Star_Wars_Death_Star_ 75159 LED Lighting Kit

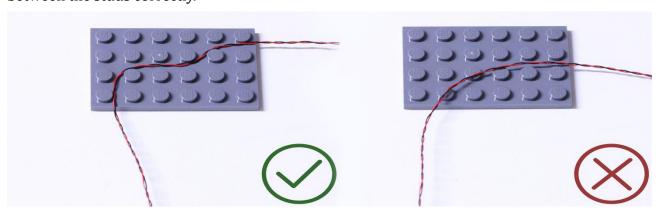
Package contents:

- 13x Green 30cm Dot Lights
- 7x White 30cm Dot Lights
- 8x White Strip Lights
- 4x Blue Strip Lights
- 2x Red Strip Lights
- 1x 12-Port Expansion Board
- 1x 8-Port Expansion Board
- 5x 6-Port Expansion Boards
- 2x Multi Effects Boards
- 4x 5cm Connecting Cables
- 13x 15cm Connecting Cables
- 4x 30cm Connecting Cables
- 1x 50cm Connecting Cables
- 1x AA Battery Pack
- LEGO Pieces:
- 2x Trans Dark Blue Round Plate 1x1
- 4x Trans Bright Green Round Plate 1x1
- 14x Plate 1x6 (Dark Grey, Light Grey, or Black)

Note:

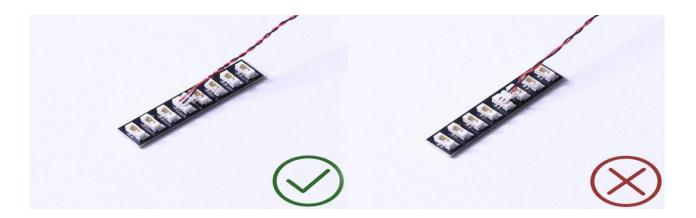
Place wires on the surface or under the LEGO building blocks.

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

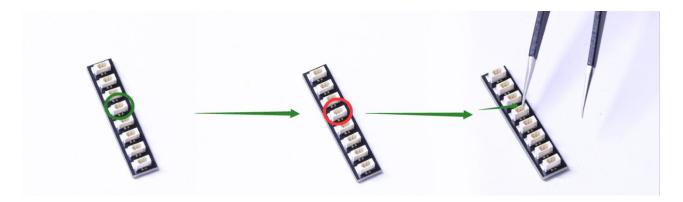


Insert the connectors to the ports.

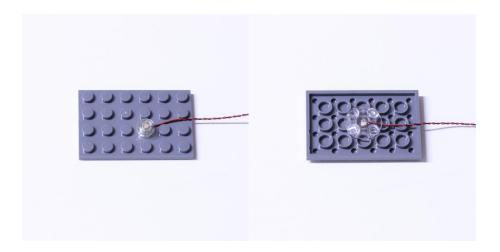
Be careful when you are operating, there's only one correct way to insert, make sure the expansion board is upward, find the soldered "=" sign on the left of the port. When you are inserting, the side which the wires can be seen should be faced to the "=" sign and if you feel hard to insert, please stop,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

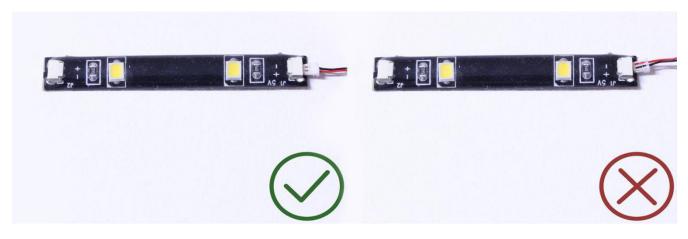


When installing dot lights, make sure they are correctly placed (Yellow LED package is exposed). You can put they either on the top of the studs or between studs.

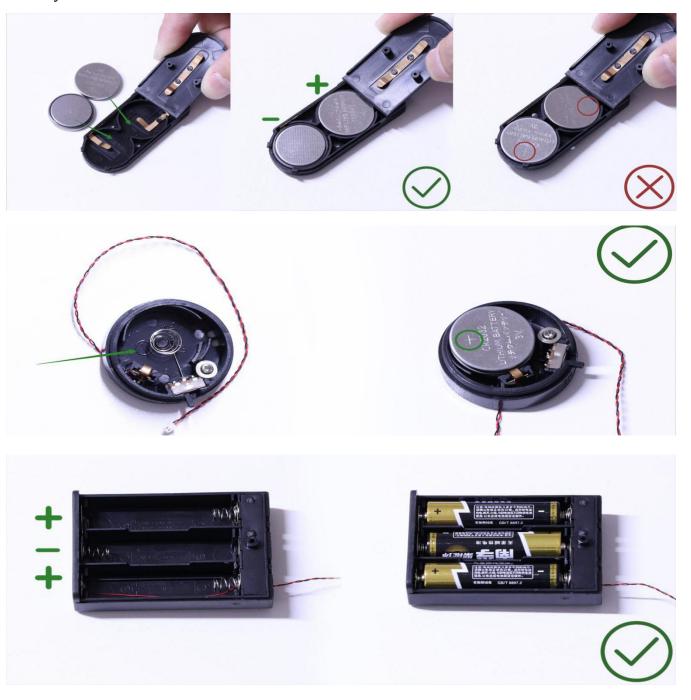


Connecting cable connectors to Strip Lights

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.

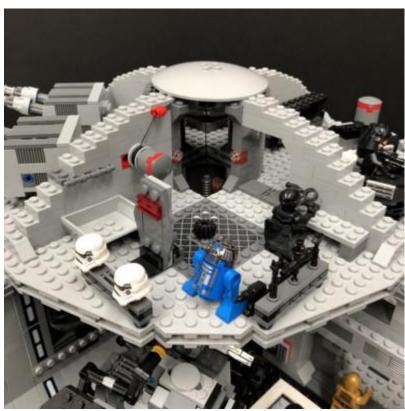


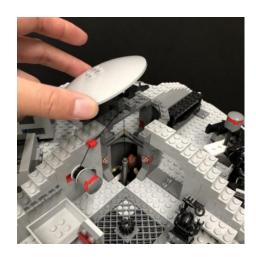
Finally, please pay attention to the positive and negative terminals of the battery when installing the battery case.

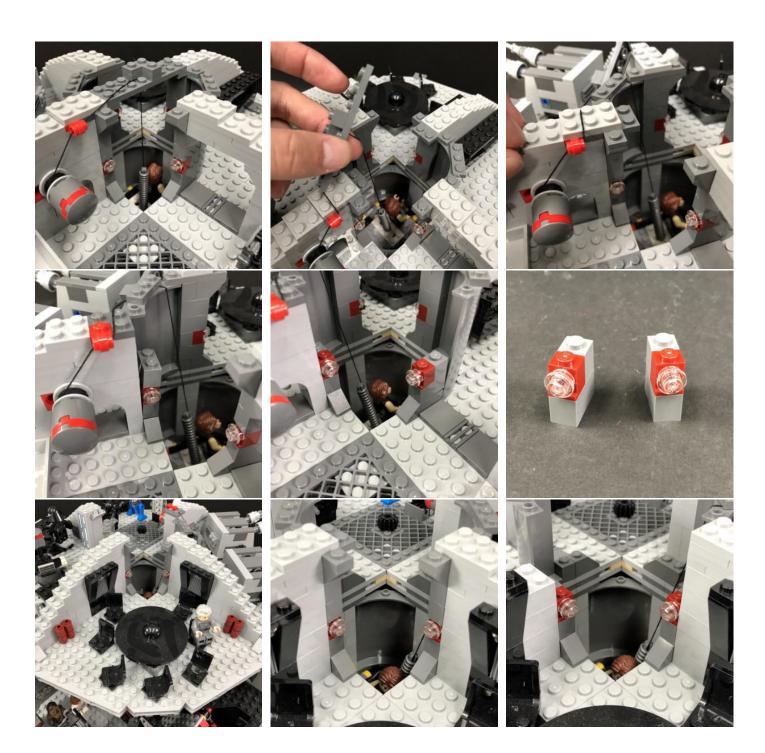


1.) Start by disconnecting the light grey dish piece on the very top of the Death Star followed by surrounding pieces to allow us to remove the four pillar sections with trans clear round plates.



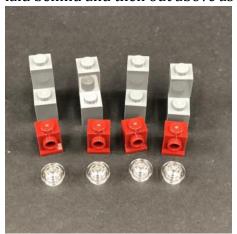






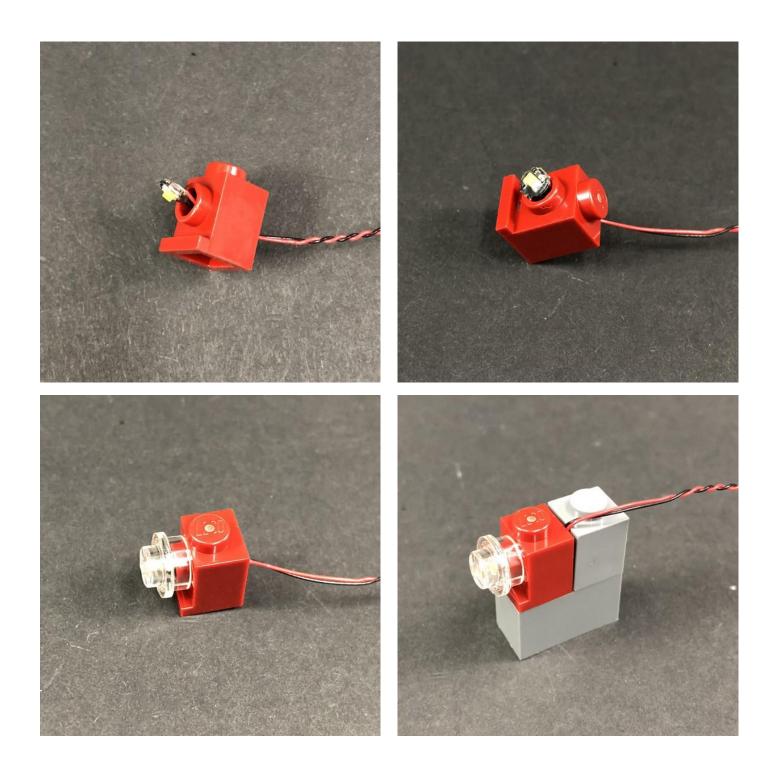


2.) Disassemble pieces as per below and then take a White 30cm Dot Lightand thread the connector side of the cable through the front of the red brick. Pull the cable all the way through from the back of the red brick until the Dot Light is up against the edge of the front hole. Bend the Dot Light slightly so that it is flat against the brick and then secure the Dot Light in place by reconnecting the trans clear round plate over the top, then reconnect this section to the grey bricks ensuring the cable is laid behind and then out above as shown below.





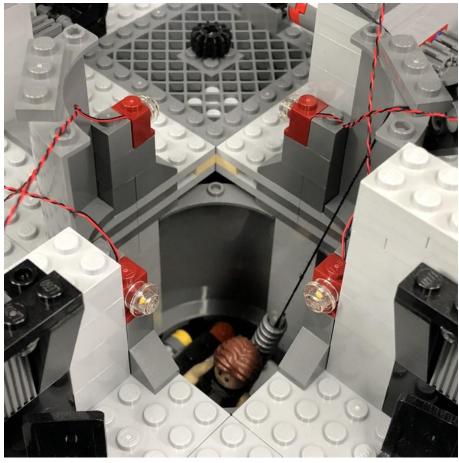


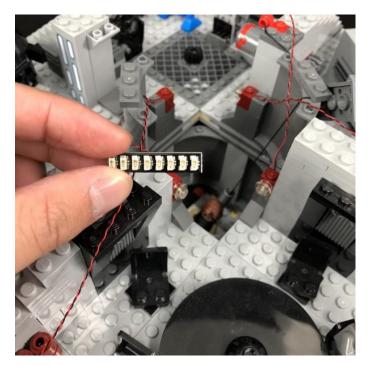


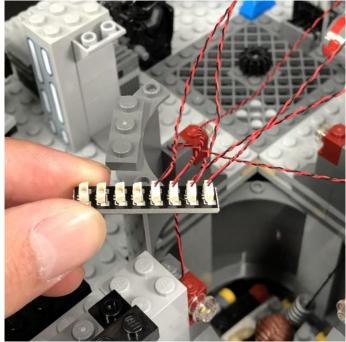
Repeat this step to install another 3x White 30cm Dot Lights to the remaining sections.



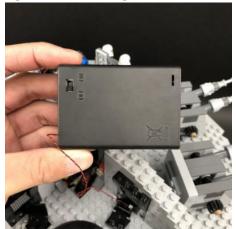
3.) Reconnect the sections back to the four sides along the top of the Death Star then take out an 8-port Expansion Board and connect the four Dot Lights to it.

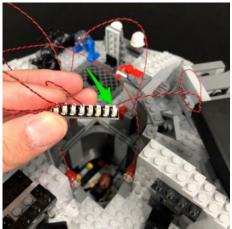


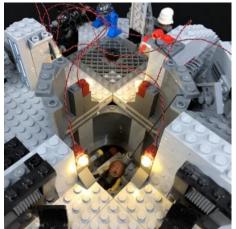




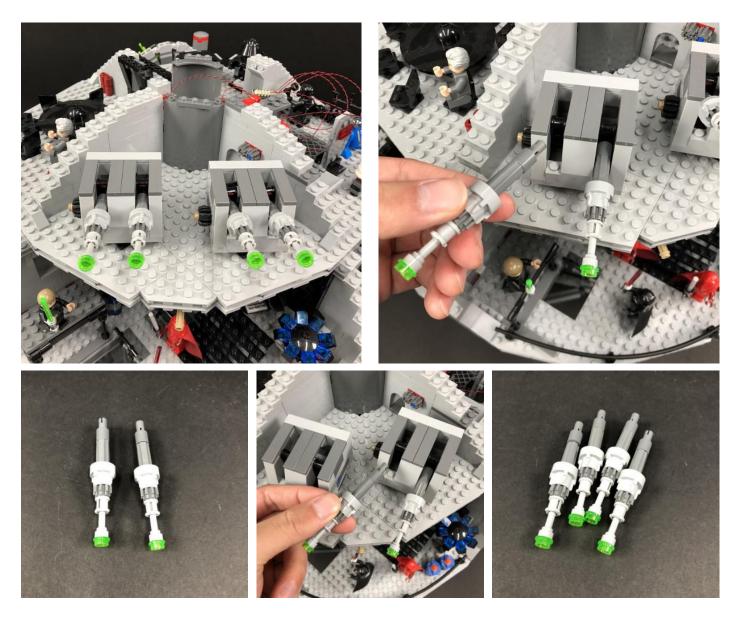
Test the lights we have installed so far by taking the AA Battery Pack and inserting 3x AA Batteries to it. Connect the battery pack to a spare port on the expansion board then turn it ON to verify the lights are working OK.







4.) We will now light up the two sets of cannons along the top. First disconnect sections as per below

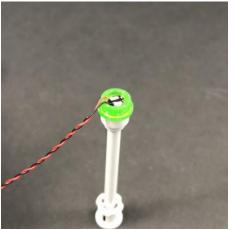


5.) Take one of the cannon sections and then disassemble pieces as per below



Take a Green 30cm Dot Light and then with the LED component facing down, place it over the top

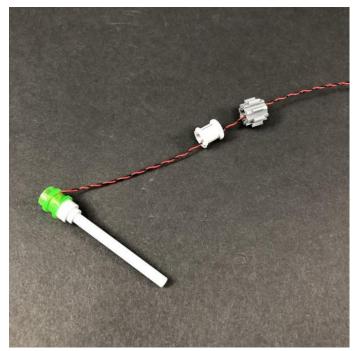
of the inside of the trans bright green round plate. Secure the Dot Light in place by connecting a provided Trans Bright Green Round Plate over the top.

