

NASA_Apollo_Saturn_V_21309 basic version LED Lighting Kit

Package contents:

5x Warm White 30cm Dot Lights
1x Flicker Effects Board
1x 6-Port Expansion Boards
1x 5cm Connecting Cables
1x Flat Battery Packs
(Each battery pack requires 2x CR2032 Batteries)

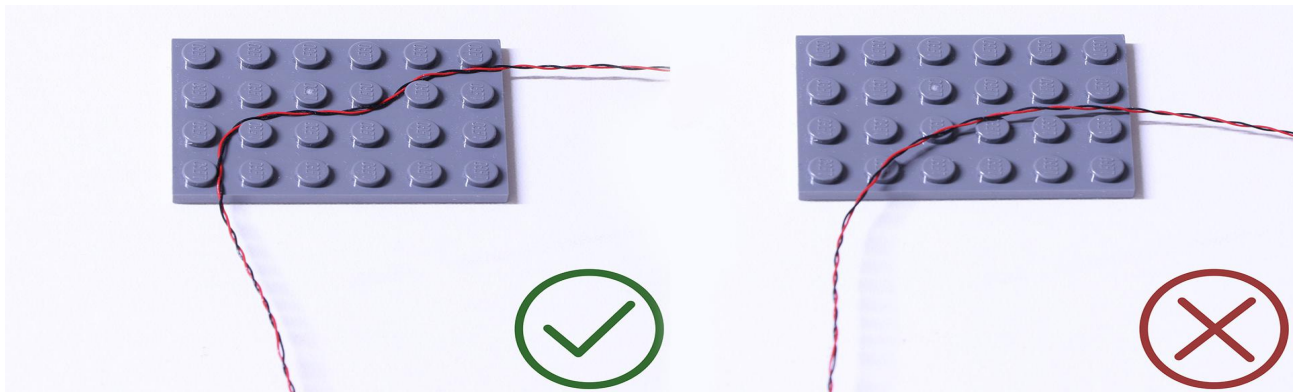
LEGO Pieces:

5x Trans Orange Round Plate 1x1

Note:

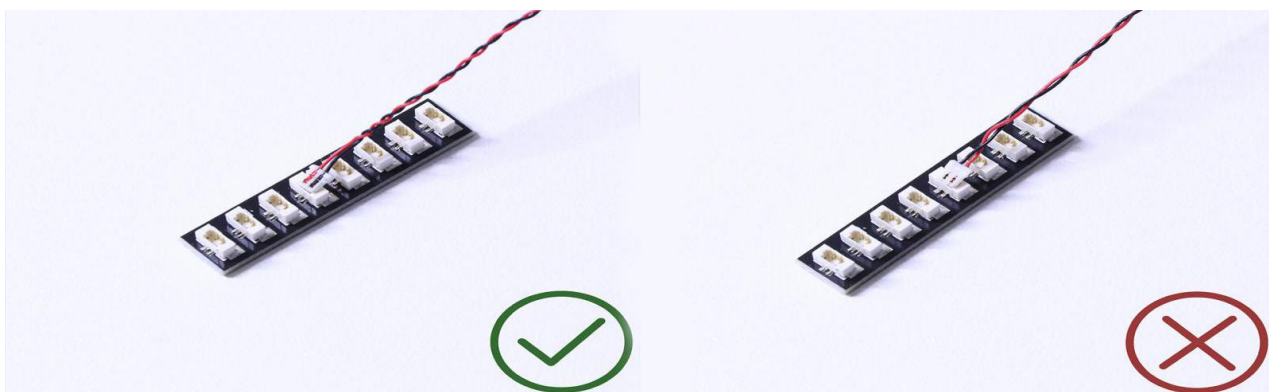
Place wires on the surface or under the LEGO building blocks.

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

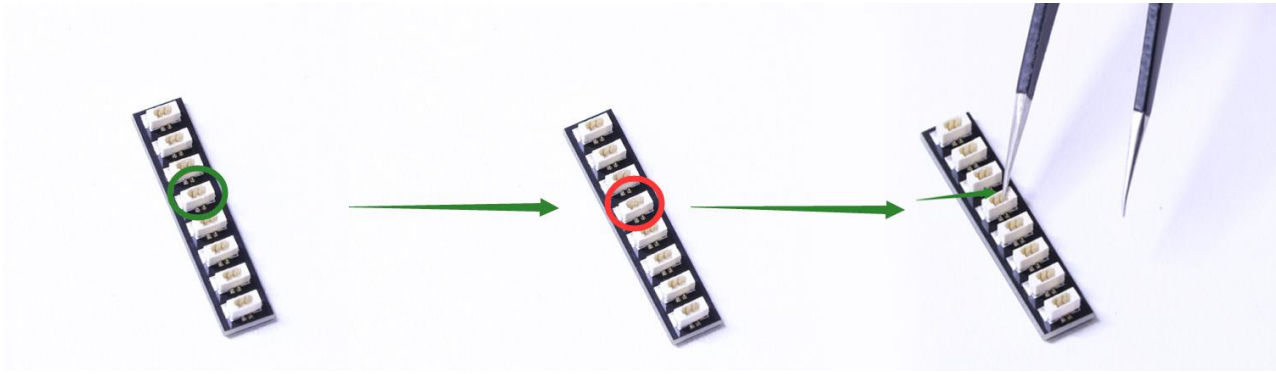


Insert the connectors to the ports.

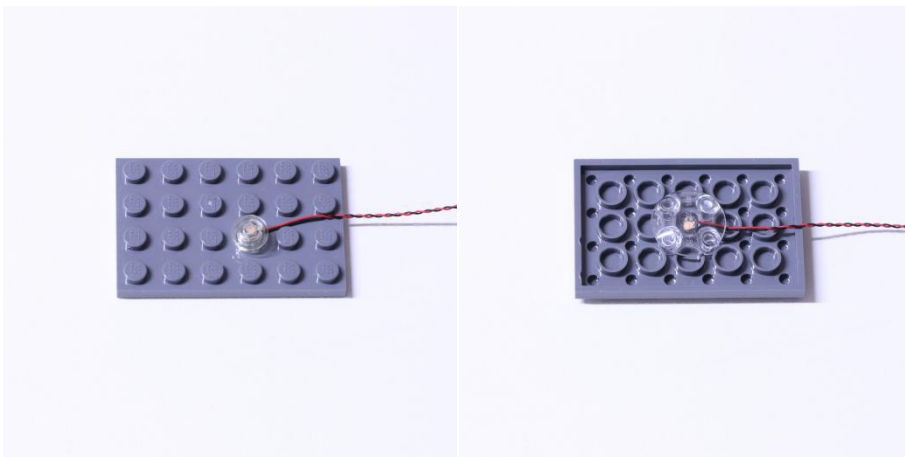
Be careful when you are operating, there's only one correct way to insert, make sure the expansion board is upward, find the soldered “=” sign on the left of the port. When you are inserting, the side which the wires can be seen should be faced to the “=” sign and if you feel hard to insert, please stop,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



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

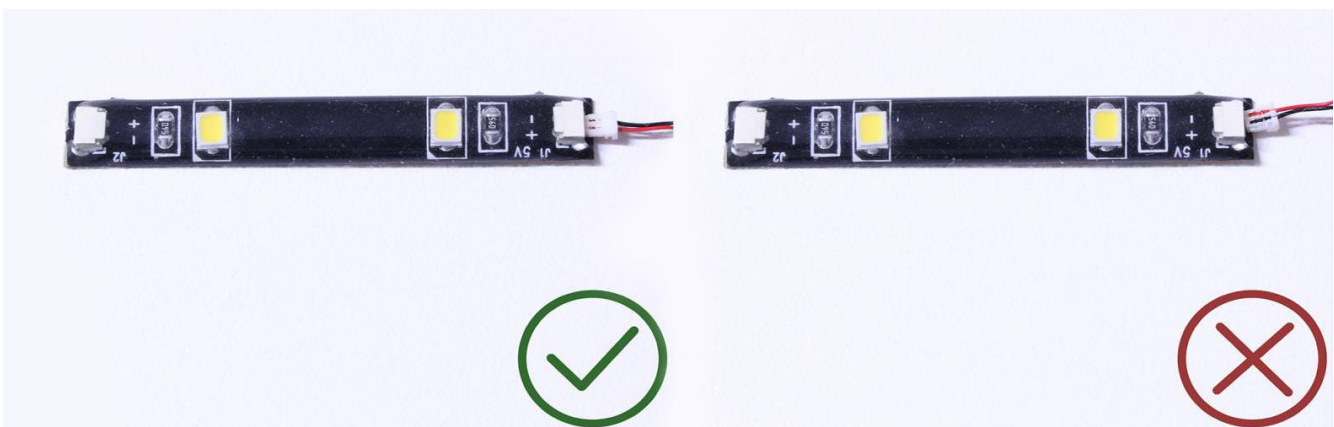


When installing dot lights, make sure they are correctly placed (Yellow LED package is exposed). You can put them either on the top of the studs or between studs.

