Installation Guide

Select 2018-2024 Toyota / Lexus Push to Start Cars & SUVs

KLEINN SKU # - RSTOY10

Toyota (Push-to-Start With Take Over)												
Camry						18	19	20	21	22		
Camry Hybrid						18	19	20	21	22		
Corolla								20	21	22		
Corolla Hybrid								20	21	22		
Highlander								20	21			
Highlander Hybrid								20	21			
Rav 4 (Gas)							19	20	21			
Rav 4 (Hybrid)							19	20	21			
Lexus (Push-to-Start With Take Over)												
UX 250H							19	20	21	22	23	24

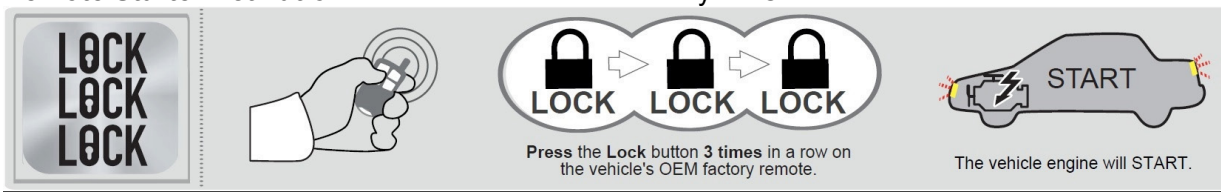
***Compatible with automatic transmission vehicles manufactured for sale in the US and Canada Only**

Introduction:

- Follow this guide closely as it covers multiple vehicles. **2019-2021 Highlander With Start/Stop button** require a hardwire connection if it has a start stop button outlined in step 2.6. Each Toyota Model has it's own wiring chart and diagram.
- **Hybrid** Models require 1 starter wire connection.
- **Pre-Flashed Module:** The correct firmware is installed on the remote start module. No programmer needed.
- **Activation**: Press the OEM lock button 3 times to remote start the vehicle.
- **Wiring Steering Lock Connection** Step 2
- **Camry Wiring** Steps 2-2.1
- **Corolla Wiring** Steps 2.2-2.3
- **Highlander Wiring** Steps 2.4-2.6
- **Rav 4 Wiring** Steps 2.7-2.8
- **Lexus UX250h Wiring** Steps 2.9-2.10
- **Programming:** Program the module to the vehicle, no PC or Flasher required. Step 3
- **Vehicle Take Over Procedure:** Enter vehicle while remote start is running and drive away. Step 4

Remote Start Activation from OEM Transmitter:

Remote Starter Activation: Press Lock>Lock>Lock on your OEM remote to start the vehicle.



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Parts Required:

- Idatalink HCX Module Pre-Flashed with TL7 Firmware
- Toyota TL10 HCX

Disclaimer:

Neither the manufacturer nor the distributor of these components are responsible for damages of any kind either indirectly or directly caused by the components, except for the replacement of the components in case of manufacturing defects. This guide is subject to change without notice. Refresh your browser cache or use different browser (Edge, Chrome, Firefox, etc.) to view the latest update.

- **Firmware pre-loaded:** As part of the service Kleinn provides, we have already flashed the compatible firmware version and options into your **HCX** module for you so you are ready to begin the installation in the vehicle.
- You will need to program the module to the vehicle when the installation is complete using Step 3.



Installation Overview

There are 5 basic steps to this remote start installation:

1. Preparation
2. Wiring
3. Programming
4. Testing the system
5. Finishing up!

STEP 1: Preparation

This remote start kit is a **PLUG & PLAY INSTALLATION TYPE** utilizing custom T-Harnesses which eliminate the "wire-to-wire" connections typically required. The physical attachment of t his product will require only plug-in connections. Simply plug the T-Harness into the vehicle, program the module and it will be ready for use.

- Any vehicle panels required to gain access to the needed plugs outlined in this Tip Sheet will need to be removed. The bulk of the installation typically takes place in the driver's side under dash area. You may need to access the passenger side under dash area for some vehicles. Refer to the Wire Diagram for the locations that need to be accessed in the vehicle. Remember the order that you remove the panels.
- Wait to mount the remote start component(s) in the vehicle until after you have completed the wiring and have tested the system. Keep in mind where you plan to mount the component(s) when routing your wires to avoid having to unplug after programming. The component(s) can be mounted to a rigid wire bundle under the dash using zip ties. Look for an open and convenient location in the vehicle that will fit the component(s). Pay attention to moving parts like the pedals, e-brake and steering column. Be sure to route your wiring away from those areas. It is best to route your wires along with the vehicles factory wires, as this is typically a safe location and it keeps the install neat.
- If your T-harness has loose wires with no plugs at the end they will not be needed for standard installation in this application. Tape up any extra wires or tuck them away with the T-harness and isolate them so they are not in the way. Adding options may require additional wiring connections.

Accessing the connectors for the T-Harnesses:

- Set the parking brake and without pressing the foot brake press the push to start button twice to turn the ignition on.
- Turn the steering wheel to the right to access a screw and remove the screw.
- Turn the steering wheel to the left to access the screw on the other side and remove the screw. Use a plastic pry tool to separate the top and bottom half of the steering column cover.
- Pull the bottom cover down to separate the two halves. • Turn the ignition off by pressing the push to start button one time. The steering lock connector is now accessible at underside of the steering column.
- Remove the side dash panel and lower dash panel. It should be held on by a few clips.
- Once the side panel is off make sure there are not any screws holding the lower dash panel on. Most vehicles do not have any screws, the lower dash is secured by plastic clips. Gently pull the panel to release the clips.
- You will now see the ECU on the left side of the dash

Making Hardwire Connections: Highlander w/o Stop Start button and Hybrid models

Strip - Poke - Wrap and Tape method is the strongest wire connection that you can make. You MUST use this method for any data wire connection(s). T-Taps should never be used on data connections. If required for your installation, data connections may be labeled: CAN HIGH, CAN LOW. Don't solder wires unless you have experience to prevent damage.

Click here for directions on how to Strip/Poke/Wrap/Tape the wires

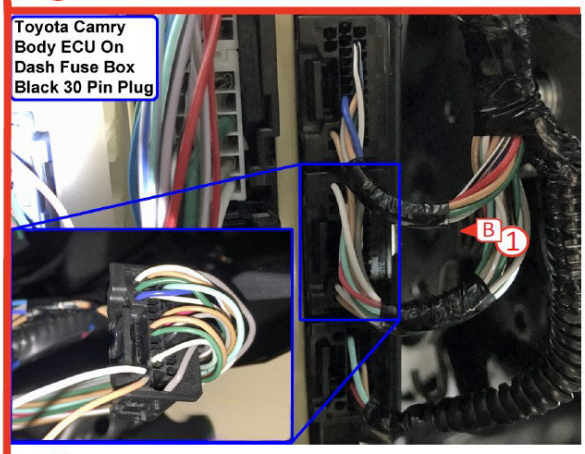
The recommended Strip - Poke - Wrap and Tape method shown above is the most reliable for remote start installations. Your kit may include T-Tap connectors that can make your connections easier, and still perform reliably when used correctly. T-taps can be used on any connections except for the Data wire connection(s).