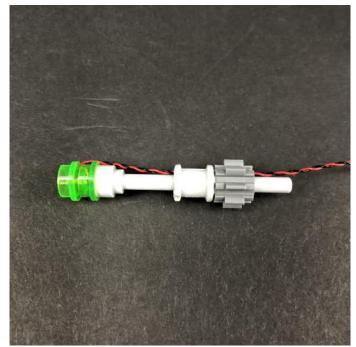


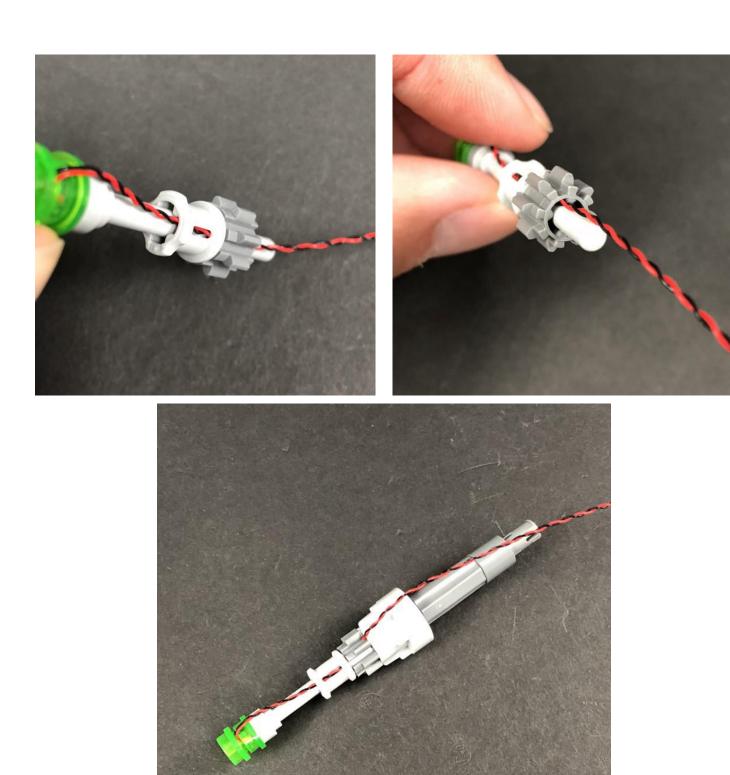




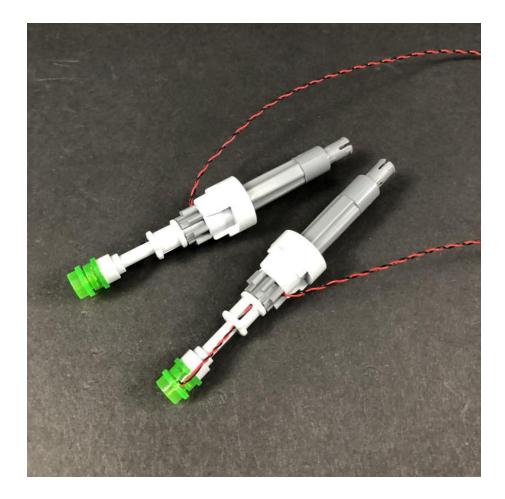
Thread the other end of the Dot Light cable through the following two pieces and then carefully push the pieces up the bar ensuring the cable is laid in the spaces provided by each piece. Pull the bottom end of the cable down to ensure there is no loose cable then reconnect everything back to the remaining section.



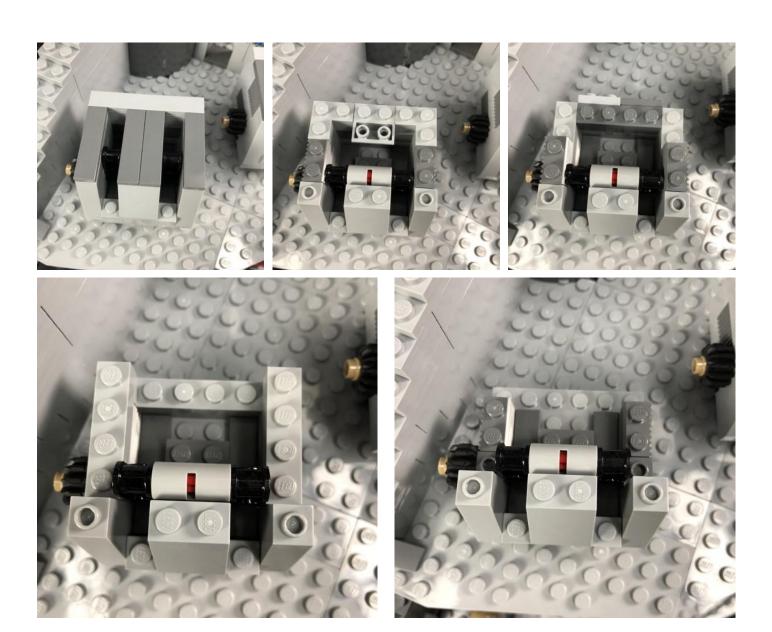




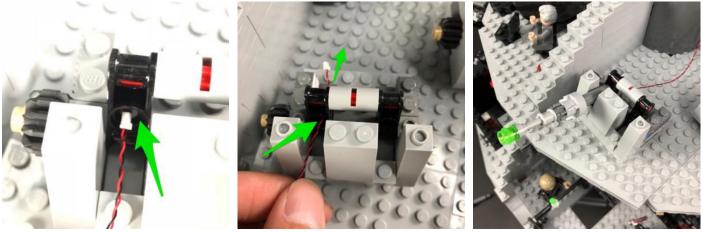
Repeat this step to install another Green 30cm Dot Light using another provided Trans Bright Green Round Plate 1x1 to the other cannon in this set.



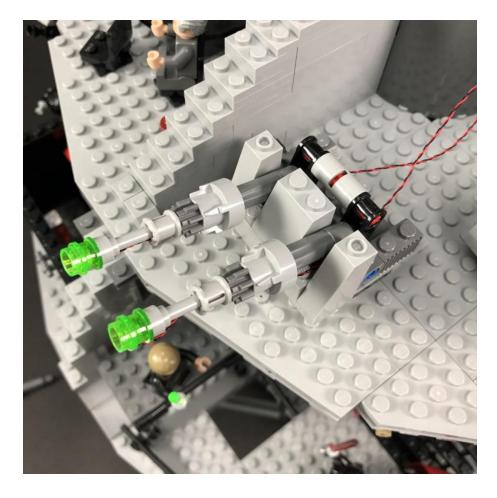
6.) Before reconnecting the set of cannons, disconnect the following pieces from the base.



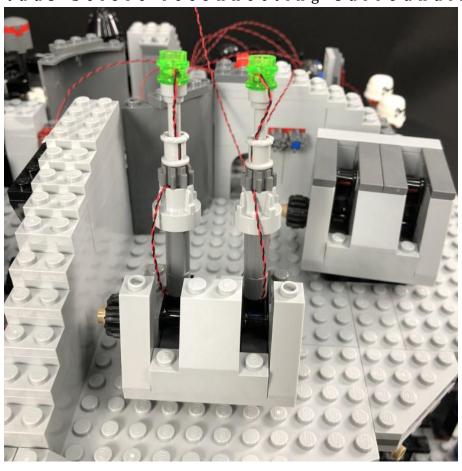
7.) Take one of the cannons and then thread the cable through the round space of the black technic piece. Thread the cable all the way through before reconnecting the cannon. Ensure that the cable is facing the low end of the canon and not visible from the top.

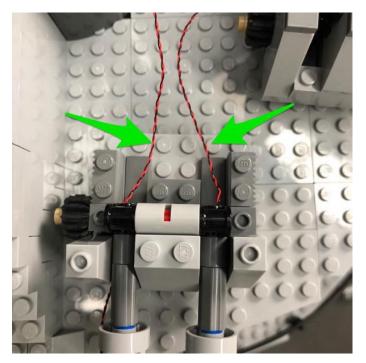


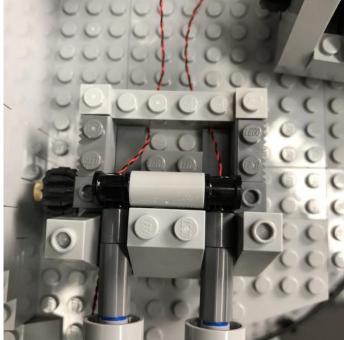
Repeat this step to reconnect the other cannon



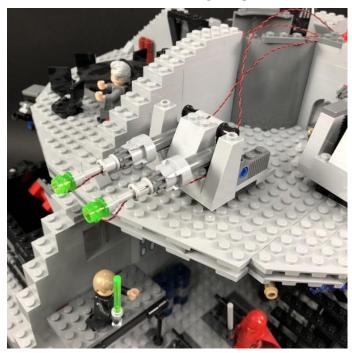
8.) To ensure we have enough cable slack, lift the cannons all the way up and then lay the cables in between studs before reconnecting surrounding pieces.

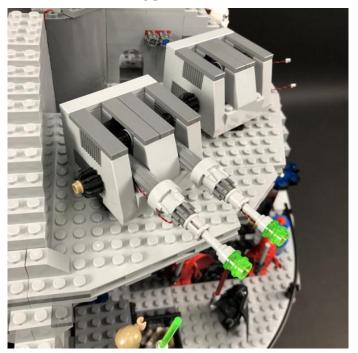




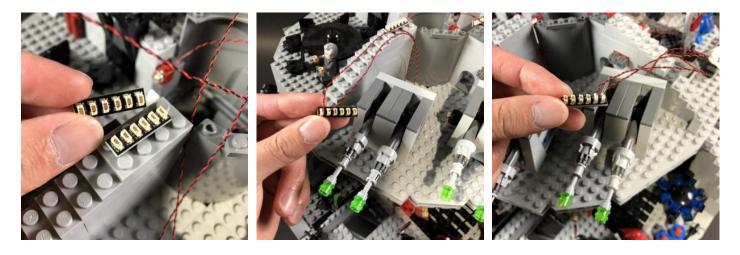


Place the cannons back to original position and then reconnect remaining pieces we removed earlier

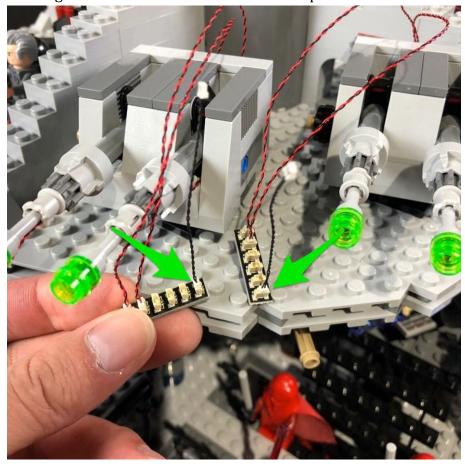




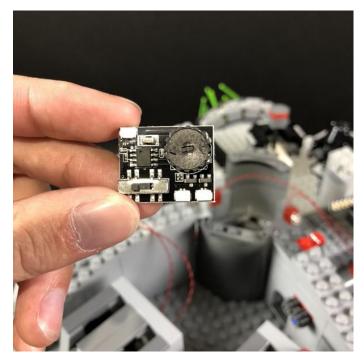
9.) Take 2x 6-port Expansion Boards and connect the lights from the left set of cannons to one of the expansion boards, and then connect the lights from the right set of cannons to the other expansion board.

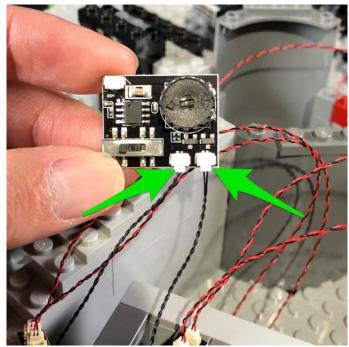


Take 2x 5cm Connecting Cables and connect one to each expansion board.

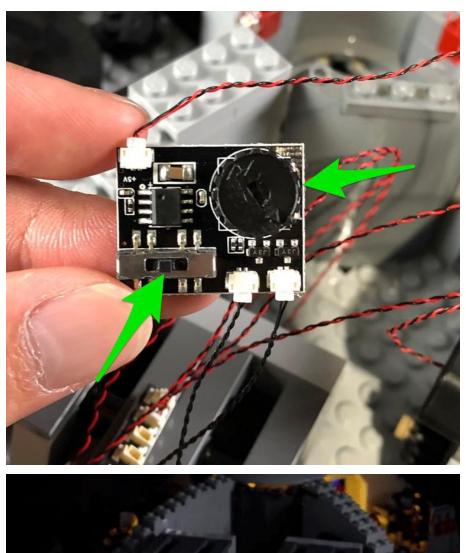


Take a Multi Effects Board and connect the other ends of each of 5cm Connecting Cables to the OUT Ports (side with 2 ports)



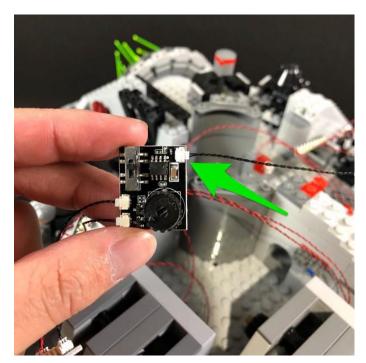


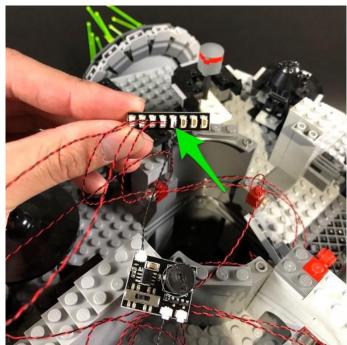
We now need to set the desired "firing cannon" effect on the multi effects board. To do this, connect the AA Battery Pack to the IN port and then turn the battery pack ON. Set the switch to the middle for the "emergency effect" and then turn the dial to the slowest speed. This best replicates the firing cannon effect and should look similar to the below



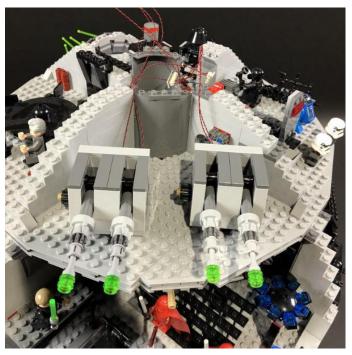


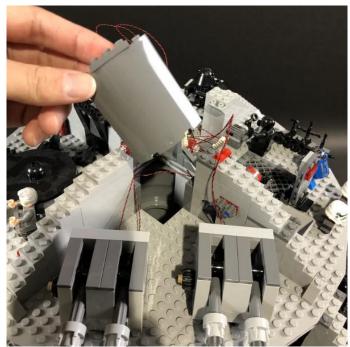
10.) Disconnect the AA Battery Pack from the multi effects board and then connect another 5cm Connecting Cable to the IN port and then connect the other end of the cable to a spare port on the 8-port Expansion Board from step 3.

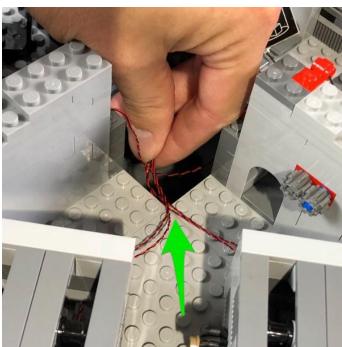




Remove the wall directly behind the cannons and then group the four cannon cables together and lay them down towards the middle. Reconnect the wall over the top ensuring the cables are neatly laid in the space underneath.