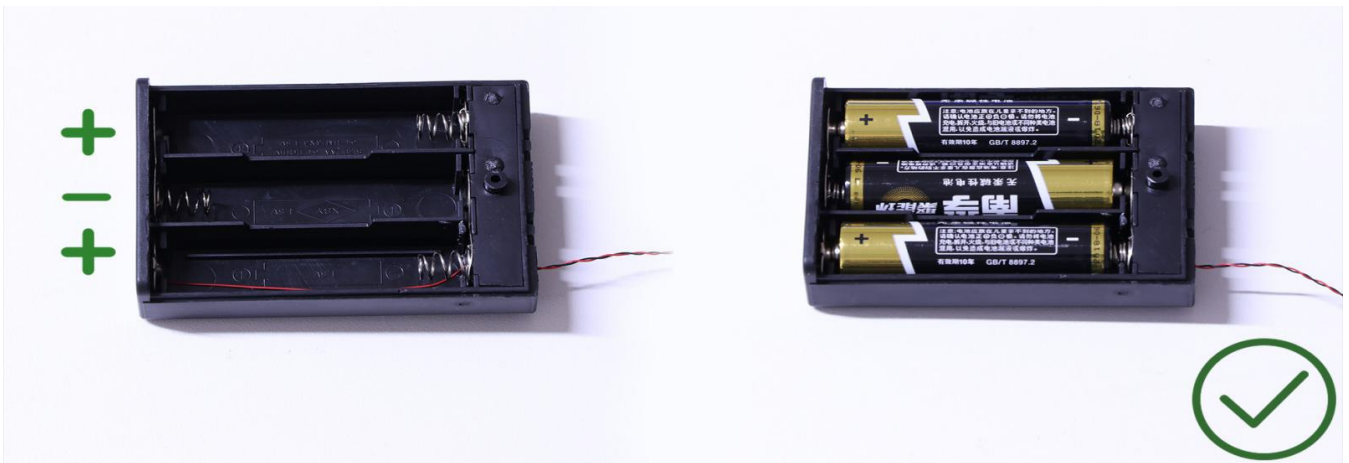


Connecting cable connectors to Strip Lights

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



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

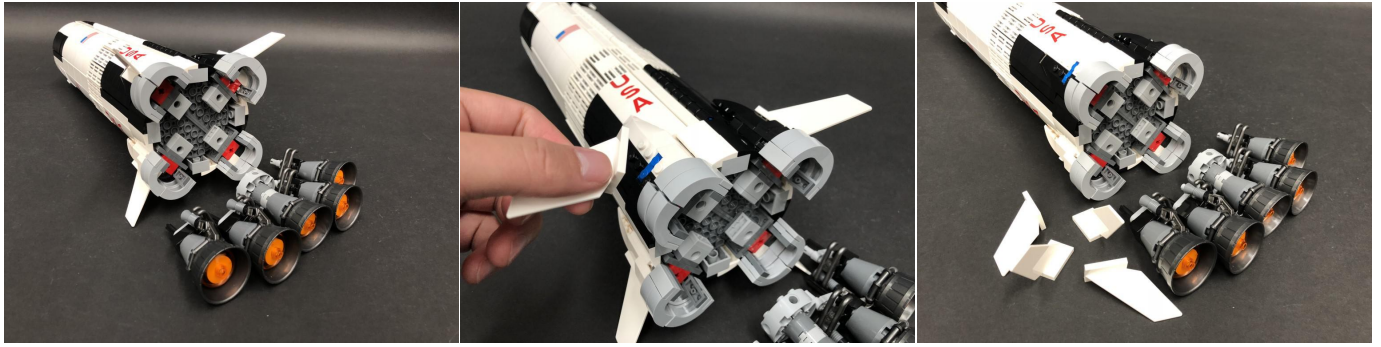


OK, Let's Begin!

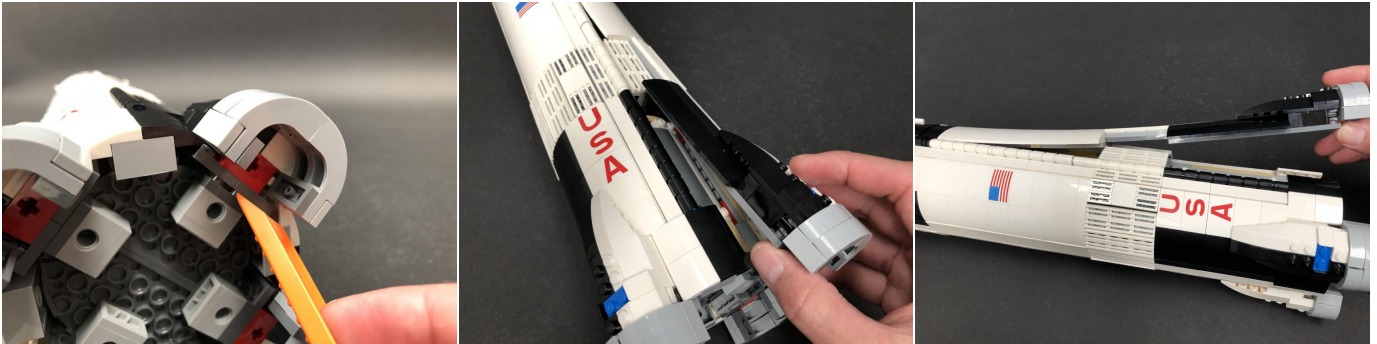
Instructions for installing this kit

1.) We will install lights to the bottom rocket first. Start by disconnecting the bottom jet sections followed by the tail pieces as per below:

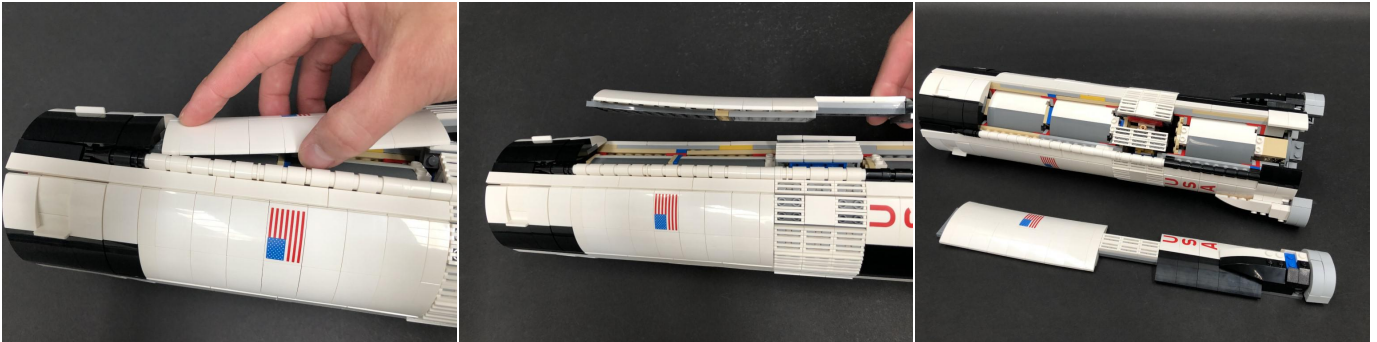




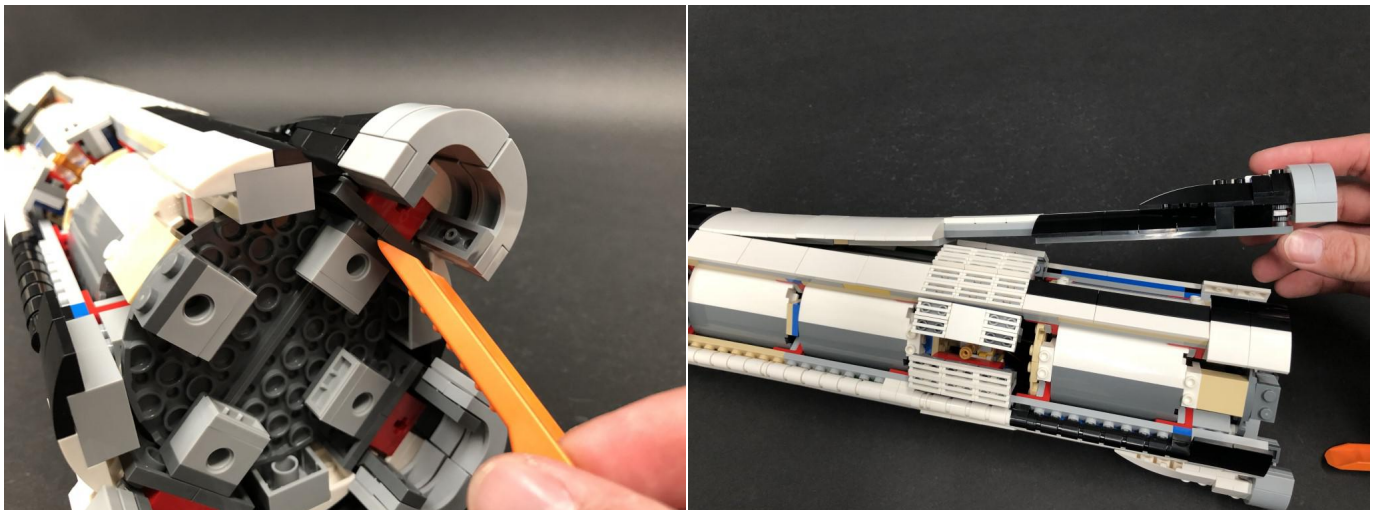
2.) Using the LEGO Removal tool, disconnect the following wall section from the bottom as shown below

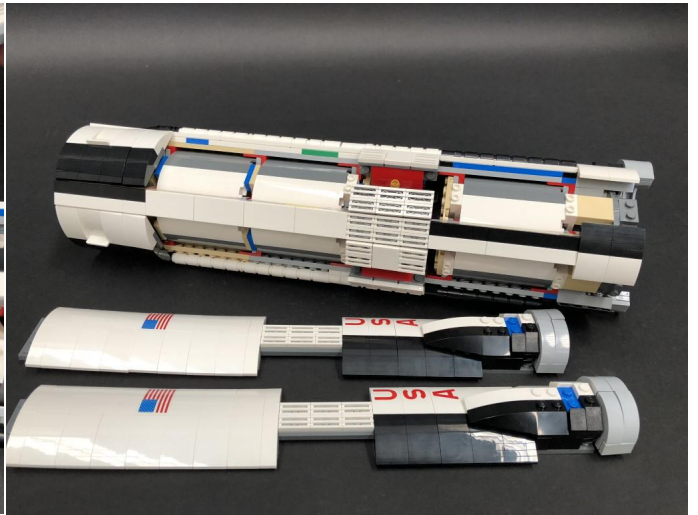
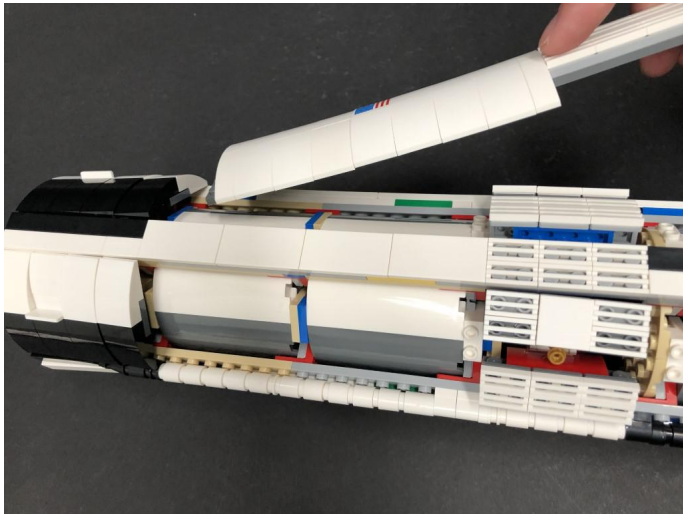


Carefully press down at the following position to allow you to completely pull this section out.