Click here for directions on how to use a T-Tap

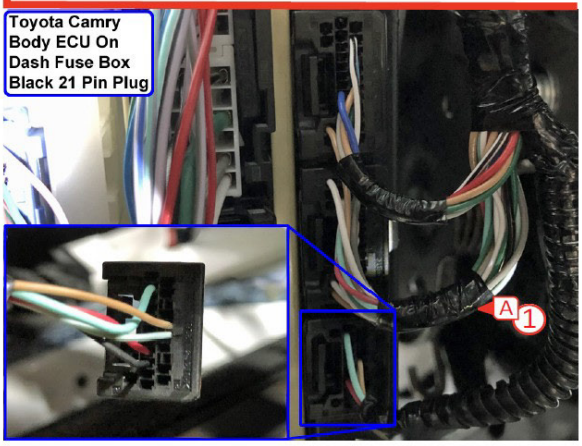
Step 2: Where to find connections 18-22 Camry Gas & Hybrid



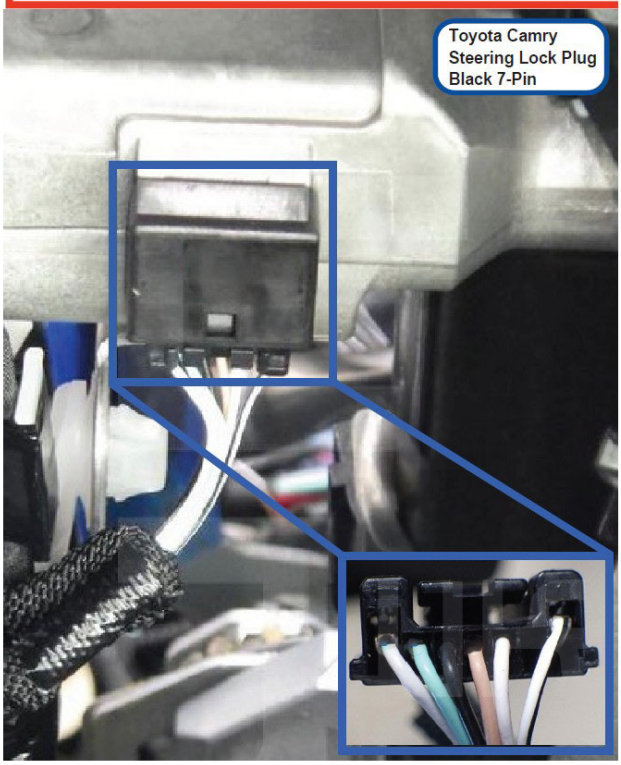
① ECU 30-Pin Connection



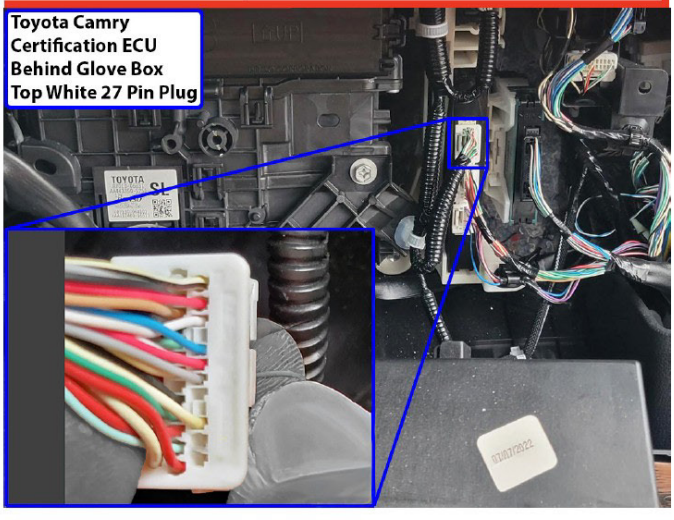
① ECU 21-Pin Connection

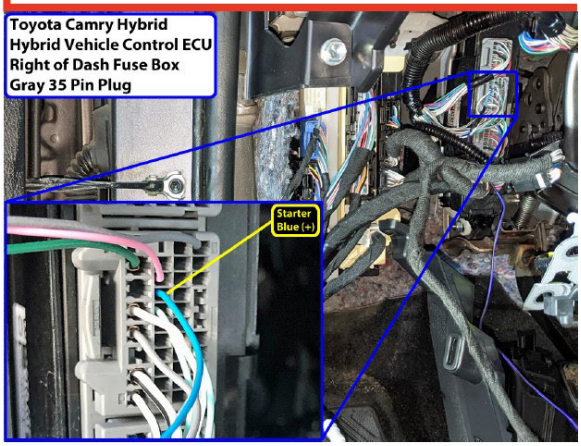


② OBDII Connector

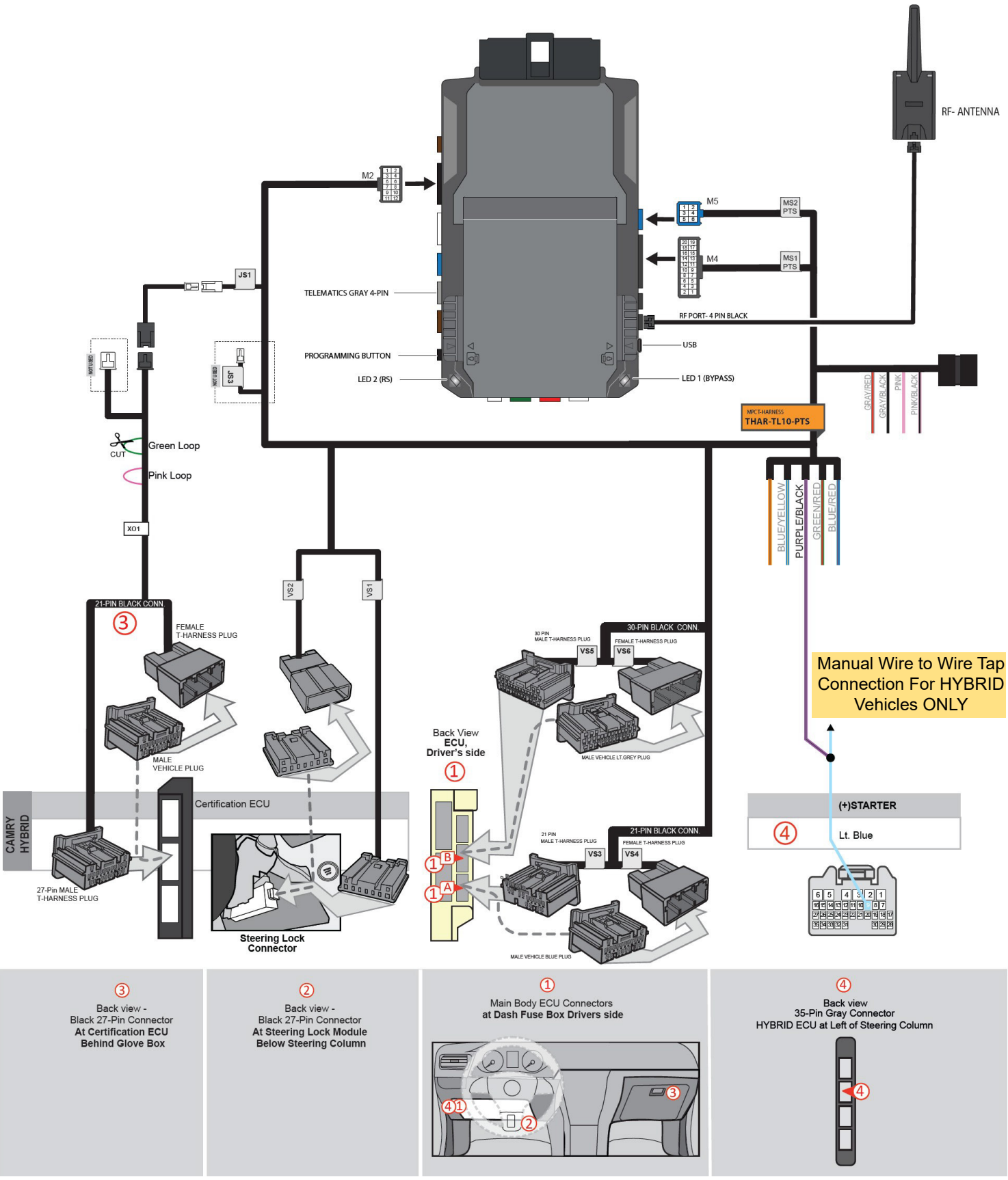


③ Certification ECU





Step 2.1: 18-22 Camry Gas & Hybrid Wiring Schematic



Your kit may include connectors that can make your connections easier, and still perform reliably when used correctly. You can also use wire to wire connections with electrical tape as shown in the link below.

