Installation Guide

2016-2023 Toyota Tacoma | 2018-2021 Tundra / C-HR
2018-2019 Sequoia | 2013-2018 RAV4
2014-2019 Corolla | 2017-2019 Corolla IM Key-to-Start | 3x Lock

KLEINN SKU # - RSTOY5

Rev 26_01hcx

Years	Toyota (H-Key Start Models)											
2016-2023	Tacoma				16	17	18	19	20	21	22	23
2018-2021	Tundra						18	19	20	21		
2018-2019	Sequioa						18	19				
2018-2022	C-HR						18	19	20	21	22	
2014-2019	Corolla		14	15	16	17	18	19				
2013-2018	RAV4	13	14	15	16	17	18					
2017-2019	Corolla IM					17	18	19				

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

- **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. This kit is flashed for a **standard key-to-start** Toyota vehicle only.



Introduction:

This guide covers multiple models that all use the same Firmware and T-harness. To activate the remote starter using the OEM remote, it is necessary to make an additional wire cut and connect if the vehicle has TPMS. The instructions and locations for each vehicle are different so follow the diagram that matches your vehicle. See how to make wire to wire connections on page 2.

- **Pre-Flashed Module:** The correct firmware is installed on the remote start module. No programmer needed.
- **Activation**: Press the OEM Remote buttons Lock - Lock - Lock to remote start the vehicle.
- **Step 1:** Preparation and How to make wire to wire connections - **Page 2**

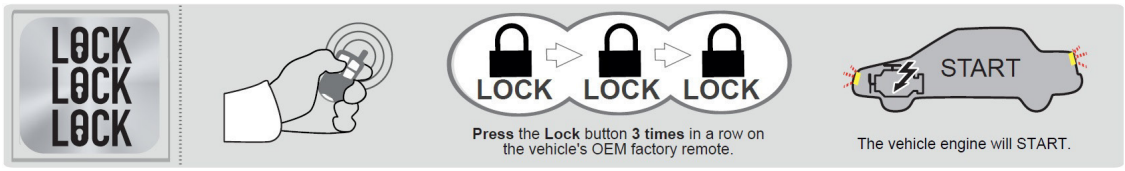
Step 2: Wiring Connections in the Vehicle - See page numbers below for your model's specific diagram **Page 3-16**

Toyota C-HR **- Pages 3-5**
Toyota Corolla / Corolla IM **- Pages 6-7**
Toyota RAV4 **- Pages 8-9**
Toyota Sequoia **- Pages 10-11**
Toyota Tacoma **- Pages 12-14**
Toyota Tundra **- Pages 15-16**

- **Step 3:** Programming: Program the module to the vehicle, no PC or Flasher required. - **Page 17**
- **Step 4:** Vehicle Take Over Procedure - **Page 18**
- **Programming Optional RFKIT1, RFKIT2W, RFKIT4 Remote Control Upgrade Kits - Page 18**
- **Troubleshooting Charts - Page 19**

Remote Start Activation from OEM Transmitter:

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



Check out our extended range RF Remote or Smartphone Control upgrade kits

Click Here for Upgrade Options

Parts Required:

- HCX Remote Start Module Pre-Flashed with (RSA-TL9) Firmware
- HCX-TL5-IGN - TY20 - TL5MSC - T-harness

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.

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 this product will require only plug-in connections unless RAP shutdown or Keyless Entry control from RF remotes or Smartphone upgrade kits are desired. Simply plug the T-Harness into the vehicle, then program the module and the remote starter 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.

Making TPMS Wire-to-Wire Connections (For Models with TPMS

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. Do not solder wires unless you have experience to prevent causing 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