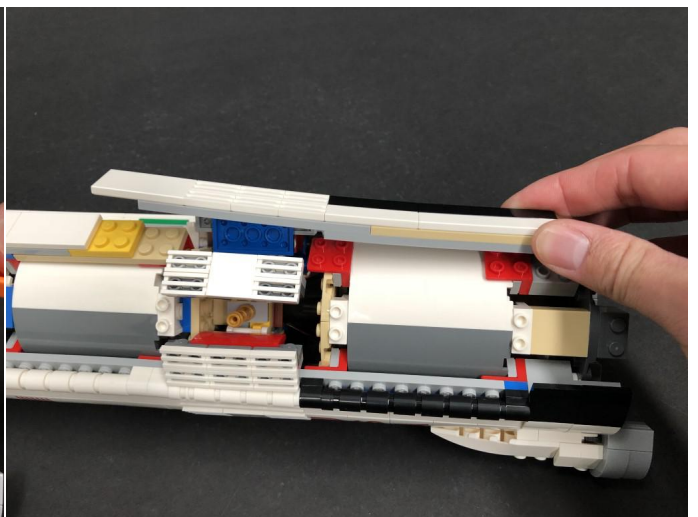
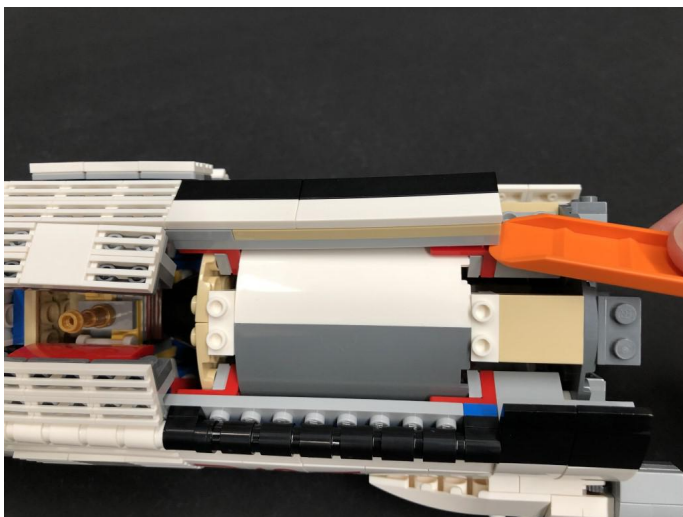
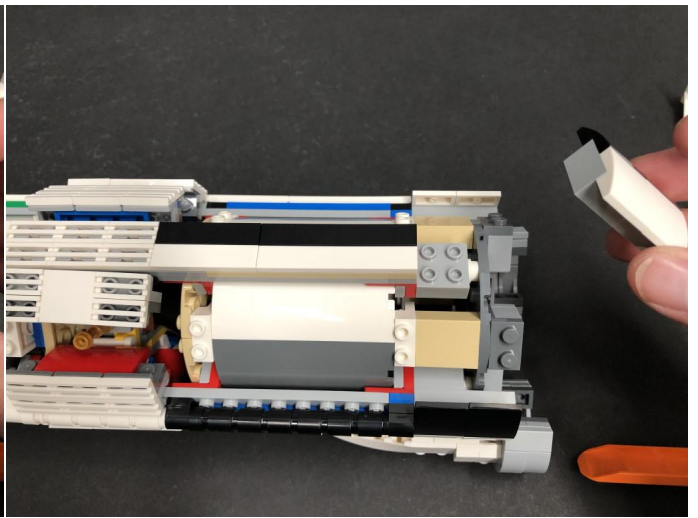
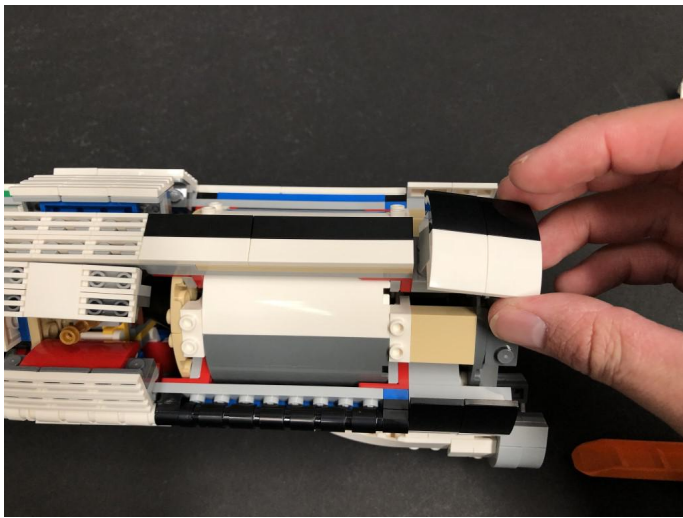


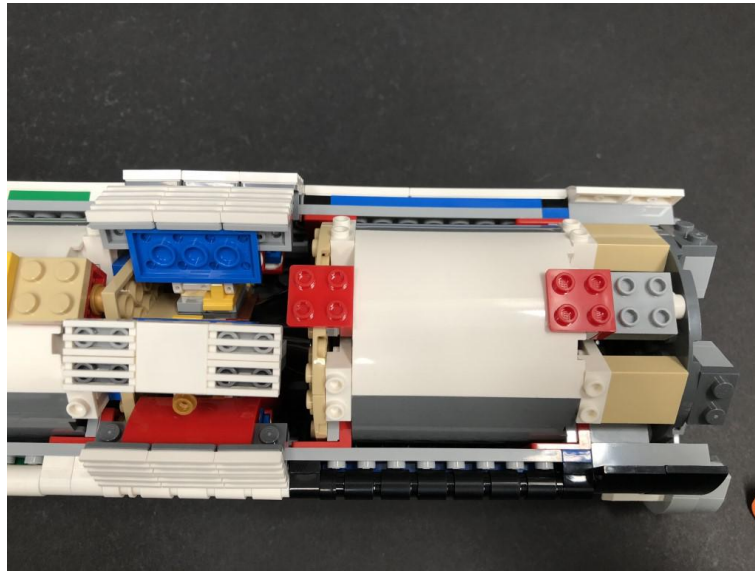
3.) Repeat previous step to remove the wall section to the right



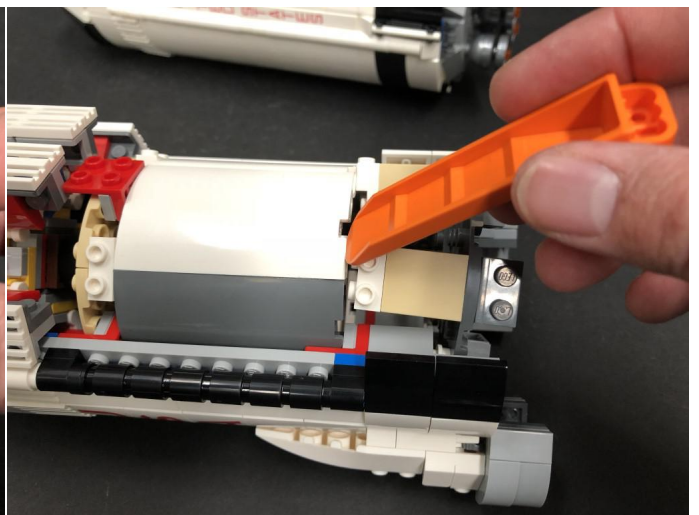
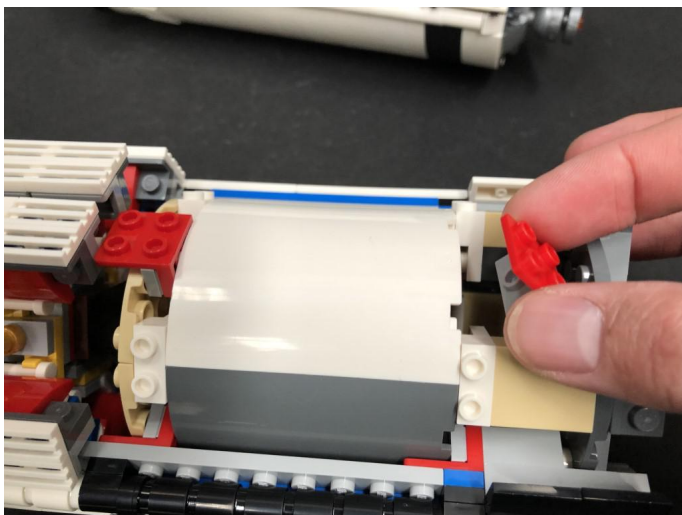
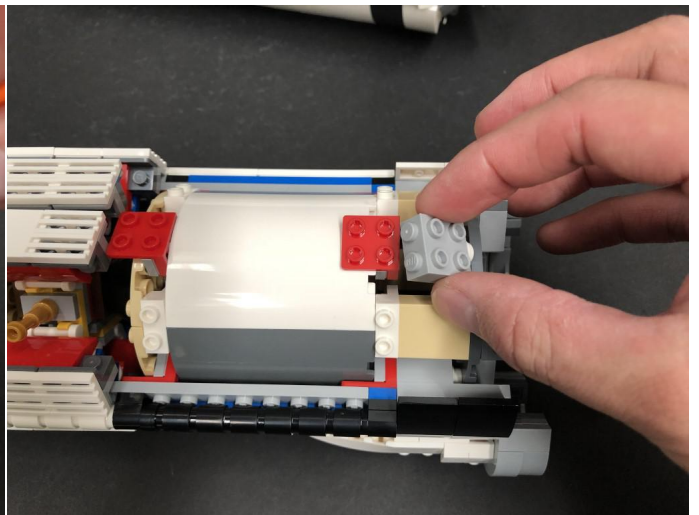
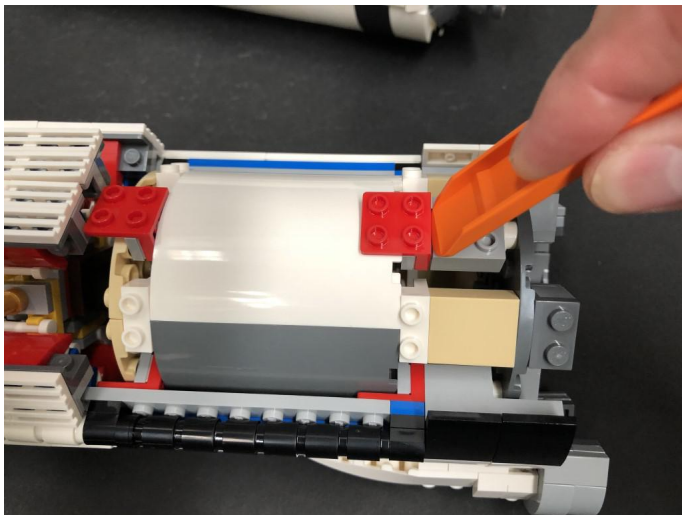