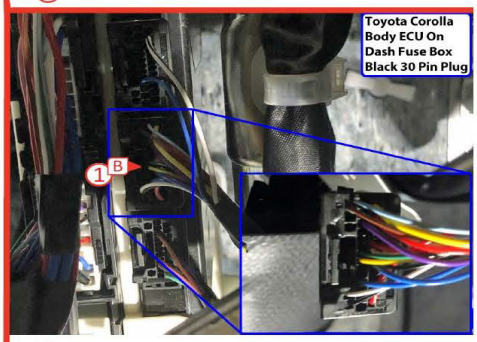
Click for wire to wire connection directions

Step 2.2: Where to find connections 20-22 Corolla Gas & Hybrid

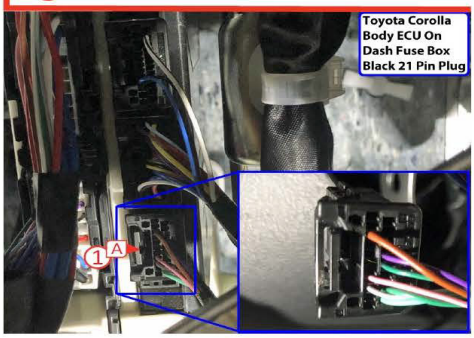
COROLLA HYBRID



① ECU 30-Pin Connection



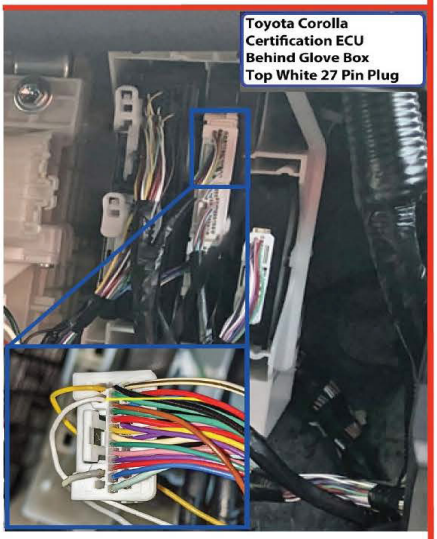
① ECU 21-Pin Connection



② Steering Lock Module



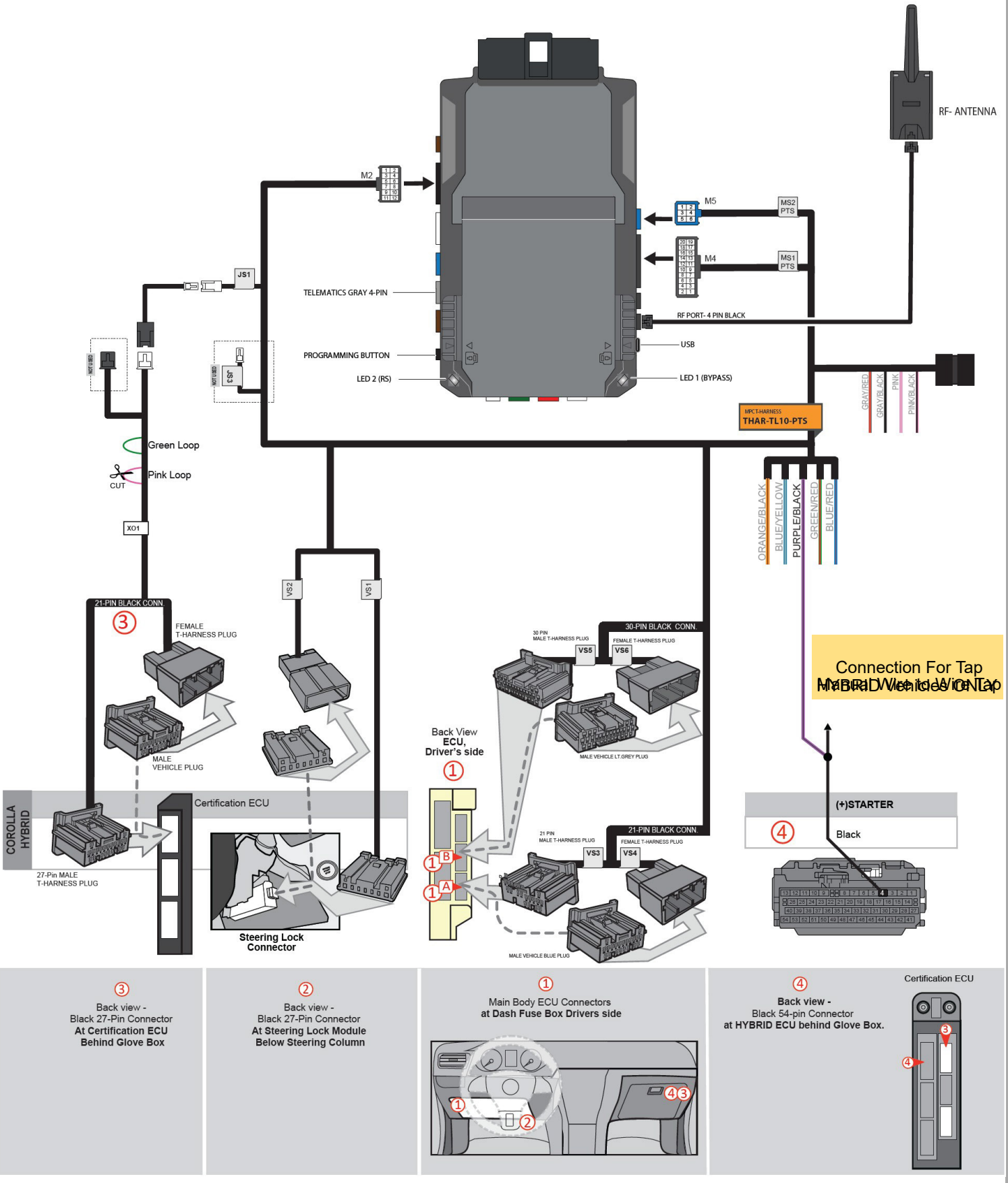
③ Certification ECU



④ Certification ECU



Step 2.3: 20-22 Corolla Gas & Hybrid Wiring Schematic



③ Back view - Black 27-Pin Connector **At Certification ECU Behind Glove Box**

② Back view - Black 27-Pin Connector **At Steering Lock Module Below Steering Column**

① Main Body ECU Connectors **at Dash Fuse Box Drivers side**

④ **Back view -** Black 54-pin Connector **at HYBRID ECU behind Glove Box.**

Your kit may include connectors that can make your connections easier, and still perform reliably when used correctly. You can also use wire to wire connections with electrical tape as shown in the link below.

