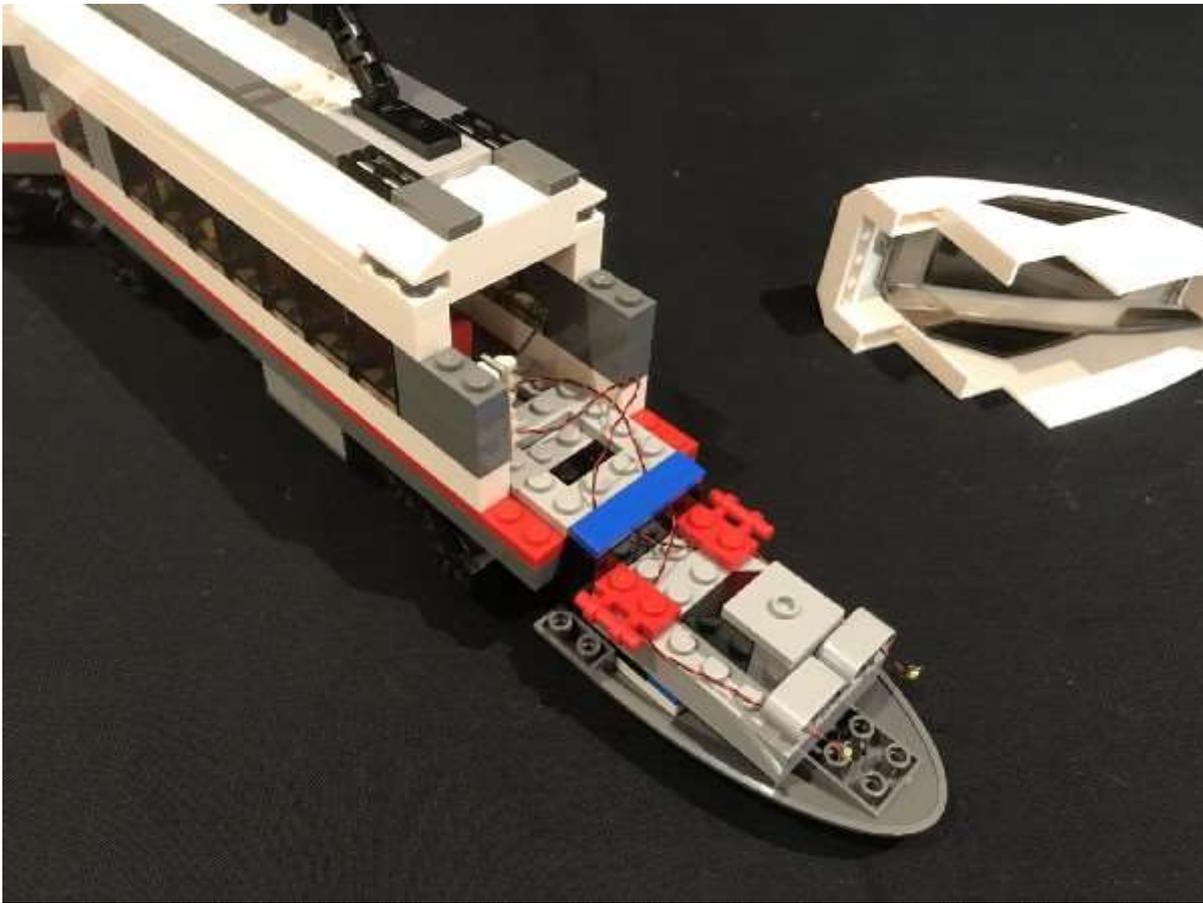
23.) Secure each light underneath the following LEGO pieces ensuring the cables are laid in between studs.



24.) Use 2x **adhesive squares** to mount the expansion board to the inside of the carriage as per below:



25.) Reconnect remaining sections of the roof and back piece.

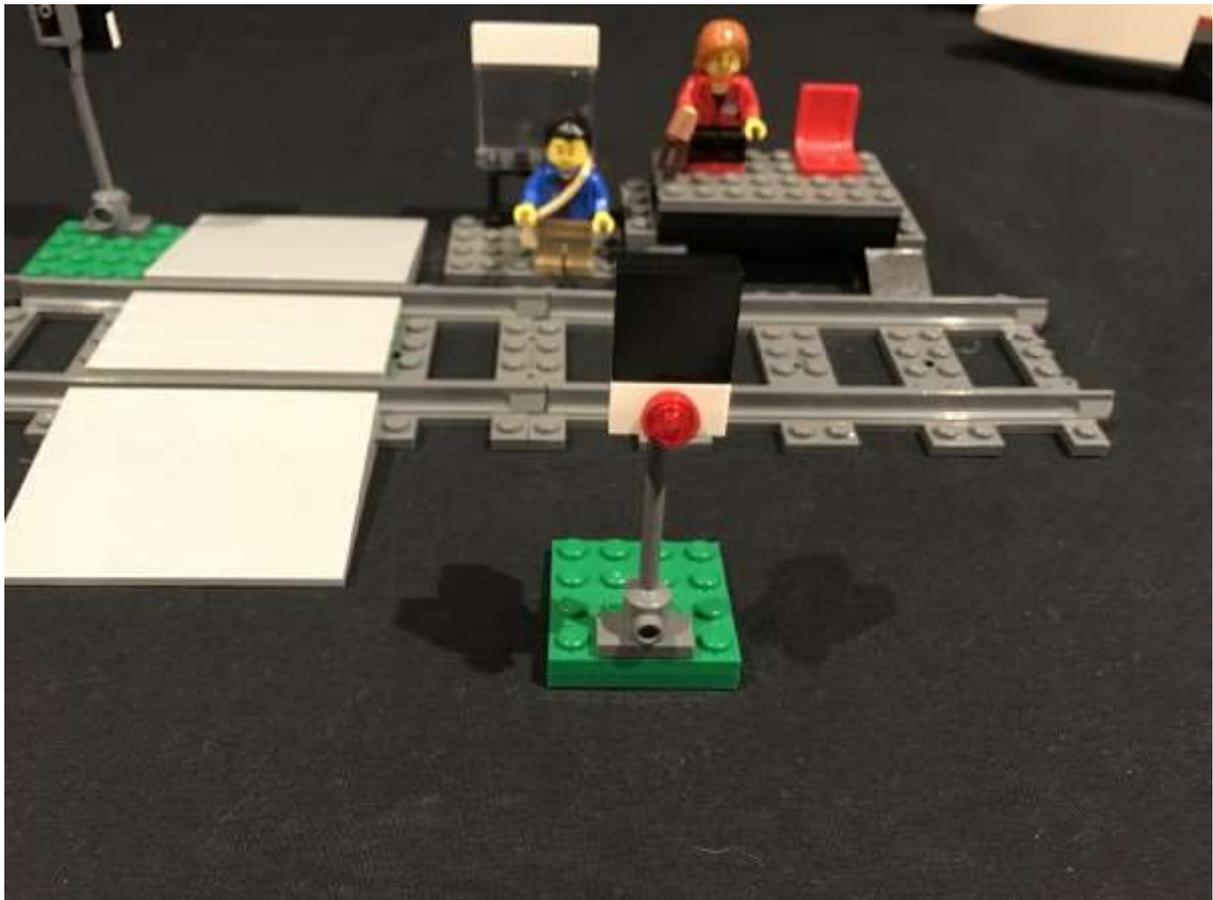
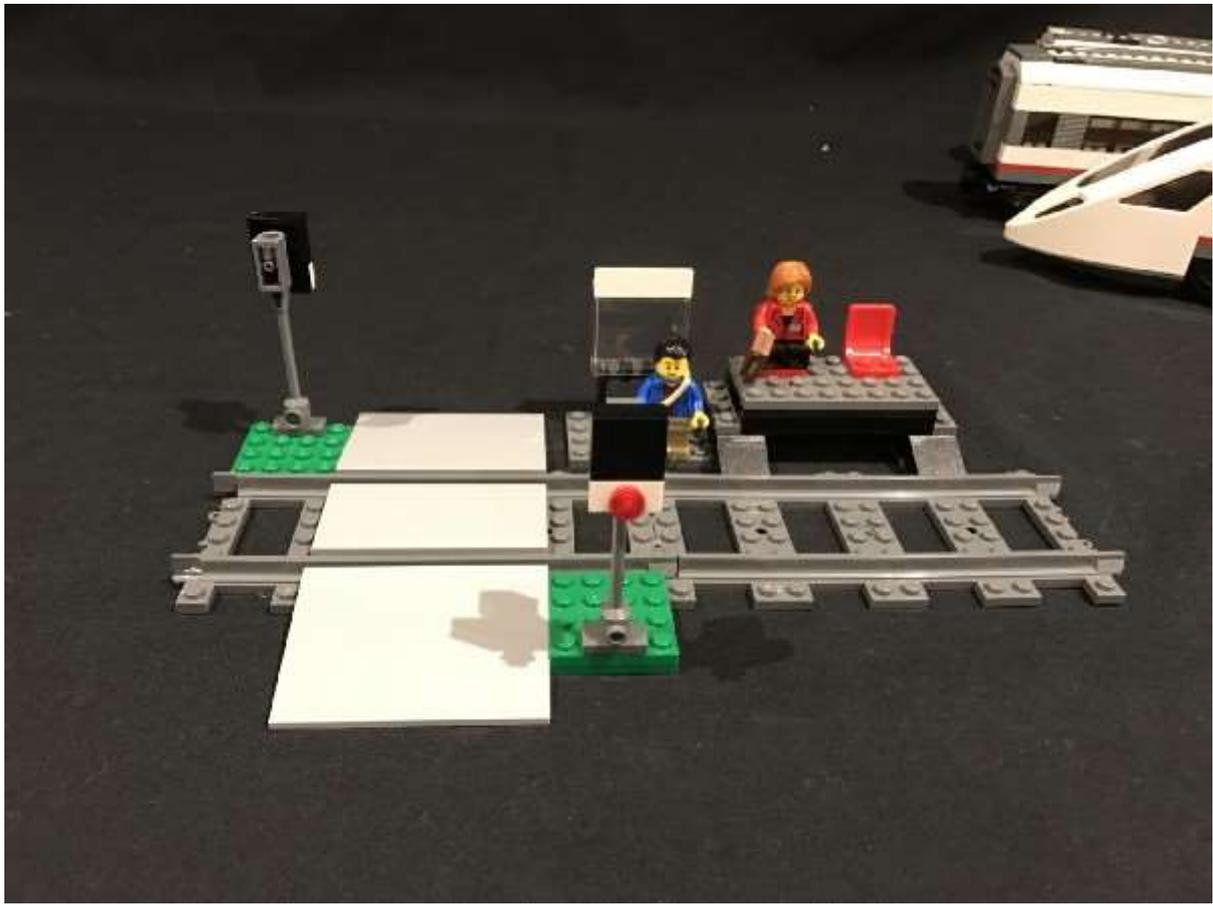


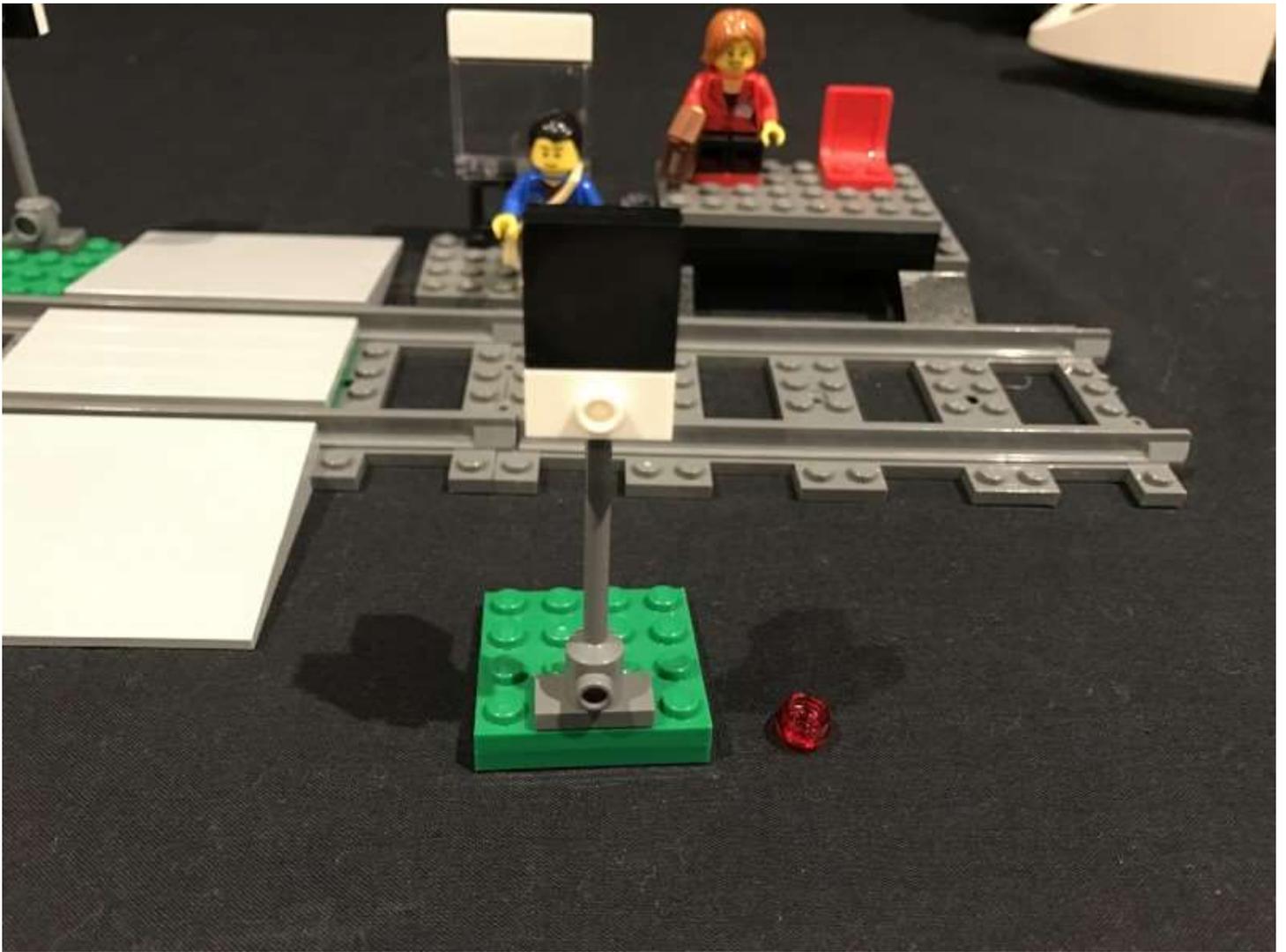
This completes installation of the lights for the Train. Turn the battery pack on to test all is working ok before moving onto installing lights to the train station.