Toyota C-HR Connection Location

C-HR



② OBDII Connector



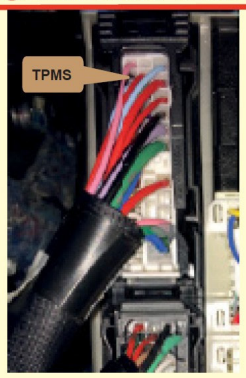
① Ignition Switch Connector



③ ECU Connection



④ TPMS Connection **TURKEY VIN N**

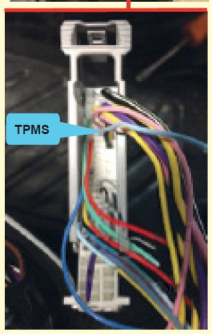


OR

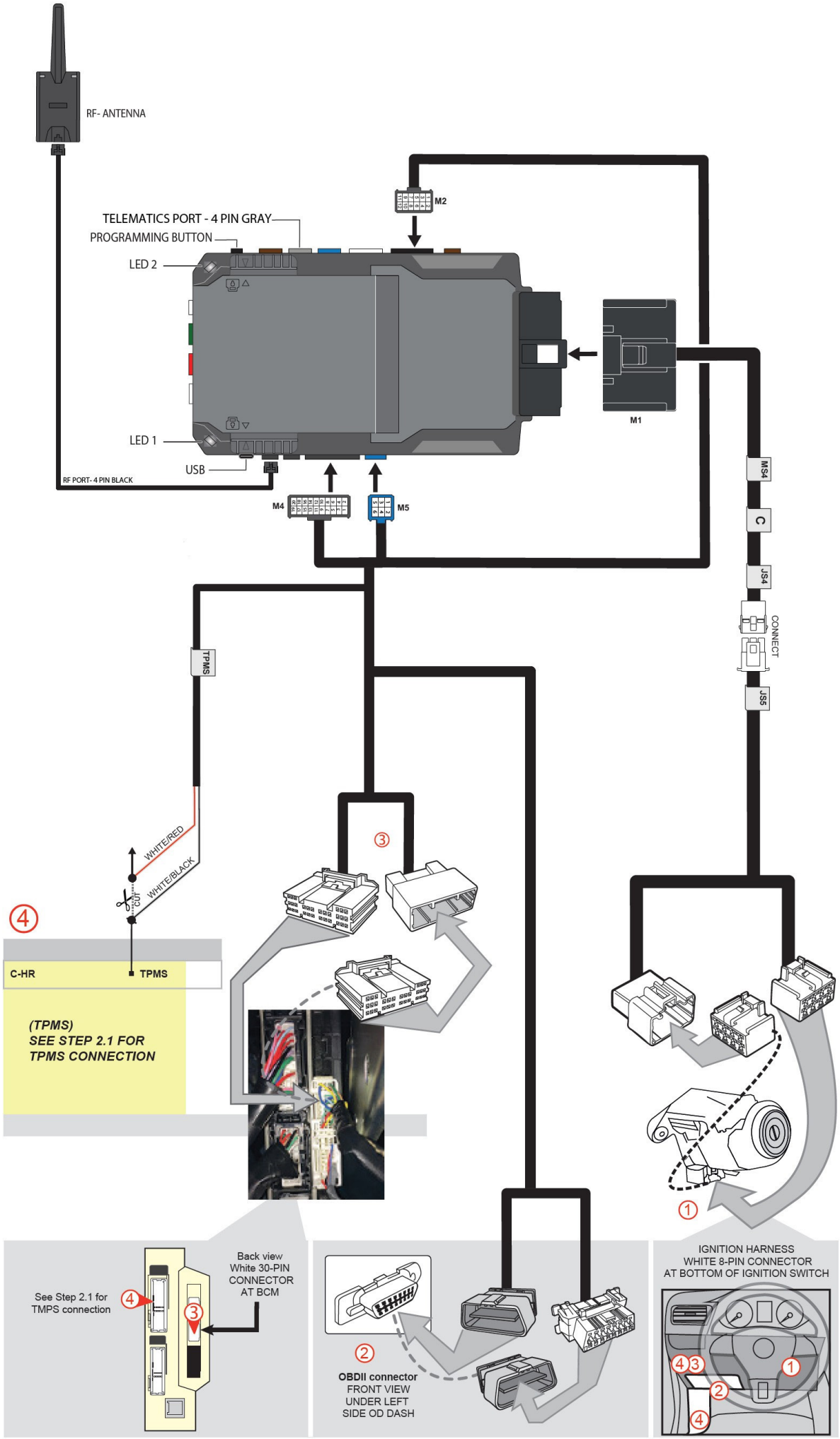
④ TPMS Connection **JAPAN VIN J**

Driver kick panel





Toyota C-HR Wiring Diagram



Toyota C-HR TPMS Connection

If your vehicle has the TPMS (Tire Pressure Monitoring Sensor) you will need to make these connections. If TPMS is not present, then skip this step. There is two TPMS locations pending the manufacture location. For vehicles that are manufactured in Japan with a VIN number that start with the letter J and for vehicle manufactured in Turkey that have a vin number that starts with the letter N.

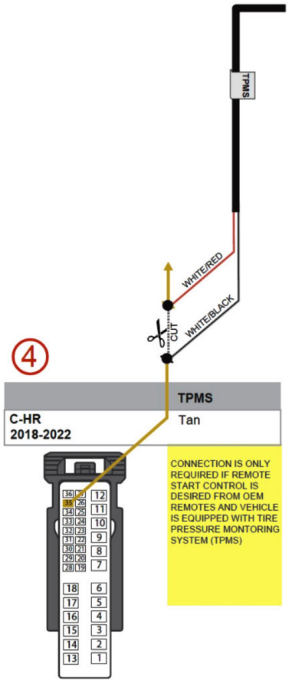