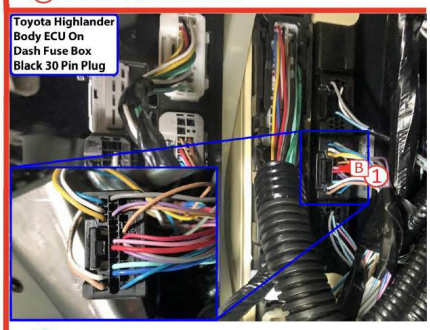
Click for wire to wire connection directions

Step 2.4: Where to find connections 20-21 Highlander Gas & Hybrid

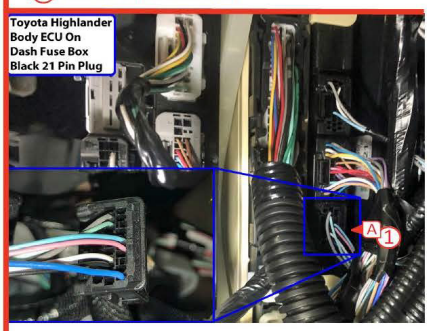
HIGHLANDER HYBRID



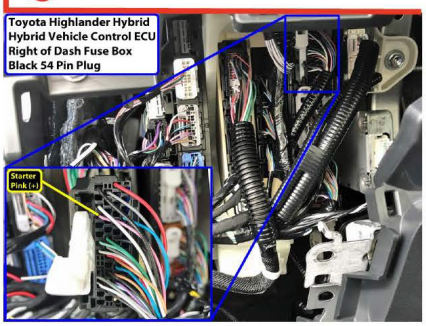
① ECU 30-Pin Connection



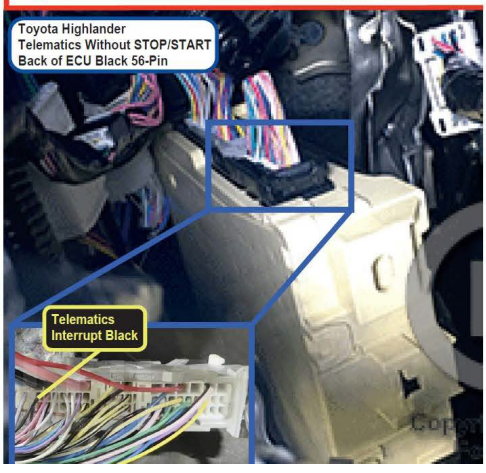
① ECU 21-Pin Connection



⑤ HYBRID Control ECU



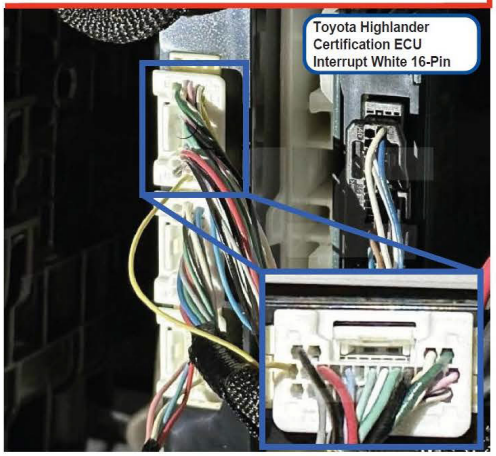
④ TELEMATICS Connection Without Stop/Start



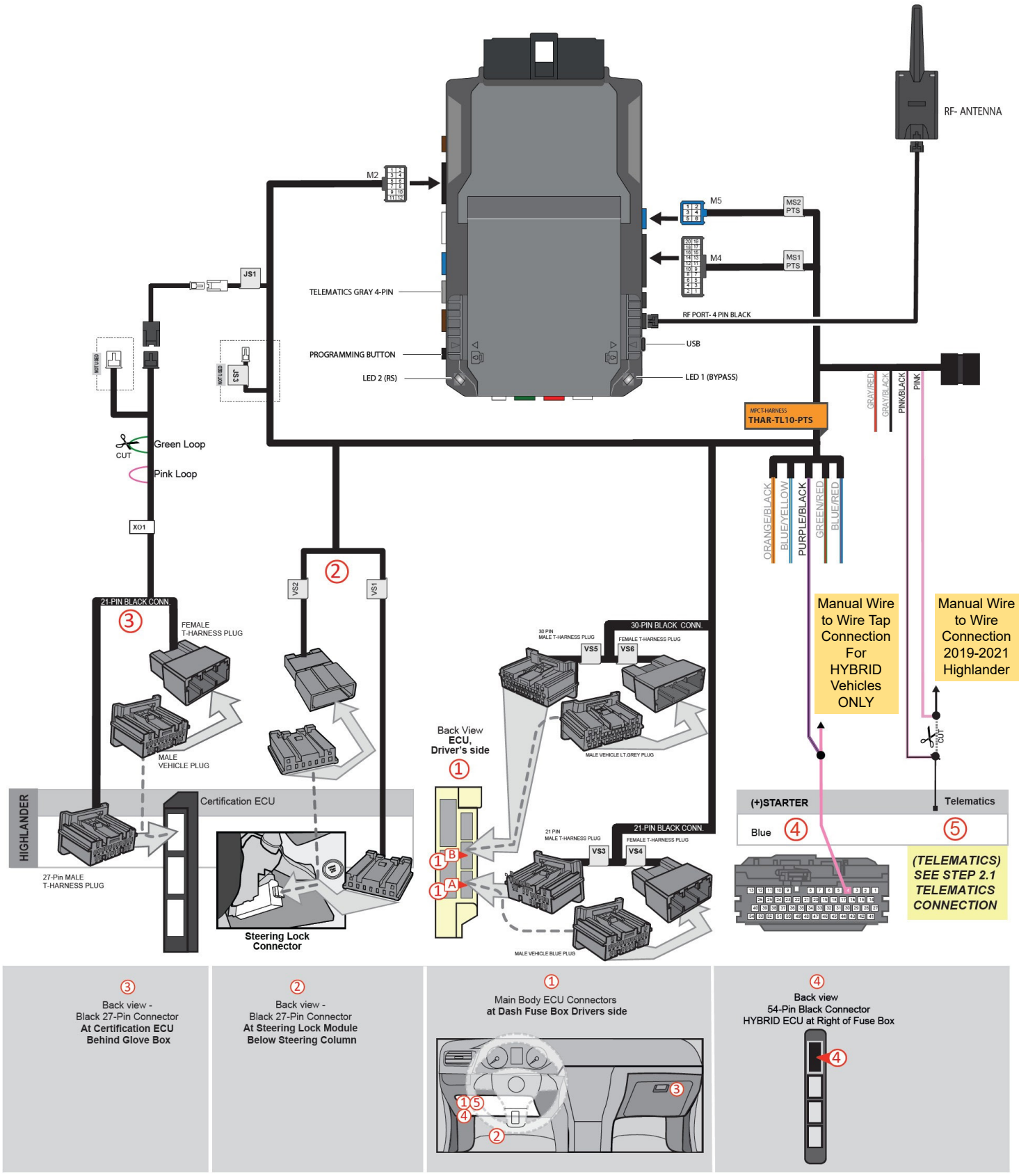
② OBDII Connector



③ Certification ECU



Step 2.5: 20-21 Highlander Gas & Hybrid Wiring Schematic



Your kit may include connectors that can make your connections easier, and still perform reliably when used correctly. You can also use wire to wire connections with electrical tape as shown in the link below.