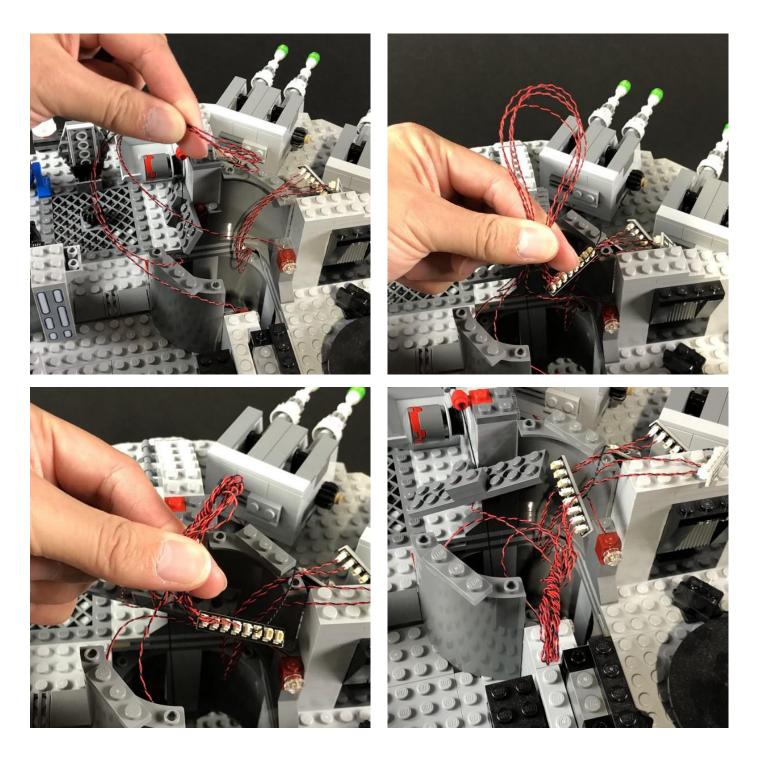




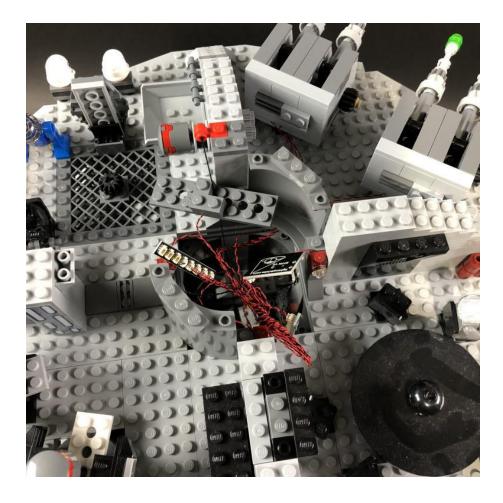




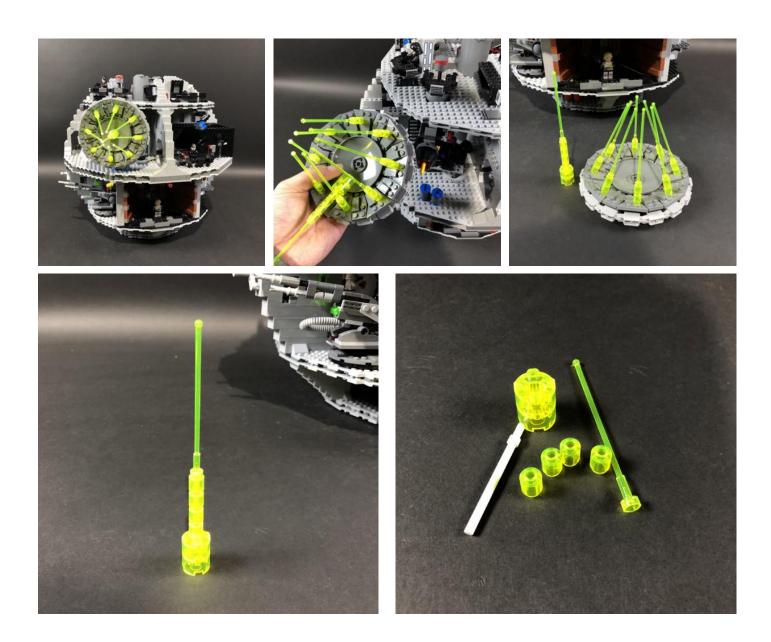
11.) Turn the Death Star around and then eliminate excess cable from the White Dot Lights by grouping them together and then twisting them around each other as per below



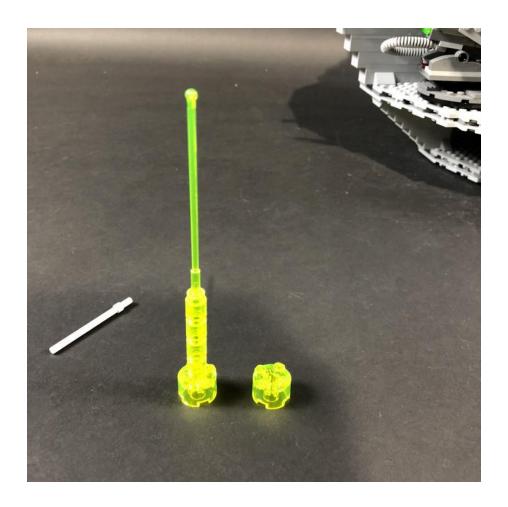
Neatly place all the components (including expansion boards and multi effects board) down the middle of the Death Star.



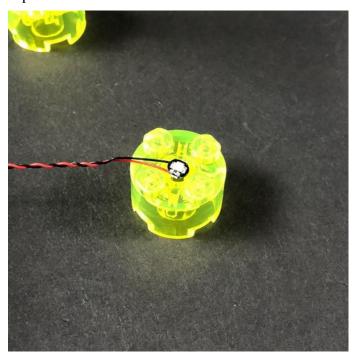
12.) We will now light up the Death Star super laser. Disconnect this section and then disassemble pieces which make up the centre laser as per below:

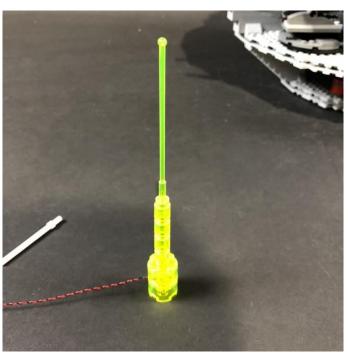


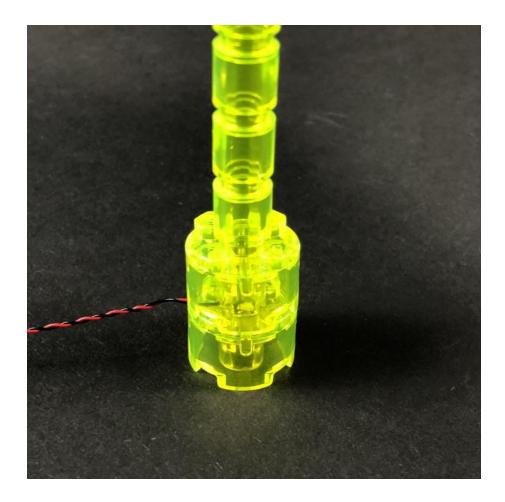
Reassemble the centre laser without the centre white bar and the bottom brick.



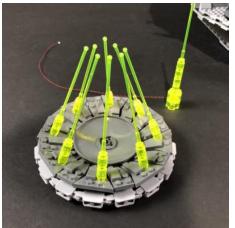
Take a Green 30cm Dot Light and then place it on top and in the middle of the bottom brick (facing up). Secure the Dot Light in place by reconnecting the rest of the centre laser section directly over the top.

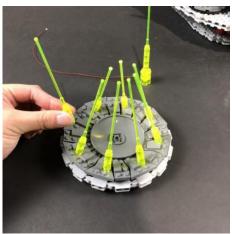


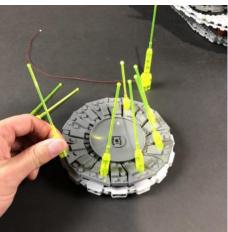




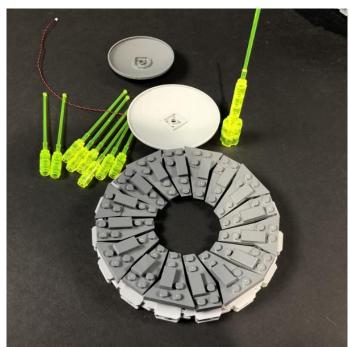
13.) Remove all the outer laser sections from the dish then disconnect the dark and light grey dishes from the front and back.



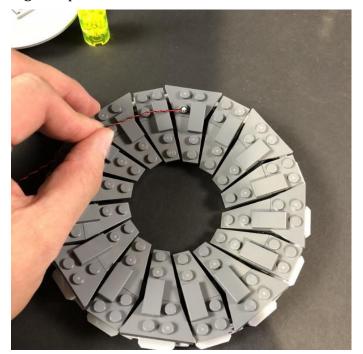


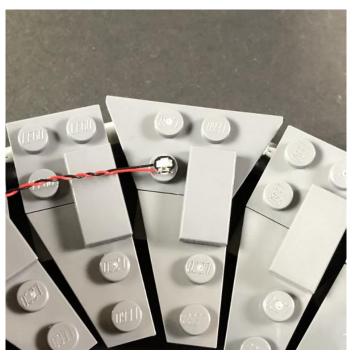


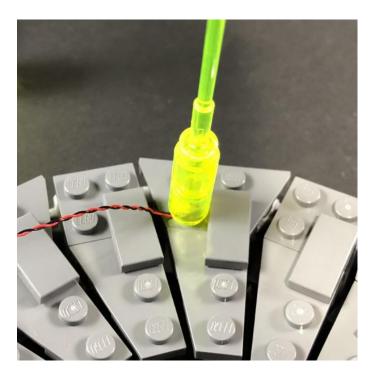


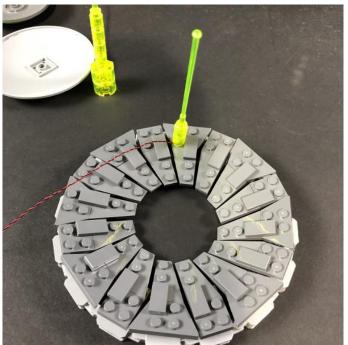


14.) Take a Green 30cm Dot Light and place it over the following stud. Ensure the other end of the cable is facing toward the left then reconnect one of the outer laser sections directly over the Dot Light as per below:

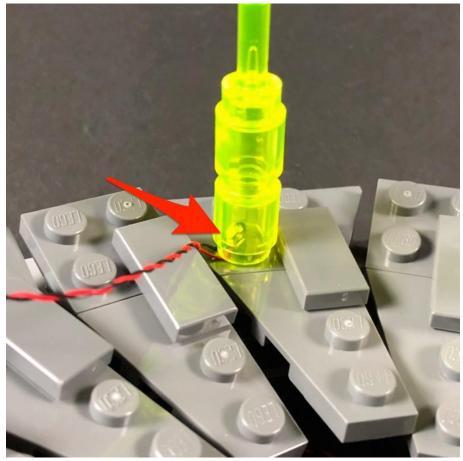


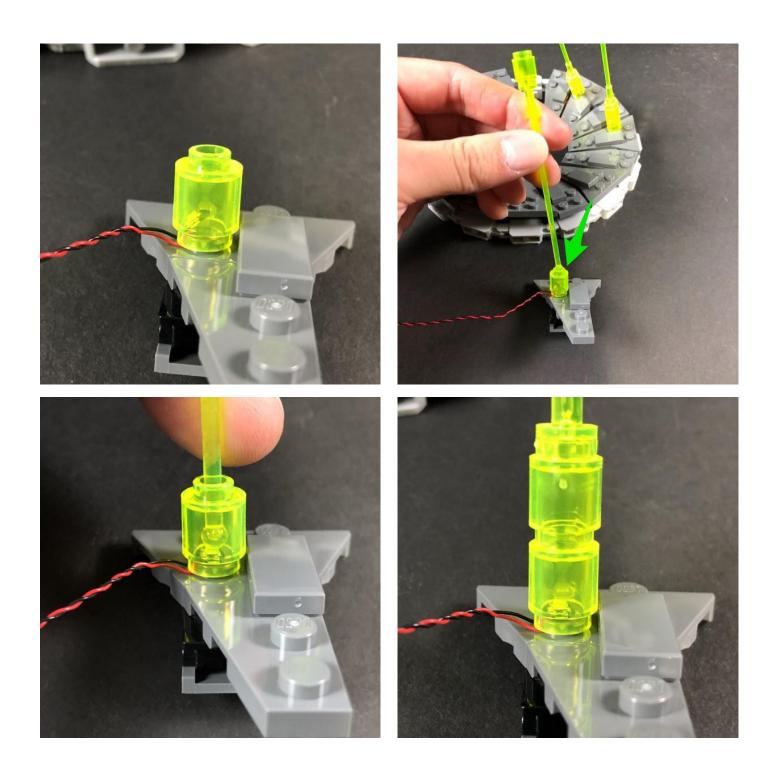




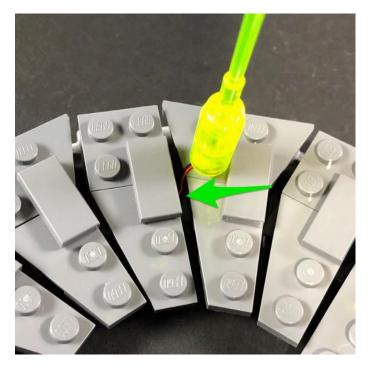


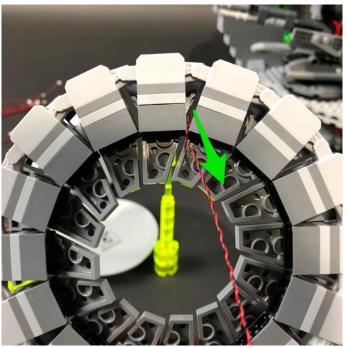
You will notice that after reconnecting the laser section over the Dot Light, the Dot Light is now slightly bent facing the left. To correct this, disconnect the laser section leaving only the bottom brick connected. Flip the laser section over and then using the tip of the laser, push it down the top hole of the bottom brick to push the Dot Light down so that it faces up. Once the Dot Light is correctly facing up again, reconnect the laser section.



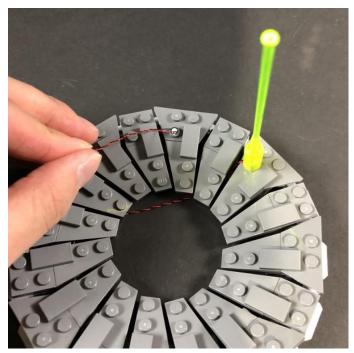


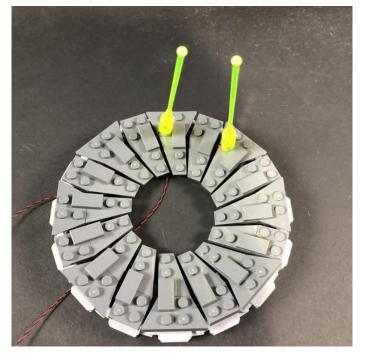
Slip the Dot Light cable in between lego pieces as per below



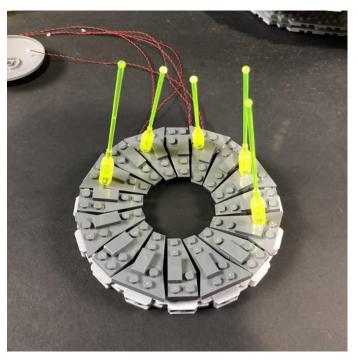


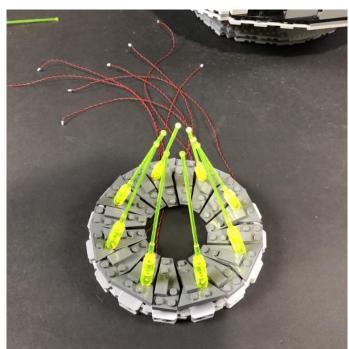
15.) Repeat previous step to install another Green 30cm Dot Light to the outer laser to the left.



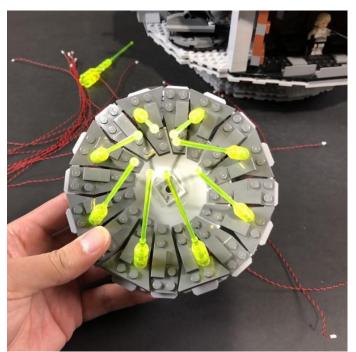


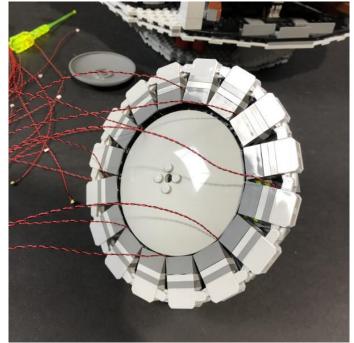
Follow the same process to install another 6x Green 30cm Dot Lights to the remaining outer lasers then bend the outer lasers back in to original position.