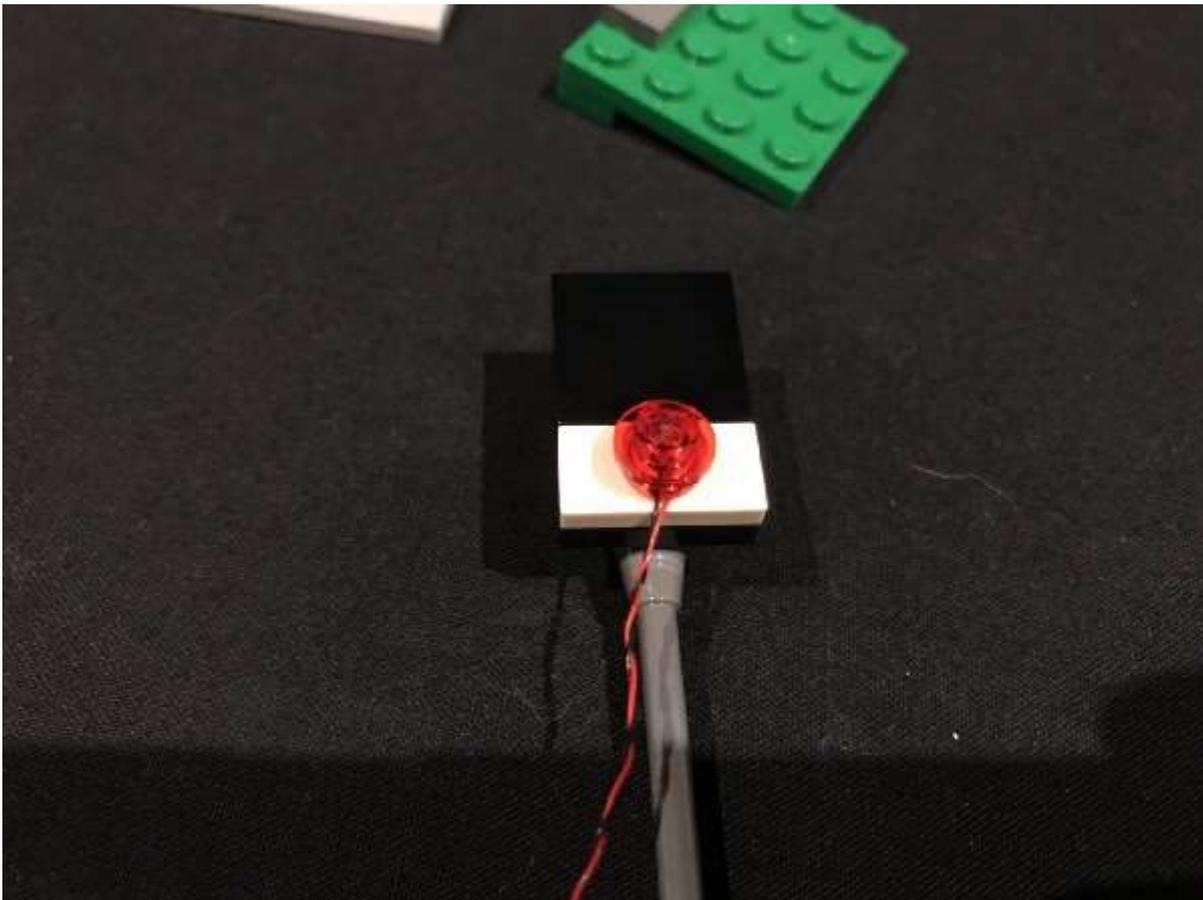
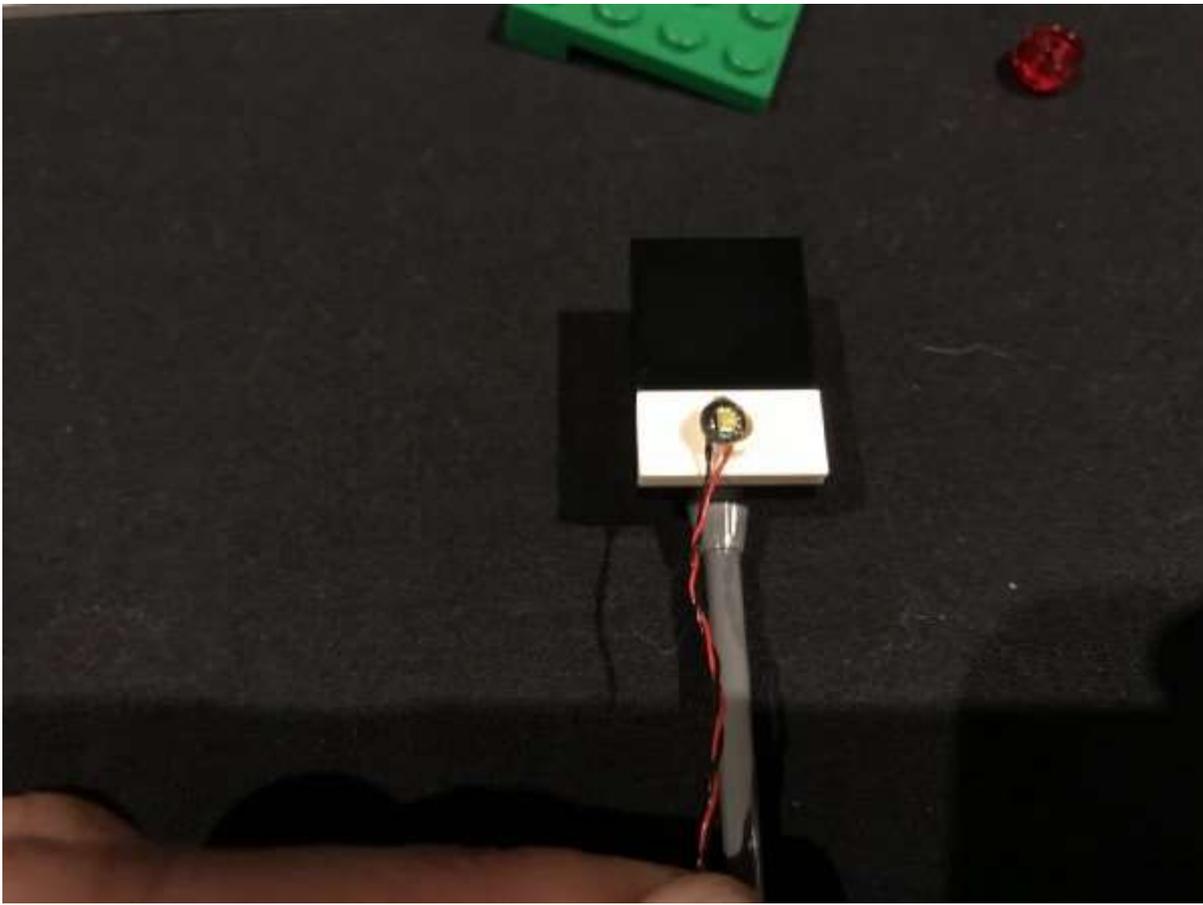
Installing Lights to the Train Station

1.) Remove the front crossing light and then disconnect the trans red round plate.

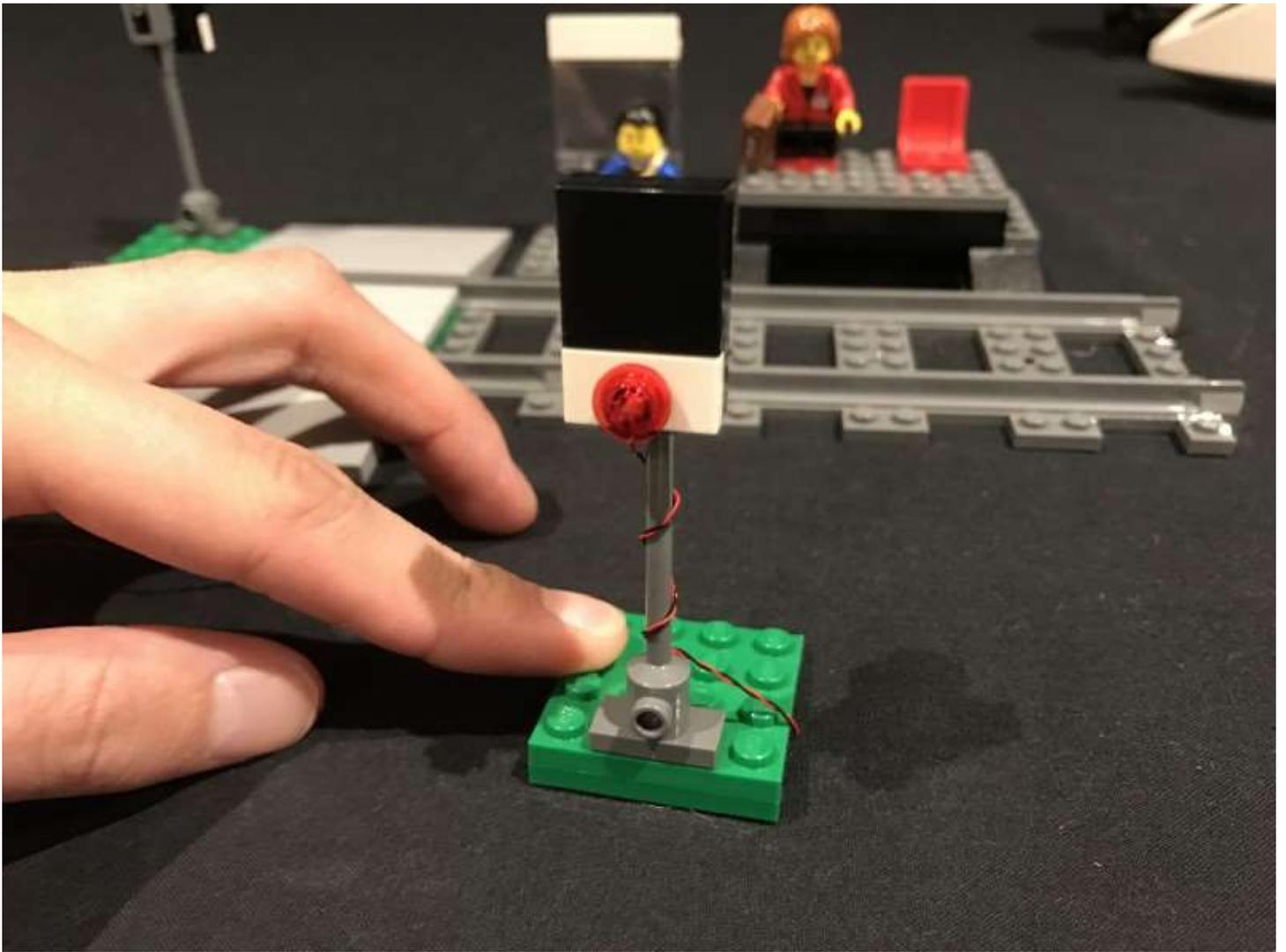




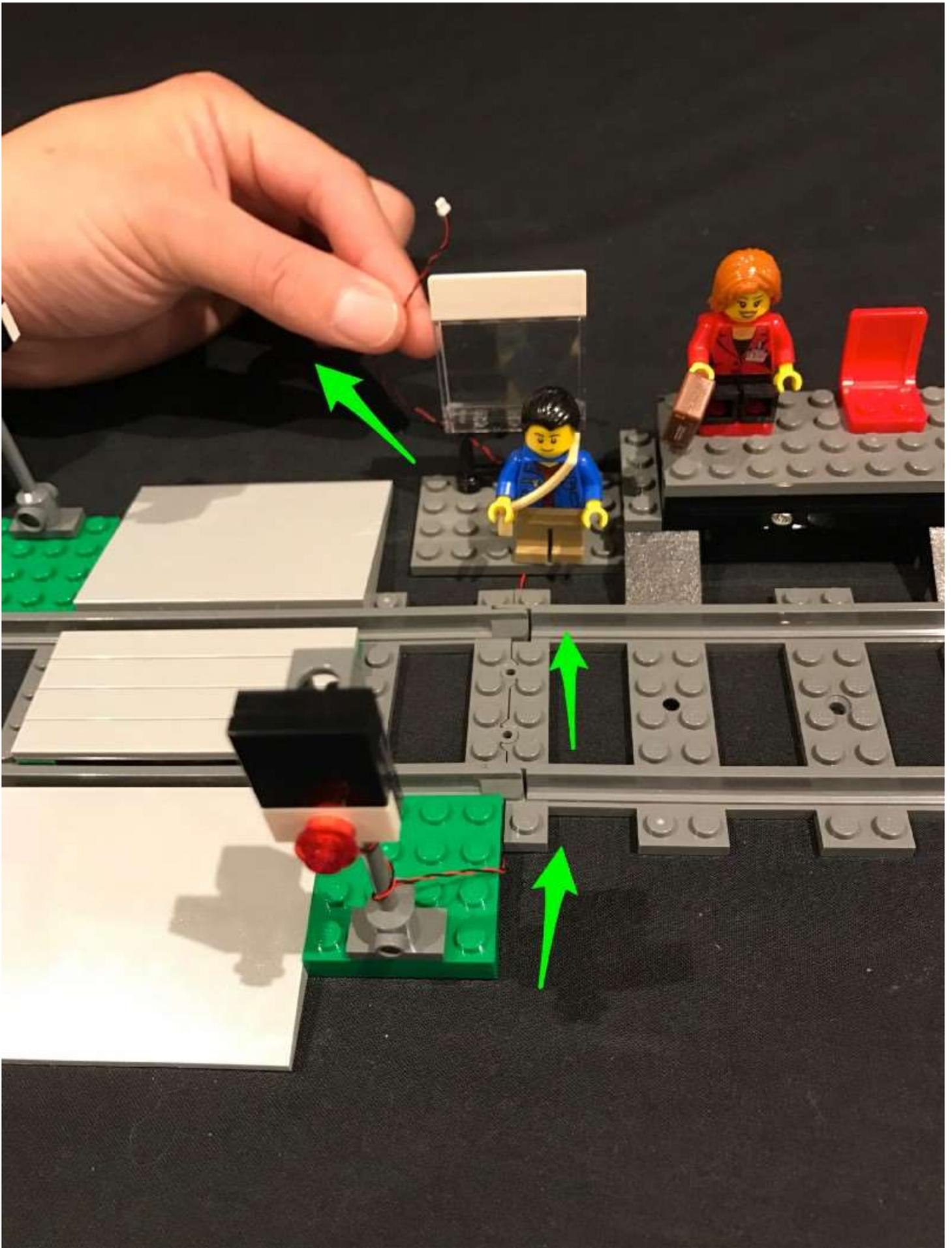
2.) Take a **Flashing White 30cm Bit Light** and then place it directly over the white stud underneath with the cable facing down. Secure the light in place by reconnecting the trans red round plate over the top.