If you vehicle is made in Turkey VIN N follow diagram (A). If you vehicle is made in Japan with VIN J then follow diagran (B).

Locate the TPMS White/Red and White/Black loose wires on the T-Harness.

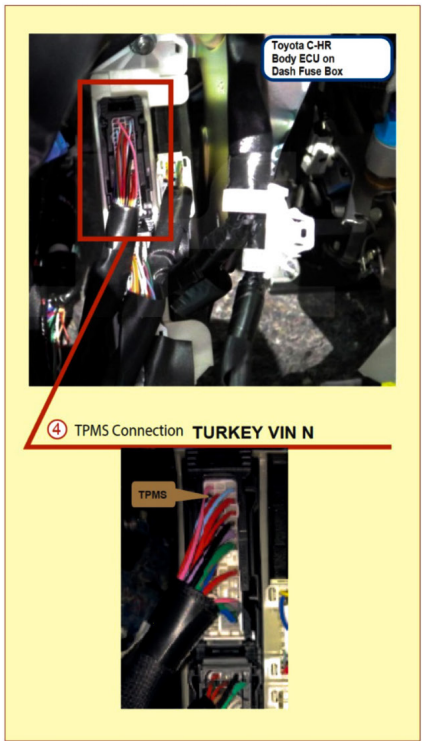
Diagram (A)

(TPMS).

Apllies to vehicles made in Turkey VIN starts with N



Locate the Tan wire in the 36-pin connector pin-35 located in at the Main Body ECU. CUT the Tan wire in half. Connect the White/Black wire from the T-Harness and connect it to the Tan wire leading away from the connector.
Connect the Tan wire leading back to the connector to the White/Black wire from the T-Harness.

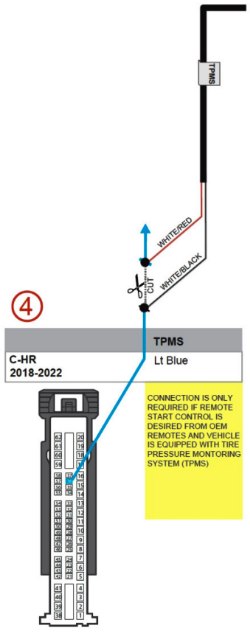


Locate the TPMS White/Red and White/Black loose wires on the T-Harness.

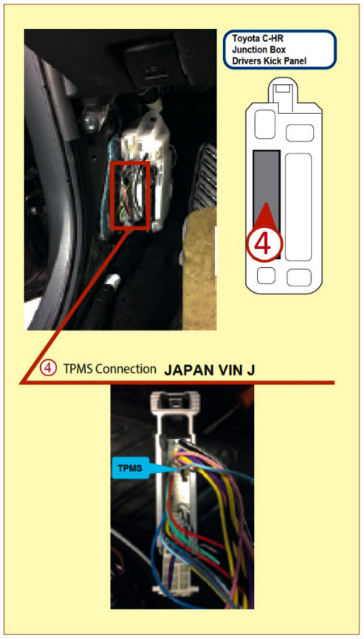
Diagram (B)

(TPMS).