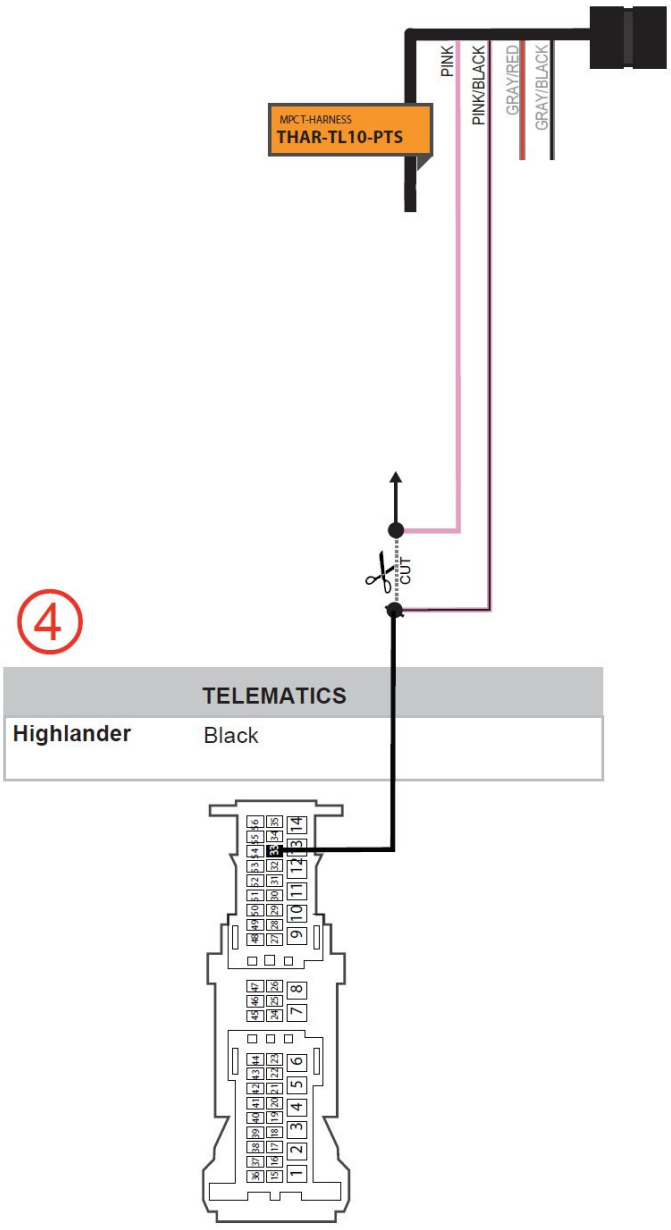
Click for wire to wire connection directions

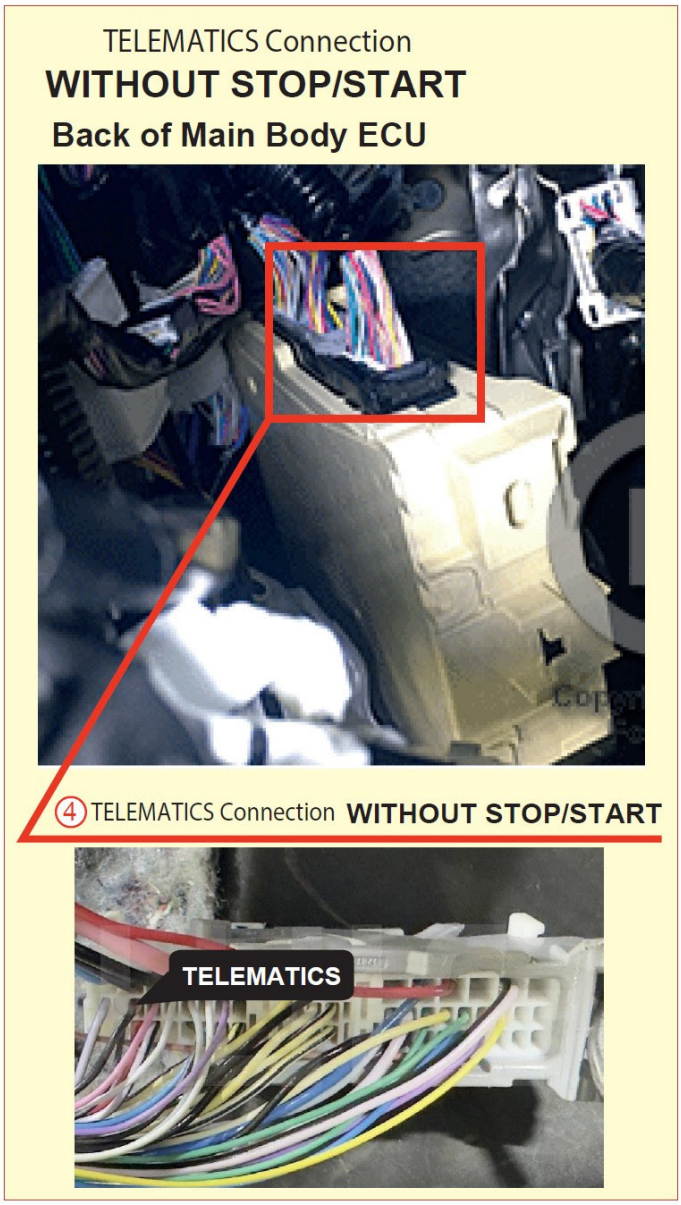
Step 2.6: 20-21 Highlander W/O Stop/Start Button Gas & Hybrid

For the Telematics connection you will need to make this connections. Locate the Pink and Pink/Black wires next to the relay on the T-Harness.

(TELEMATICS).
WITHOUT STOP/START
Button

Without Stop/Start system, locate the Black wire in the 56-pin connector pin-33 located left side of dash in the back of main Body ECU. CUT the Black wire in half. Locate the Pink wire from the t-harness and connect it to the Black wire leading away from the 26-pin connector. Connect the Black wire leading back to the 26-pin connector to the Pink/Black wire from the t-harness.





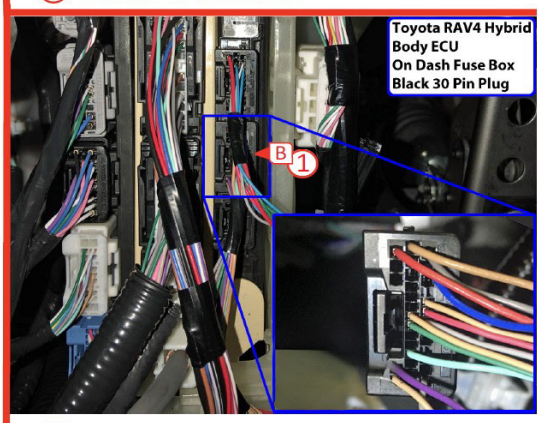
Your kit may include Butt connectors that can make your connections easier, and still perform reliably when used correctly. You can also use wire to wire connections with electrical tape as shown in the link below.

Click for wire to wire connection directions

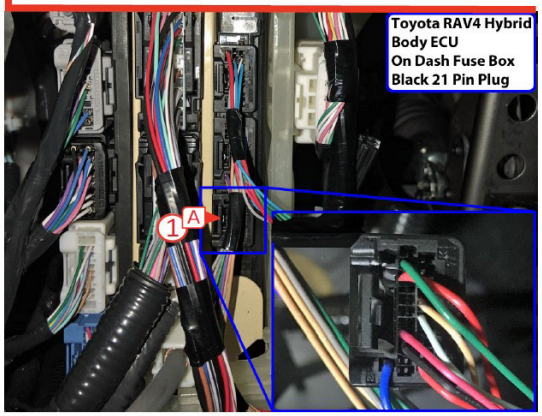
Step 2.7: 19-21 Rav 4 Gas & Hybrid Where to find Connections