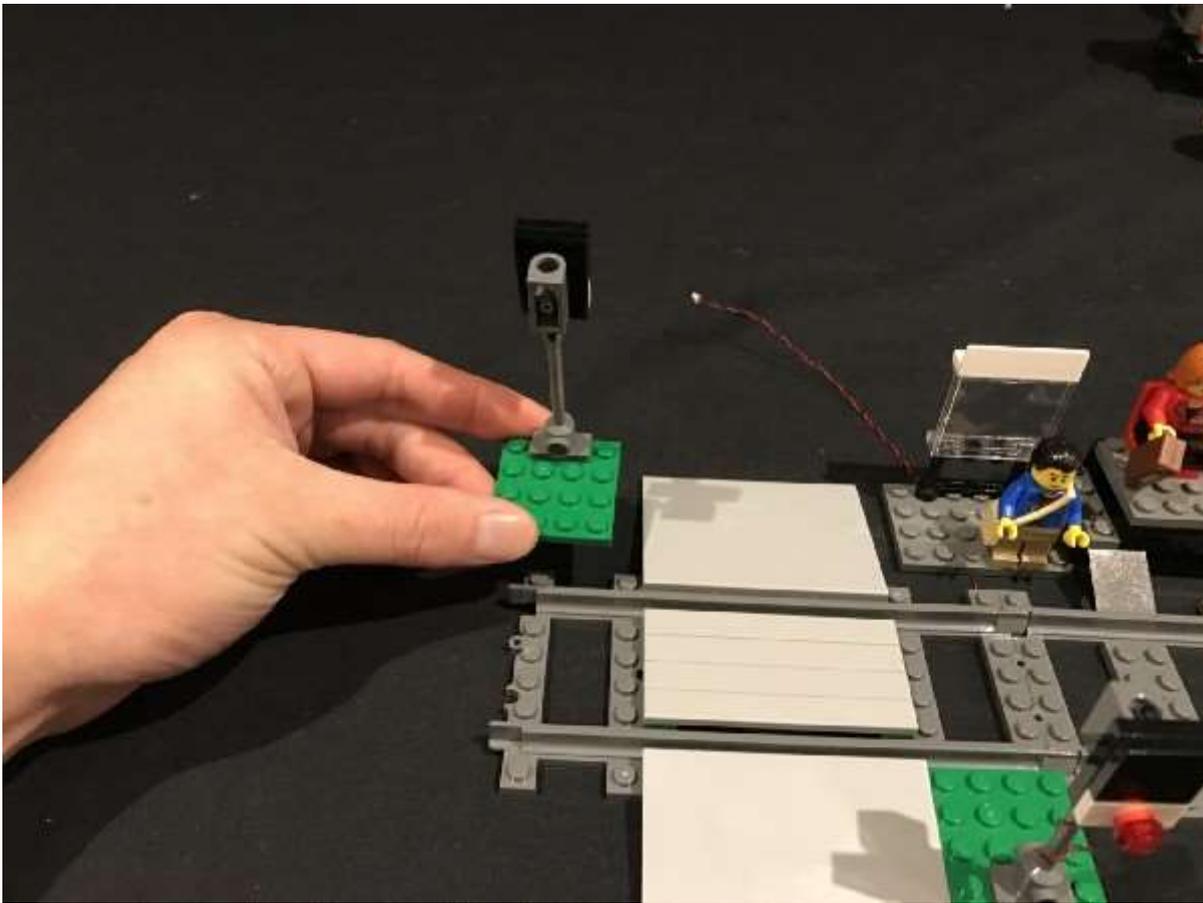
Wind the bit light cable around the pole 2–3 times as per below



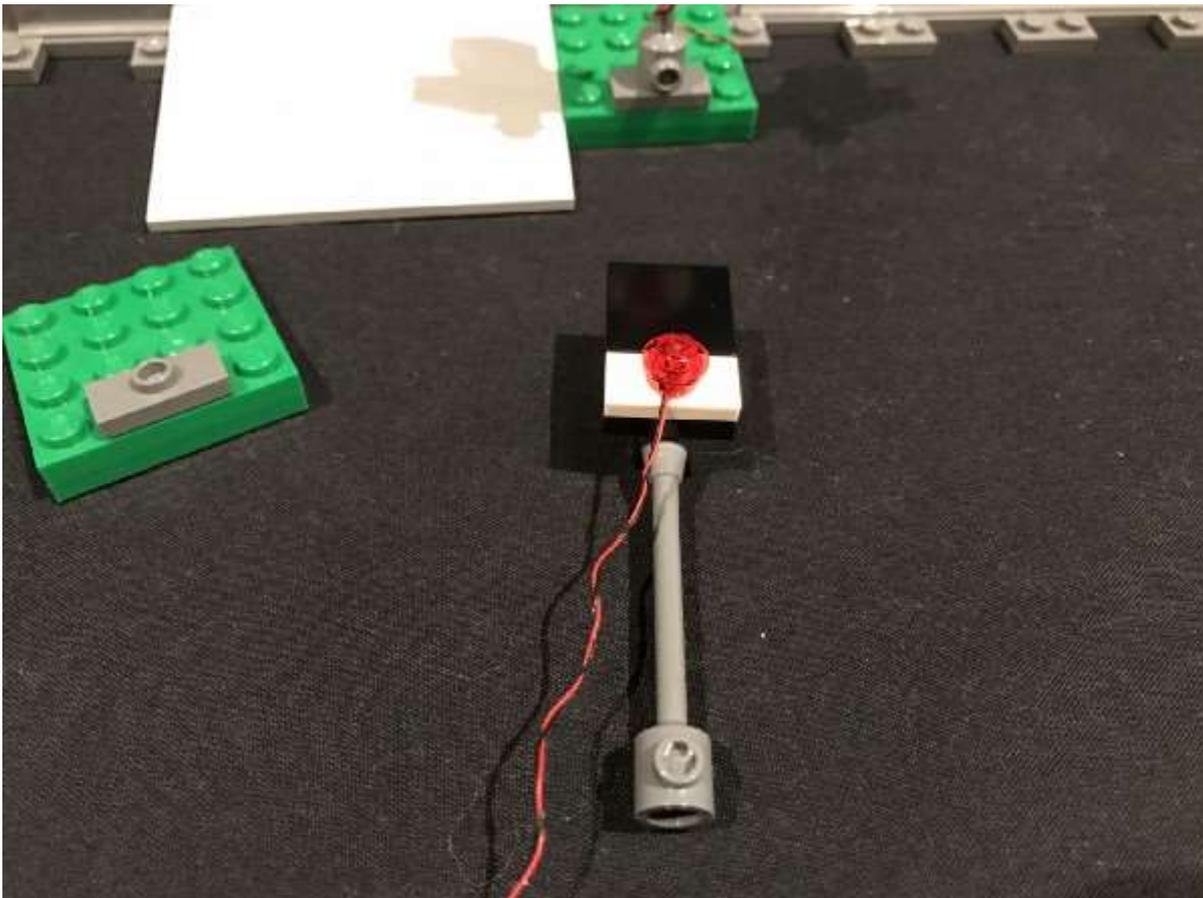
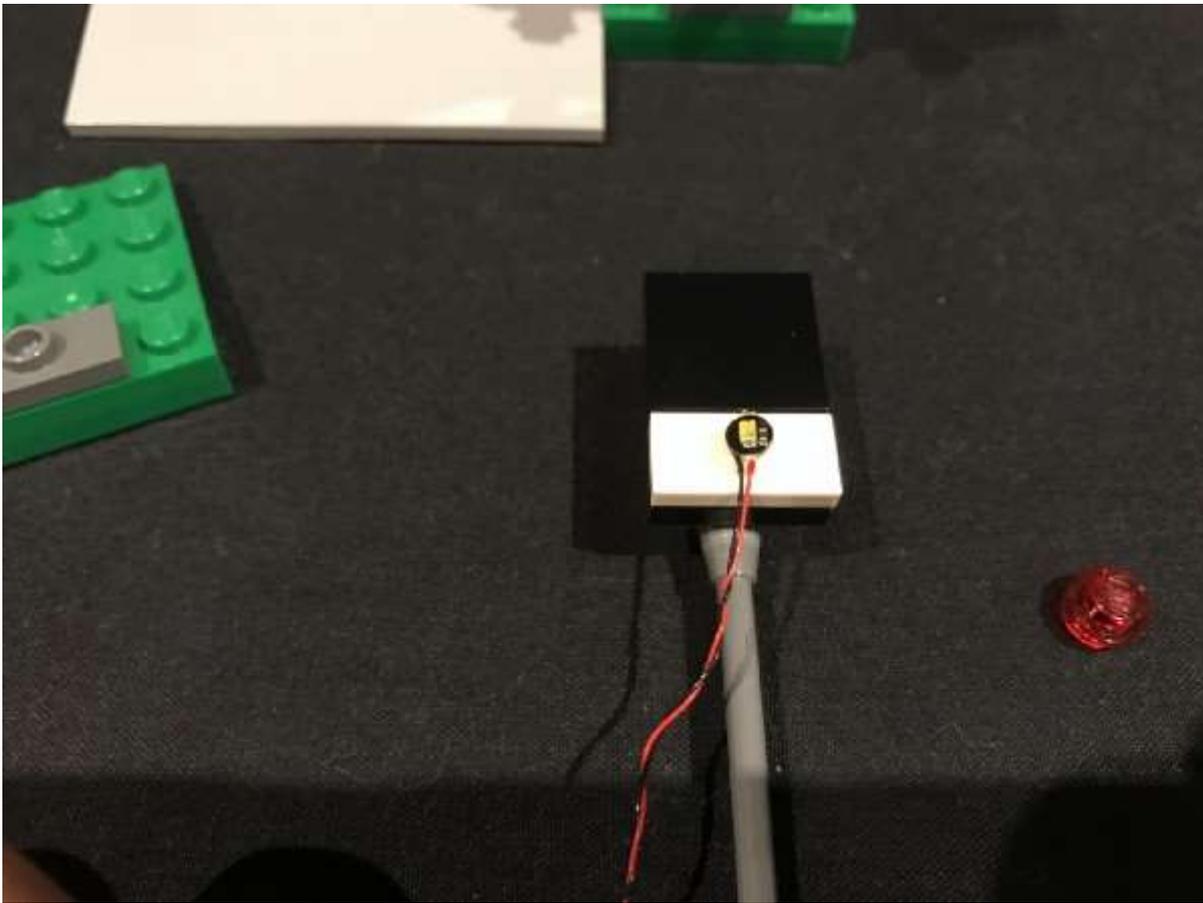
3.) Reconnect the light back to the track and then lay the cable underneath the tracks toward the train stop.