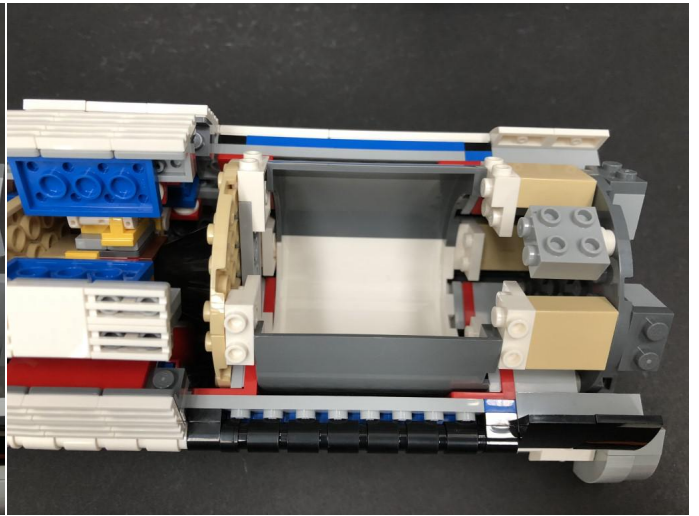
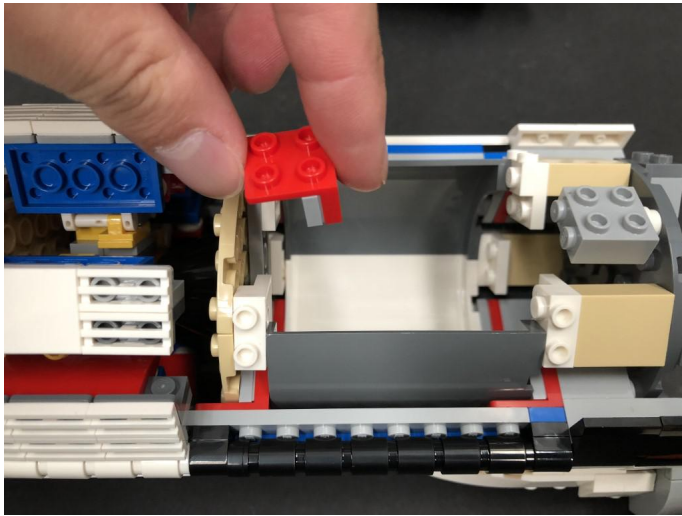
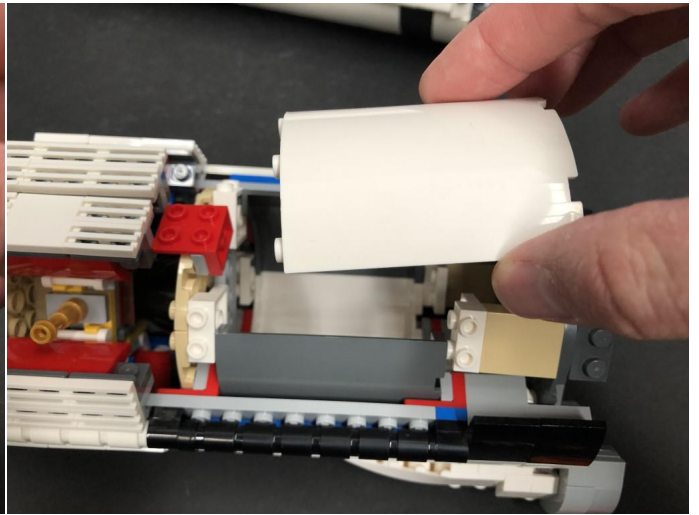
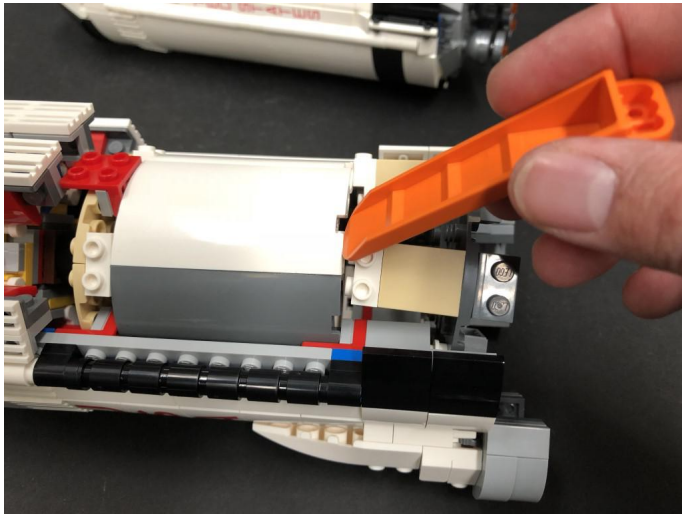
4.) Remove the section in the middle by lifting out sections using your finger as well as using the LEGO removal tool





5.) Use the LEGO Removal tool to disconnect the following sections to then allow us to remove the internal white wall section as well as the red pieces above and underneath





6.) Take the 5 jet sections and starting with one, disconnect the bottom half then take a **White 30cm Dot Light** and thread the connector side of the cable down through the centre of the top of the jet (trans orange piece). Thread it all the way through until the Dot Light is right up against the edge of the trans orange piece.





Slightly bend the Dot Light on a 90 degree angle so that it sits flat, then secure it in place by connecting one of the provided **Trans Orange Round Plate 1x1** over the top



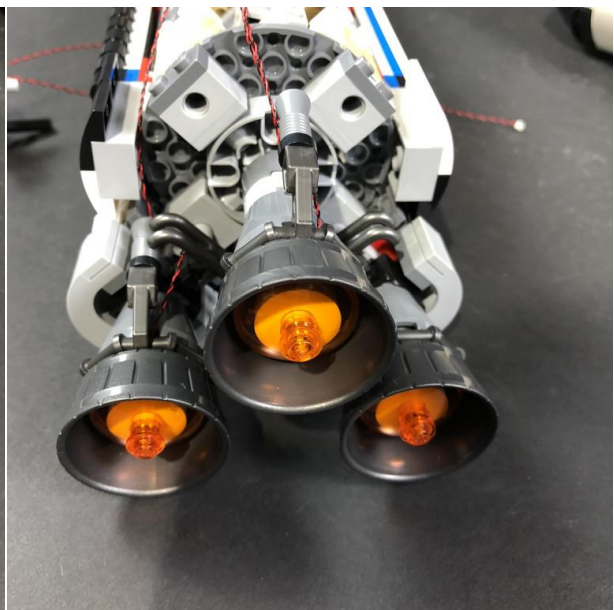
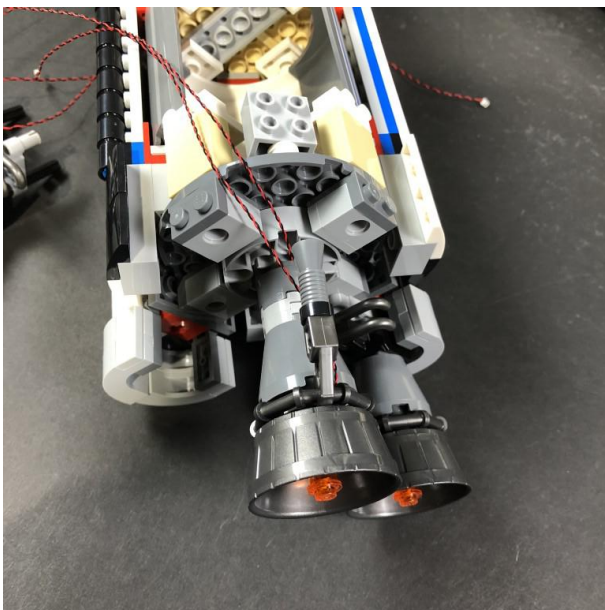
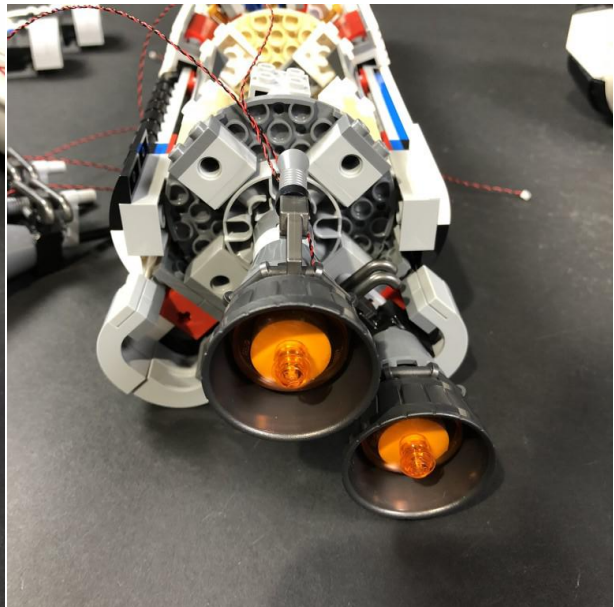
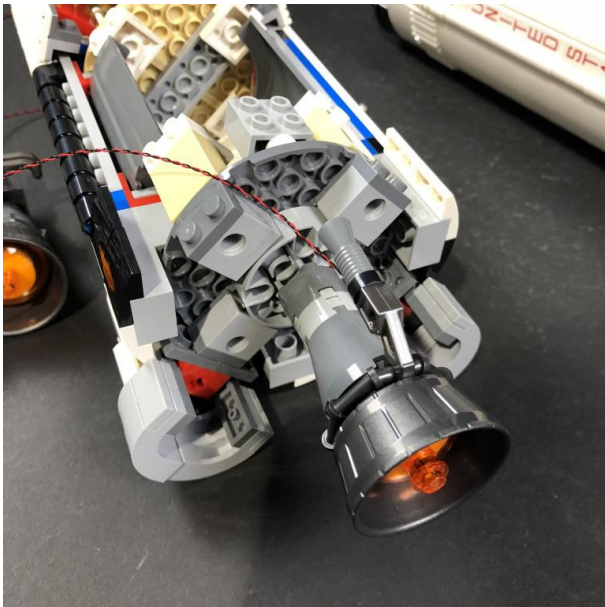
Reconnect the top half of the jet section back to the bottom half ensuring the cable from the Dot Light is tucked neatly underneath the dark grey bars.