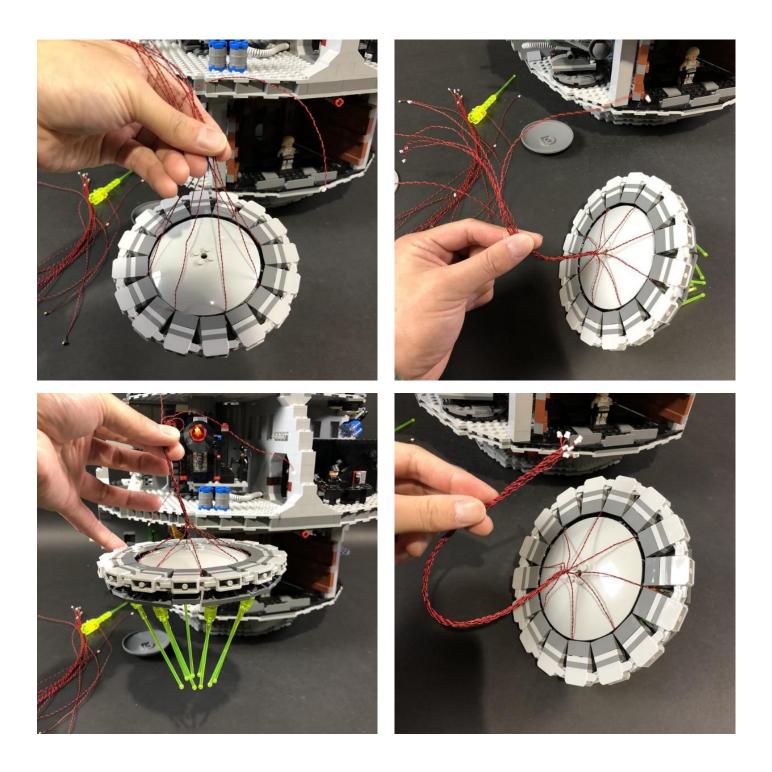


16.) Take the light grey dish and place it behind ensuring all cables are along the outside as per below

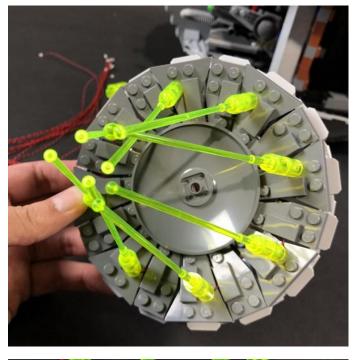


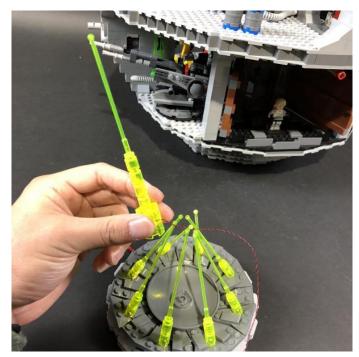


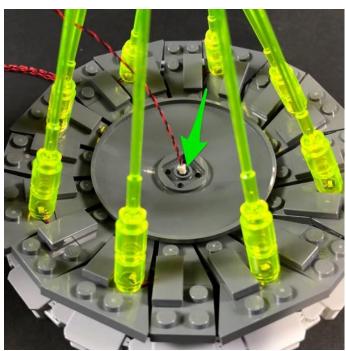
Group all the cables together and then twist them around each other all the way to the end of the cable to form one larger cable.

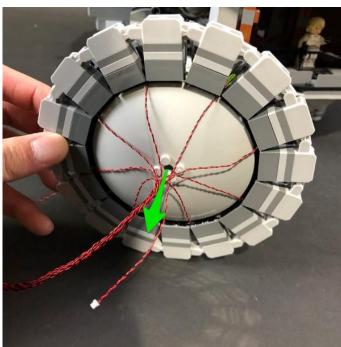


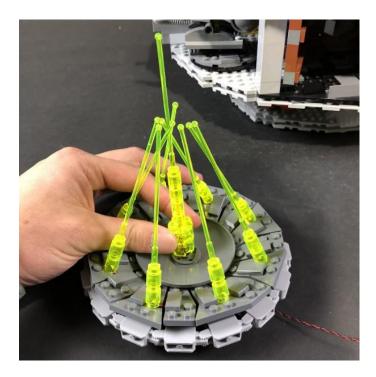
Reconnect the dark grey dish to the front and then take the centre laser section and thread the cable through the middle hole. Pull the cable all the way out from behind before re-positioning the centre laser back into place.

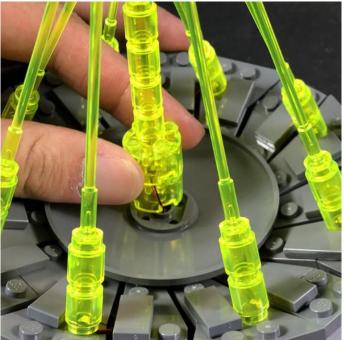




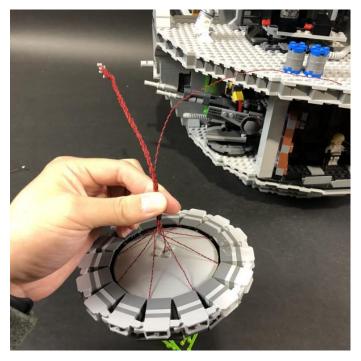


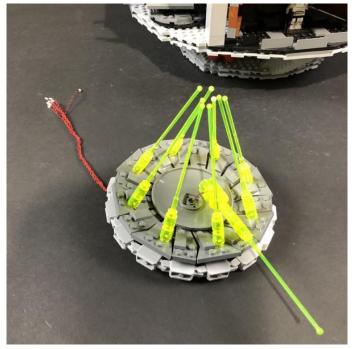


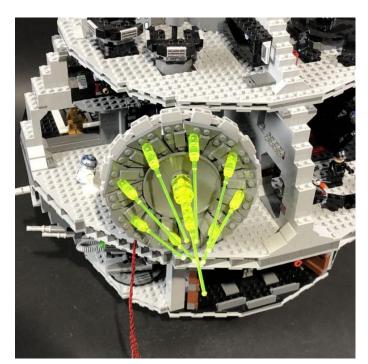


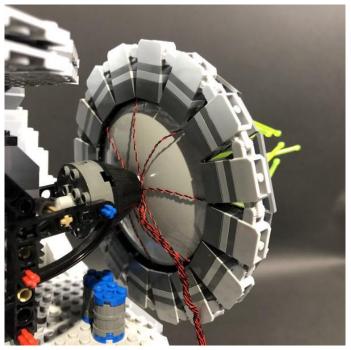


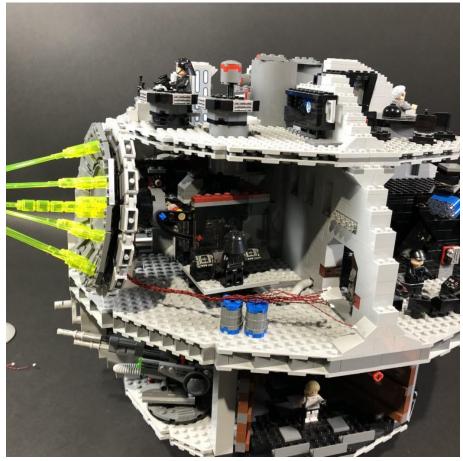
Twist the centre laser cable around the rest of the cables and then reconnect the entire super laser section back to the Death Star.





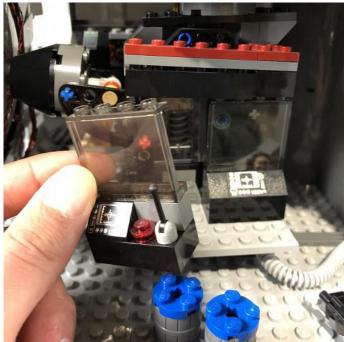




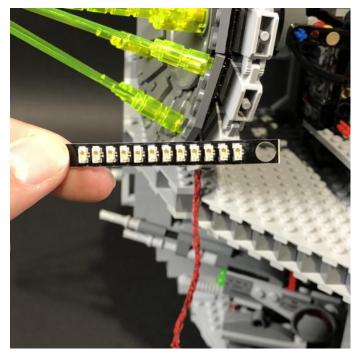


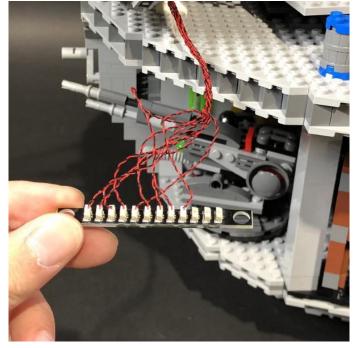
17.) Disconnect the following pieces from the super laser control station



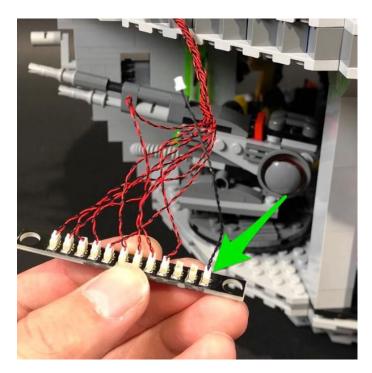


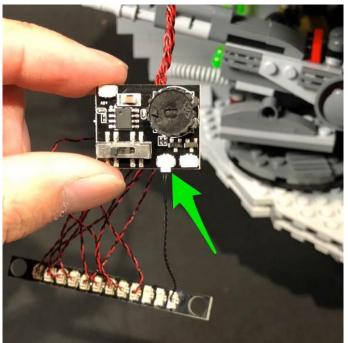
Take a 12-Port Expansion Board and connect all the cables from the super laser to it.



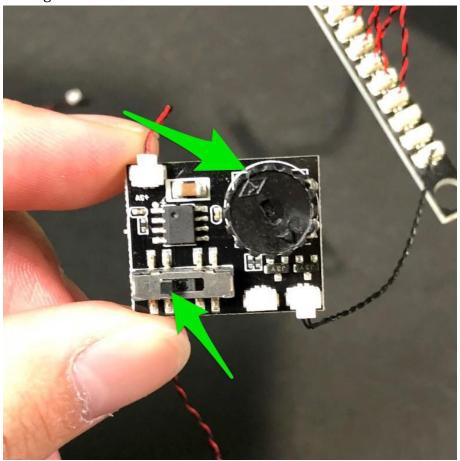


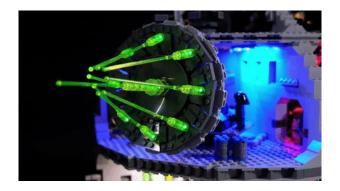
Take a 5cm Connecting Cable and connect it to the outer port on the expansion board. Connect the other end of the cable to one of the OUT ports on a new Multi Effects Board (side with 2 ports)



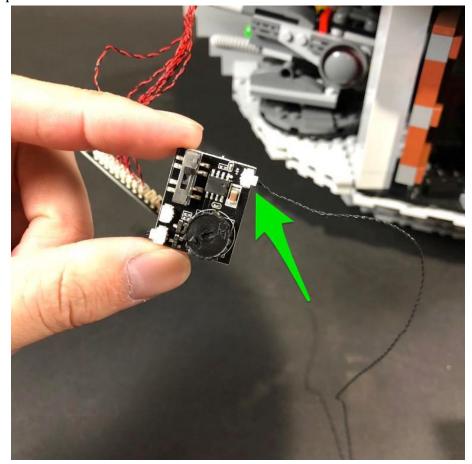


Configure the effect for the super laser by connecting the AA Battery Pack to the IN port of the multi effects board and turning it ON. Set the switch to the far left for the 'Pulse' effect and set it to the slowest speed by turning the wheel. The effect should look similar to the below:

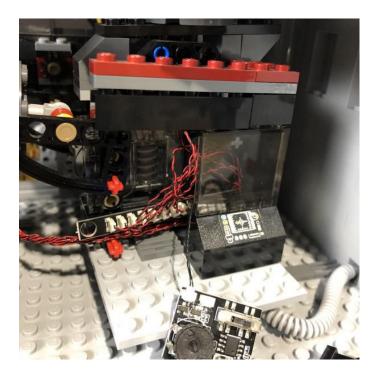




18.) Remove the AA Battery Pack from the multi effects board and connect a 30cm Connecting Cable to the IN port.

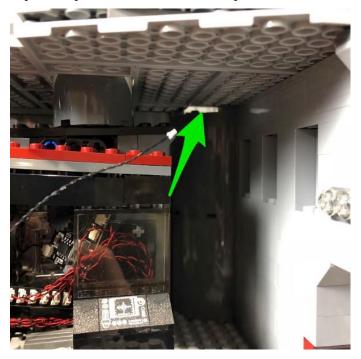


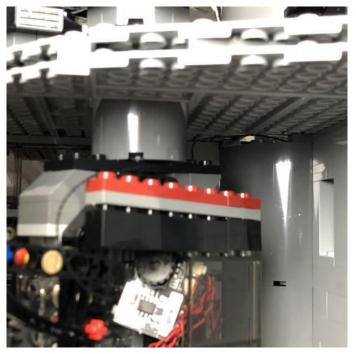
Neatly tuck in the expansion board and multi effects board inside the control station.

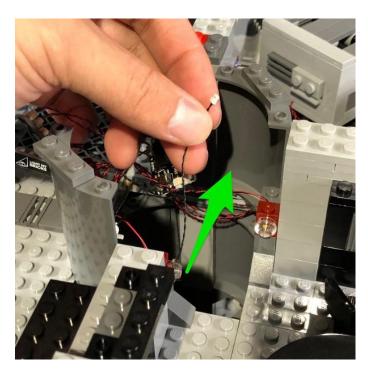


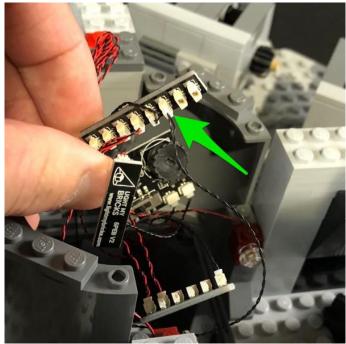


Thread the other side of the 30cm Connecting Cable in the top corner spacing that leads to the inside centre of the Death Star. Pull the cable out from the other side and connect it to a spare port on the 8-port Expansion Board from step 3.

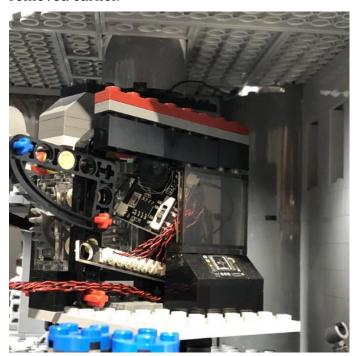








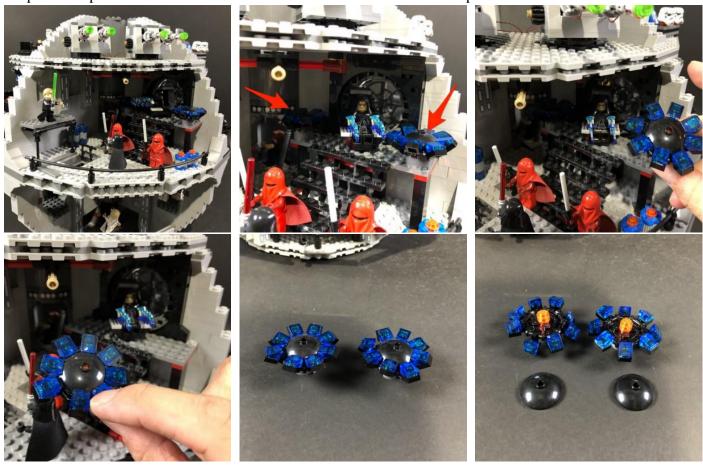
Neaten up the components and wiring inside the control station and then reconnect the pieces we removed earlier.



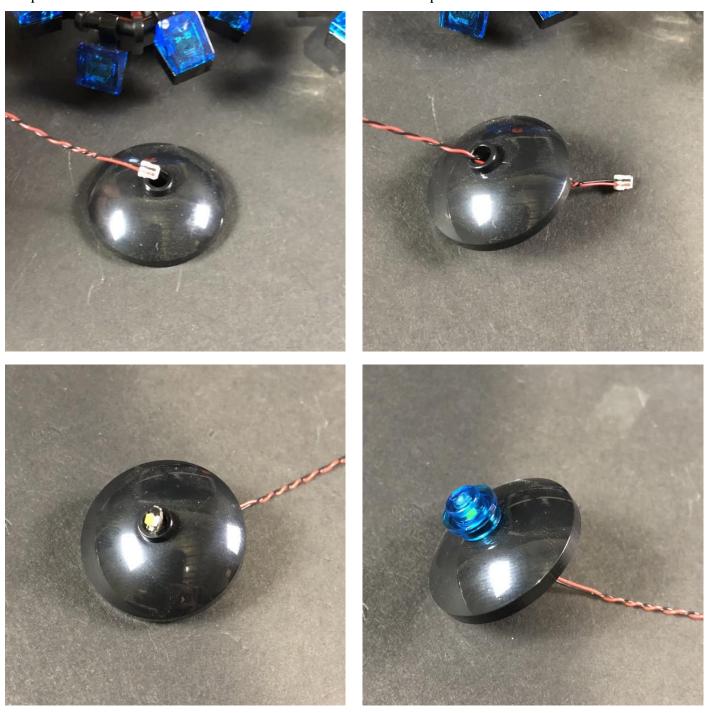




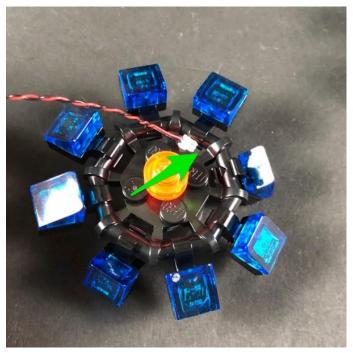
19.) We will now light up the Emperor's throne room. First remove the sections on each side of the Emperor Palpatine and then disconnect the black dishes from the top of each side.