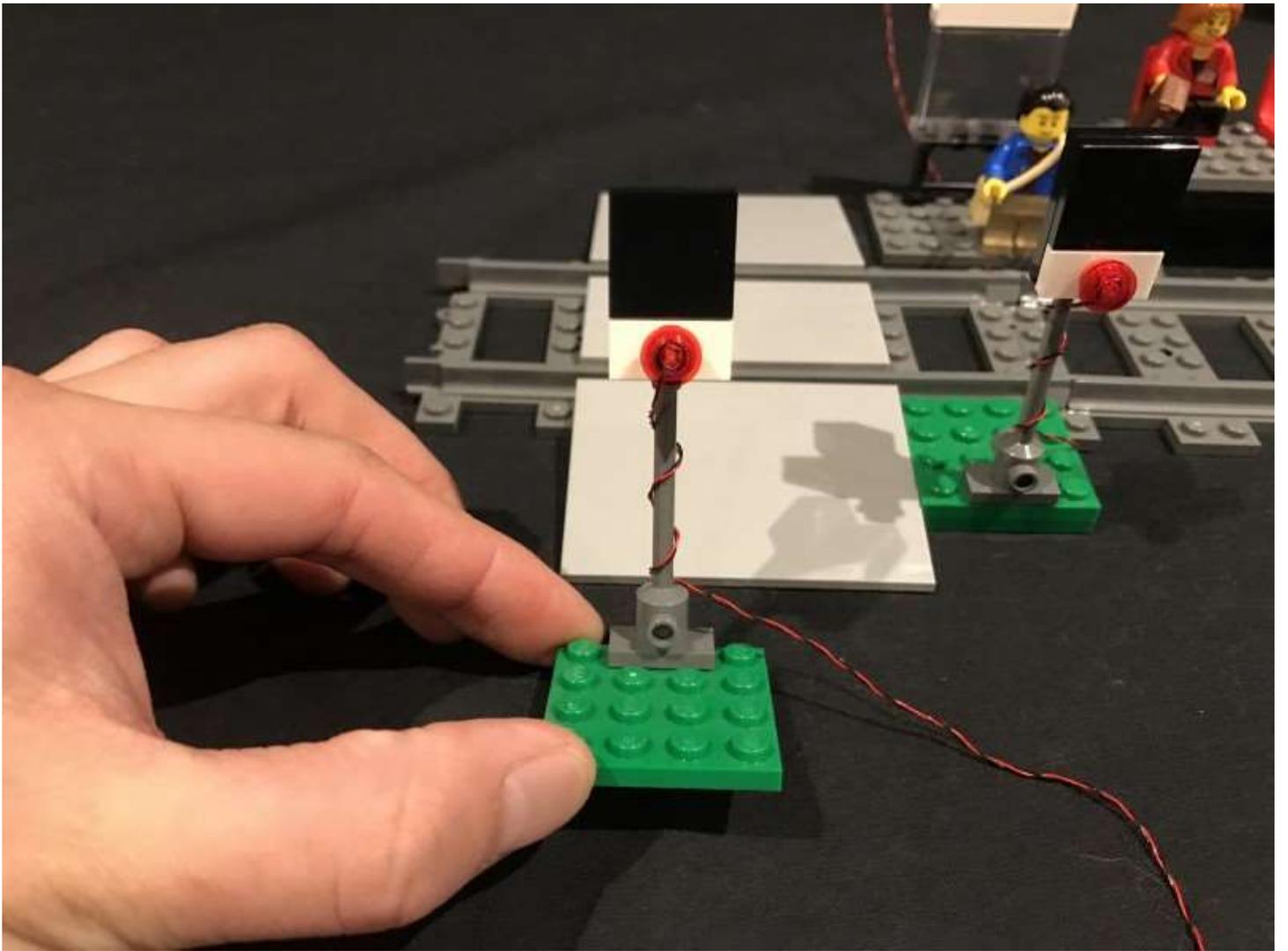
4.) Remove the other crossing light and then disconnect the trans red round plate.

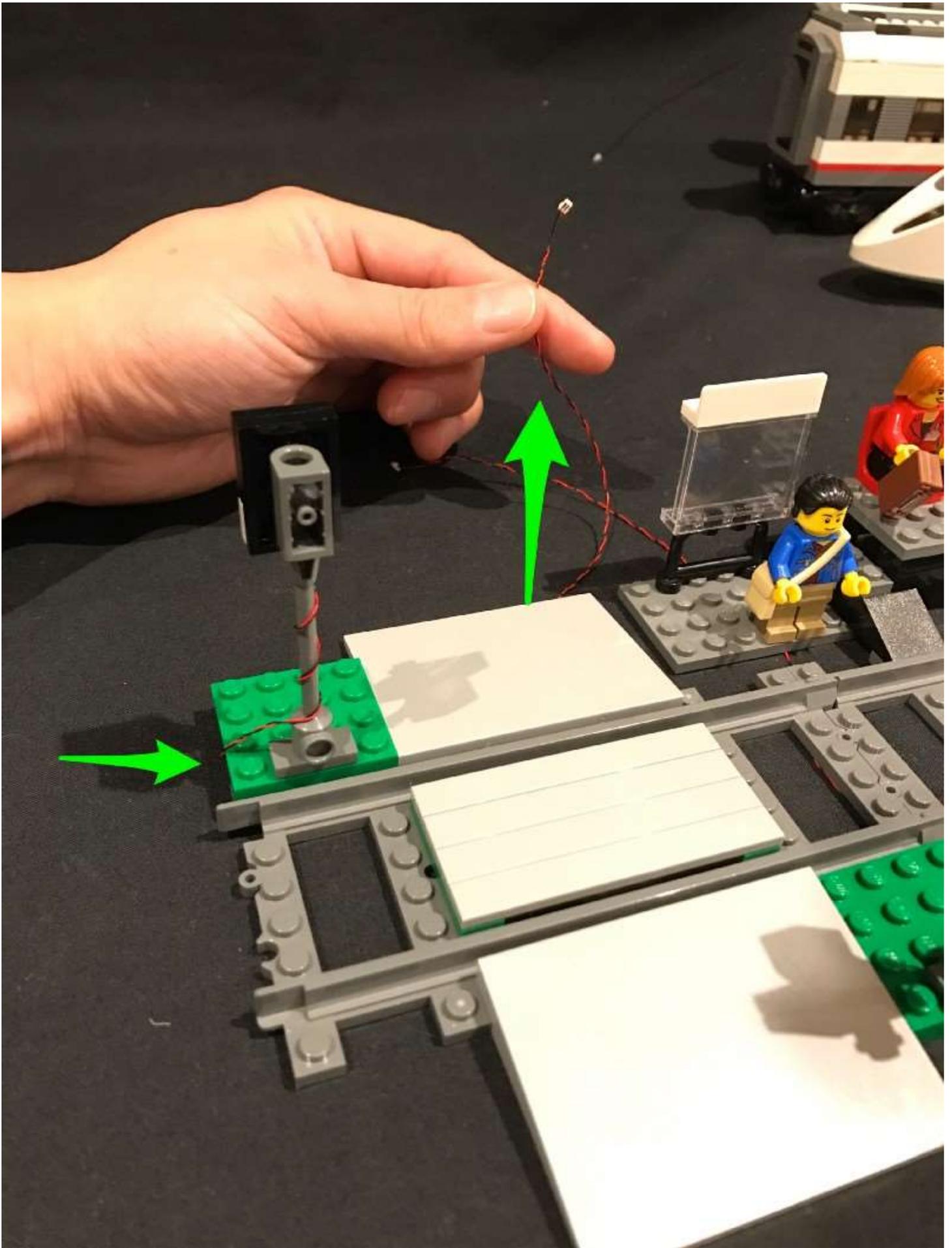


Take another **Flashing White 30cm Bit Light** and install it using the same method as we did for the other crossing light.

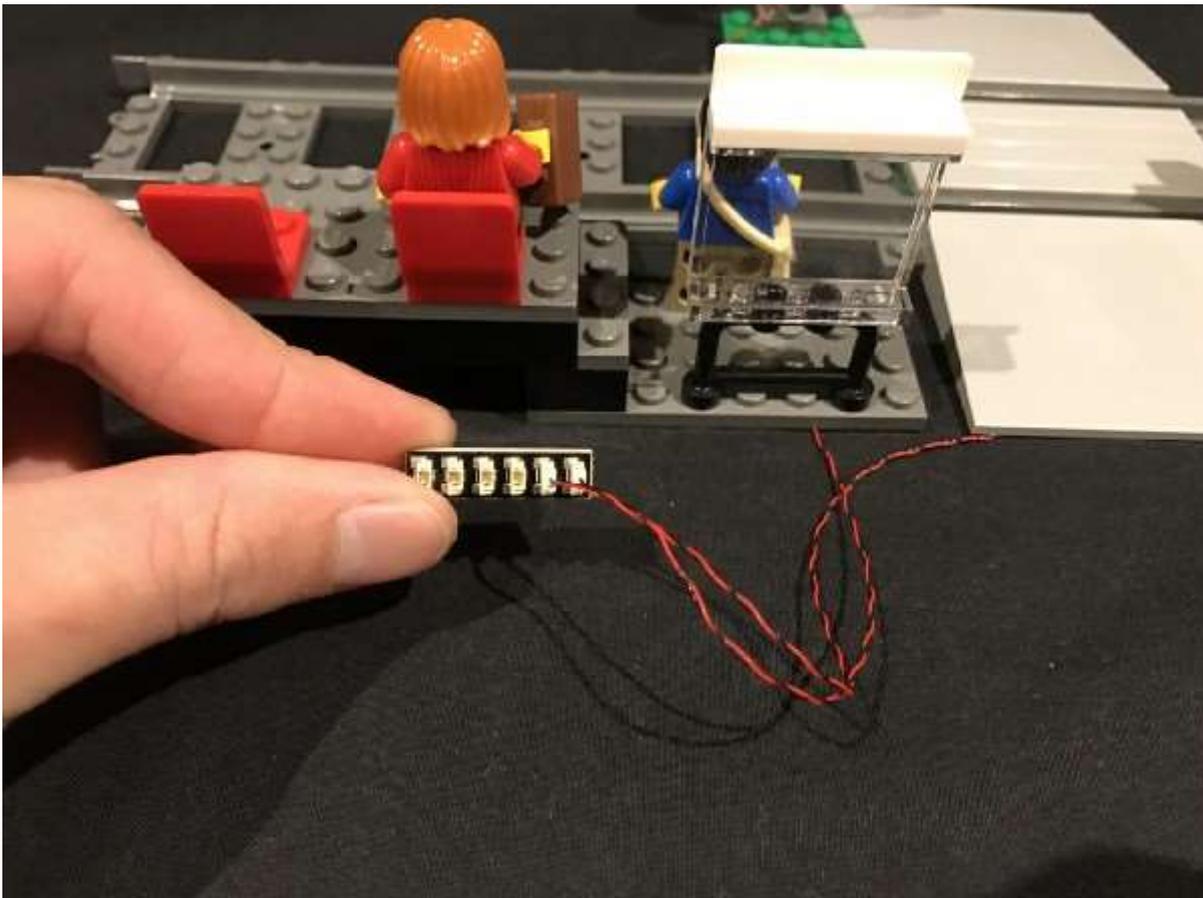
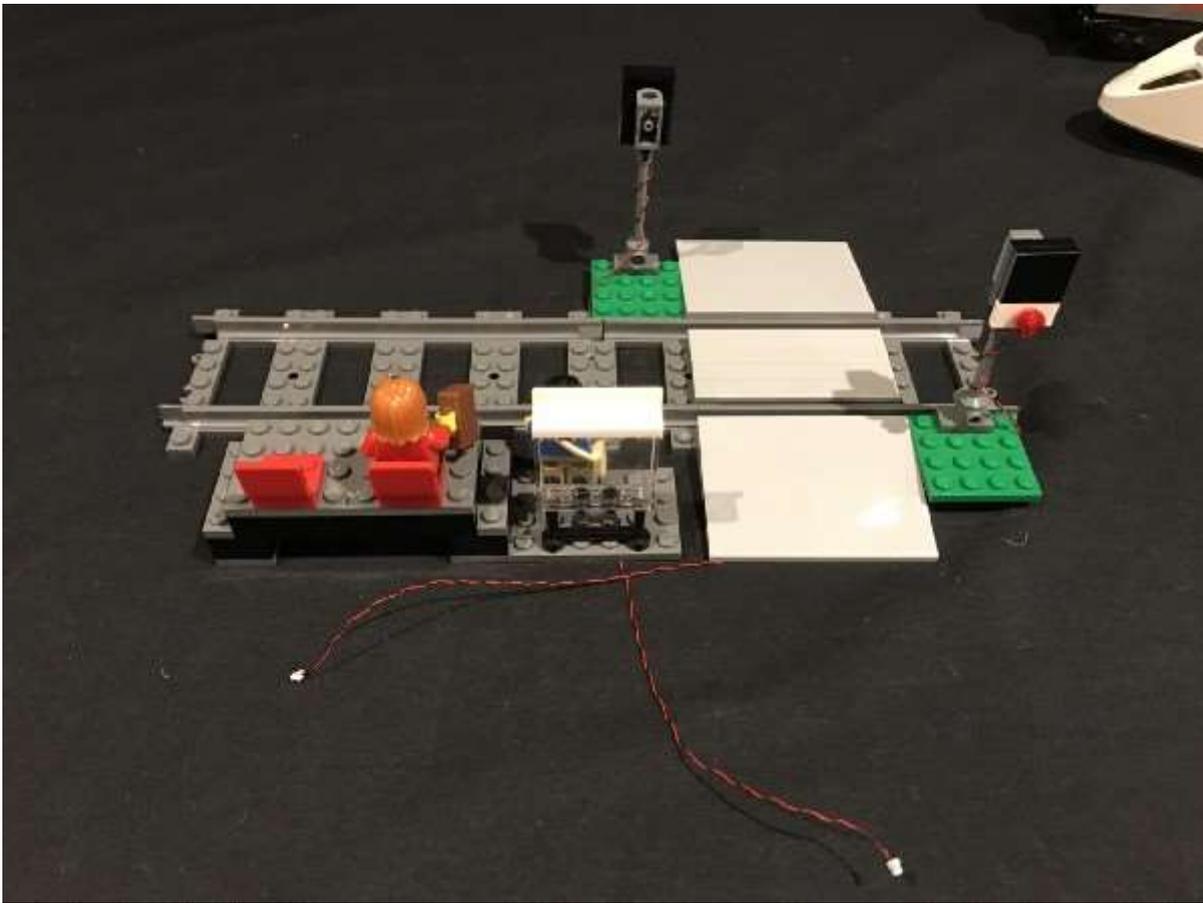


5.) Wind the bit light cable around the pole 2–3 times as per below and then reconnect the crossing light to the track and thread the cable underneath the track plate toward the train stop.