Apllies to vehicles made in Japan VIN starts with J



Locate the Lt Blue wire in the 62-pin connector pin-36 located in the Drivers Kick panel. CUT the Lt Blue wire in half. Connect the White/Black wire from the T-Harness and connect it to the Lt Blue wire leading away from the connector.
Connect the Lt Blue wire leading back to the connector to the White/Black wire from the T-Harness.



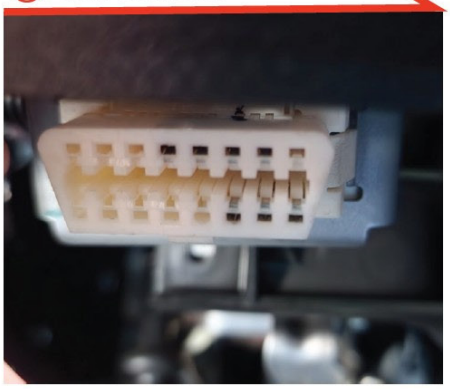
NOTE: The TPMS light in the vehicle will turn on during vehicle remote start. but will turn off once the Key Takeover procedure is performed to drive the vehicle away.
This is a normal operation.

Toyota Corolla / Corolla IM Connection Location

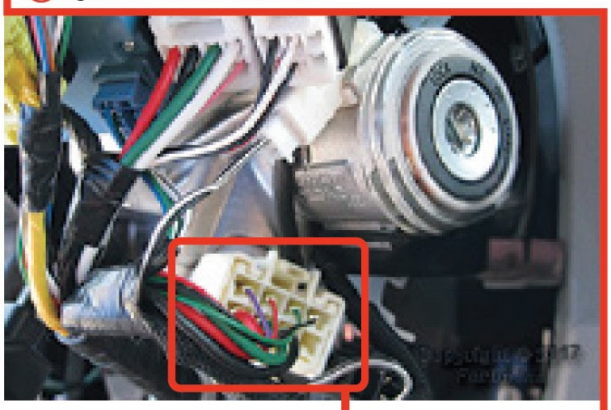
COROLLA



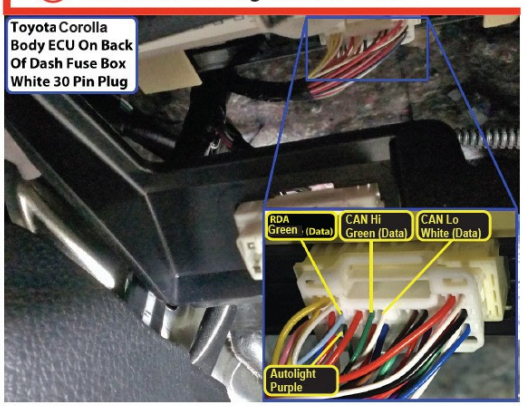
② OBDII Connector

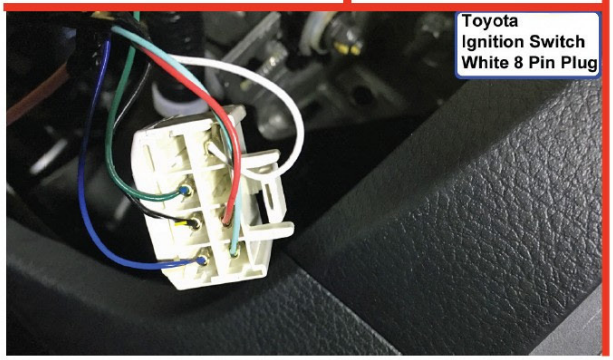


① Ignition Switch Connector

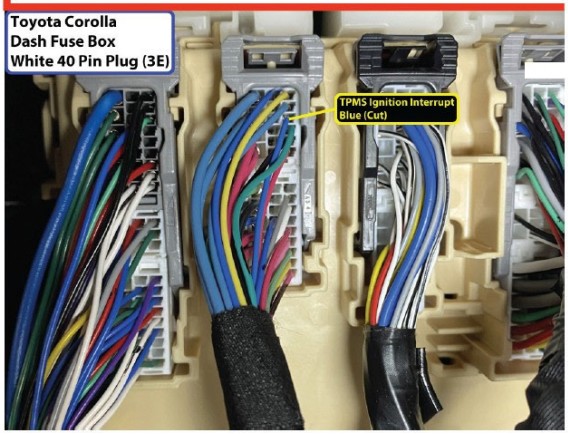


③ CAN, RDA, Autolight Connections



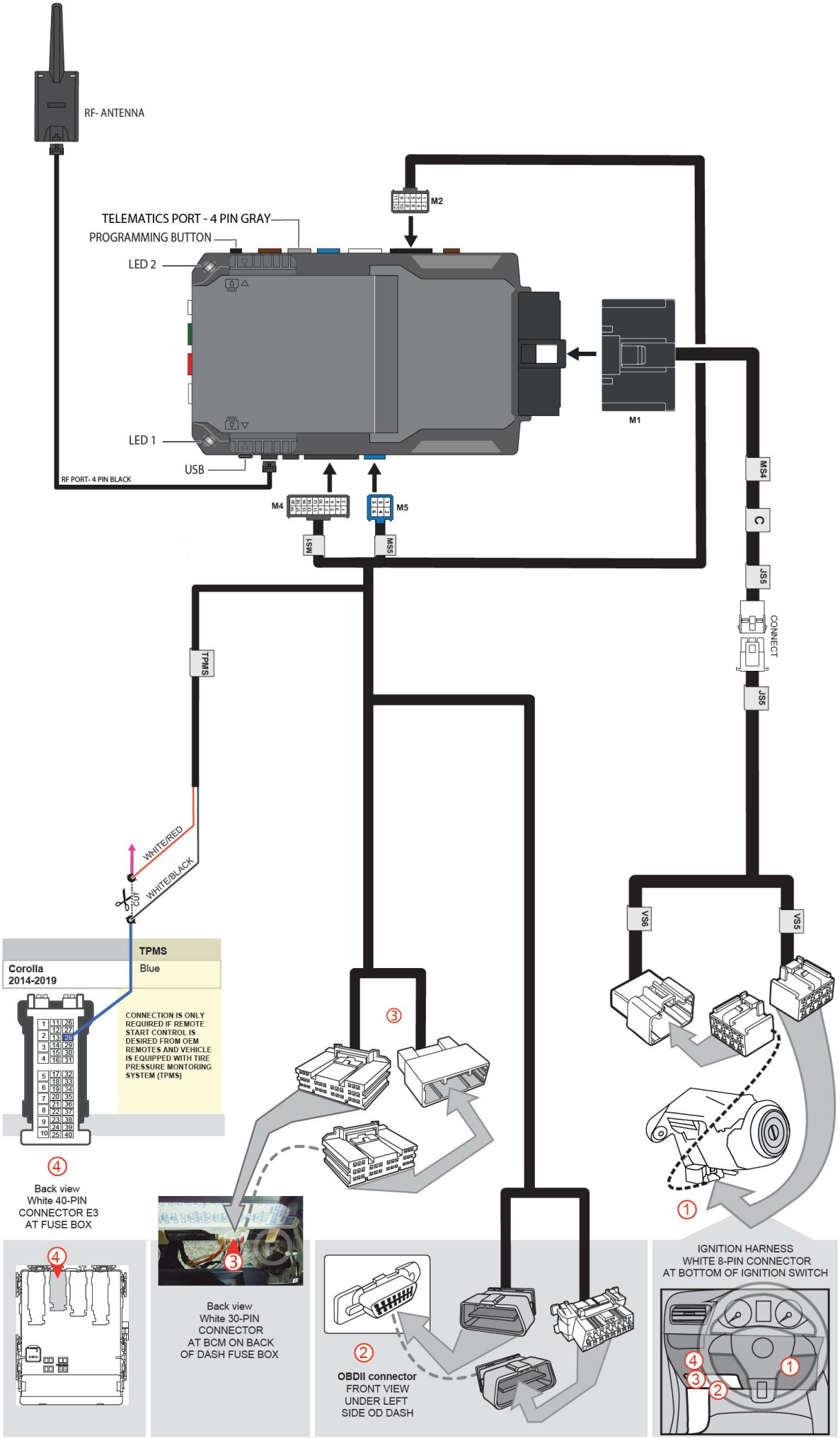


④ TPMS Connector



THE SECURITY AND TPMS LIGHT WILL FLASH DURING THE REMOTE START SEQUENCE AND WILL TURN OFF UPON VEHICLE TAKEOVER.