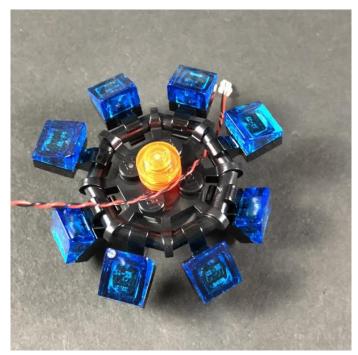


Take a White 30 cm Dot Light and thread the connector side of the cable through the hole on top of one of the dish pieces. Thread it all the way through and then secure it in place by connecting one of the provided Trans Dark Blue Round Plates 1x1 over the top.



Thread the cable all the way through one of the spaces along the side of the section underneath before reconnecting the dish.









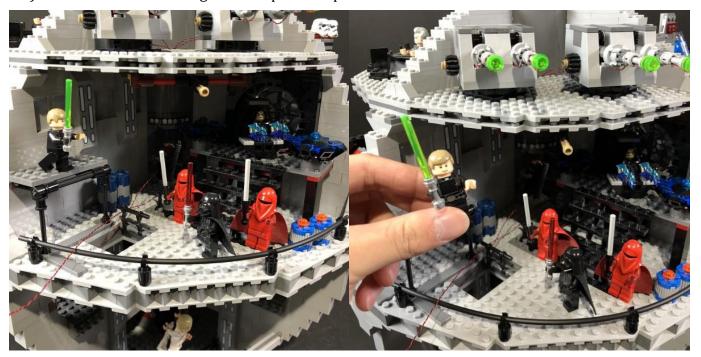
Repeat this process to install another White 30cm Dot Light to the other side section using another provided Trans Dark Blue Round Plate 1x1.

Reconnect both side sections back the throne room ensuring each cable is laid toward the left and behind Palpatine's chair.





20.) Remove all the mini figures except for Palpatine.



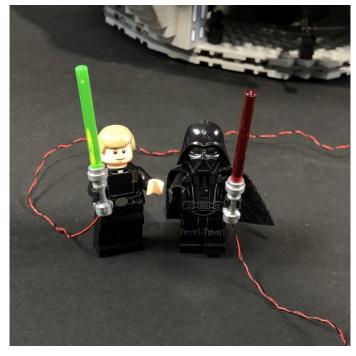


This set does not contain a laser sword, which is simply used to display and expand DIY creativity for you.

The following LEGO laser swords are purchased separately and installed as described below. If there is no additional purchase, please skip to step (22)

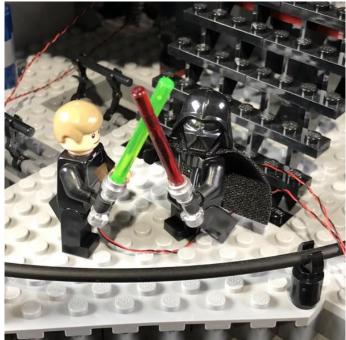
Remove the lightsabers from Luke and Vader and then replace them with the Blue and Green Vonado Lightsabers.



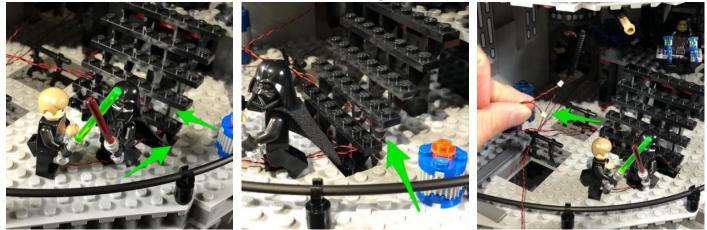


21.) Reposition Luke and Vader as per below and then lay both cables toward the right.

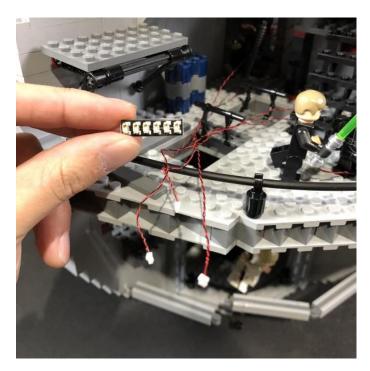


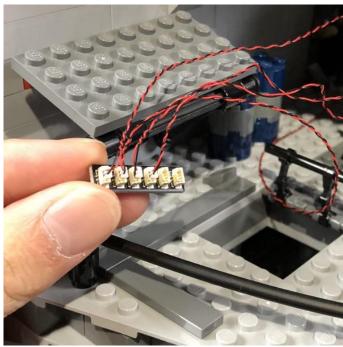


Thread both cables behind the stairs and the out through the left side as shown below.

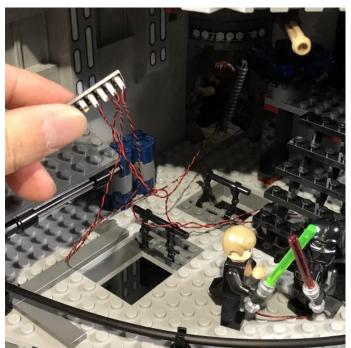


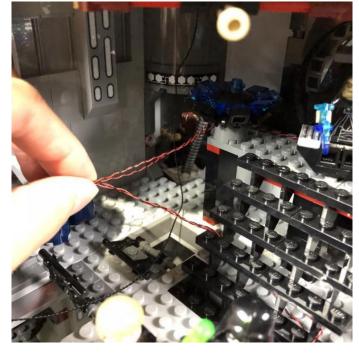
22.)Connect the two lightsaber cables as well as the two from Palpatine's sides to a new 6-Port Expansion Board.

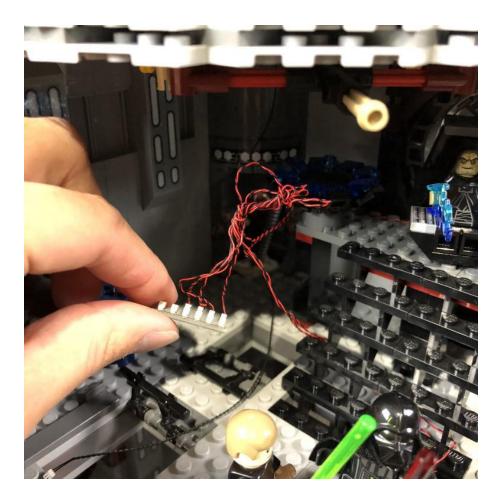




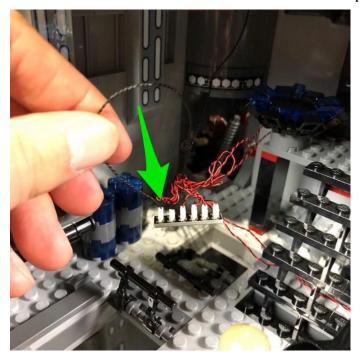
Clean up excess/messy cabling by grouping together the four cables, then twisting them around each other as per below:

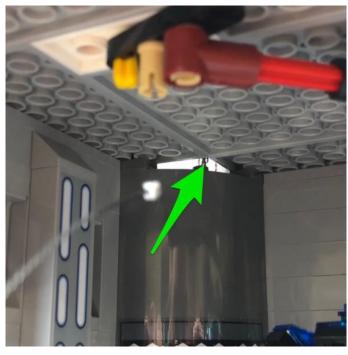


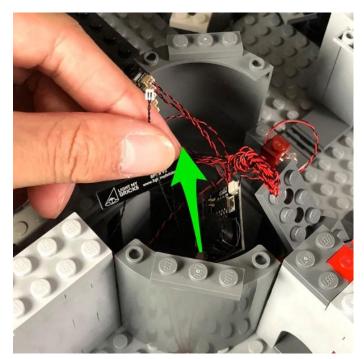


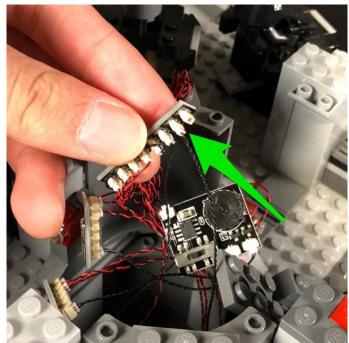


Take a 30cm Connecting Cable and connect one side to the expansion board and then thread the other side through the top corner spacing that leads to the centre of the Death Star. Pull the cable out from the other side and then connect it to the next port along the 8-port Expansion Board from step 3.

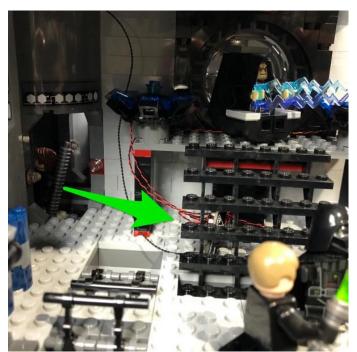


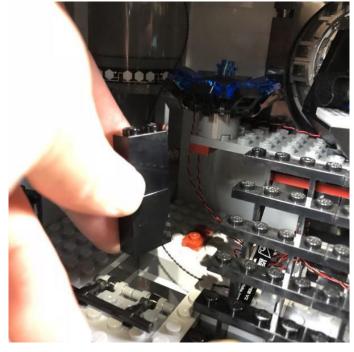


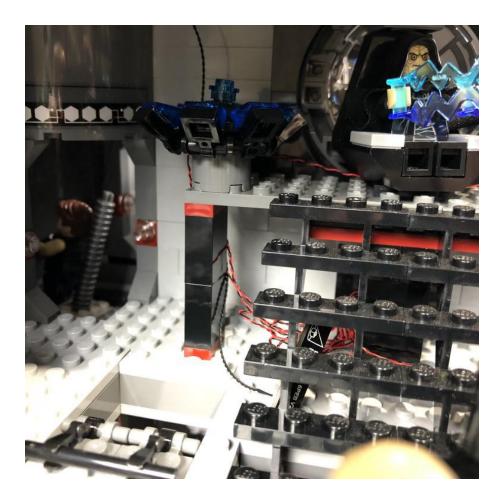




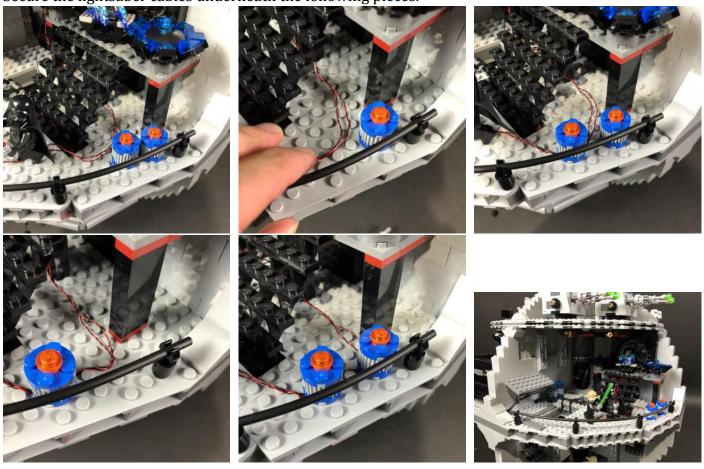
23.) Tuck the 6-port expansion board and cabling in behind the stair case and left pillar as shown below



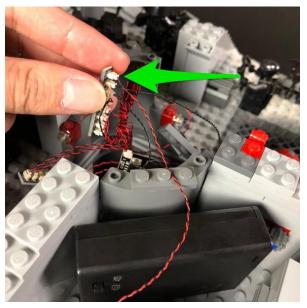


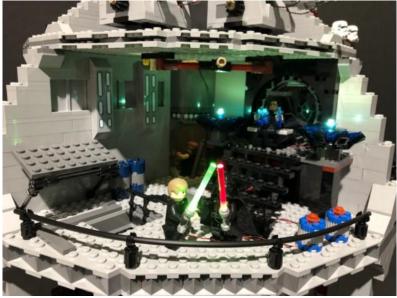


Secure the lightsaber cables underneath the following pieces.



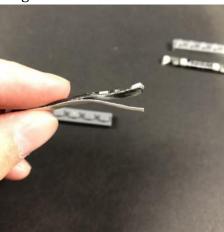
Test the lights from this section are all working OK by connecting the AA Battery Pack to the 8-port expansion board above and turning ON.





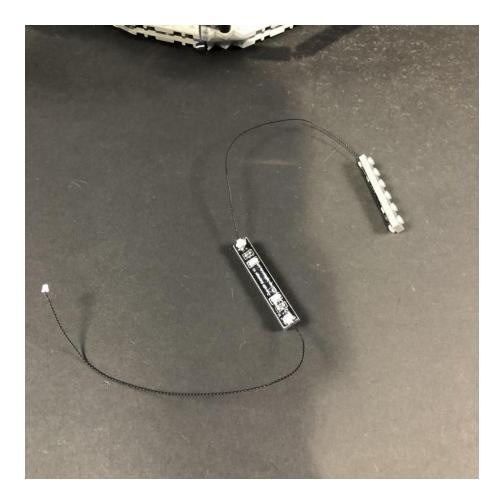
24.) Take 2x Blue Strip Lights and 2x LEGO Plates 1x6. Stick the strip lights to the base of each plate using it's adhesive backing.



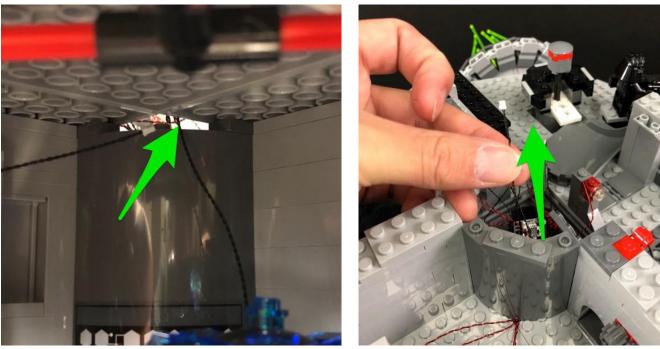


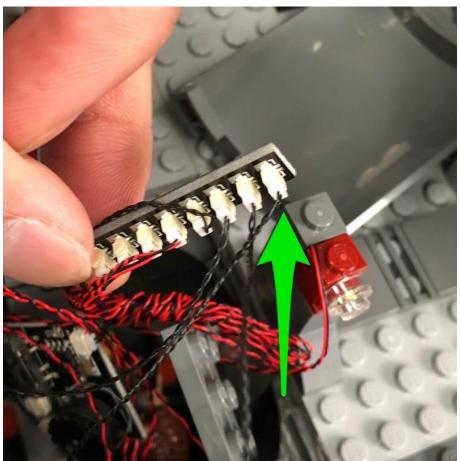


Take 2x 15cm Connecting Cables and connect one between the two strip lights and other other to the outside port of one of the strip lights.



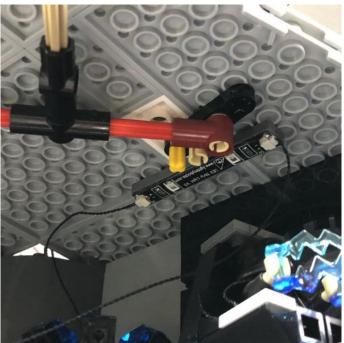
Thread the other end of the 15cm Connecting Cable through the corner space in the Emperor's throne room and then pull it out from the other side to connect to the 8-port Expansion Board from step 3.