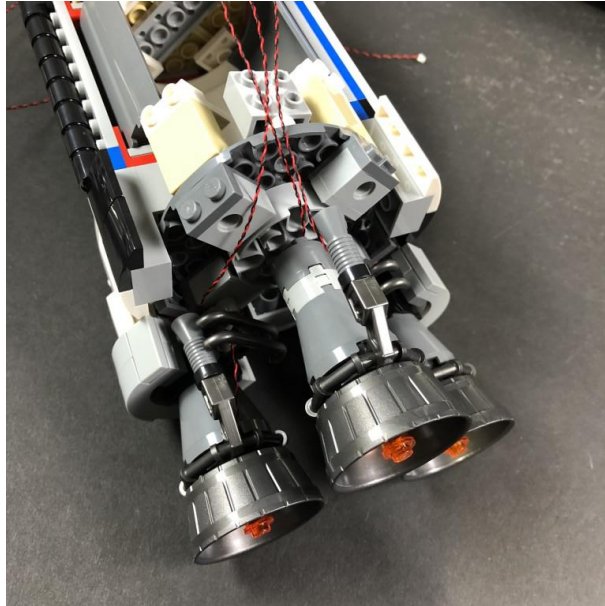


7.) Repeat previous step to install **White 30cm Dot Lights** to the other four Jet sections using more of the provided **Trans Orange Round Plate 1x1**

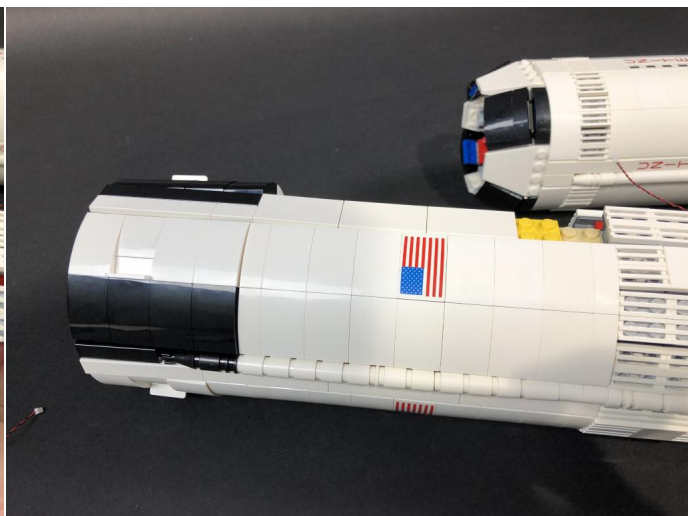
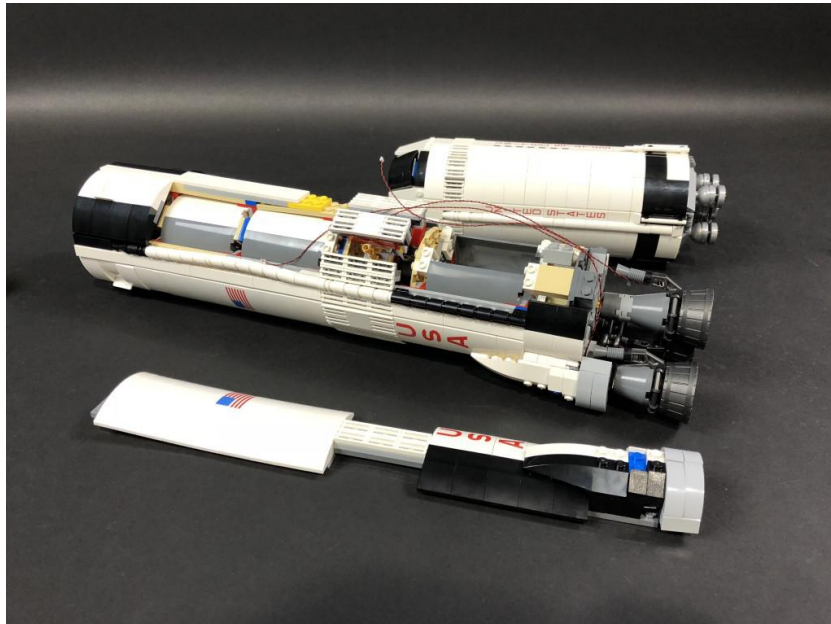


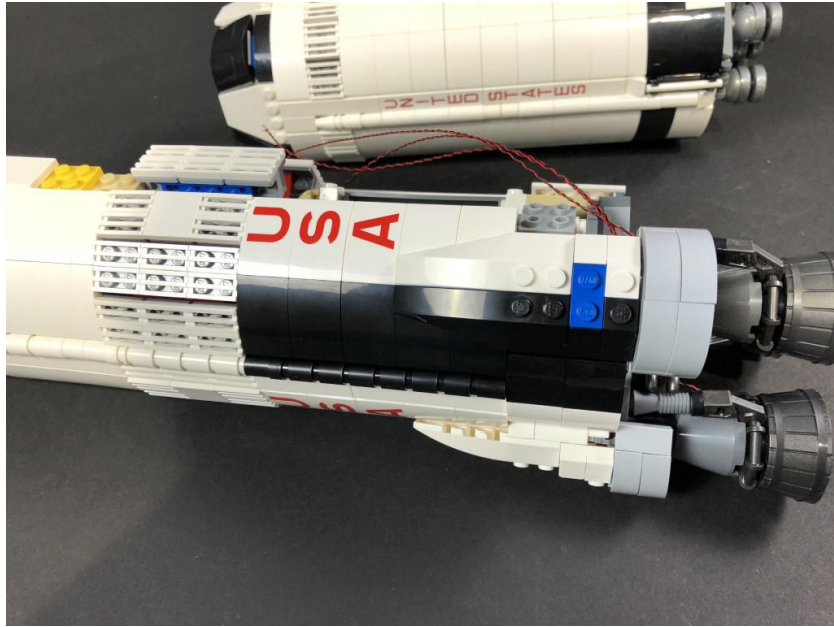
8.) Reconnect the bottom three jet sections back to the base of the rocket starting with the one in the centre. Ensure the cable from each jet light is laid toward the top centre as shown below:



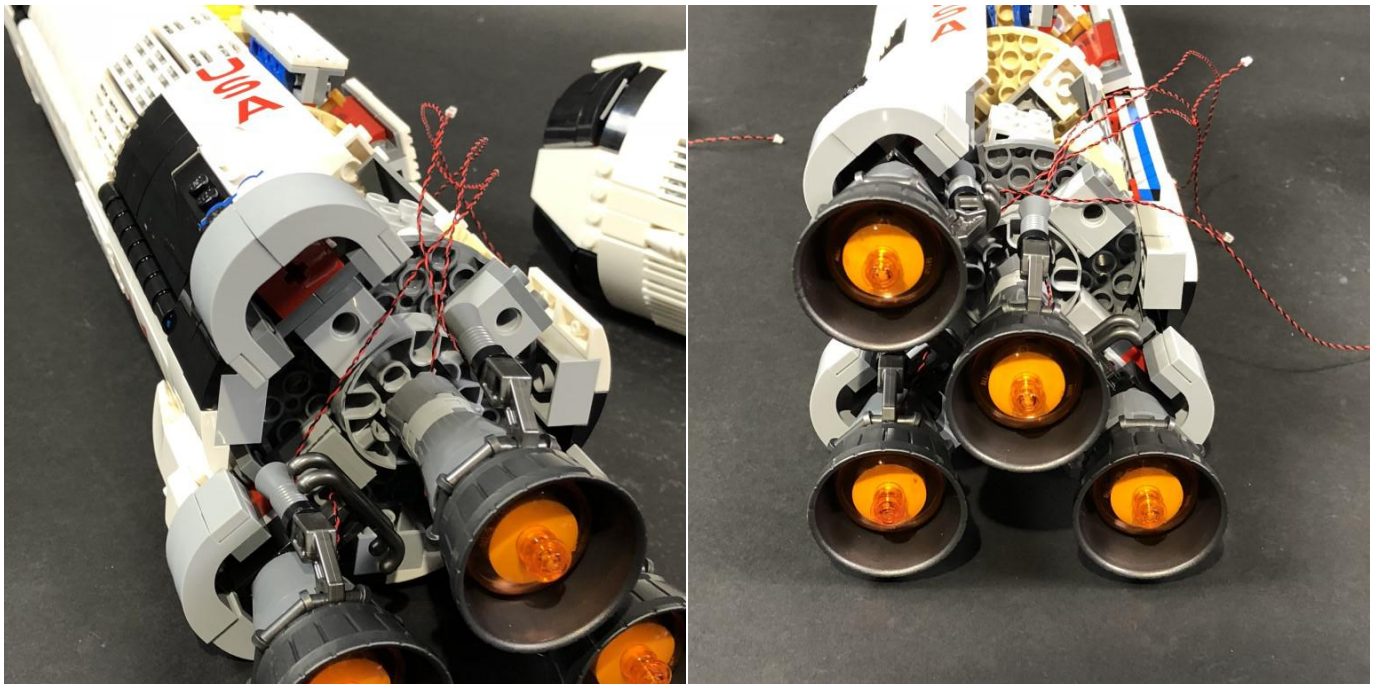


9.) Take the wall section closest to the bottom and then reconnect this to the ship starting with the top part.