Toyota Corolla / Corolla IM Wiring Diagram

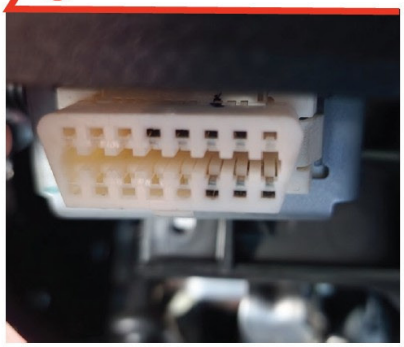


Toyota RAV4 H-Key Connection Locations

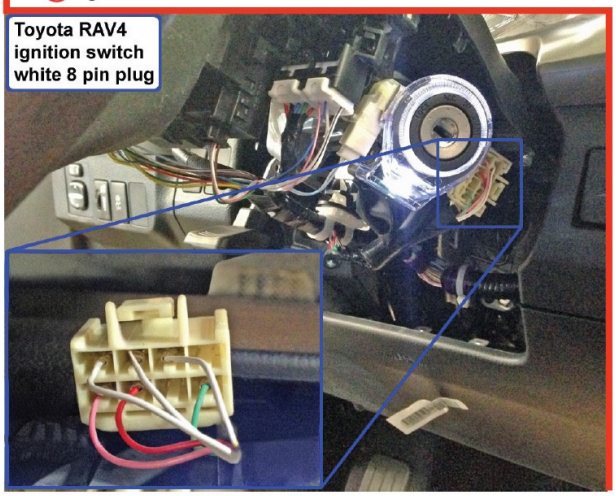
RAV4



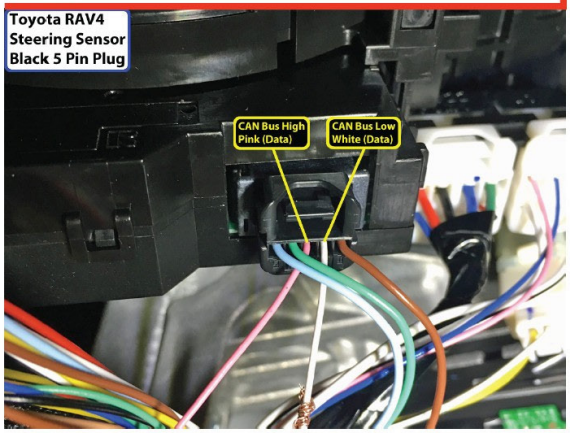
② OBDII Connector



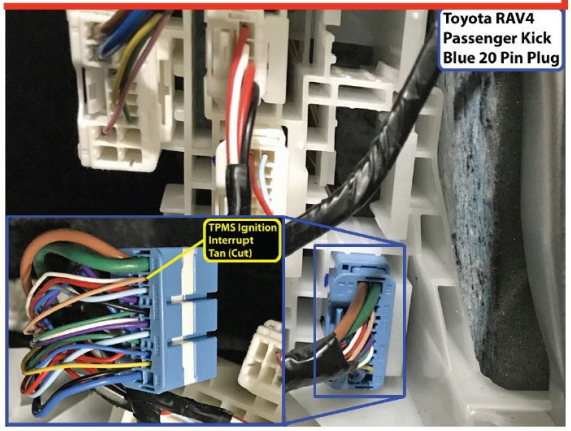
① Ignition Switch Connector



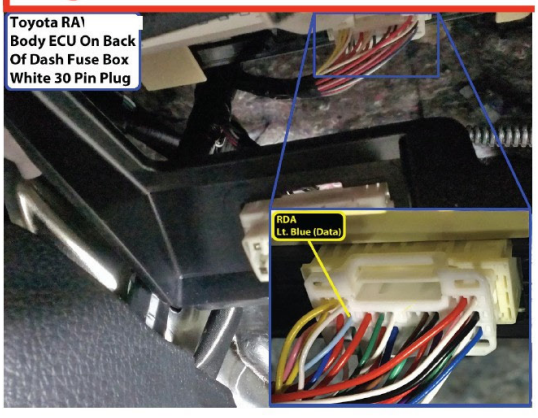
⑤ CAN Connections



④ TPMS Connector



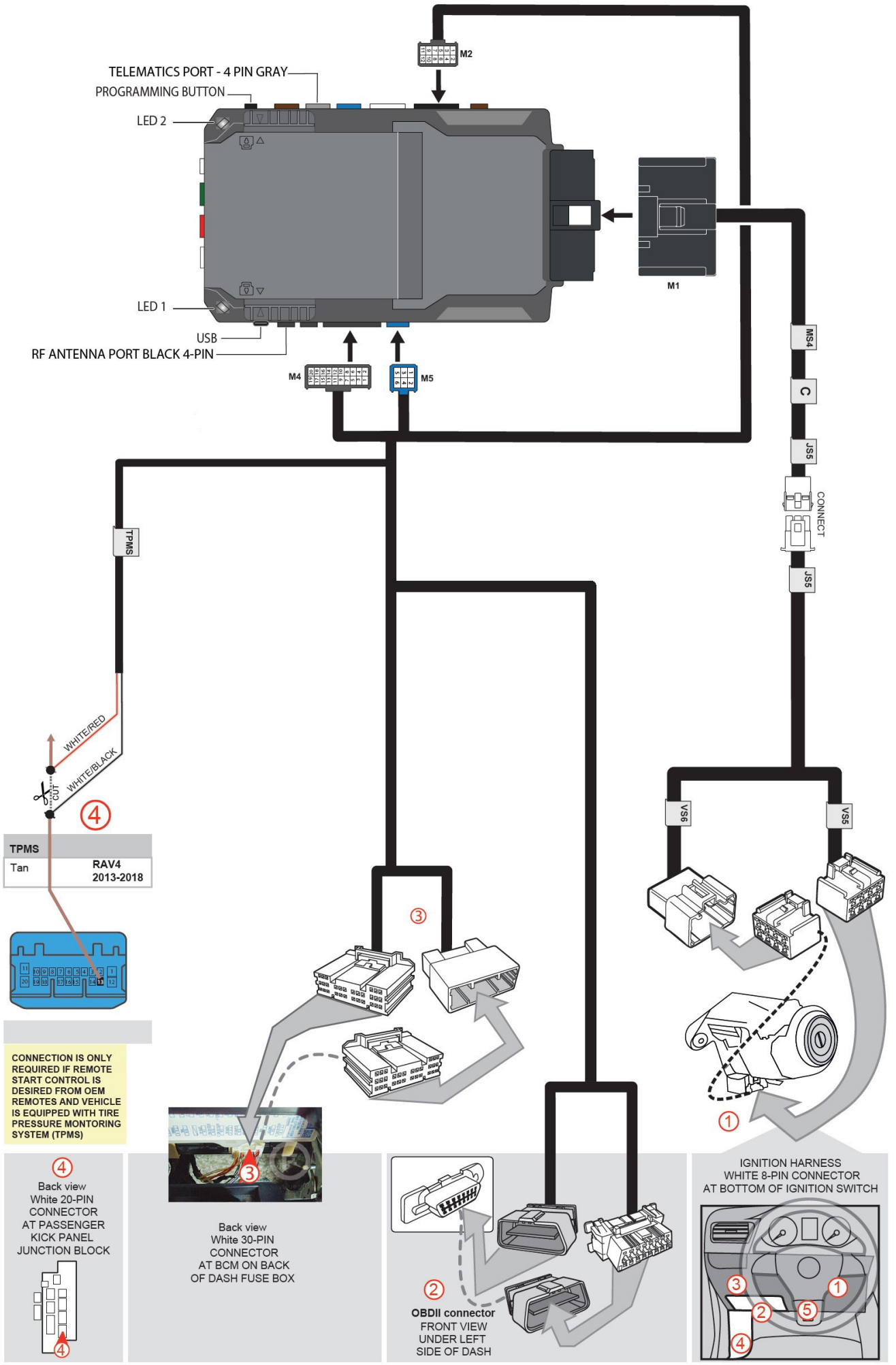
③ RDA, Autolight Connections





THE SECURITY AND TPMS LIGHT WILL FLASH DURING THE REMOTE START SEQUENCE AND WILL TURN OFF UPON VEHICLE TAKEOVER.