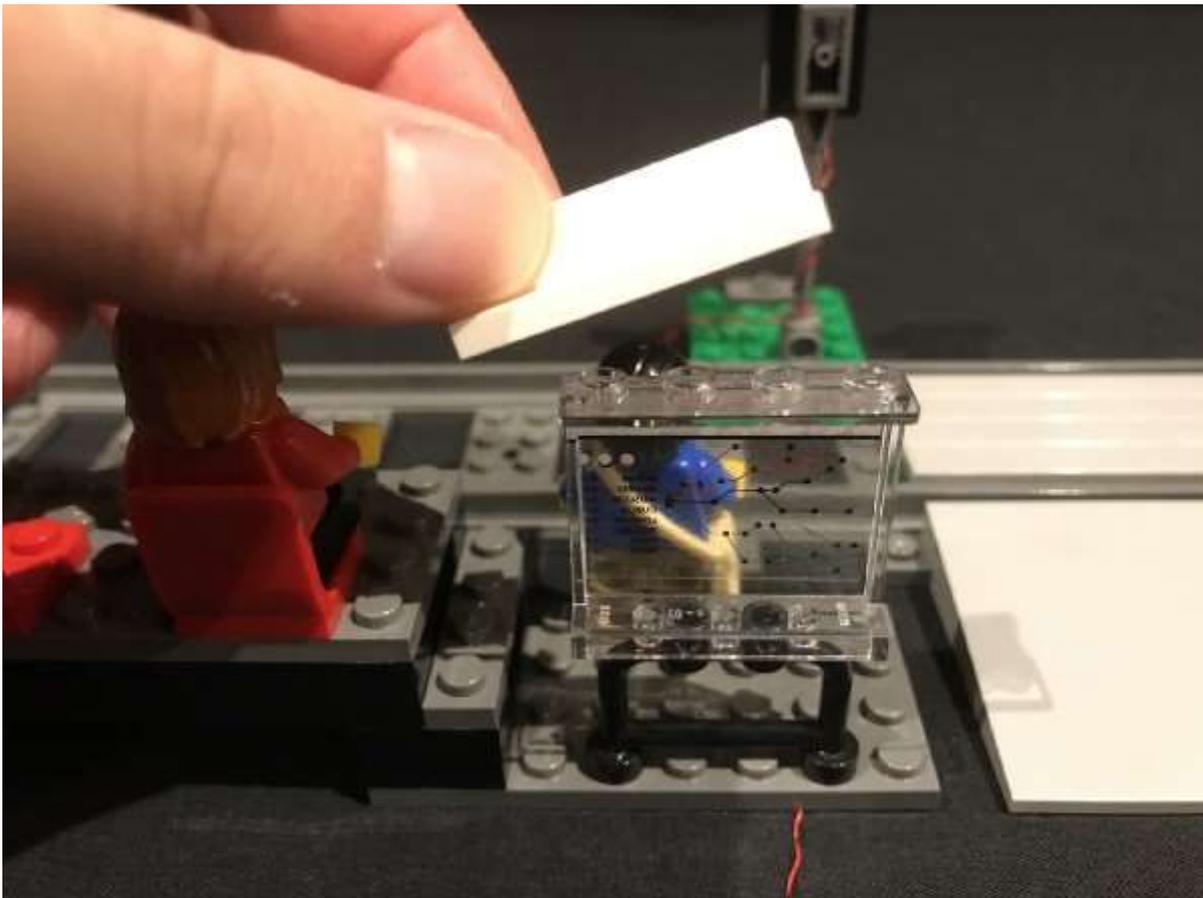
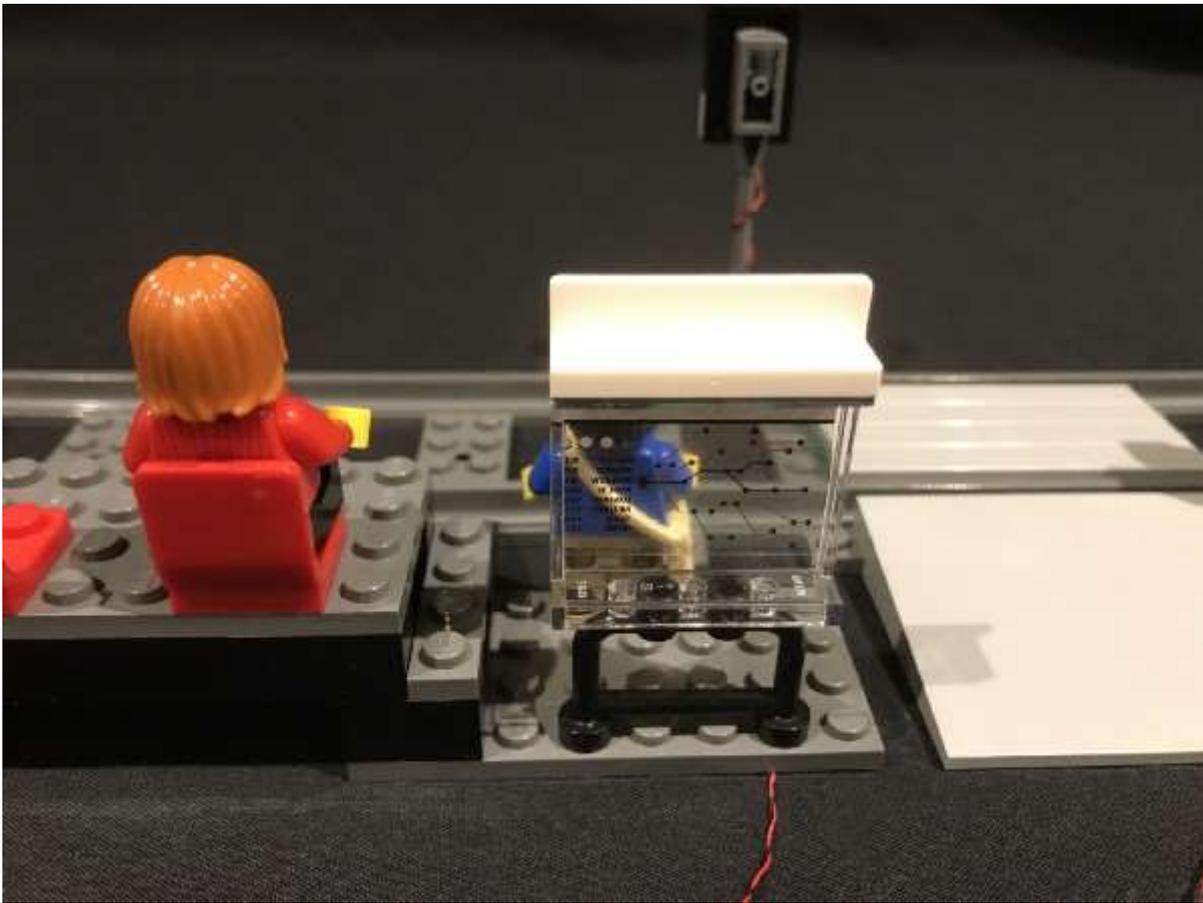




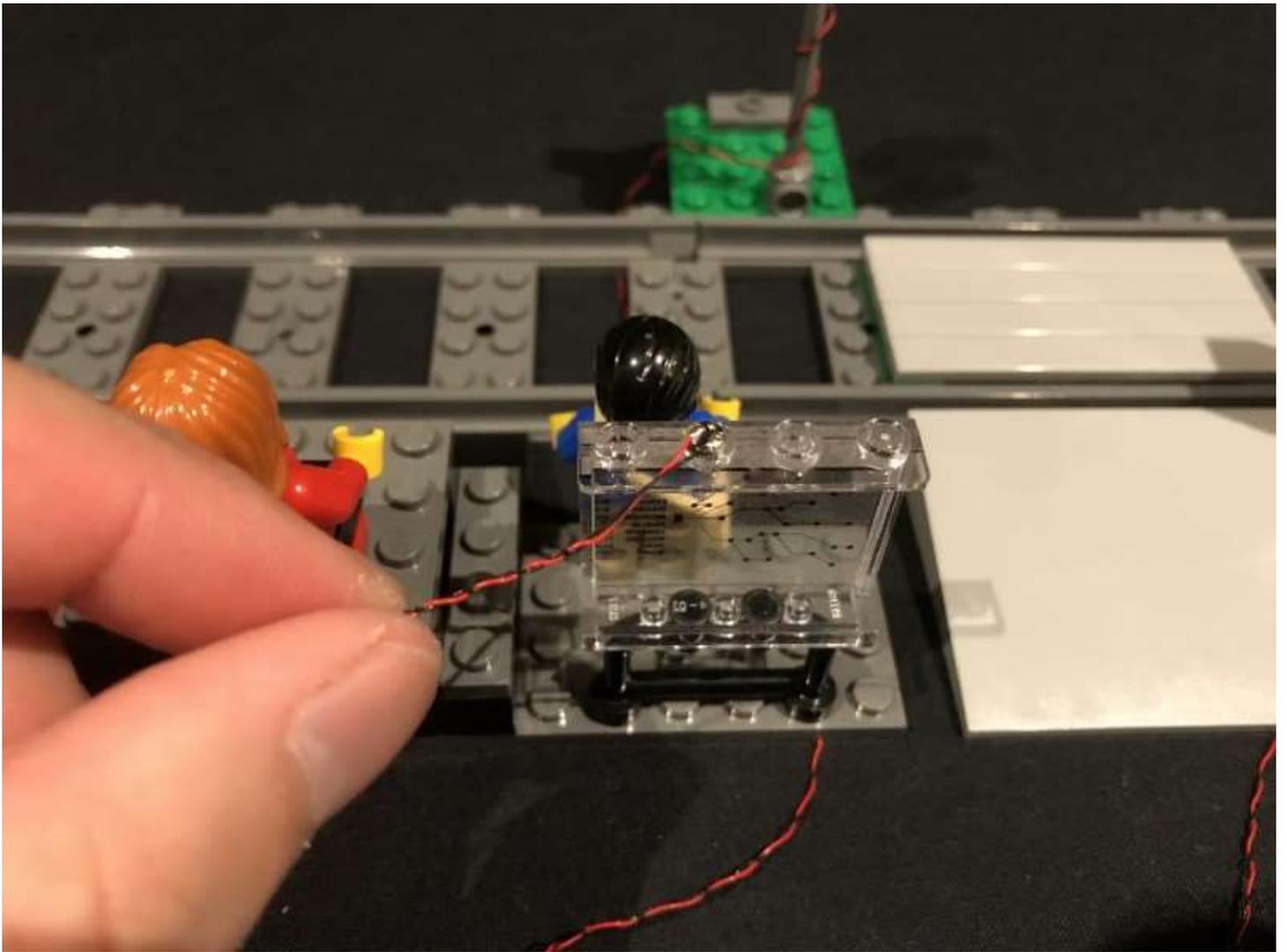
6.) Turn the set around the back side and take the **6-Port Expansion board** and connect the 2 lights to the ports.



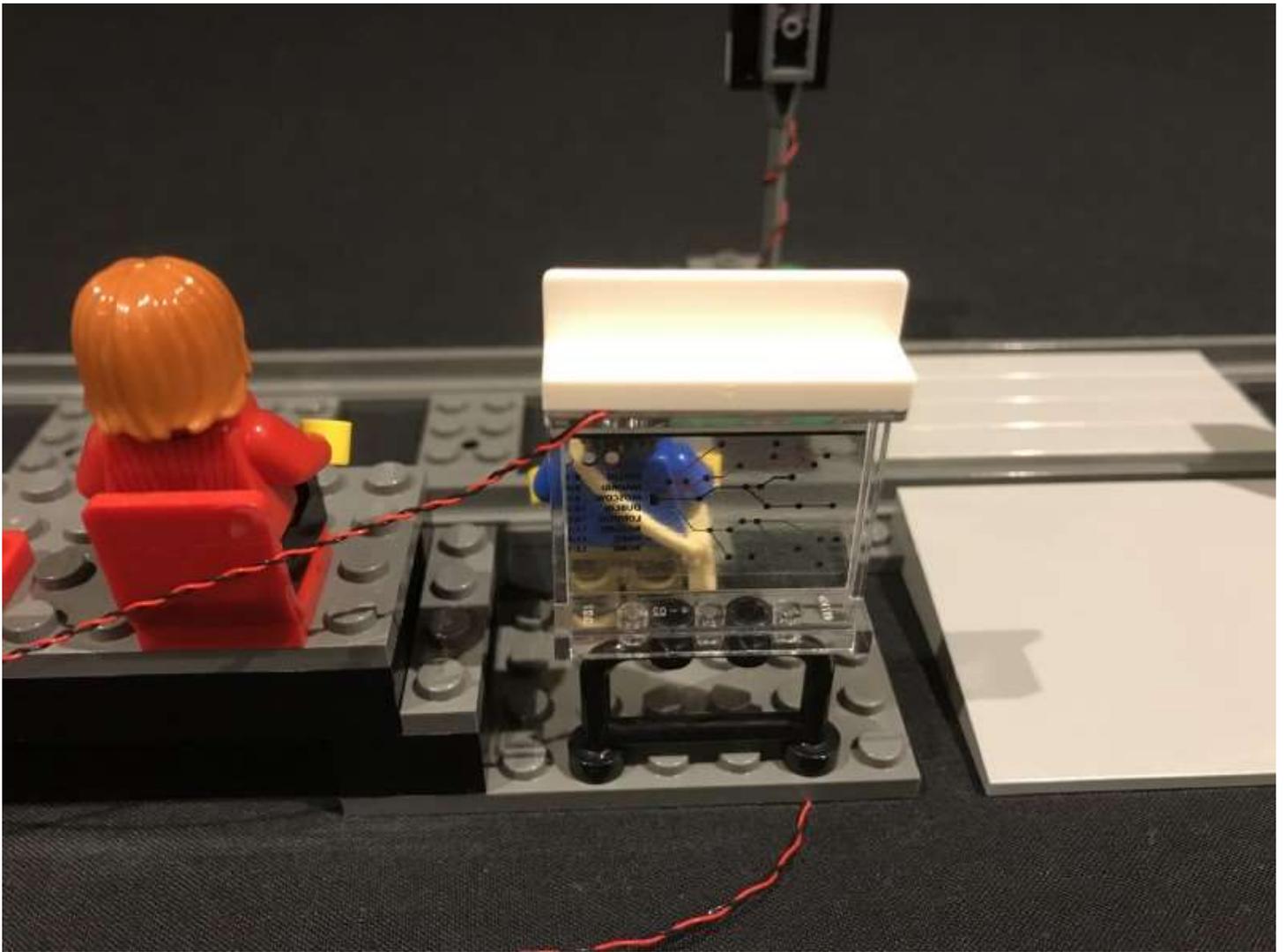
7.) Disconnect the white piece from the top of the train stop sign.