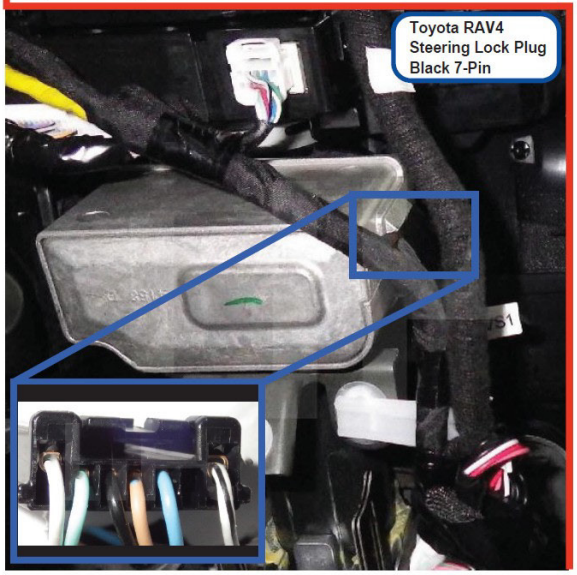
① ECU 30-Pin Connection



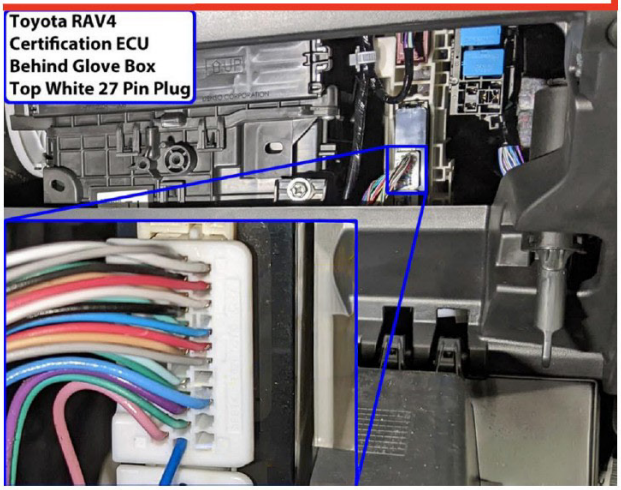
① ECU 21-Pin Connection



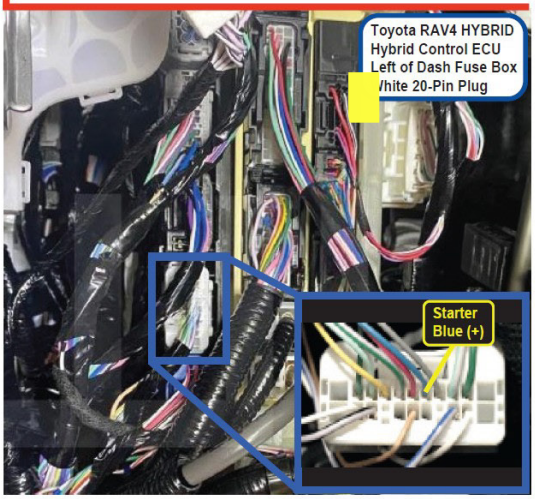
② Steering Lock Module



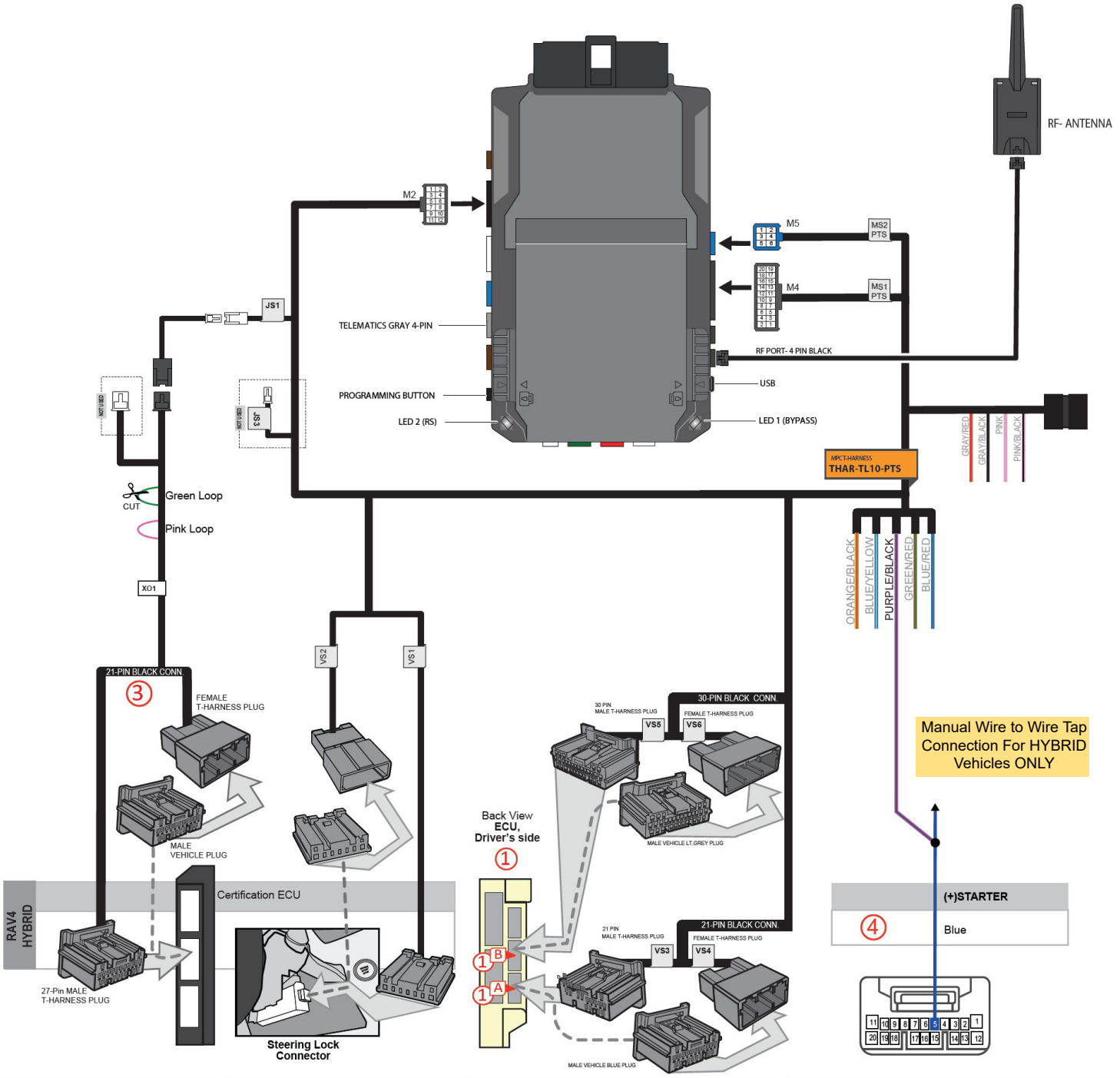
③ Certification ECU



④ Hybrid Control ECU



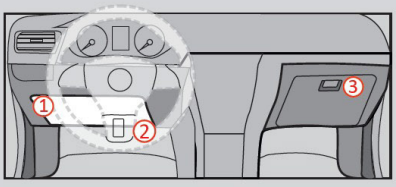
Step 2.8: 19-21 Rav 4 Gas & Hybrid Wiring Schematic



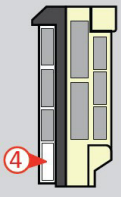
③ Back view - Black 27-Pin Connector **At Certification ECU Behind Glove Box**

② Back view - Black 27-Pin Connector **At Steering Lock Module Below Steering Column**

① Main Body ECU Connectors **at Dash Fuse Box Drivers side**



④ Back view 20-Pin - white Connector **Junction connector at Left side of ECU**



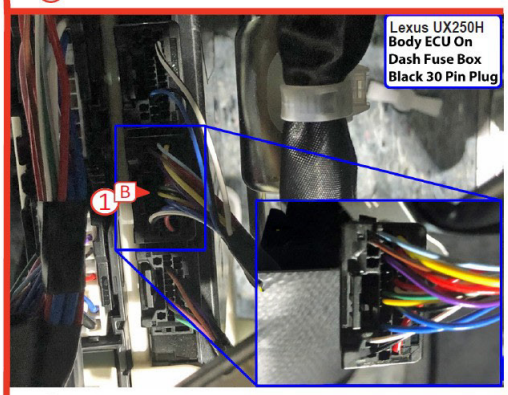
Your kit may include Butt connectors that can make your connections easier, and still perform reliably when used correctly. You can also use wire to wire connections with electrical tape as shown in the link below.