Toyota RAV4 Wiring Diagram

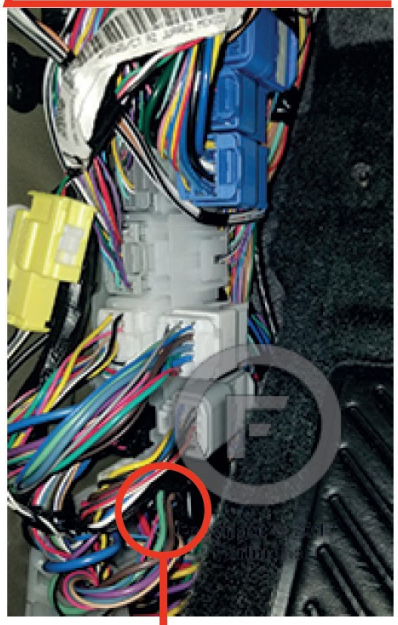


Toyota Sequoia Connection Location

SEQUOIA

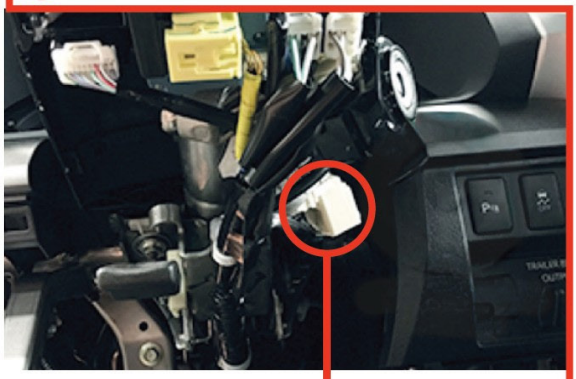


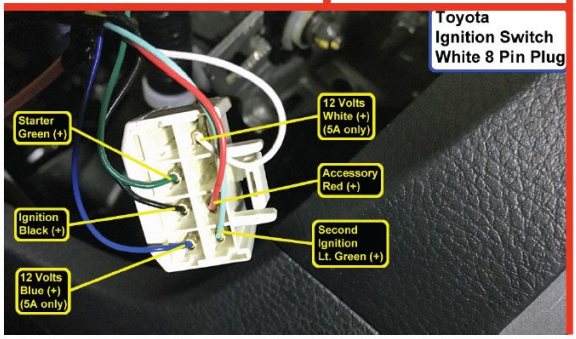
④ TPMS Connector



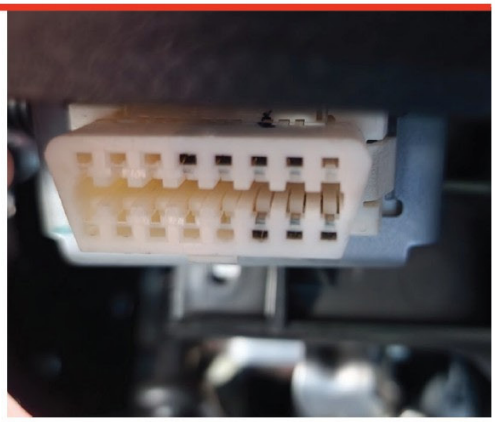


① Ignition Switch Connector

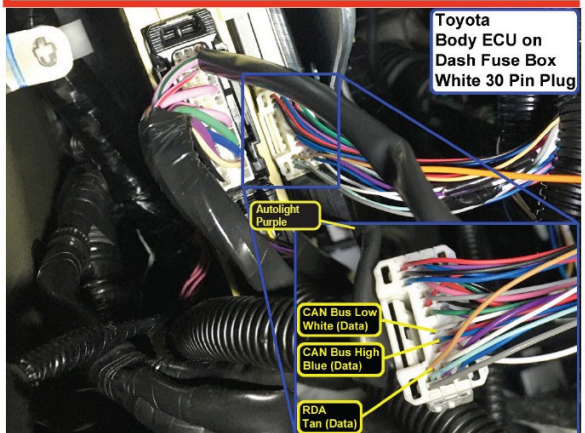




② OBDII Connector

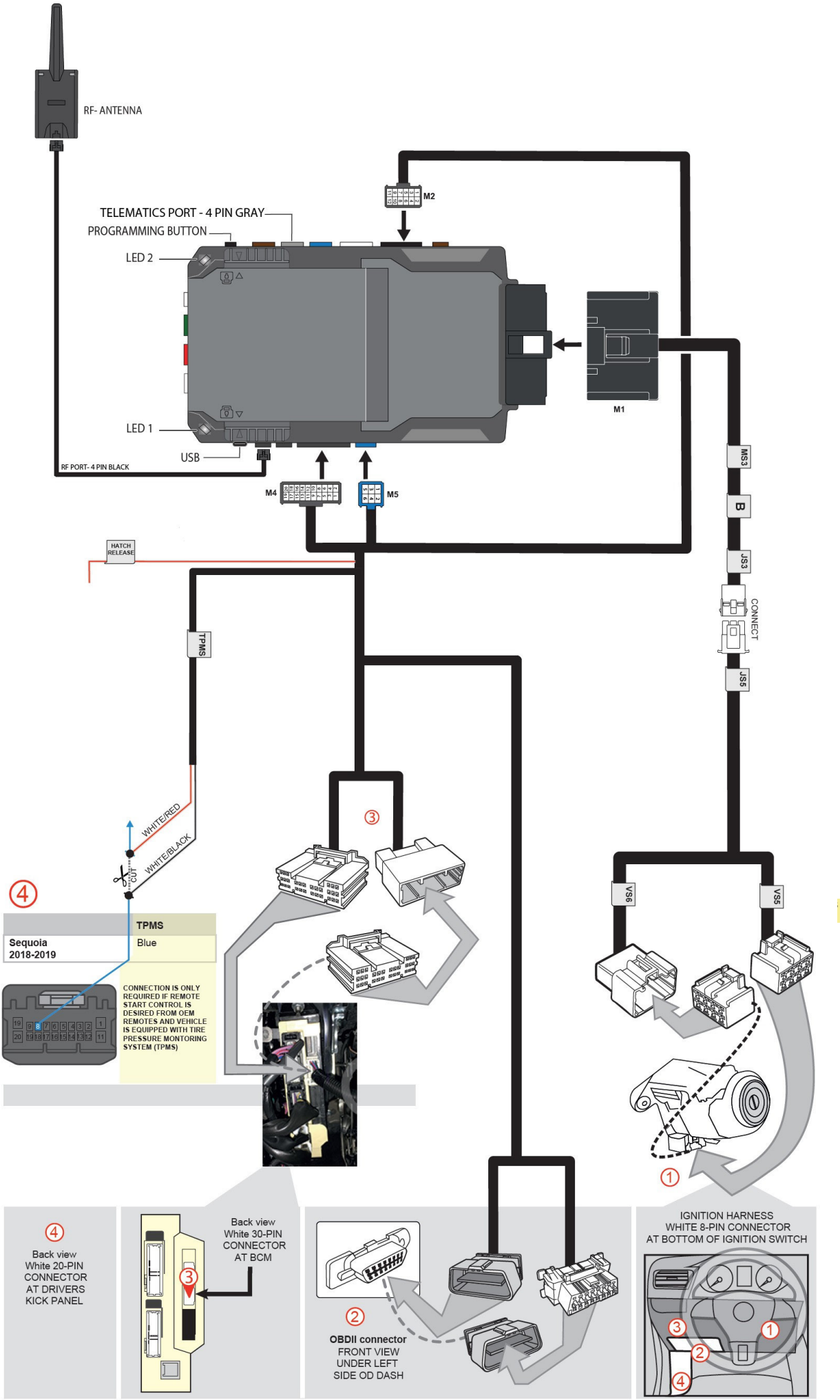


③ CAN, RDA, Autolight Connections



THE SECURITY AND TPMS LIGHT WILL FLASH DURING THE REMOTE START SEQUENCE AND WILL TURN OFF UPON VEHICLE TAKEOVER.