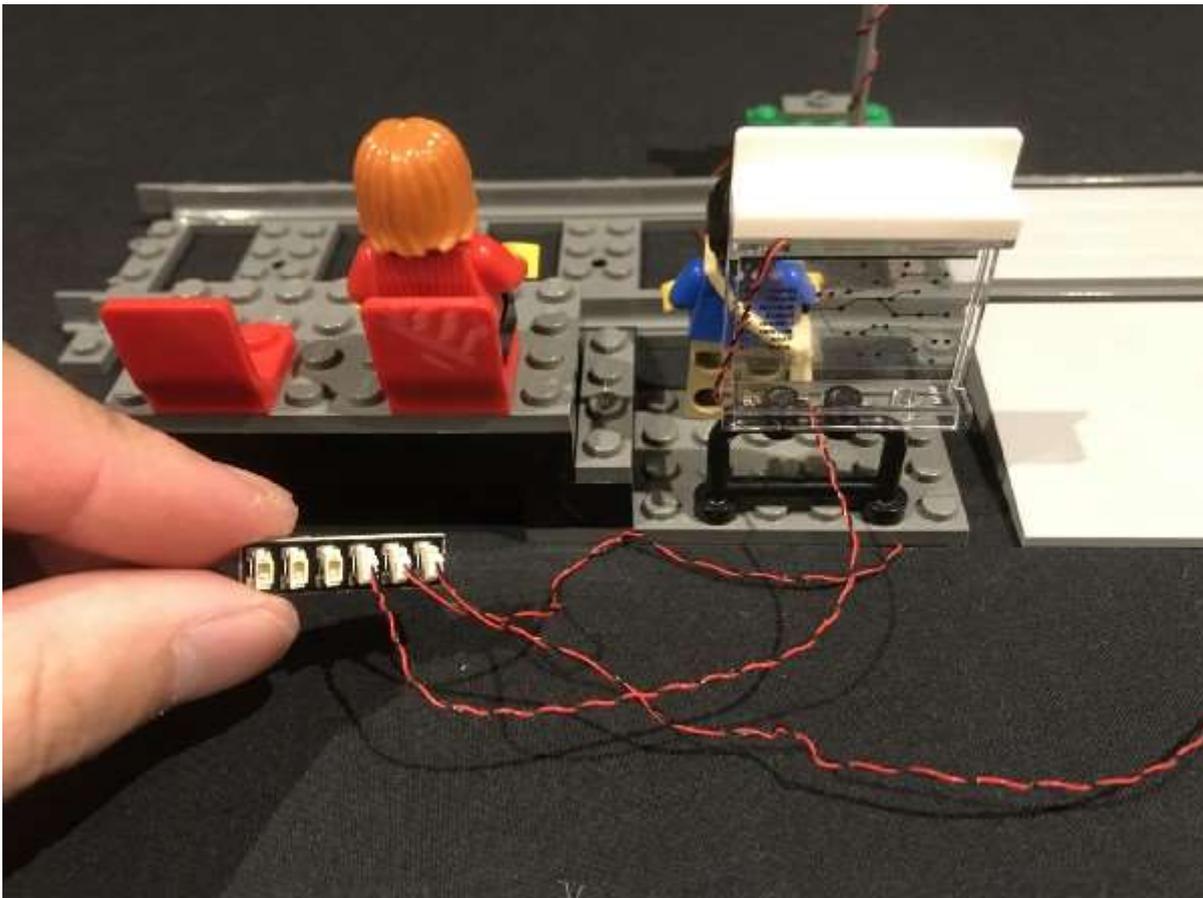
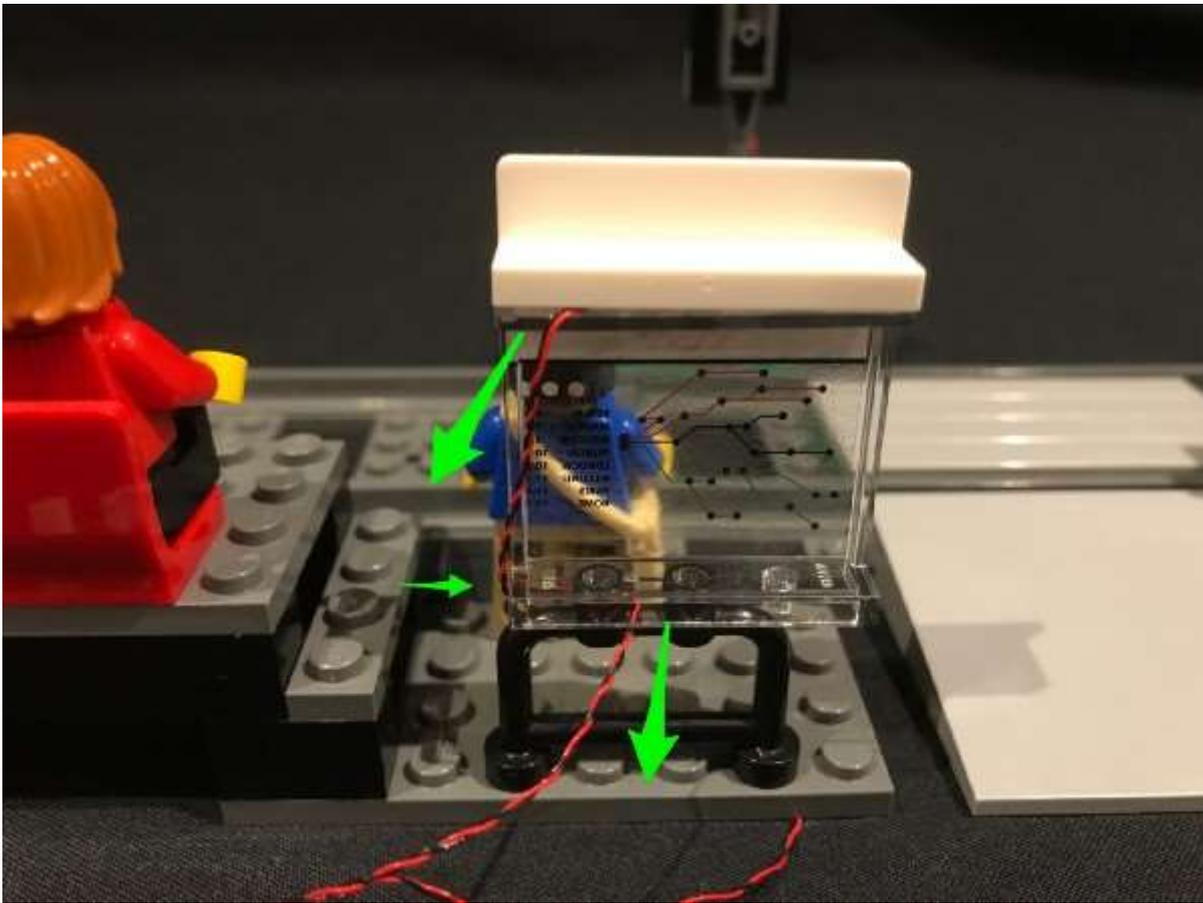
8.) Take a **White 15cm Bit Light** and then place it facing down on top of the second stud from the left of the trans clear train stop sign (so that it shines down).



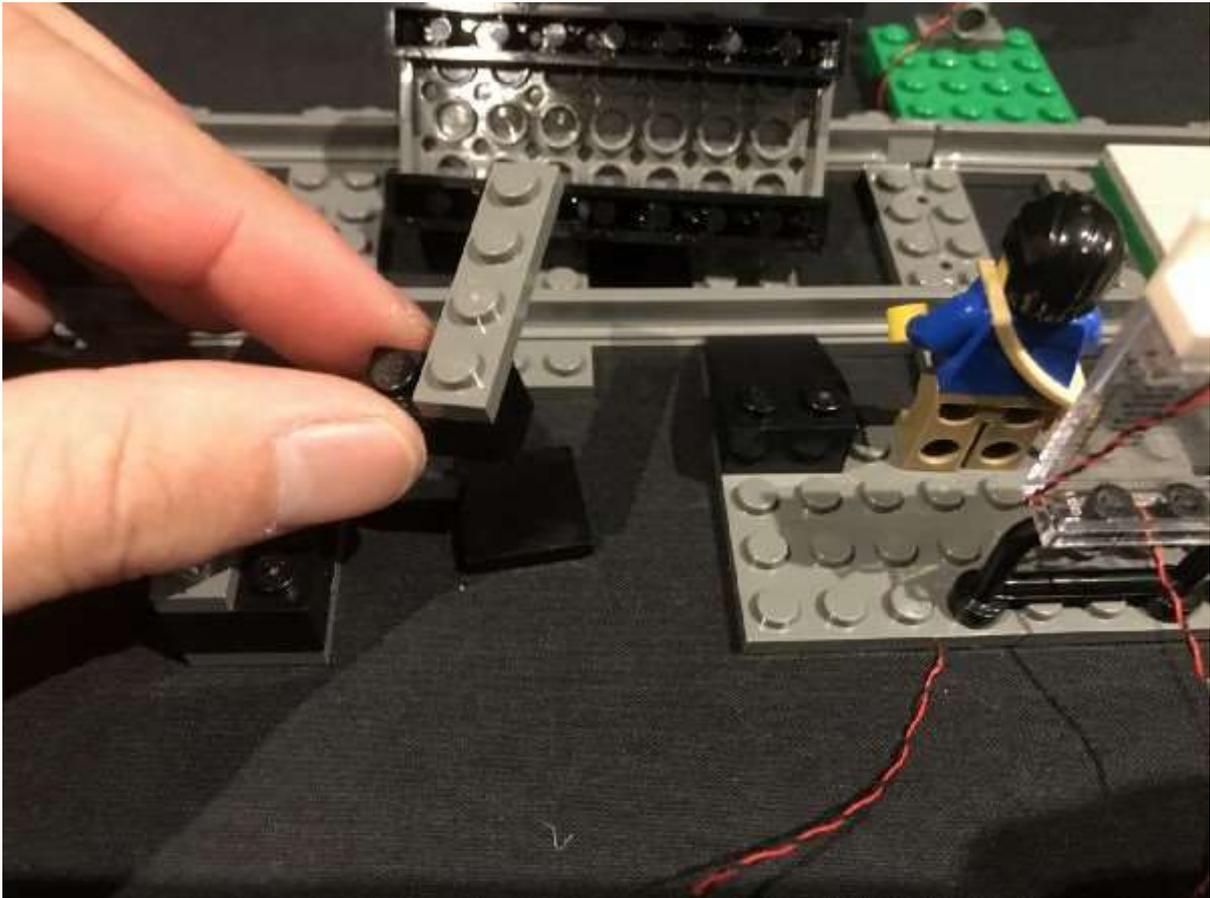
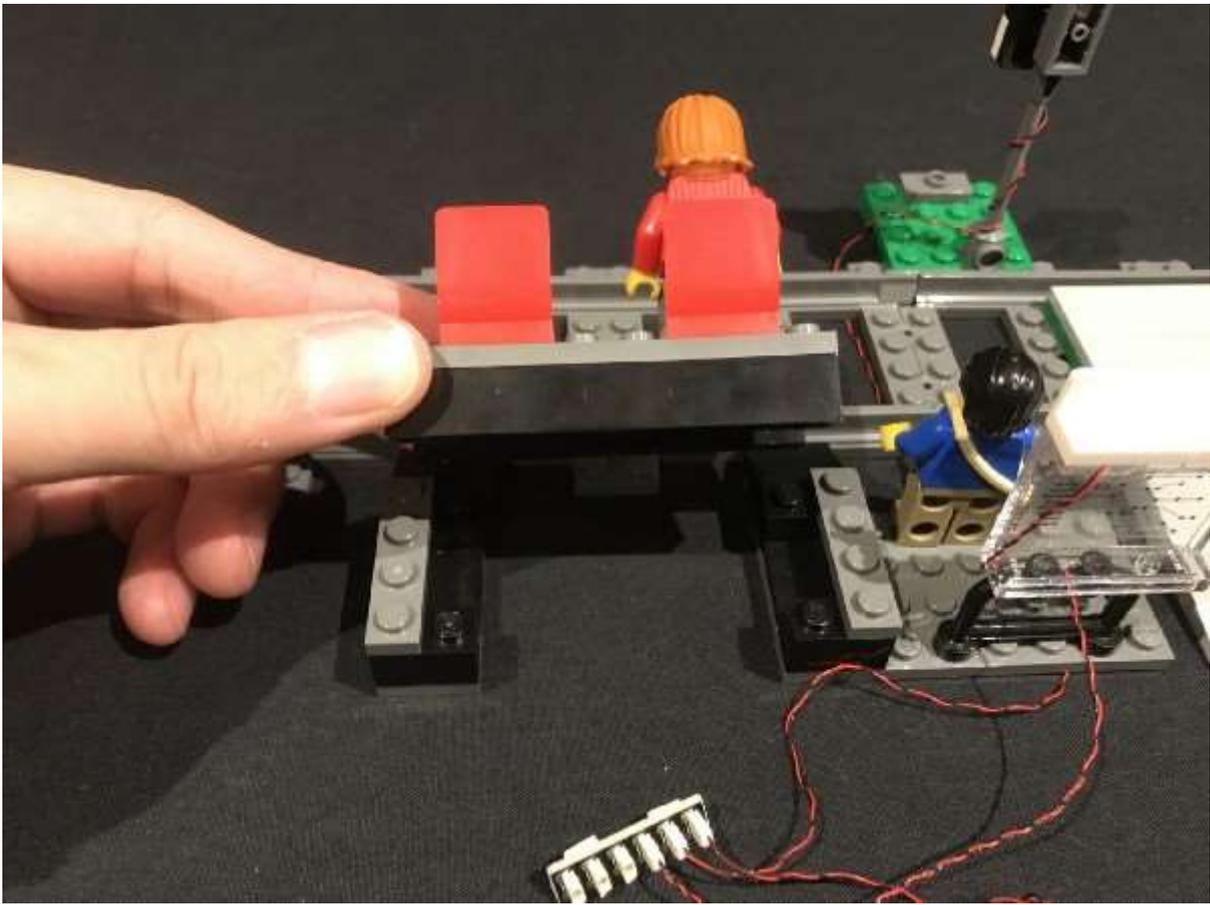
Secure the light in place by reconnecting the white piece on top.