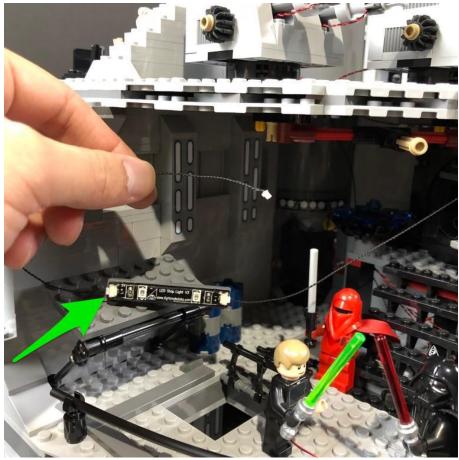


25.) Mount the first Blue Strip Light to the top right of the Emperor's Throne room in the following position.





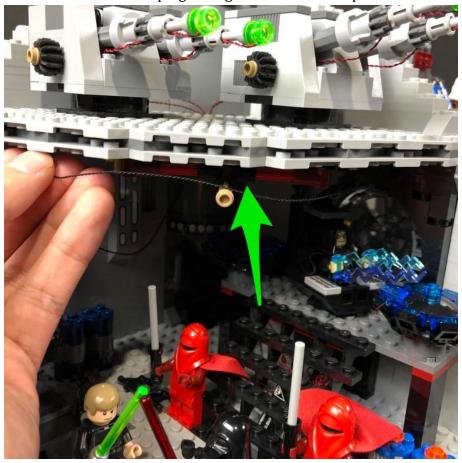
Take another 15cm Connecting Cable and connect it to the other end of the second Blue Strip Light before mounting it to the top left of the Emperor's Throne room in the below position.







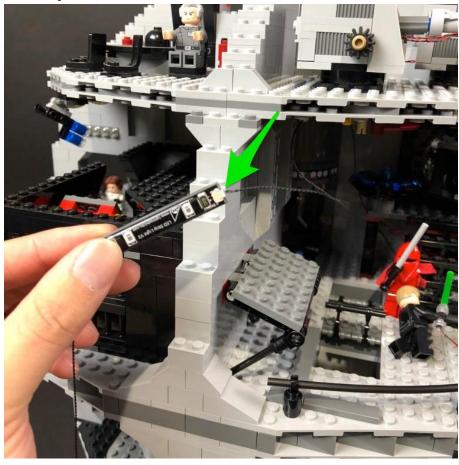
Tuck the cable that connects the two strip lights together in between pieces as shown below



26.) Take 2x Red Strip Lights and stick them to another 2x LEGO plates 1x6. Take 2x 15cm Connecting Cables and connect one in between the strip lights and another to the end of one of the strip lights.

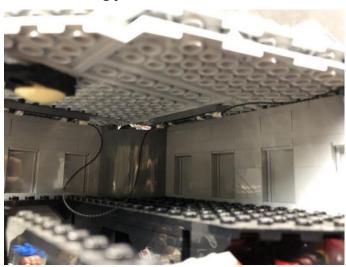


Take the other end of the 15cm connecting cable from the Blue Strip Light and connect it to the Red Strip Light that has a free port.



Mount the two Red Strip Lights to the top of the next room to the left of the Emperor's Throne room

in the following positions.

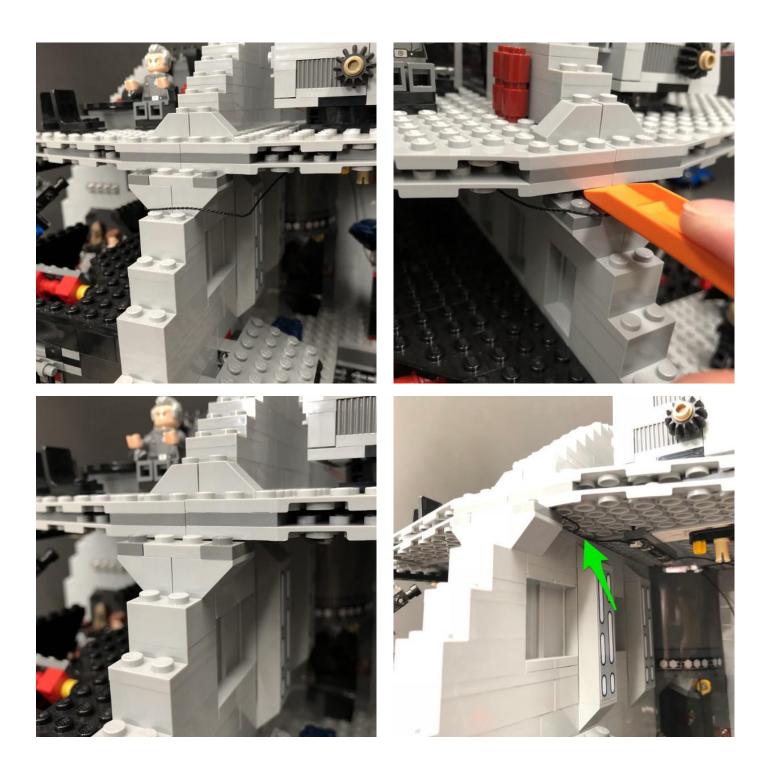




To eliminate excess cable in between the two red strip lights, loop the cable underneath the left lego plate as shown below:



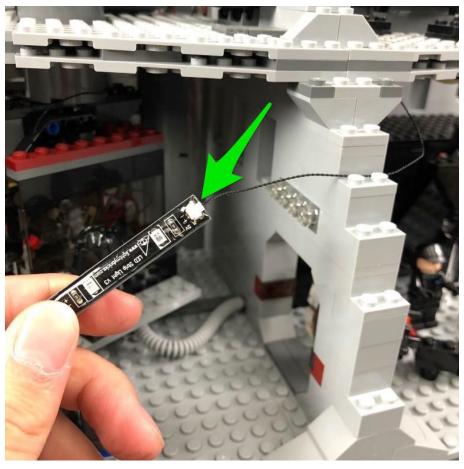
27.) Hide the cable between the Blue and Red Strip Light by laying it underneath the floor. Use the LEGO removal tool to create a gap to slip the cable underneath ensuring the cable is in between studs, then reconnect the floor. Tuck in any remaining excess cable by pushing it up to secure between connectors.



28.) Take 2x Blue Strip Lights and stick them to 2x LEGO Plates 1x6. Take 2x 15cm Connecting Cables and connect one in between the two strip lights and the other to the end of one of the strip lights.



Connect the other end of the 15cm Connecting Cable from the Red Strip Light to the Blue Strip Light with a free port.



Mount the Blue Strip Light (the strip light we just connected to the cable) to the top of the super laser

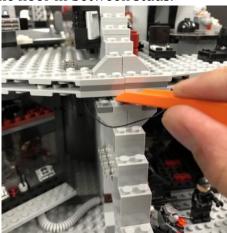
room in the following position.





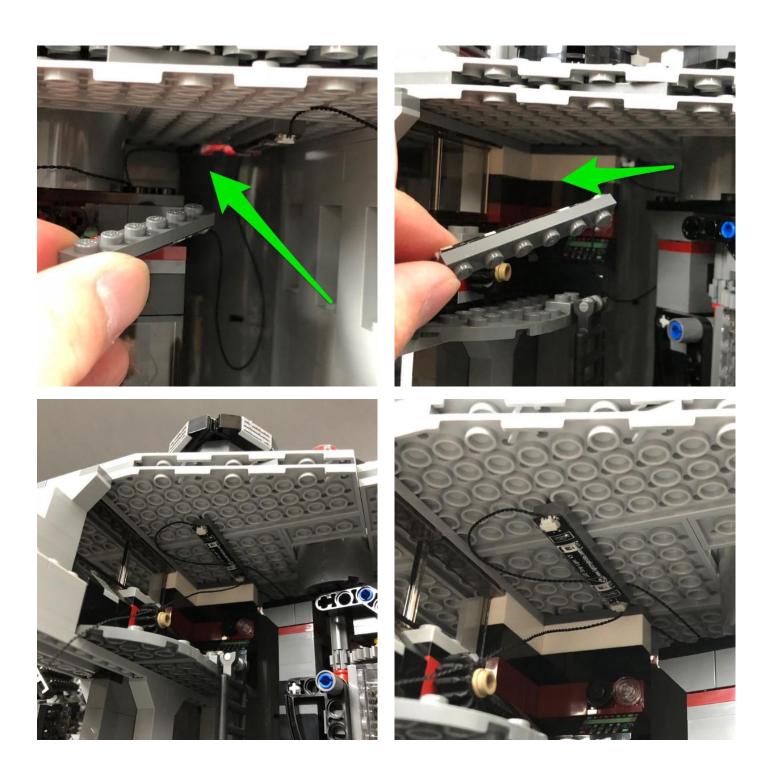
Use a LEGO Removal Tool to lift up the floor between the Red and Blue Strip Light and then hide the cable by laying them underneath the floor in between studs.



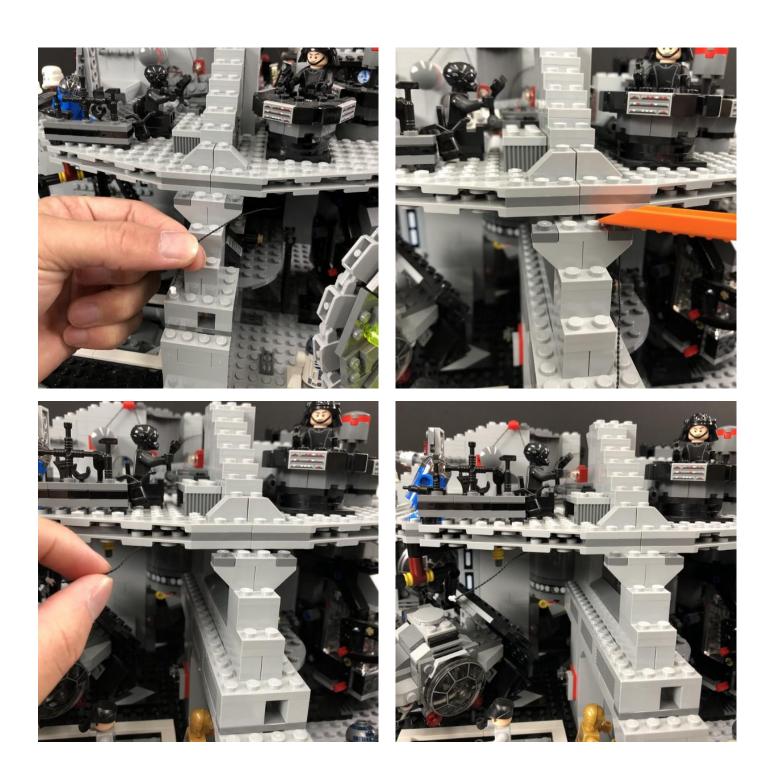




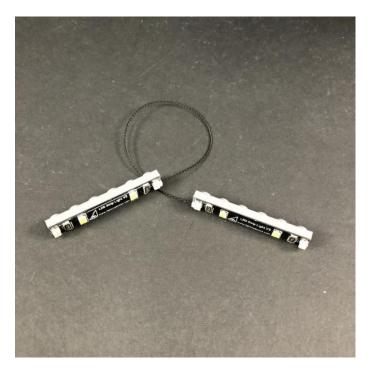
Thread the other Blue Strip Light behind the super laser control unit and then mount to the top in the following position.



29.) Take the other end of the 15cm Connecting Cable from the last Blue Strip Light we installed and hide it underneath the floor plates in between the super laser room and the tie fighter room.

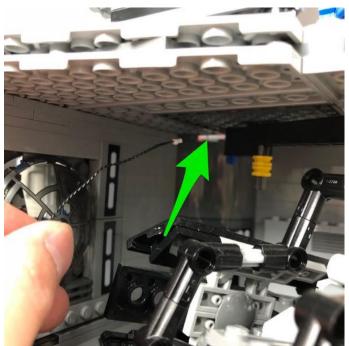


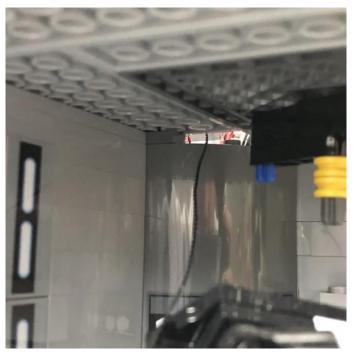
30.) Take 2x White Strip Lights and stick them to 2x LEGO Plates 1x6. Connect a 15cm Connecting Cable between the two strip lights and then connect a 50cm Connecting Cable to one of the Strip Lights.

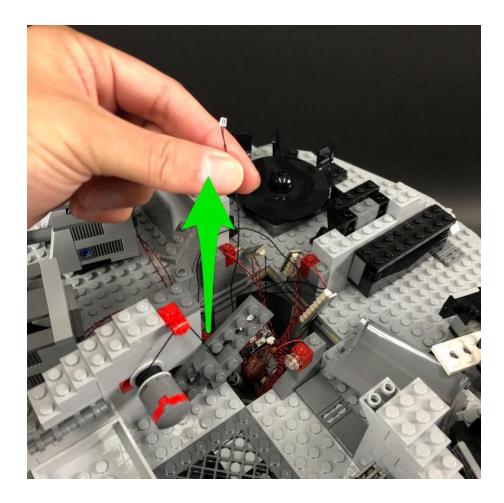




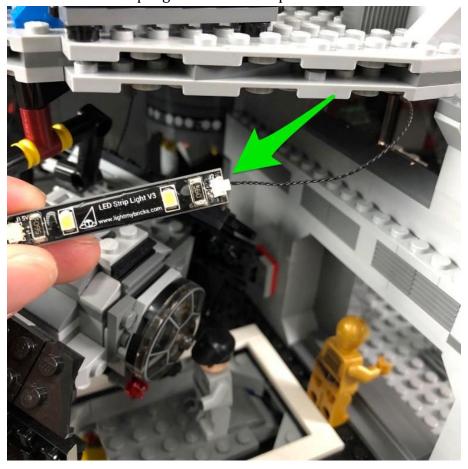
Take the other end of the 50cm Connecting Cable and thread it in through the top corner space behind the Tie Fighter. Pull the cable all the way out from the other side (top of the Death Star)







31.) Take the other end of the 15cm Connecting Cable from the Blue Strip Light in the super laser room and connect it to the White Strip Light with the free port.

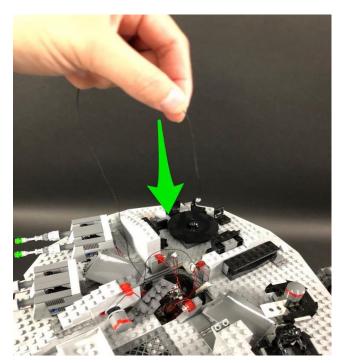


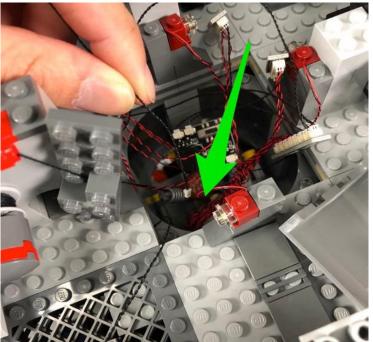
Mount the two White Strip Lights to the top of the Tie Fighter room in the below positions. Remember





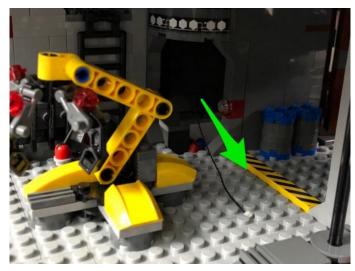
32.) Take the other end of the 50cm Connecting Cable from the top of the death star and then thread it all the way down the centre to the bottom of the Death Star. Look to the room with the yellow crane and then pull the cable all the way out from the middle.





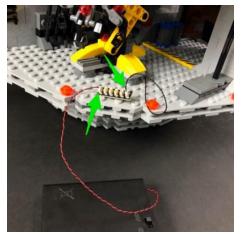






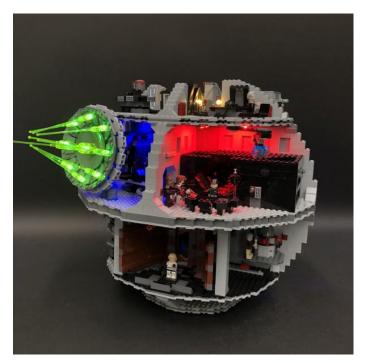


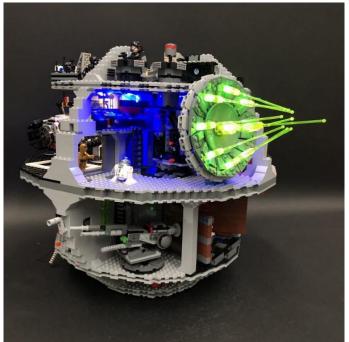
Test all the lights we have installed so far by connecting the 50cm Connecting Cable to a spare expansion board and then connecting up the AA Battery Pack. Turn the battery pack ON to verify all is OK.