Toyota Sequoia Wiring Diagram



Toyota Tacoma Connection Location

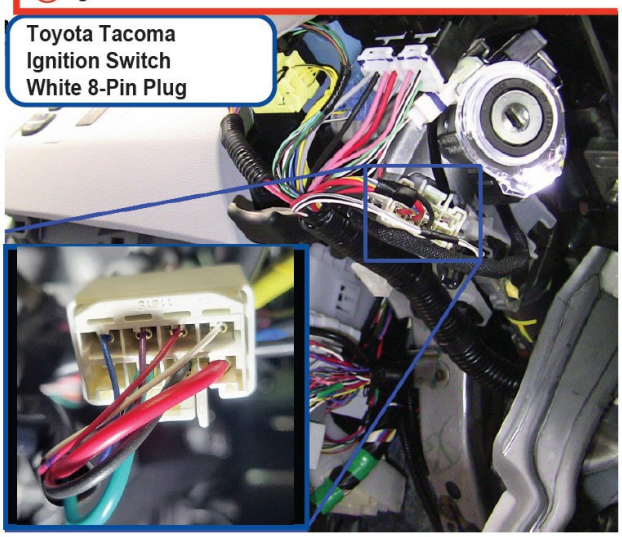
TACOMA



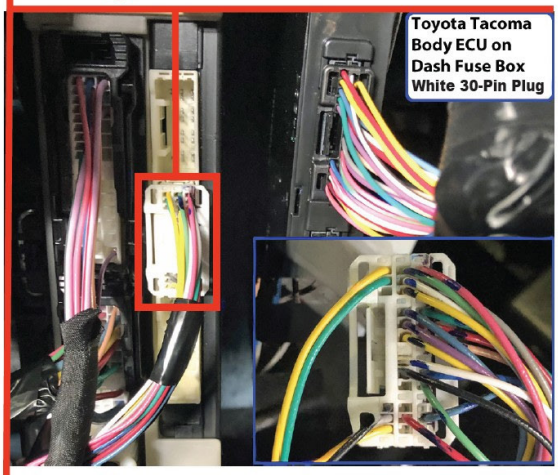
② OBDII Connector



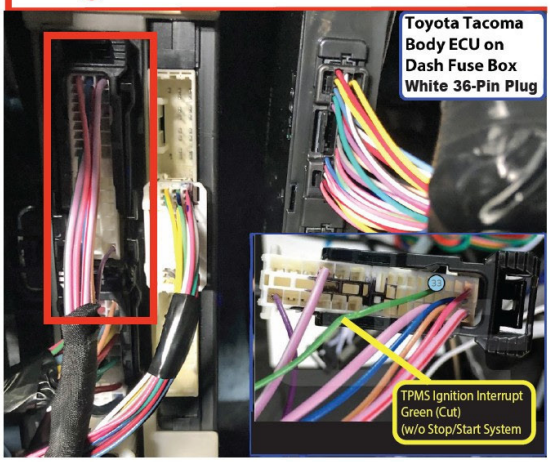
① Ignition Switch Connector



③ ECU Connection

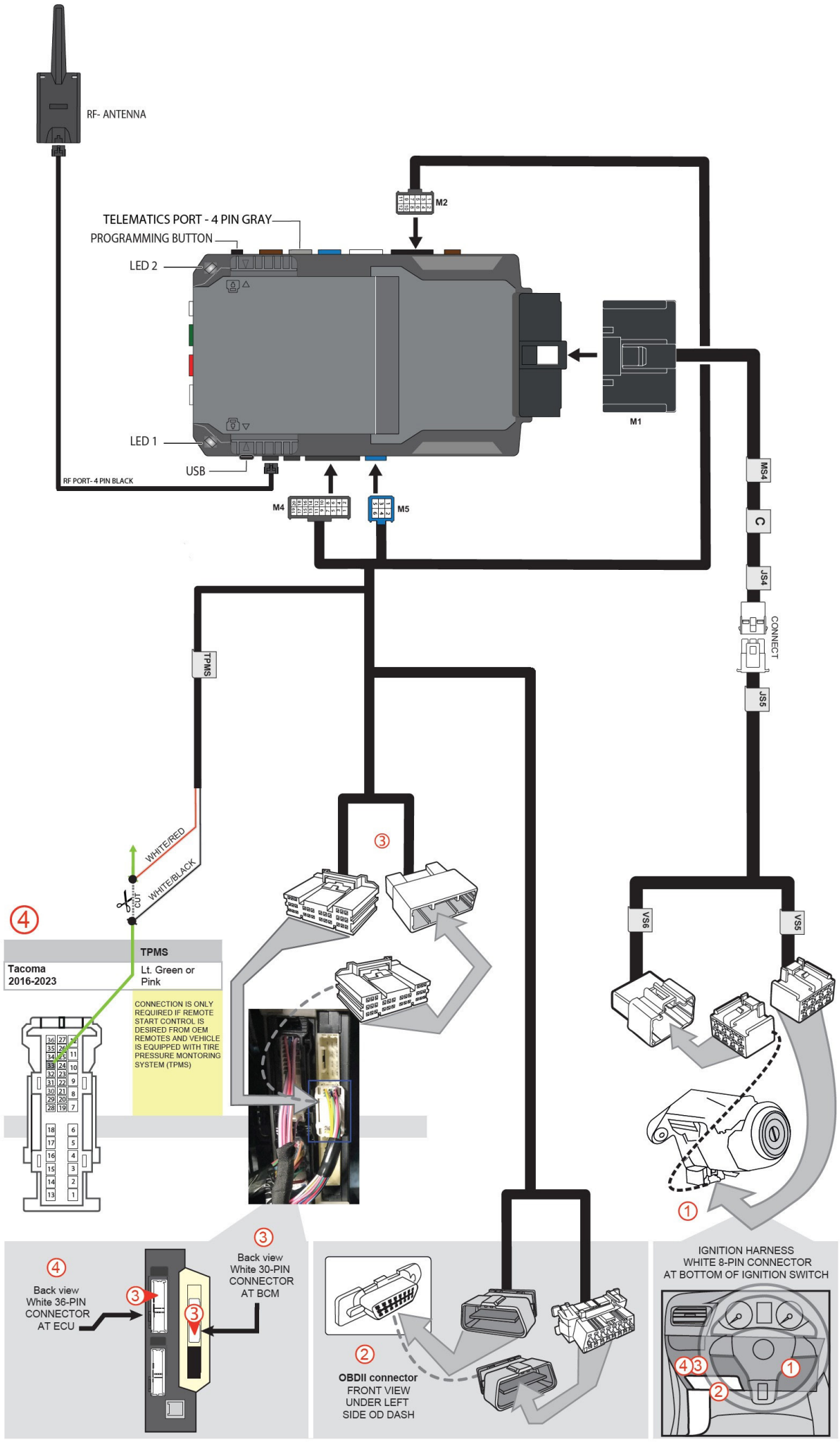


④ TPMS Connection



THE SECURITY AND TPMS LIGHT WILL FLASH DURING THE REMOTE START SEQUENCE AND WILL TURN OFF UPON VEHICLE TAKEOVER.