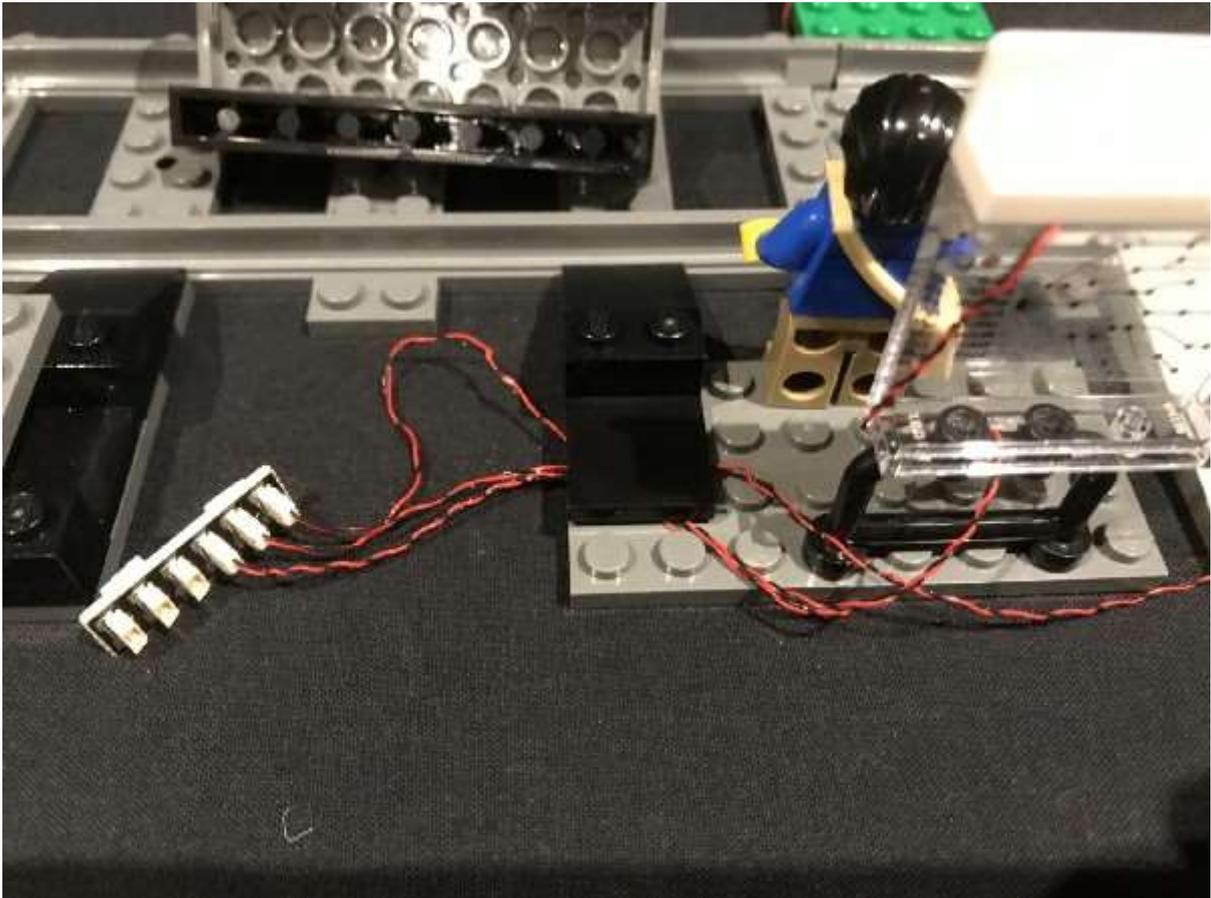
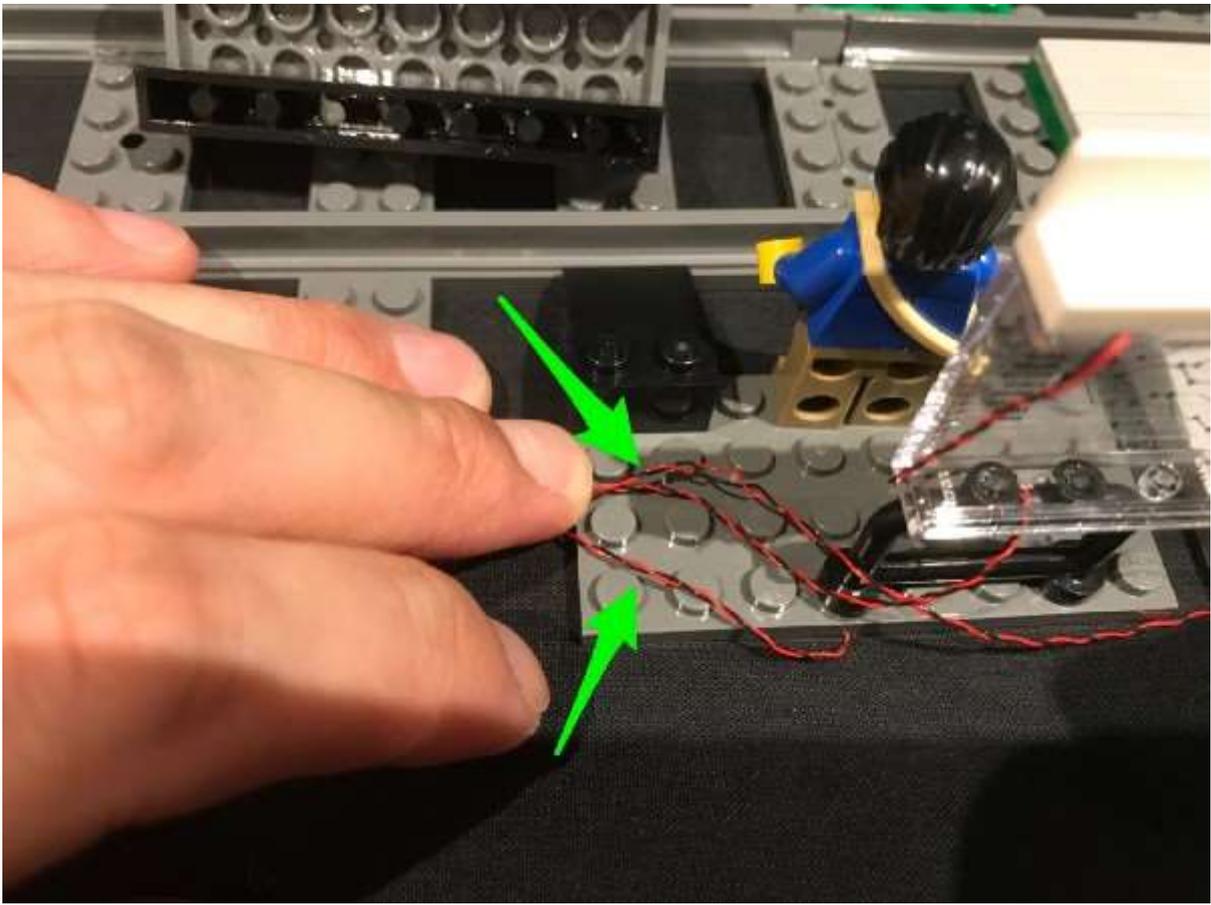


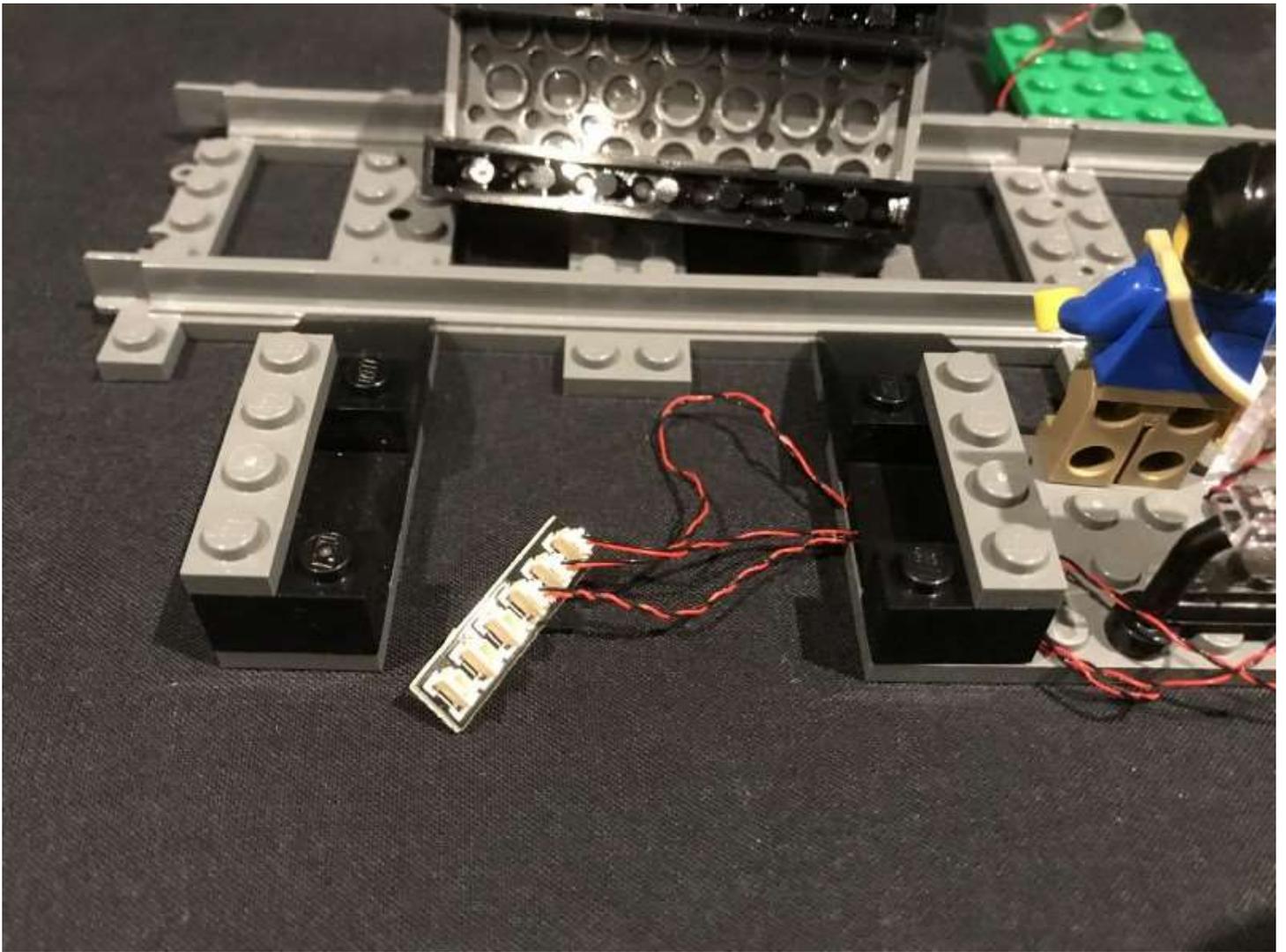
9.) Thread the cable back underneath the trans clear train stop sign facing toward the back and then connect it to the 6-port expansion board as per below.