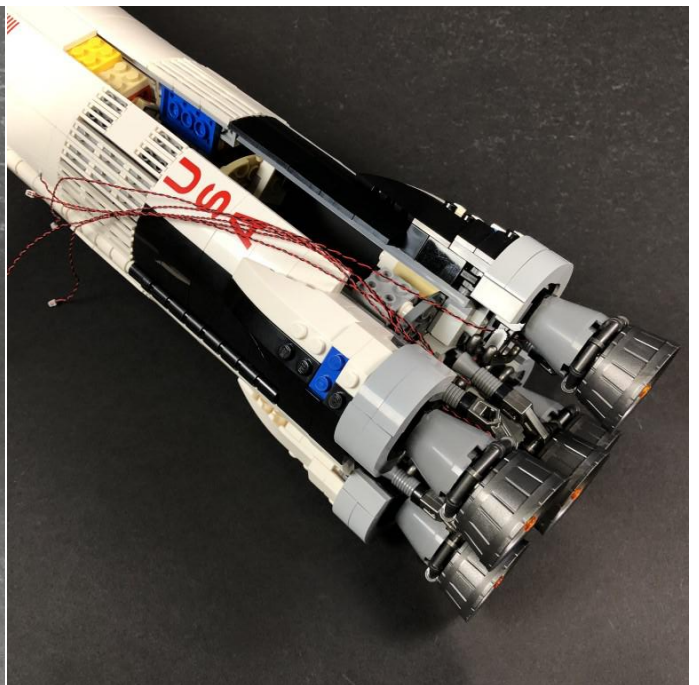
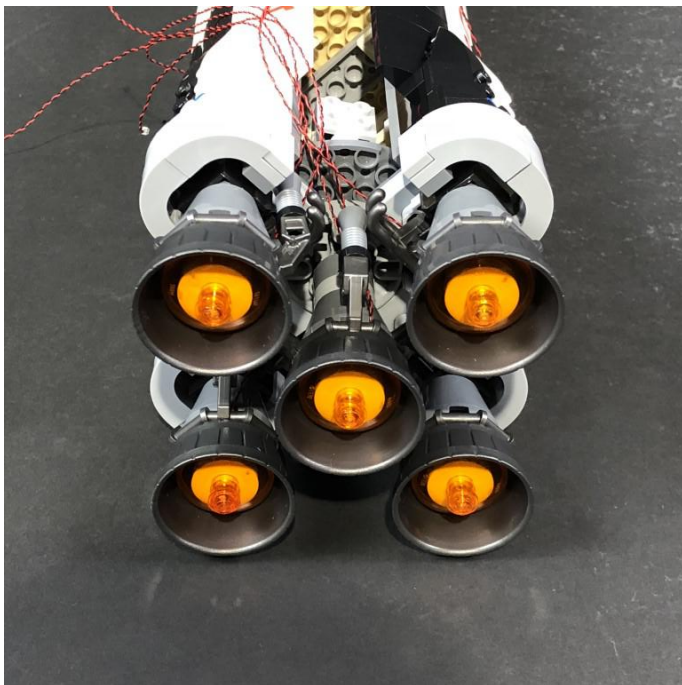
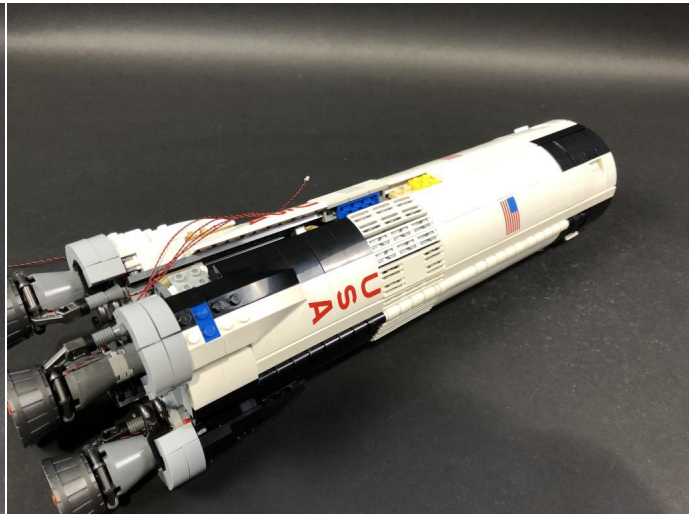
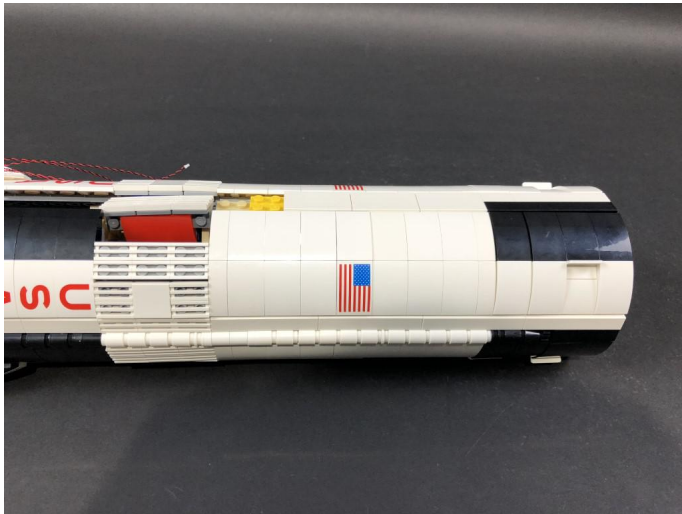
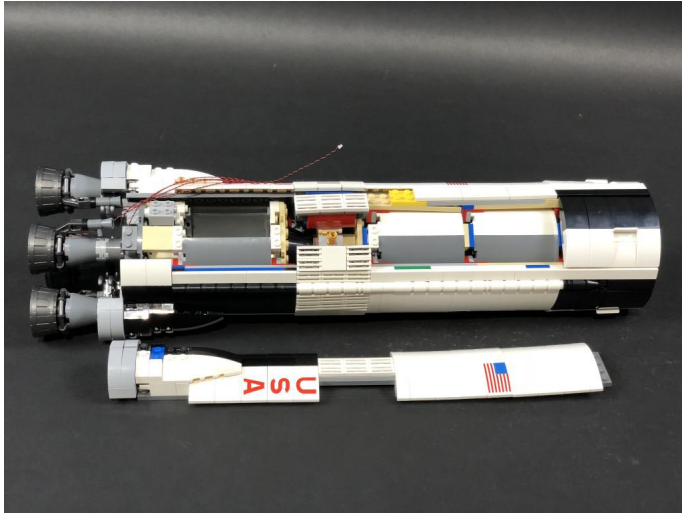




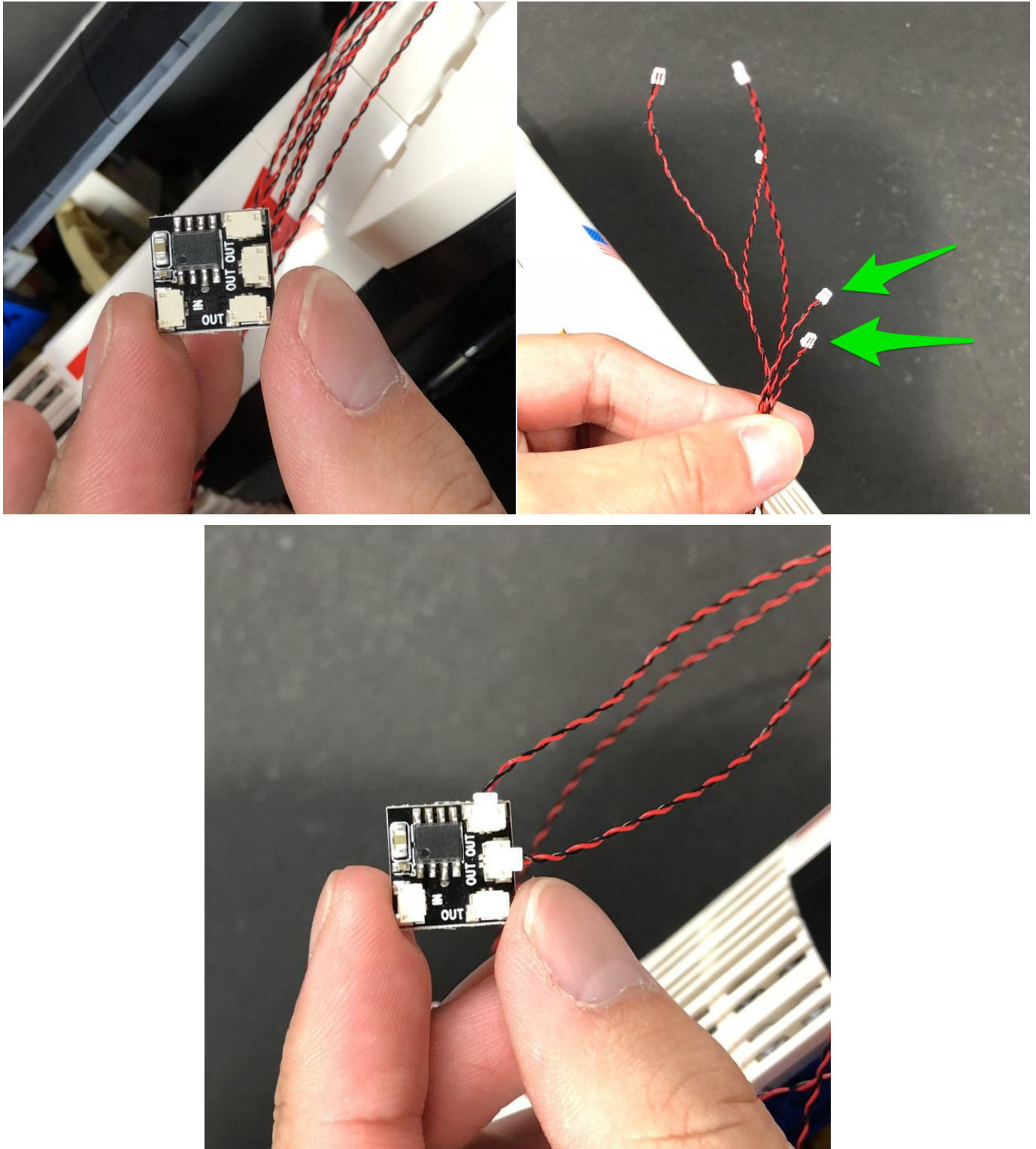
10.) Reconnect the Jet section that connects to the bottom of the wall section we just reconnected ensuring all cables are neatly laid towards the centre.