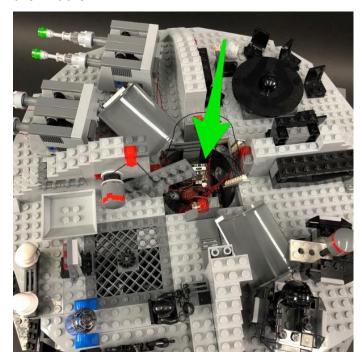


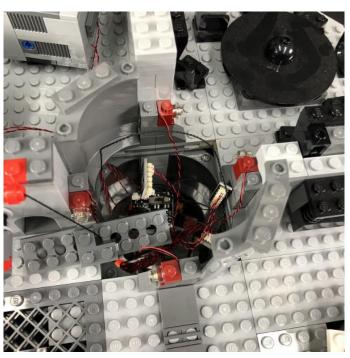




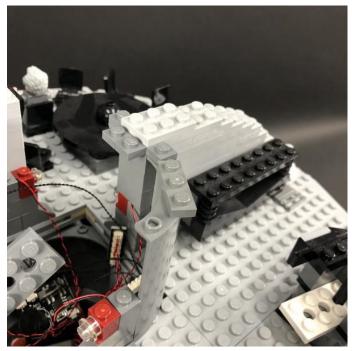


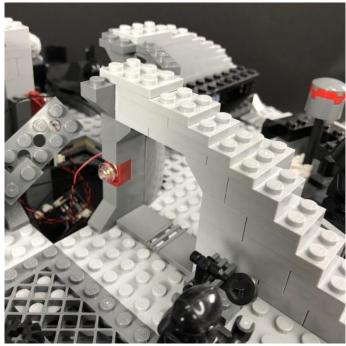
33.) Disconnect the expansion board and Battery Pack from the 50cm Connecting Cable at the bottom of the Death Star and then neatly place all the components on the top of the Death Star down the middle.

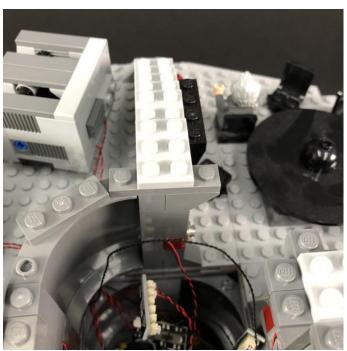


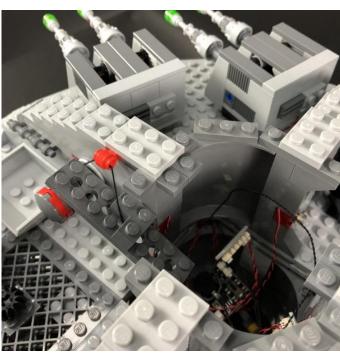


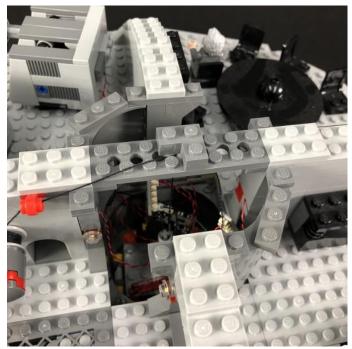
Reconnect all the pieces we removed earlier surrounding the top of the Death Star.

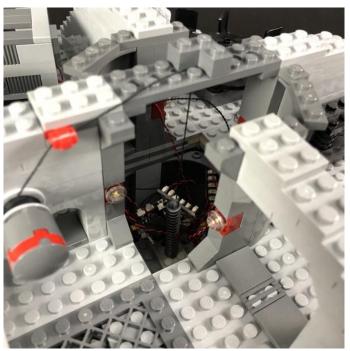


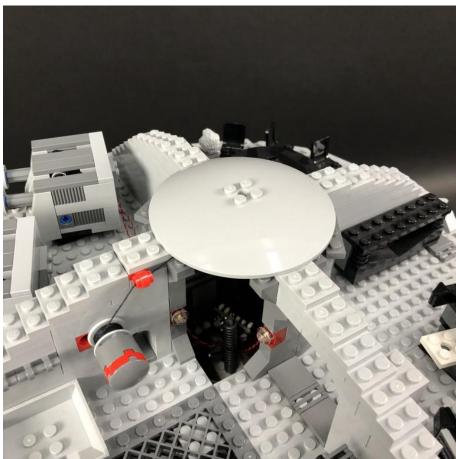




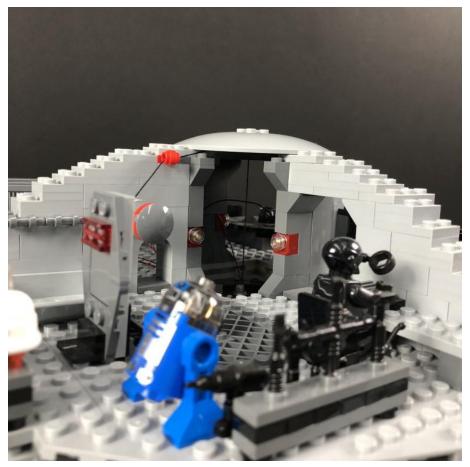




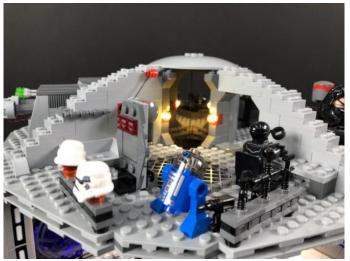




Push down the Dot Light Cable wires and then use the lift to lower down all the components and wiring to ensure they are not visible.

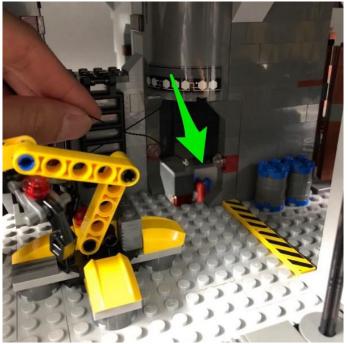


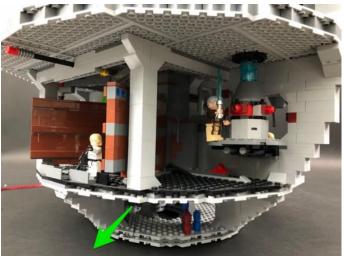


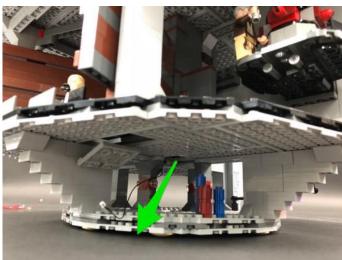


34.) Take the 50cm Connecting Cable from below and then thread down the middle again and pull it out from the very bottom section as shown below







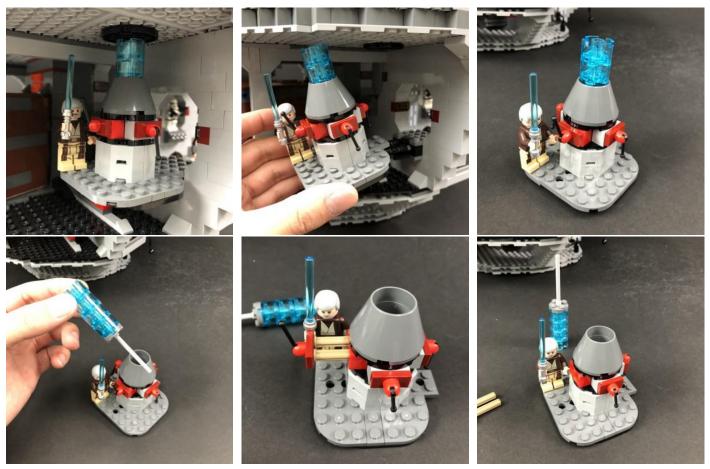


Remove the following pieces from the base level.



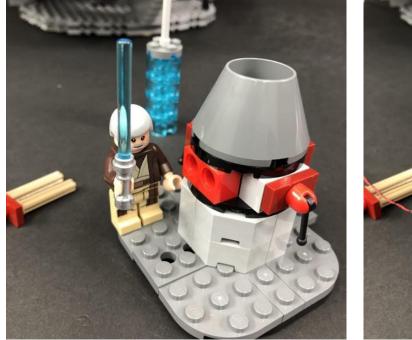


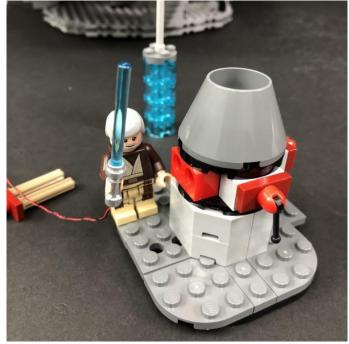
35.) Remove the energy beam section and then disassemble pieces as per below



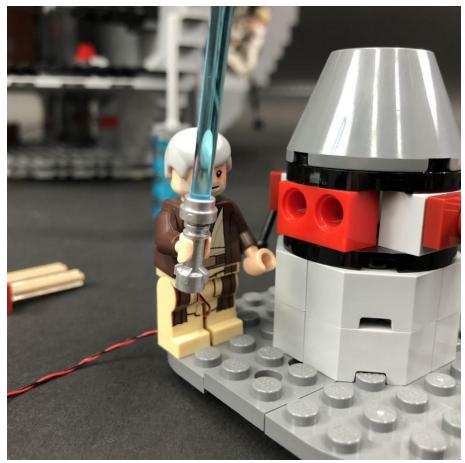
The following LEGO laser swords are purchased separately and installed as described below. If there is no additional purchase, please skip to step (36)

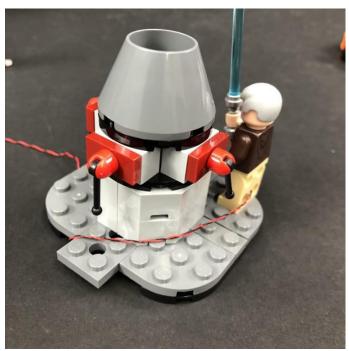
Replace Obi wan Kenobi's saber with the Blue Vonado Lightsaber

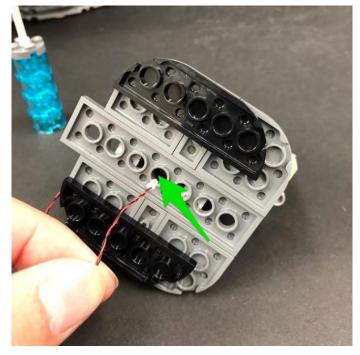


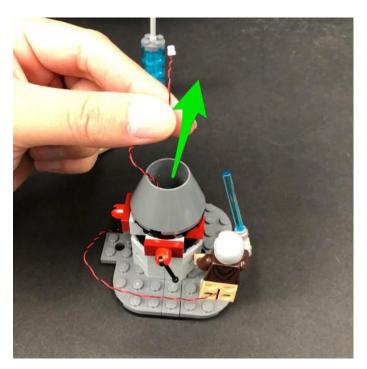


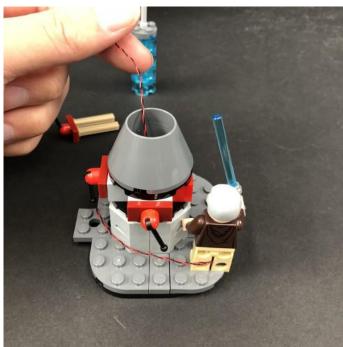
Hide the lightsaber cable in between Obi Wan's legs and then pull the cable behind him and then thread it underneath in the middle hole. Pull the cable out from the top.



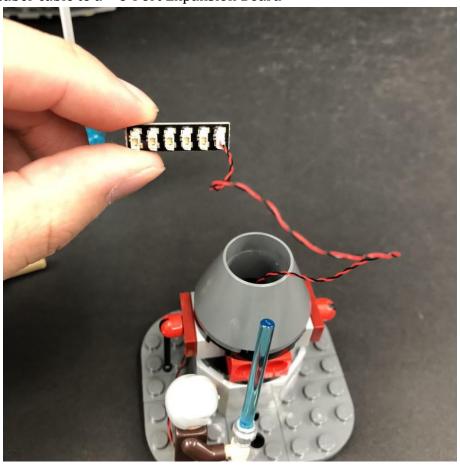




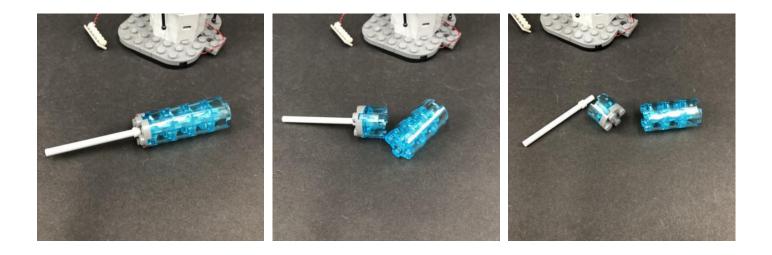




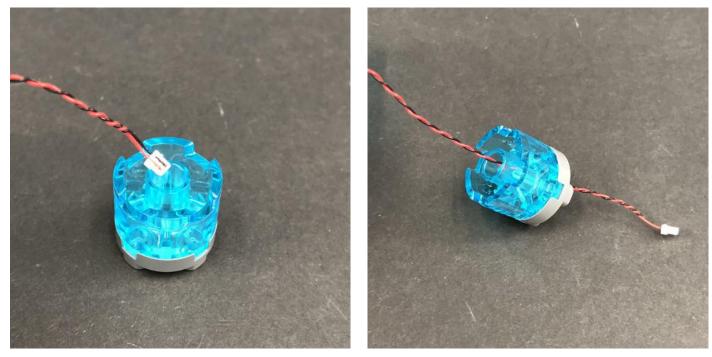
Connect the lightsaber cable to a 6-Port Expansion Board



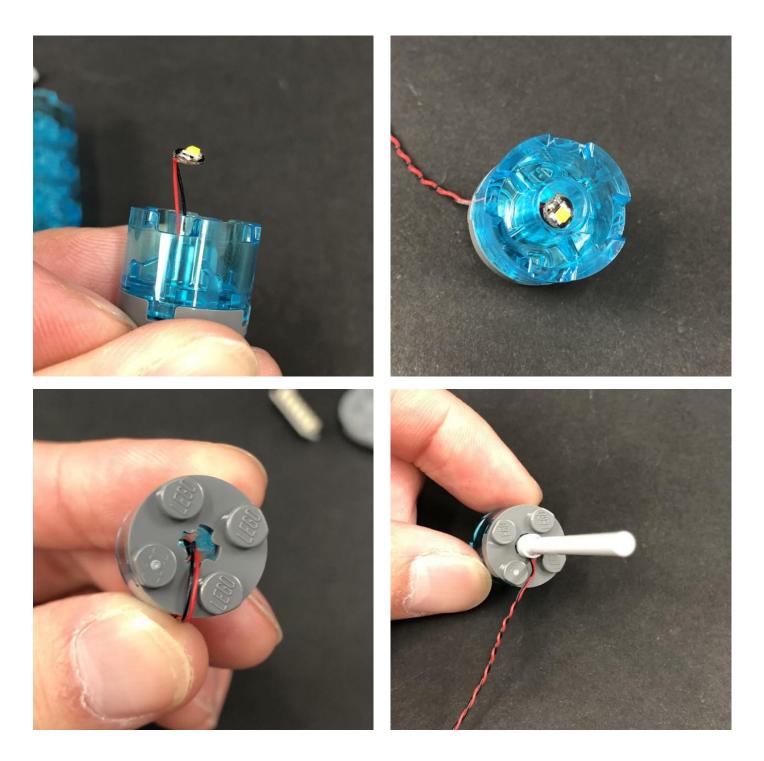
36.) Disassemble pieces from the energy beam as shown below



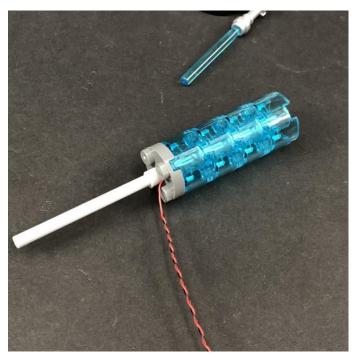
Take a White 30cm Dot Light and thread the connector side of the cable through the bottom of the Trans Light Blue 2x2 Round Brick with the grey plate connected to it.