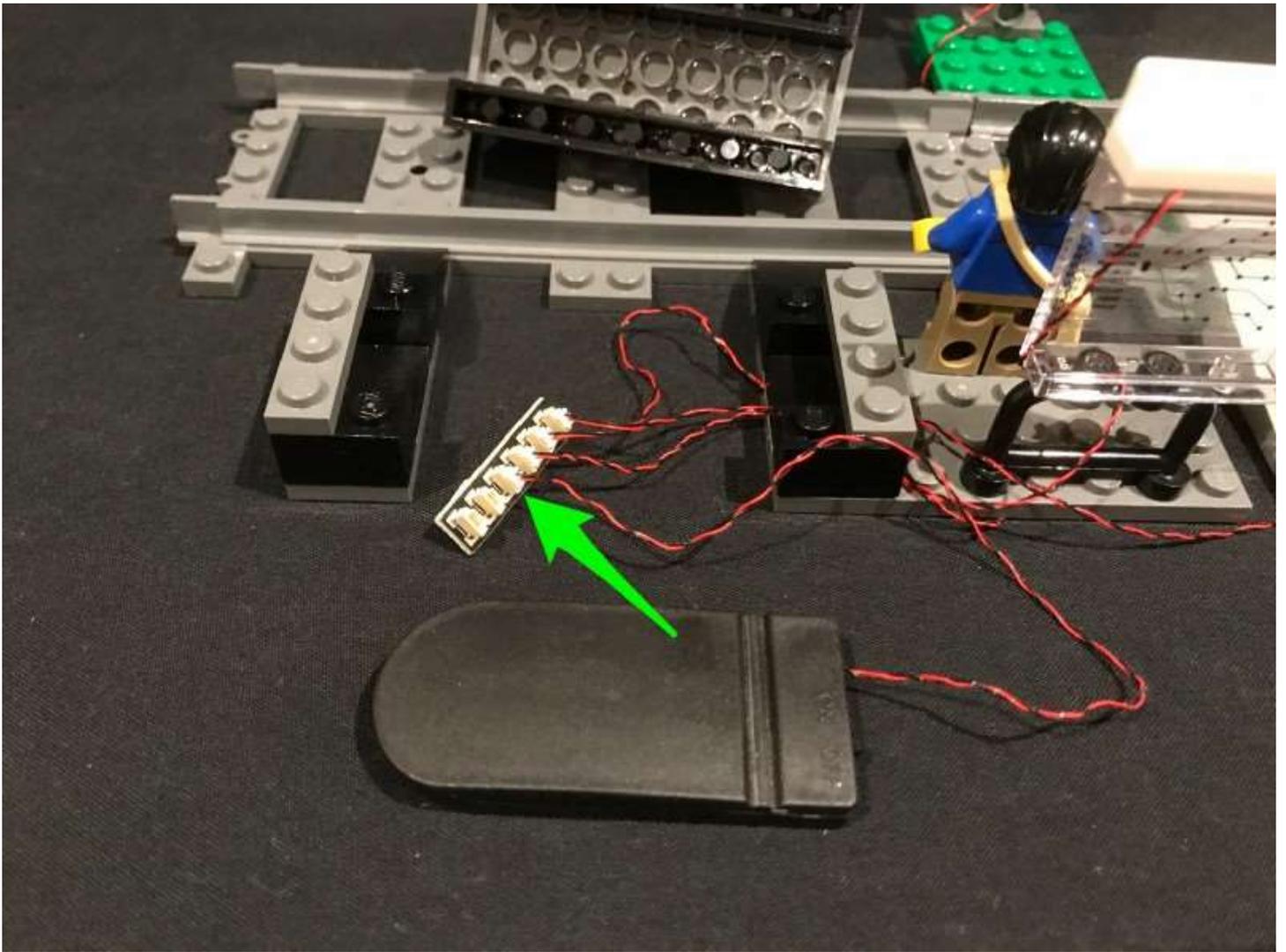
10.) Disassemble the base and pieces of the train stop as per below and then carefully lay the three cables in between studs before reconnecting pieces over the top to secure them in place.



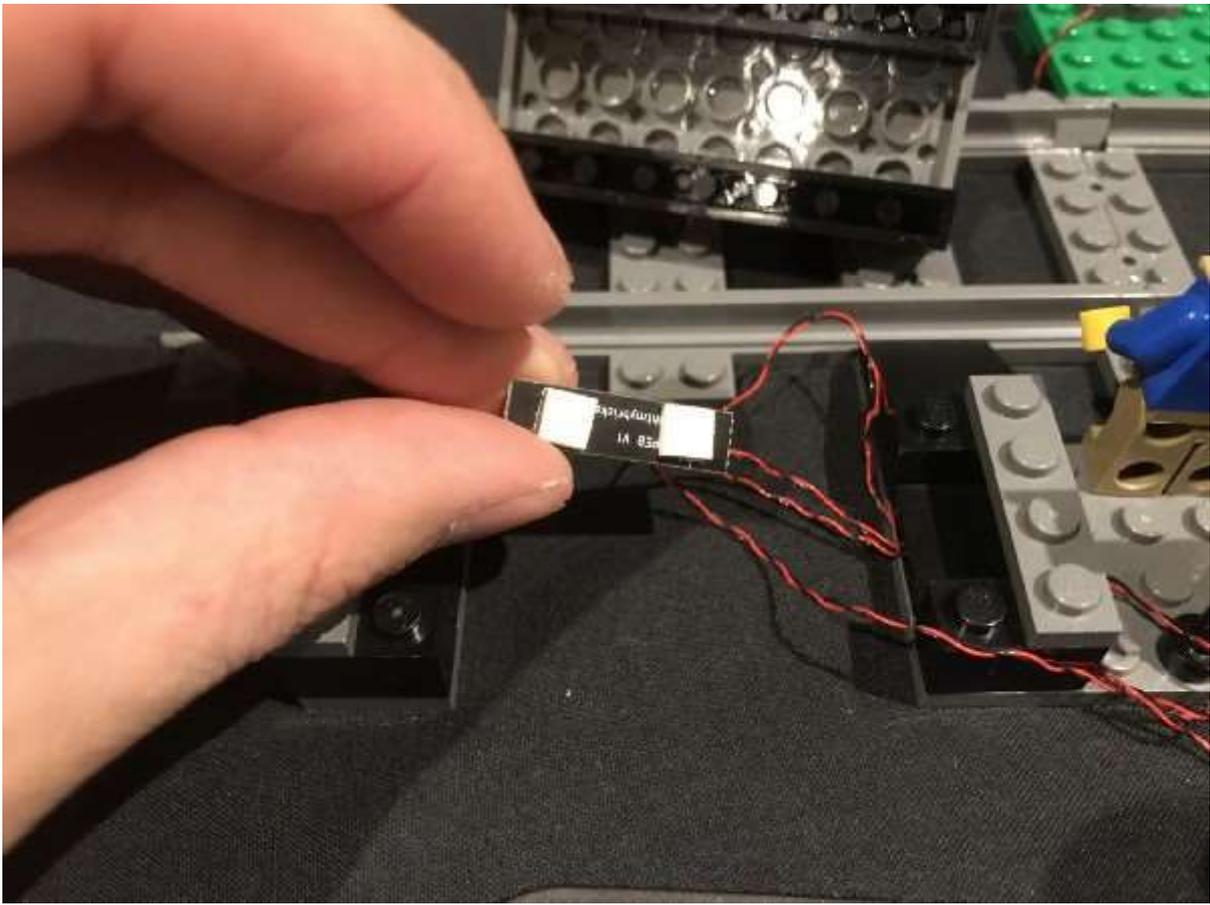


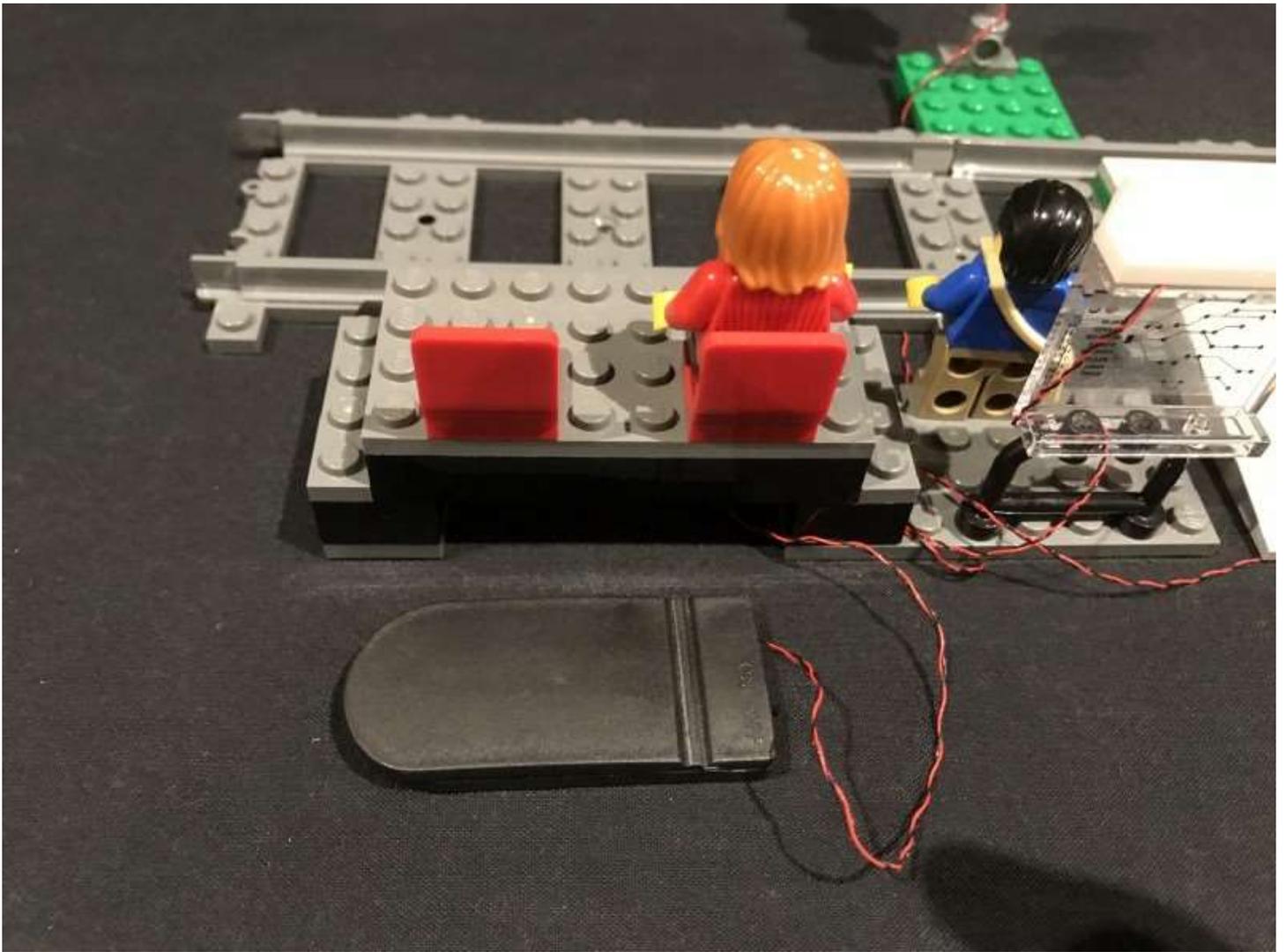


11.) Take the **Flat Battery Pack** and insert 2x CR2032 Batteries to it then connect the battery pack cable to the expansion board.

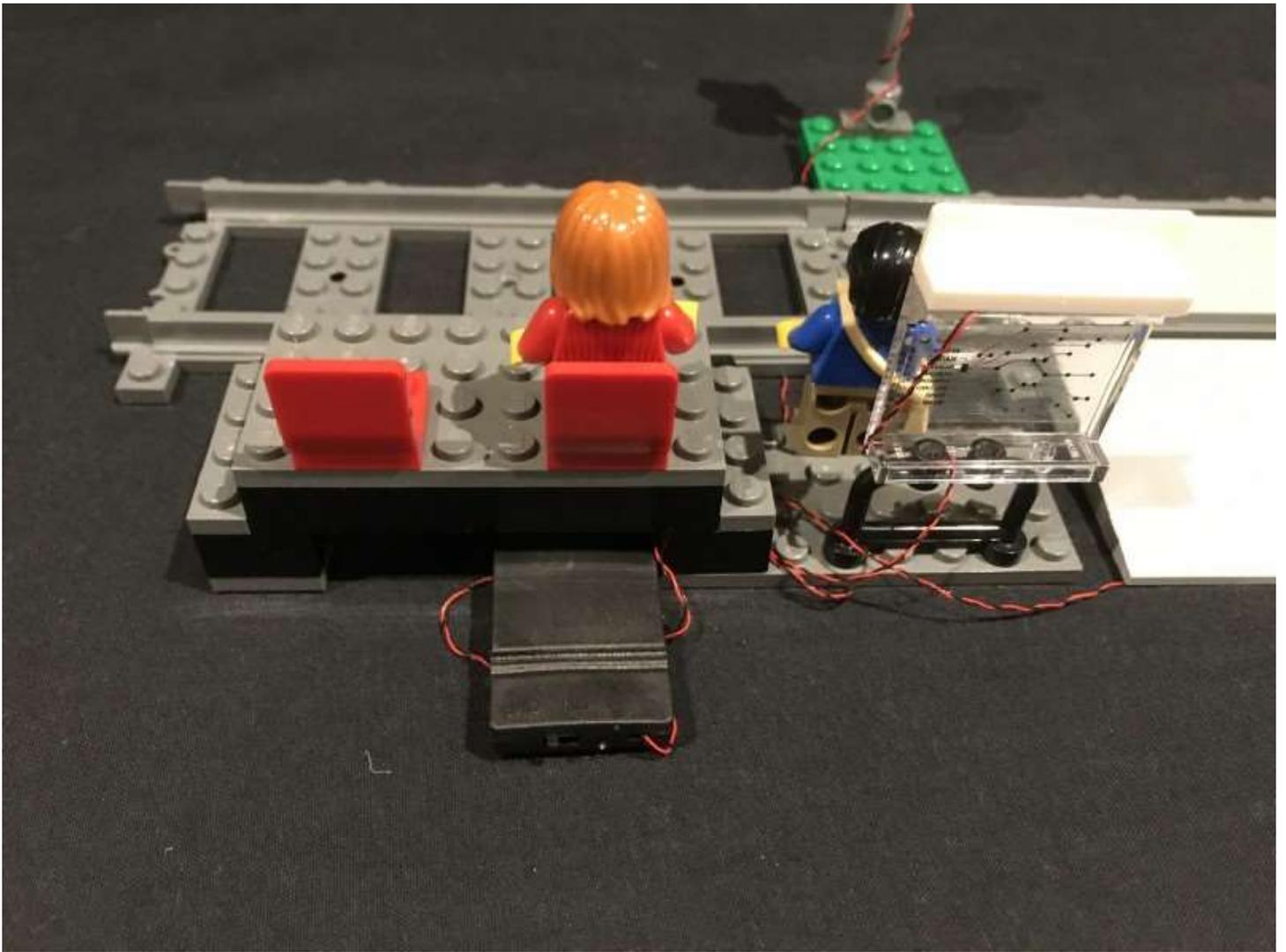


12.) Use the provided **adhesive squares** to mount the expansion board underneath the base section of the train stop before reconnecting it to the st as per below





13.) Tuck the battery pack neatly underneath the train stop base and then setup your train track as desired.



This completes installation of the lighting kit for the LEGO Passenger Train and Train stop. Now turn both train and train stop lights on via their battery packs and ENJOY!







 Light My Bricks