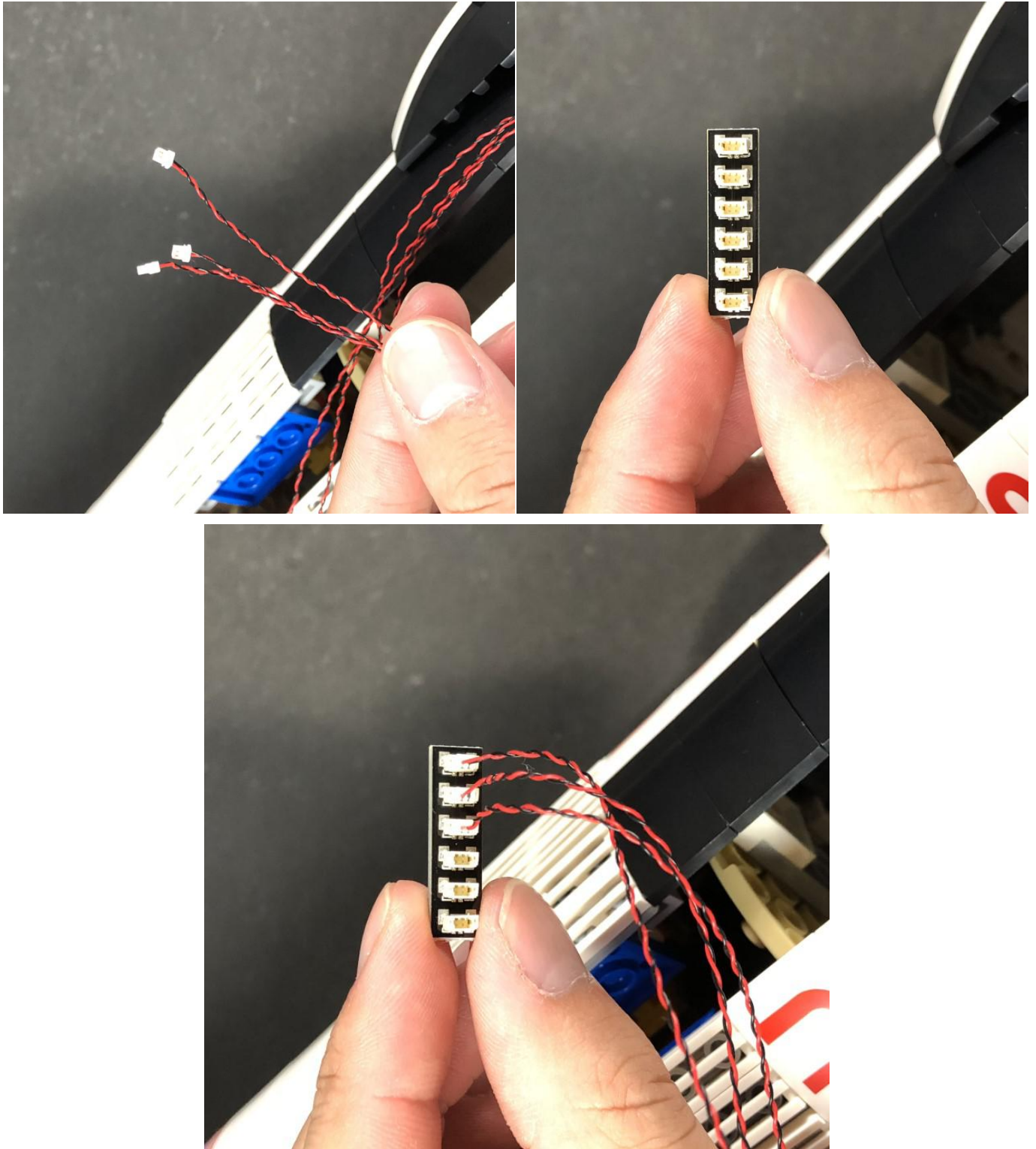
Flip the rocket over and then reconnect the remaining wall section by first reconnecting the top part then reconnect the remaining Jet section.



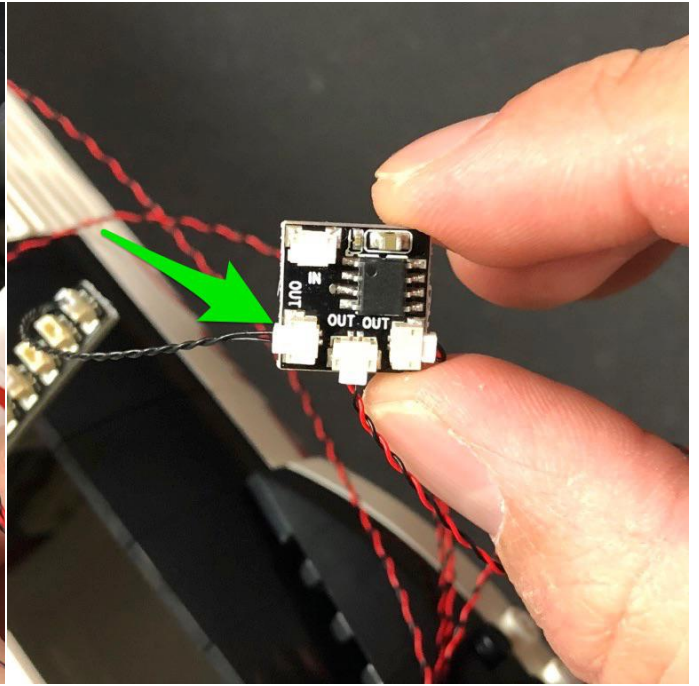
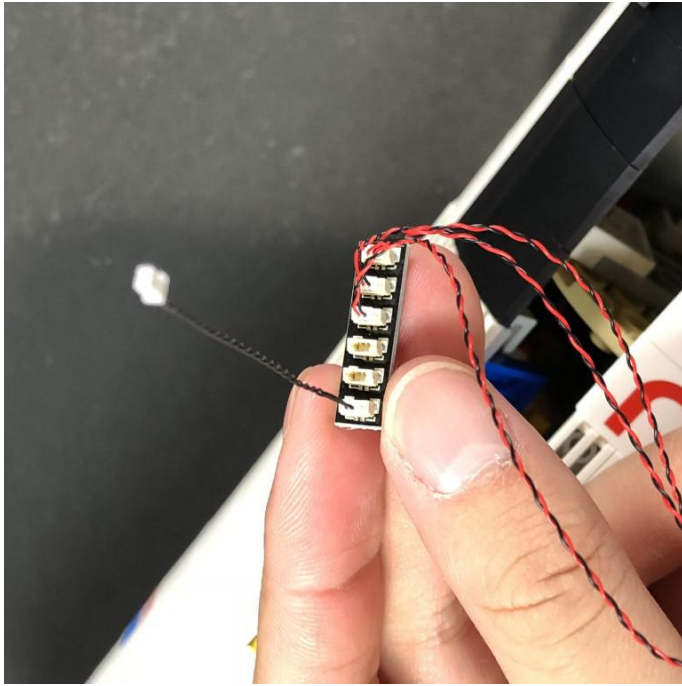
11.) Take 1x **Flicker Effects Board** and connect the two shortest Dot Light Cables to the OUT ports (There are 3 OUT ports in total).



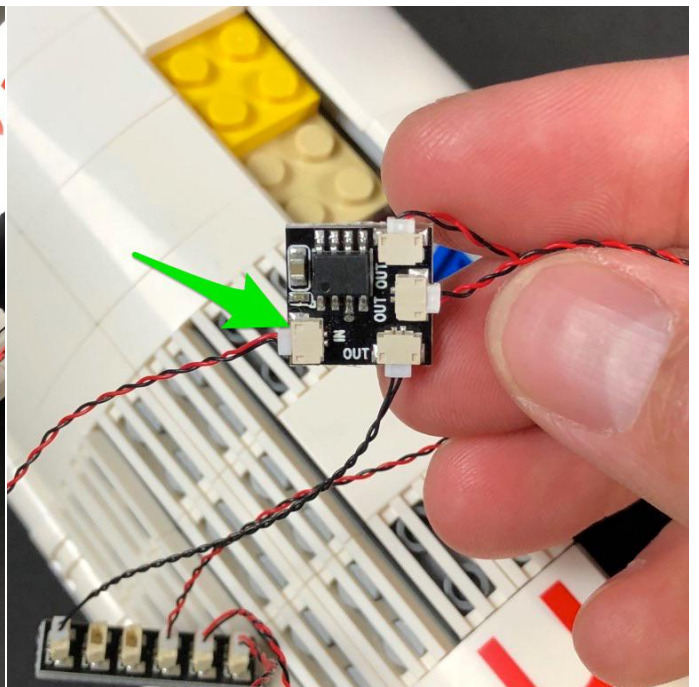
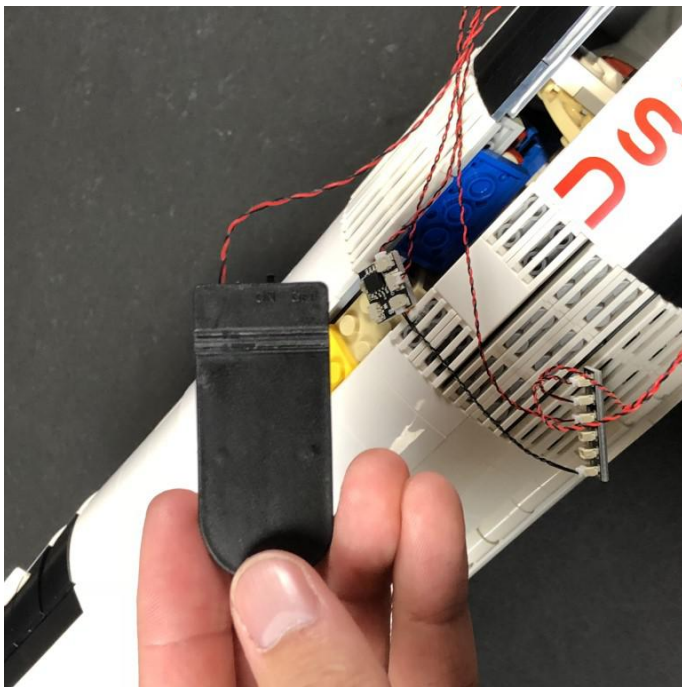
12.) Take remaining three Dot Light cables and connect them to a **6-Port Expansion Board**



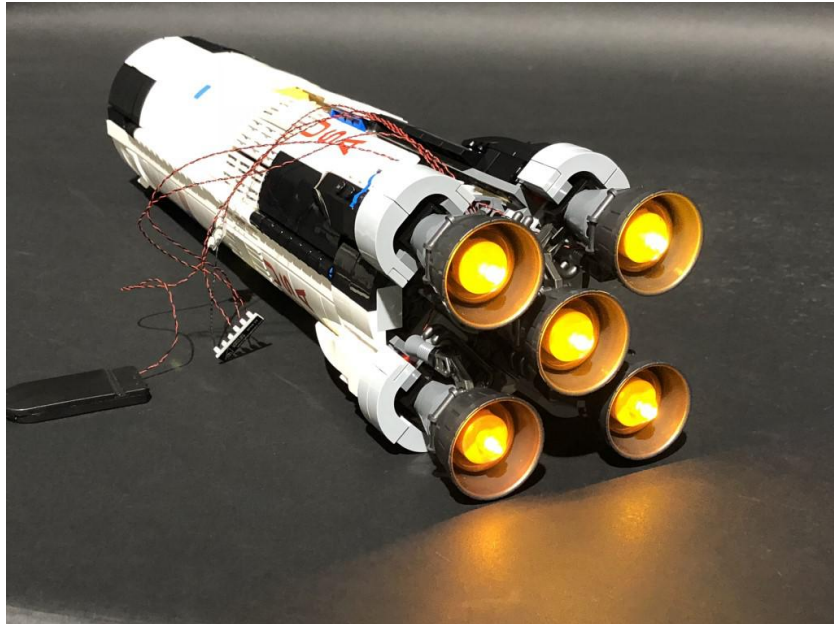
13.) Take a **5cm Connecting Cable** and connect one end to the 6-port Expansion Board and connect the other end to the remaining OUT port on the Flicker Effects Board.