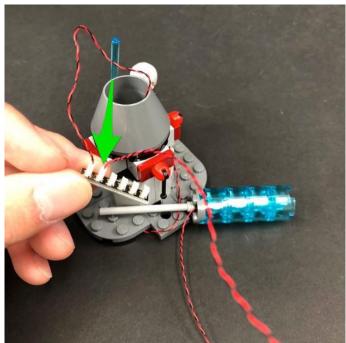


Thread the cable all the way through and then slightly bend the Dot Light component so that it is facing upward. Push the Dot Light down the middle of the brick and then with the cable laid in between studs and the edge of the grey plate hole, reconnect the white bar as shown below.

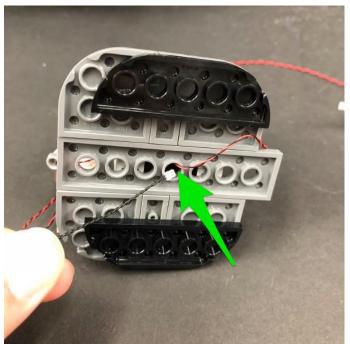


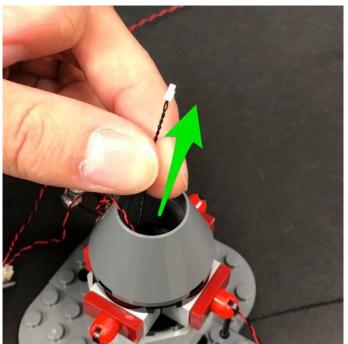
Reconnect the rest of the pieces which make up the energy beam and then connect the Dot Light cable to the 6-port expansion board



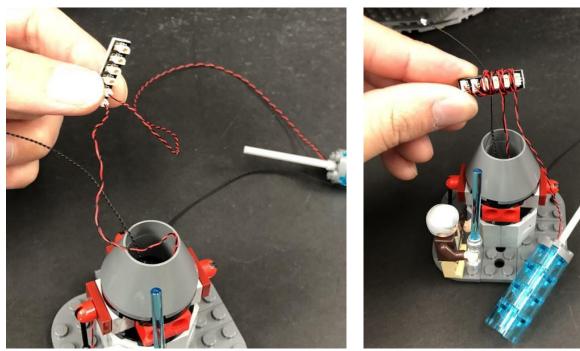


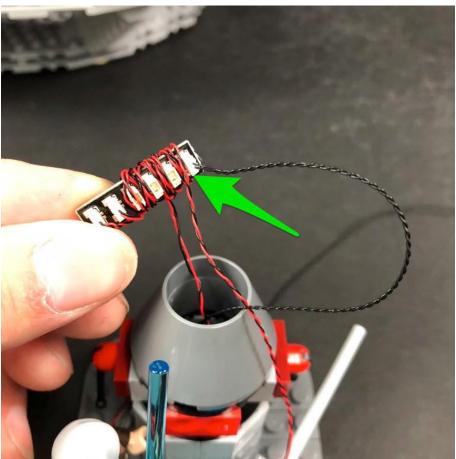
37.) Take a 30cm Connecting Cable and thread it underneath in the middle hole. Pull the cable out from the top.



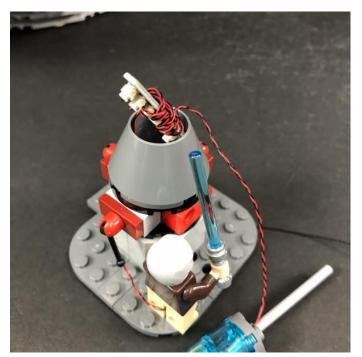


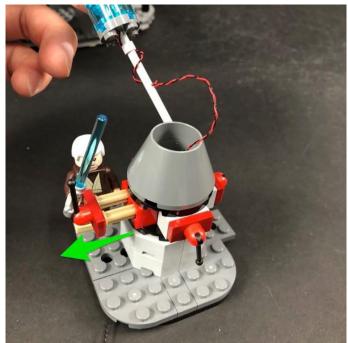
Wind all the excess cable from the lightsaber and Dot Light around the expansion board and then connect the 30cm Connecting cable to a spare port

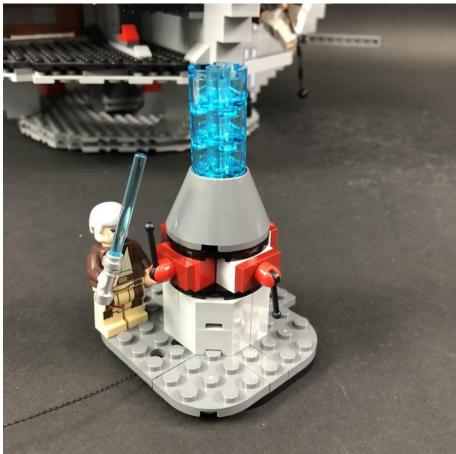




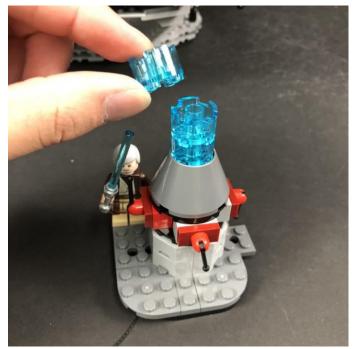
38.) Tuck the connecting cable and expansion board into the hole and pull out the control lever and wind the Dot Light cable around the white bar before reconnecting everything inside.

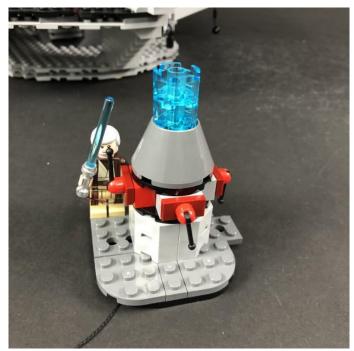






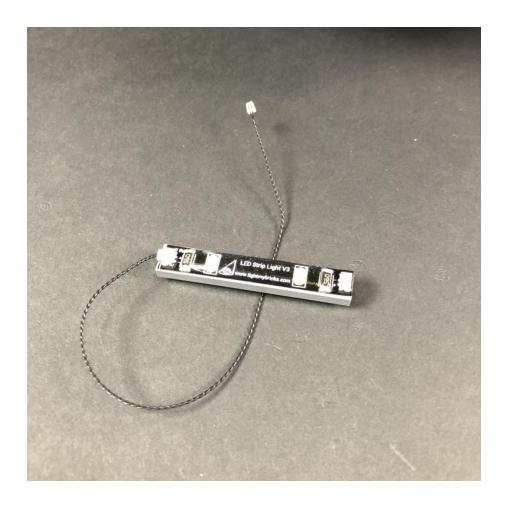
Remove and discard the top trans light blue round brick and then reconnect the whole section back to the Death Star.







39.) Take a White Strip Light and stick it to a LEGO Plate 1x6. Connect a 15cm Connecting Cable to one of the ports.



Connect the other end of the 30cm Connecting cable from the energy beam to the White Strip Light and then thread the strip light over to the next room on the left.





Remove the following 1x8 Plate and then mount the Strip Light to the same position.



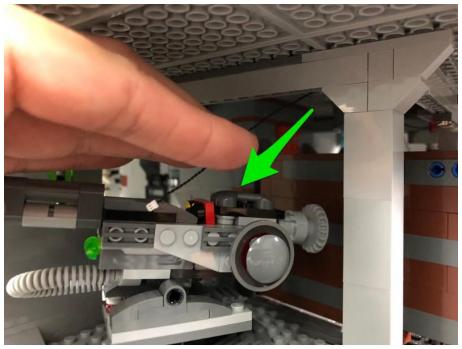




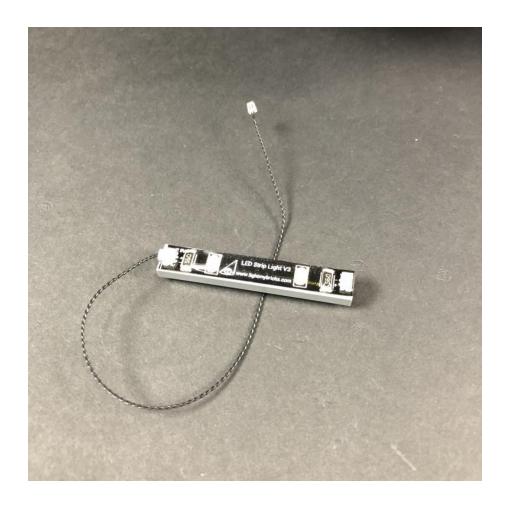
Thread the other end of the 15cm Connecting Cable through the following space that leads to the next room on the left. Pull it over from the other side.



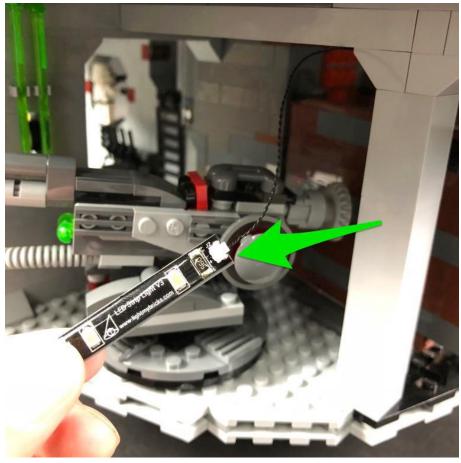




40.) Take another White Strip Light and stick it to a LEGO Plate 1x6. Connect a 15cm Connecting Cable to one of the ports.



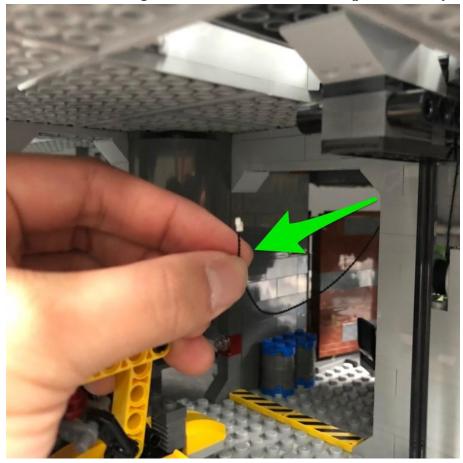
Connect the other end of the 15cm connecting cable we brought over from the room on the right to the strip light's spare port. Mount the strip light to the top of this room in the following position.



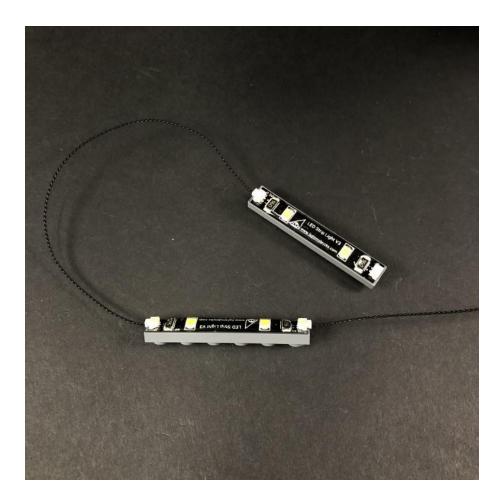




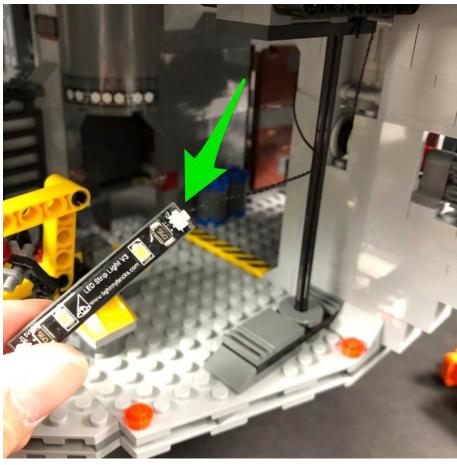
Bring the other end of the cable through to the next room on the left (yellow crane).



41.) Take 2x White Strip Lights and stick them to 2x LEGO Plates 1x6. Take 2x 15cm Connecting Cables and connect one in between the two strip lights and the other to the end of one of the strip lights.



Connect the other end of the 15cm connecting cable from the room on the right to the strip light that has a free port.



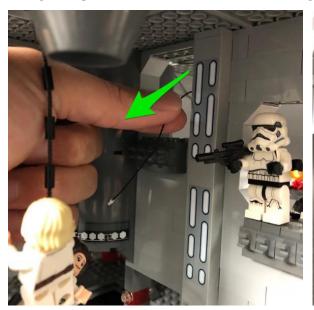
Mount the strip lights to the top of the yellow crane room in the following positions. Loop excess cable

between the strip lights underneath lego plates.





Bring the spare end of the 15cm cable through the back space which leads to the next room on the left.





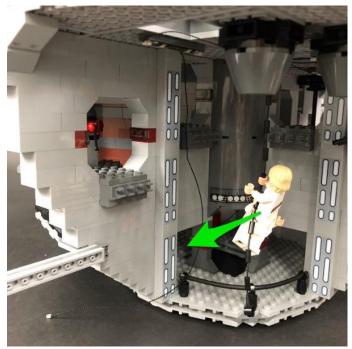
42.) Take the remaining 2x White Strip Lights and stick them to the remaining 2x LEGO Plates 1x6. Connect the remaining 15cm Connecting Cable in between the two strip lights and connect the remaining 30cm Connecting Cable to one of the strip lights.



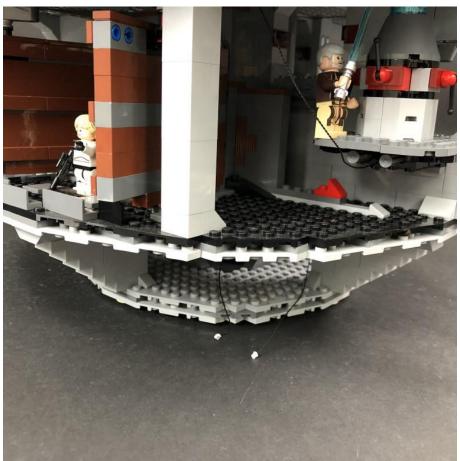
Connect the other end of the 15cm connecting cable from the room on the right (yellow crane room) to the strip light with a free port. Mount the two strip lights to the top of this room ensuring the spare end of the 30cm connecting cable is facing the inside.



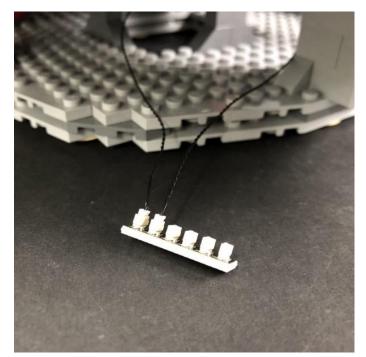
43.) Thread the 30cm connecting cable down through hole on the left which leads the bottom space where the 50cm connecting cable from step 34 is

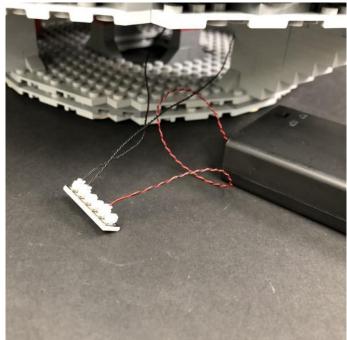




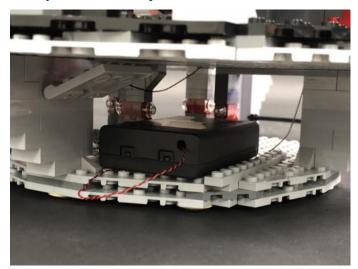


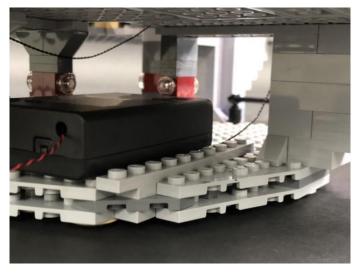
44.) Connect both connecting cables to the remaining 6-Port Expansion Board as well as the AA Battery Pack.





Neatly tuck in the expansion board, cables and battery pack inside the lower level as per below





Turn on the battery pack to verify all the lights on the lower levels are working OK (along with the rest of the lights).