Click for wire to wire connection directions

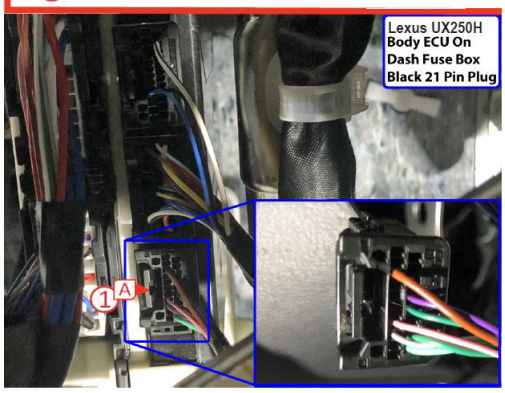
Step 2.9: 19-24 Lexus UX250h Where to find Connections



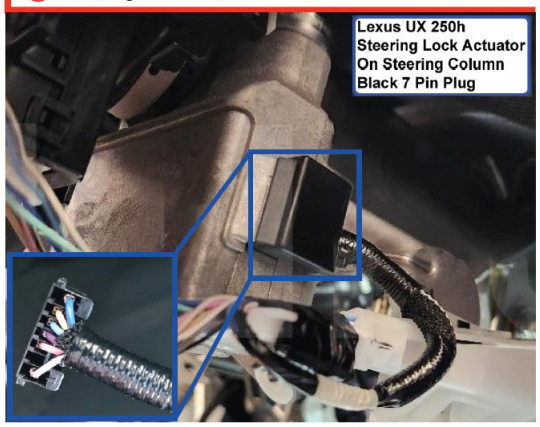
① ECU 30-Pin Connection



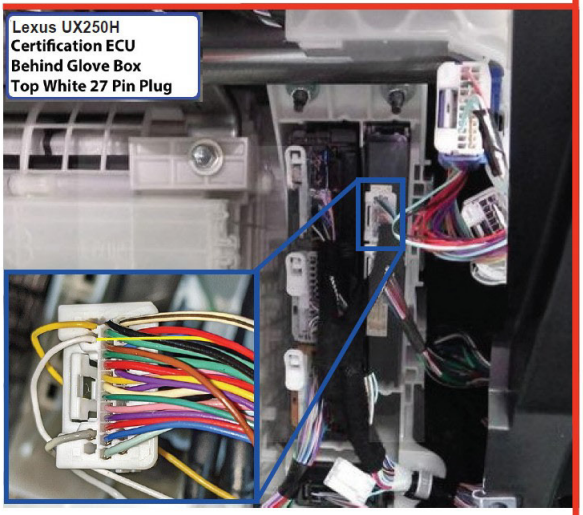
① ECU 21-Pin Connection



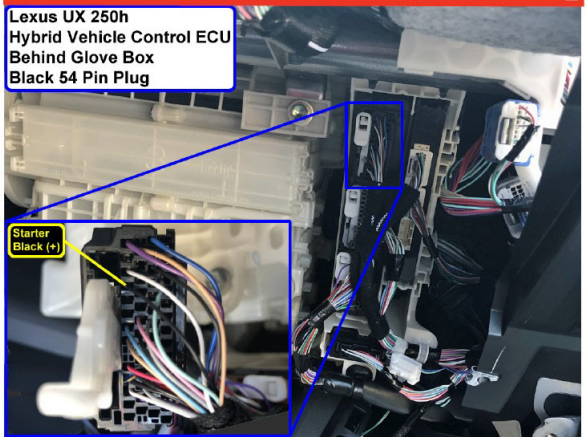
② Steering Lock Module



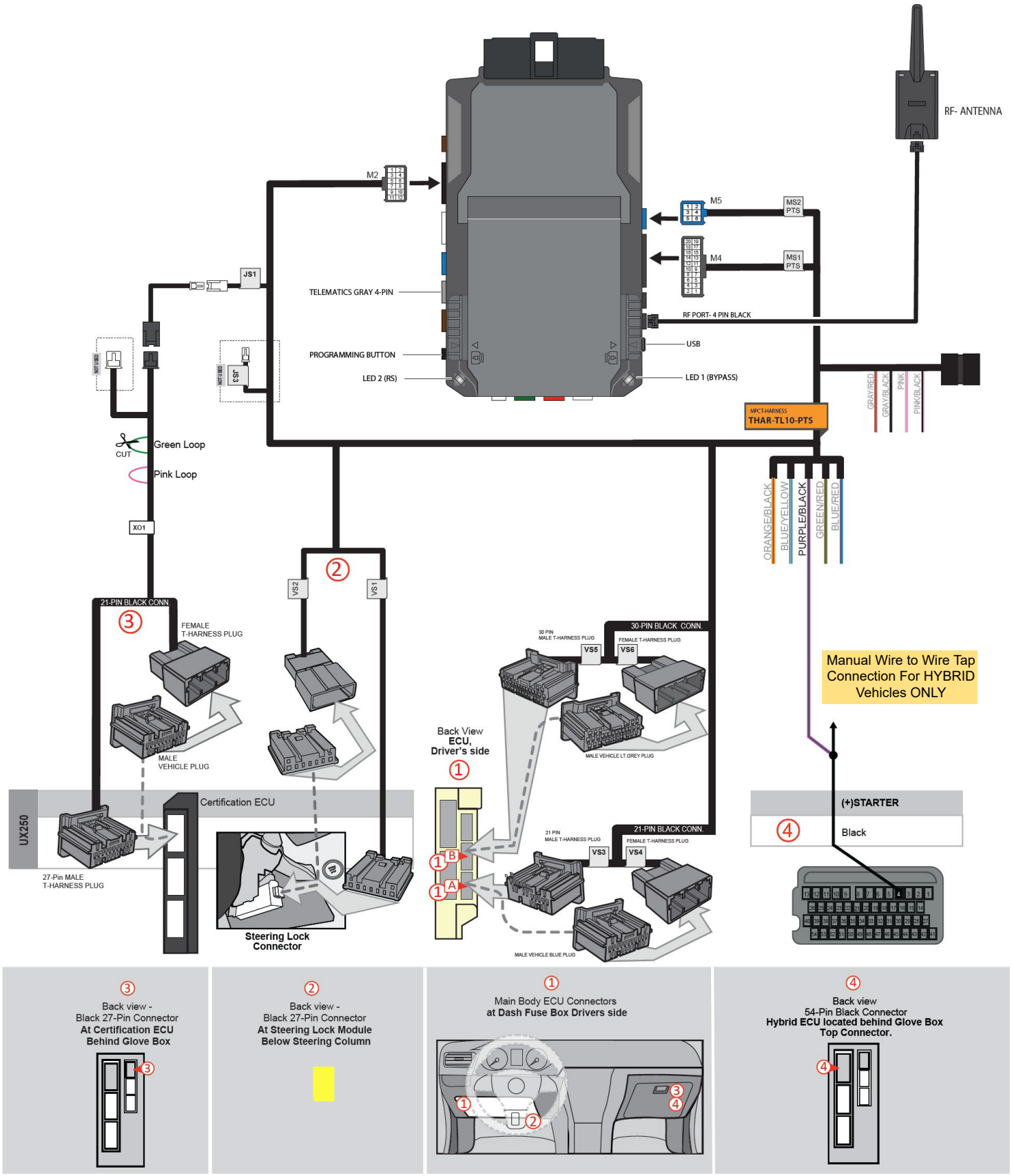
③ Certification ECU



④ Hybrid Control ECU



Step 2.10: 19-24 Lexus UX250h Wiring Schematic



Your kit may include Butt connectors that can make your connections easier, and still perform reliably when used correctly. You can also use wire to wire connections with electrical tape as shown in the link below.