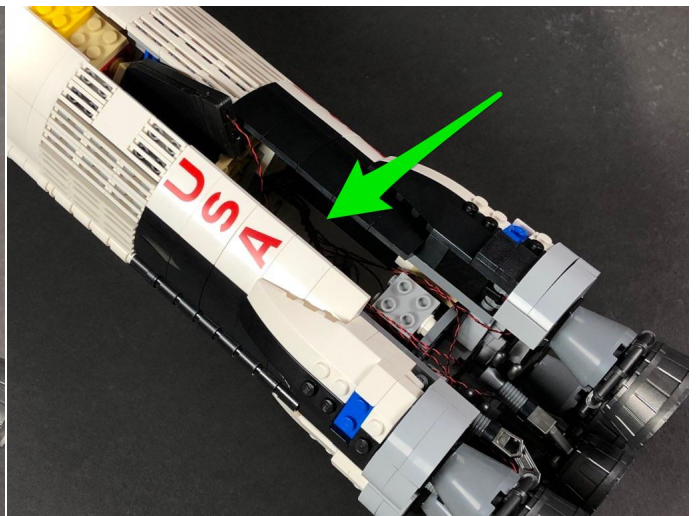
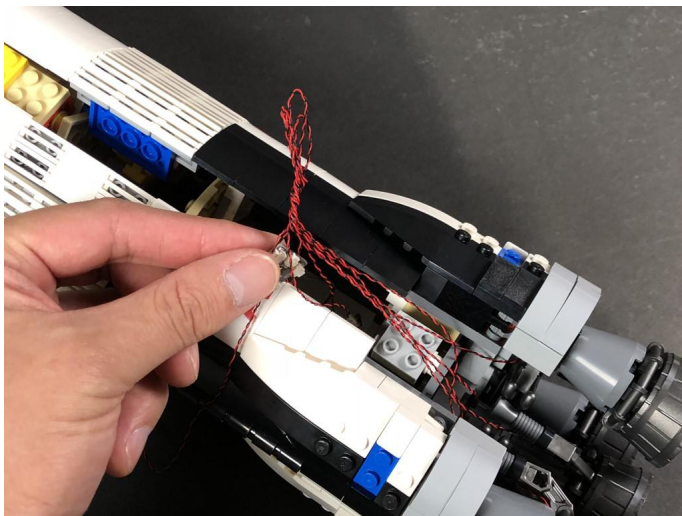
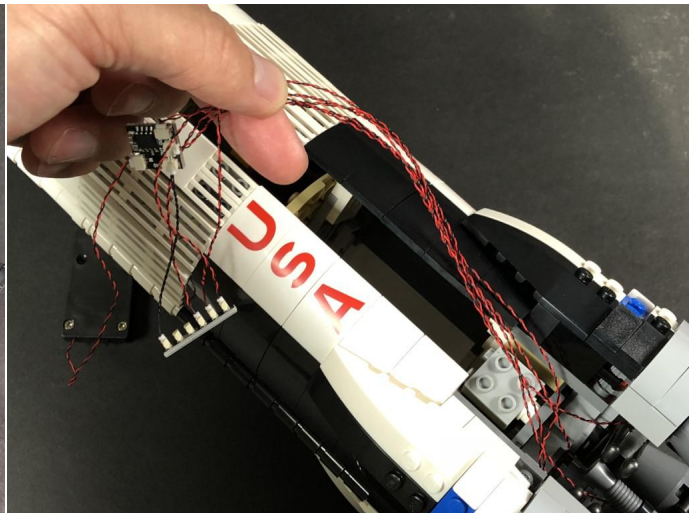
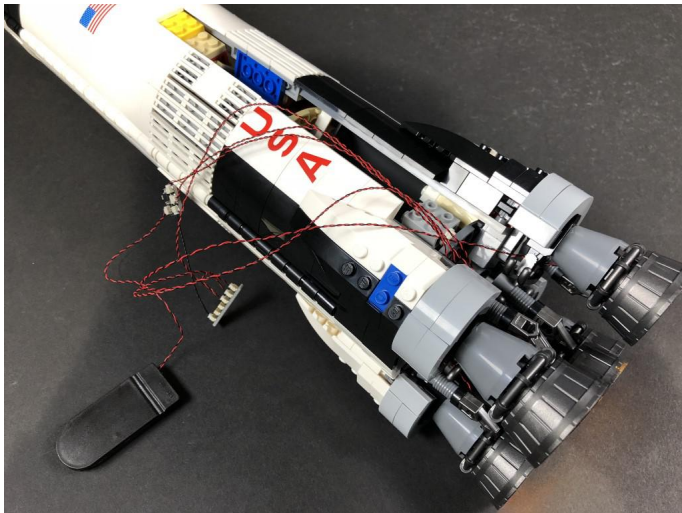
14.) Take a **Flat Battery Pack** and insert 2x CR2032 Batteries to it and then connect the battery pack cable to the IN Port on the Flicker Effects Board



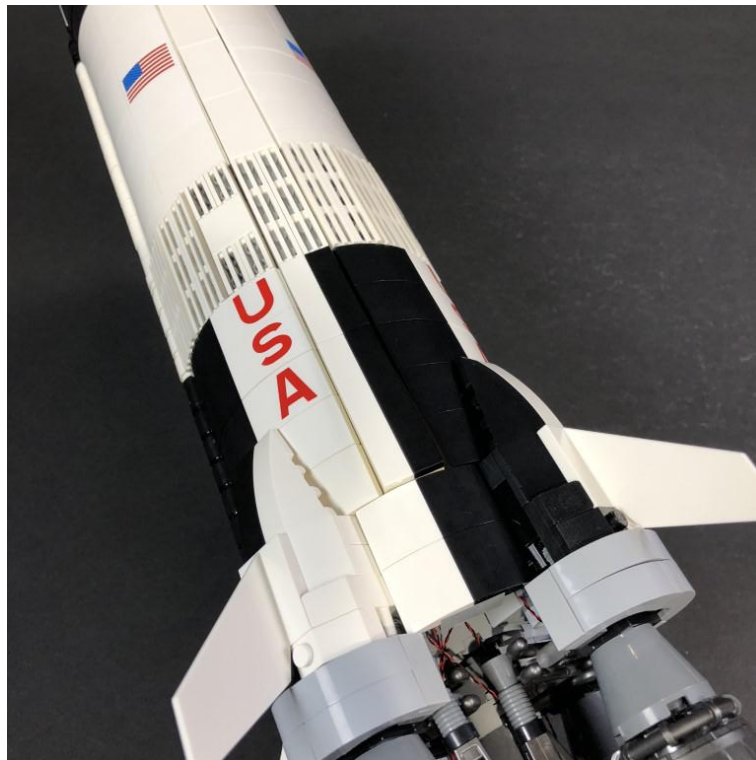
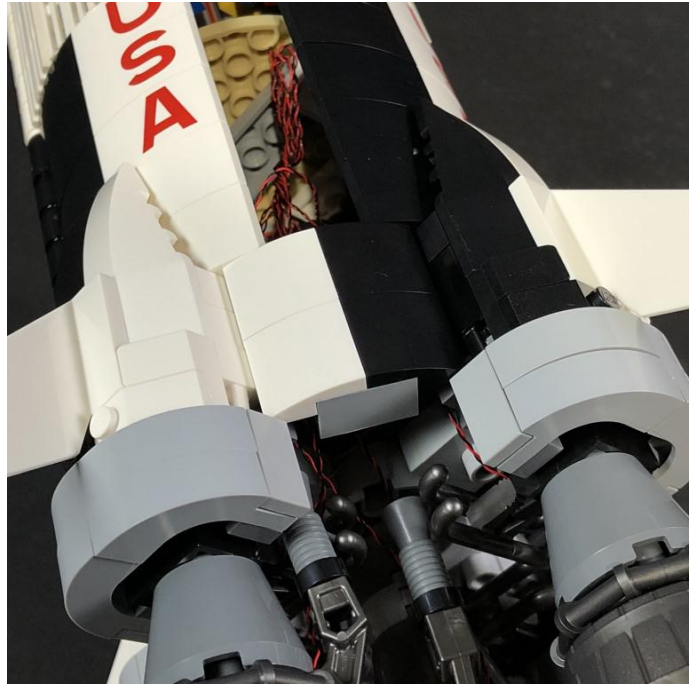
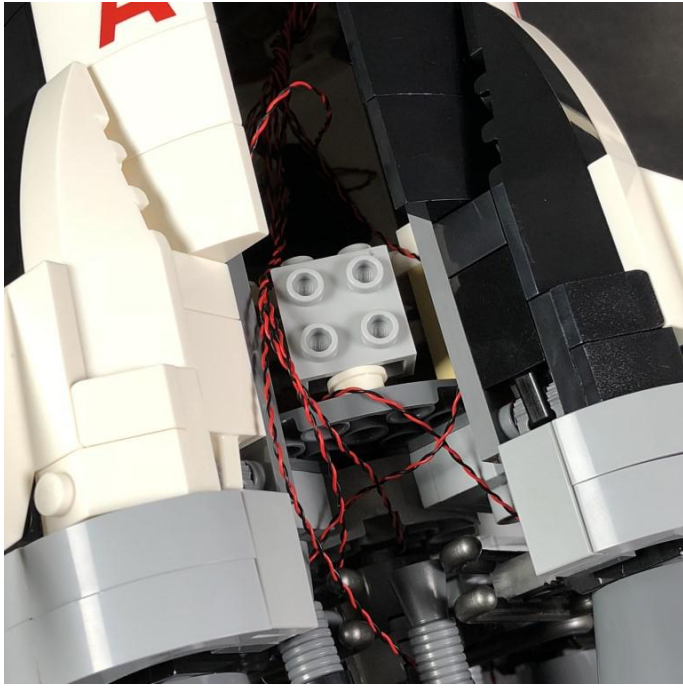
Turn the Battery Pack on and confirm all lights and effects are working OK



15.) Eliminate excess cabling by grouping all the cables and twisting them around each other. Tuck everything in to the open middle section.



Reconnect remaining sections of the Rocket.



To turn On and OFF the lights, simply detach the middle section to access the Battery Pack.