Click for wire to wire connection directions

STEP 3: Programming for All Toyota Models

Your Remote Start module now needs to be paired to your vehicle. Before starting the programming sequence, make sure that all of the connectors are plugged into the module. Instructions for programming the Remote Start are below. Follow the programming instructions for the LED1 and LED2 descriptions to monitor flashes.



Program the Remote Start Module

>> 

IMPORTANT: The hood must be closed.

01 

Push start button twice [2x] to ON position while watching LED 1.



LED 1

02 

Wait, if LED 1 turns solid GREEN for 2 seconds, proceed to step 7. If LED 1 flashes GREEN rapidly, proceed to step 3.

03 

Push start button once [1x] to OFF position.

04 

Wait, LED 1 will turn solid RED. (This may take up to 5 minutes.)

05 

Push start button twice [2x] to ON position.

06 

Wait, LED 1 will turn solid GREEN for 2 seconds.

07 

Push start button once [1x] to OFF position.

08 

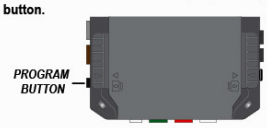
START vehicle for and allow it to idle for about 15 seconds.

09 

Press and hold the brake pedal.

10 

Press and release the module's programming button.



11 

Release the brake pedal.

12 

Wait, LED 2 will flash GREEN twice (2x) and then turn off.

LED 2



13 

Module Programming Procedure completed.

STEP 4: Finishing up!

After confirming that everything works properly, cap off or tape the ends of any wires you're not using to avoid grounding or other contacts.

- Now gather up all the wiring and neatly bundle it together using zip ties or electrical tape to prevent the wires from interfering with any of the moving parts under the dash.
- Test the system often when you are putting your vehicle back together.
- Find a secure place to put the remote start module and use zip ties to secure it. Be careful not to zip tie near your connections as it may create a bad connection.
- Replace any interior vehicle panels that were removed to gain access to the needed wires, in reverse order that they were removed.
- Test the system as you reinstall the panels in your vehicle to make sure you do not pull something loose or pinch a wire. Be careful not to run a screw through a wire or pinch a wire while reinstalling panels.

* If your test was unsuccessful, go back and re-check your wiring and programming. If you used T-Taps, make sure they are all attached correctly. Poorly made T-Tap connections are the #1 cause for tech support calls. Also, remember that T-Taps should never be used on data connections.

VEHICLE TAKE OVER PROCEDURE

This system will run for 15 minutes then turn off. If you approach the vehicle while it is still running, unlock the doors, enter the vehicle and close the door, within 45 seconds, press the brake pedal and hold it down for 3 seconds, you will hear a click from the remote starter turning off and you can drive away. Older model Toyotas turn off when you open the door, these models will require that you restart normally when you enter.

01 

All vehicle doors must be closed and locked prior to remote start sequence.

02 

Press the Lock button 3 times on the vehicles OEM factory remote.

03 

The vehicle engine will start.

04 

Press unlock on the OEM remote or request switch.

Enter the vehicle with the OEM keyfob and close the door.

05 

Time rescriction. Complete Step 6 within 45 seconds of unlocking the vehicle.

06 

Press the BRAKE pedal for about 3 seconds and release.

07 

The vehicle can now be put in to gear and driven..

>> 

failure to follow procedure will result in no take over and vehicle engine will shutdown.

If you have any installation questions or problems,
you can create a support ticket for help at:

install.kleinn.com/support

Kleinn Automotive Accessories

520-579-1531

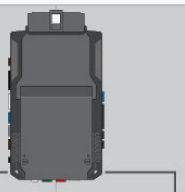
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Troubleshooting Charts

When the system receives an activation command and you hear clicks from the HCX remote start module brain but the vehicle fails to start, Parking lights flash and HCX brain will click 3x times followed by a number of flashes and clicks for the diagnostics code. The second number of flashes/clicks corresponds to a remote start diagnostic error code. This will tell you why the remote starter is failing to start. The codes are as follows:

REMOTE STARTER ERROR CODES: NOTES	PARKING LIGHT FLASHES	DIAGNOSTIC
I WARNING: The following applies only when the parking lights are connected and supported by the system. II After a remote starter failure, the parking lights will flash three [3x] times followed by the error code. See table.	3 + 1	Tach is not programmed OR engine is already running.
	3 + 2	Key is in ignition ON position.
	3 + 3	Door is open.
	3 + 4	Trunk is open.
	3 + 5	Foot brake is ON.
	3 + 6	Hood is open.
	3 + 7	Loop is not cut.
	3 + 8	Vehicle failed to remote start.
	3 + 9	Vehicle movement detected (VSS).
	3 + 10	System is in Valet Mode.
	3 + 11	CAN communication failure
	3 + 12	RS not synchronized. Start vehicle with OEM key for 15 sec before trying a new RS sequence.
	3 + 13	Bypass problem.
	3 + 14	Idle mode or takeover is not available on this vehicle.
	3 + 15	Overheat protection.

REMOTE STARTER SHUTDOWN ERROR CODES: NOTES	PARKING LIGHT FLASHES	DIAGNOSTIC
I WARNING: The following applies only when the parking lights are connected and supported by the system. II If the engine shuts down after a remote starter sequence use the query command from a compatible aftermarket remote to display the shutdown error code. The parking lights will flash four [4x] times followed by the error code. See table.	4 + 1	Engine tach signal was lost.
	4 + 2	Emergency brake signal was lost.
	4 + 3	Foot brake ON detected.
	4 + 4	Hood open detected.
	4 + 5	Tach over rev detected.
	4 + 6	Glow plug timeout error.
	4 + 7	Vehicle movement detected (VSS).
	4 + 8	Check engine light ON.
	4 + 9	Low fuel level.
	4 + 10	Open door detected.
	4 + 11	CAN communication failure during RS sequence.
	4 + 12	RS not synchronized. Start vehicle with OEM key for 15 sec before trying a new RS sequence.
	4 + 13	Bypass problem.
	4 + 14	Idle mode or takeover is not available on this vehicle.
	4 + 15	Overheat protection.

MODULE STATUS DURING:	 LED 2*	LED 1**	LED STATUS	DIAGNOSTIC
REMOTE START SEQUENCE	●		Flashing rapid RED	Remote start shutdown sequence.
	●		Flashing slow RED	Remote start shutdown error code. Contact technical support.
	●		Solid RED	Remote start crank delay.
	●		Flashing rapid GREEN	Remote start cycle in progress. Working correctly.
	●		1 GREEN flash	Remote start initiated successfully.
	●		3 GREEN flashes	Idle mode cycle in progress.
	●		4 GREEN flashes	Turbo mode cycle in progress.
		●	Flashing GREEN	Remote start cycle in progress. Displays vehicle platform during runtime.
		●	Rapid GREEN flashing	Secure takeover initiated. Waiting to complete takeover after brake press.
TRANSMITTER PROGRAMMING	●		Solid RED	Remote programming in progress, waiting for remote pairing.
	●		1 GREEN flash	Remote programmed.
	●		4 RED flashes	Shutdown remote starter before attempting remote programming.
	●		5 RED flashes	Engine must be off before attempting remote programming.
	●		6 RED flashes	System must be unlocked/disarmed before attempting remote programming.
	●		7 RED flashes	Module must be learned to the vehicle before attempting remote programming.

* LED 2 (RS) displays generic diagnostic codes specific to the remote start module. Orange LED flashes may appear red.
** LED 1 (Bypass) displays diagnostic codes specific to the firmware loaded on the module.
Visit the programming diagnostics page for more information.