Toyota Tacoma Wiring Diagram

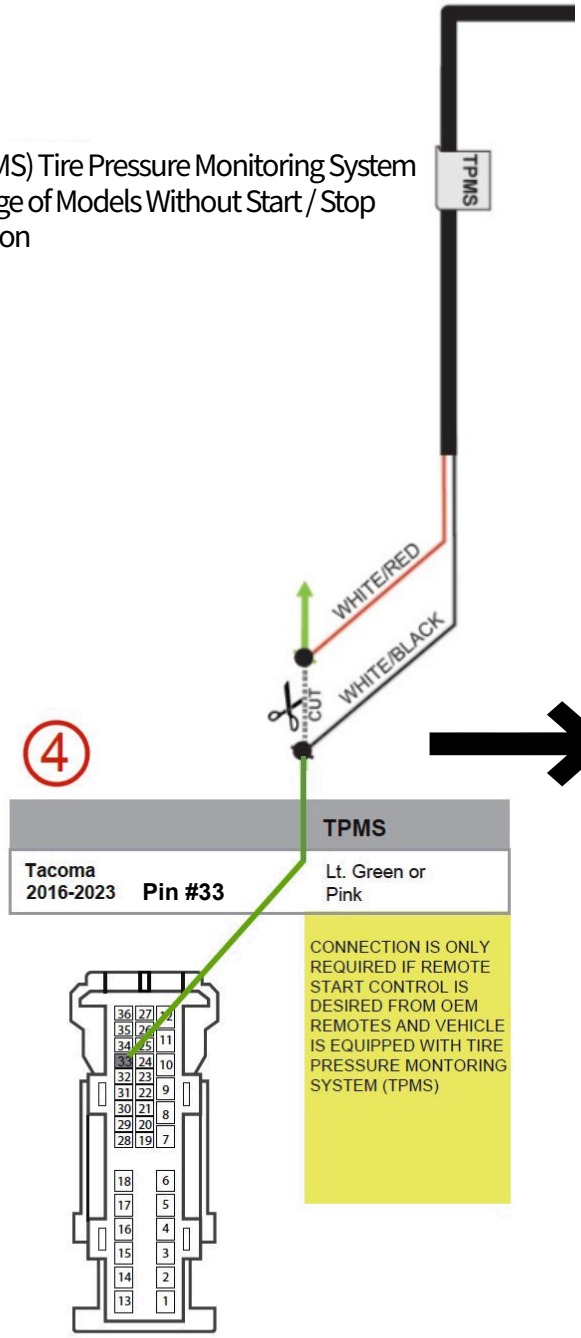


Toyota Tacoma TPMS Wire Connection

If your vehicle has the TPMS (Tire Pressure Monitoring Sensor) you will need to make these connections. If TPMS is not present, then skip this step.

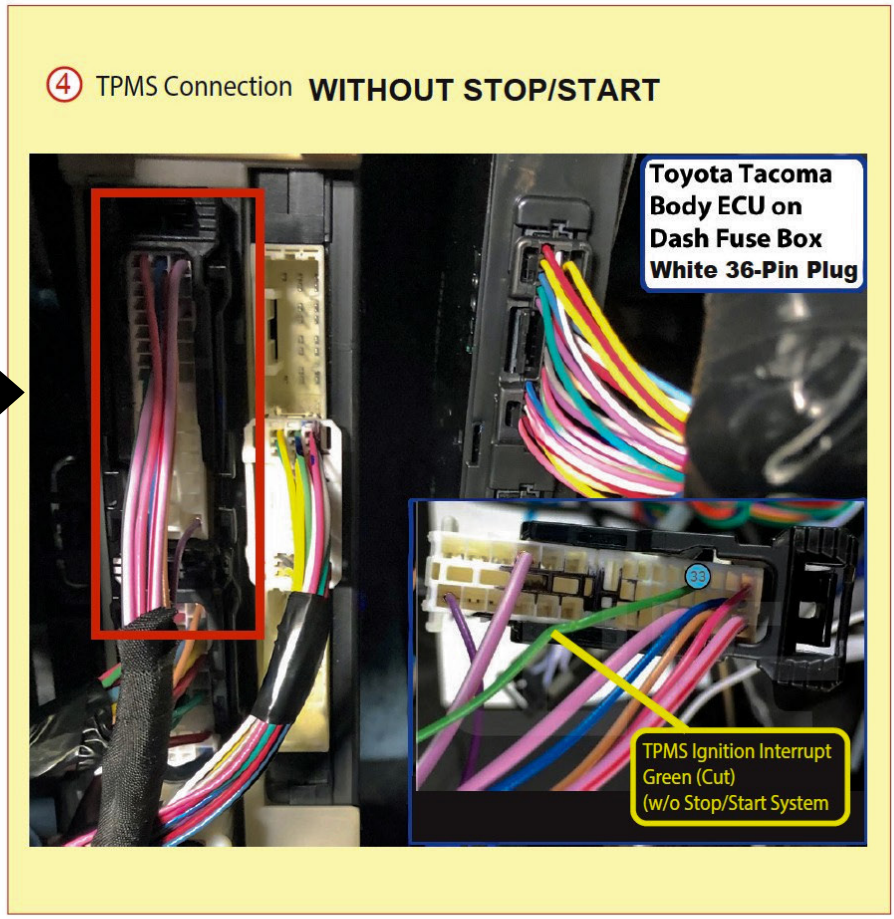
Locate the **White/Red** and **White/Black** loose wires coming off of the TY20 T-harness

(TPMS) Tire Pressure Monitoring System Image of Models Without Start / Stop Button



Without a Stop/Start system, locate the Lt. Green or Pink wire in the 36-pin connector pin-33 located in at the Main Body ECU. CUT the Yellow wire in half.

- Connect the White/Red loose wire from the harness and connect it to the cut side of the Lt Green or Pink TPMS wire going away from the connector.
- Connect the White/Black loose wire from the harness and connect it to the cut side of the Lt Green or Pink wire going into the connector.



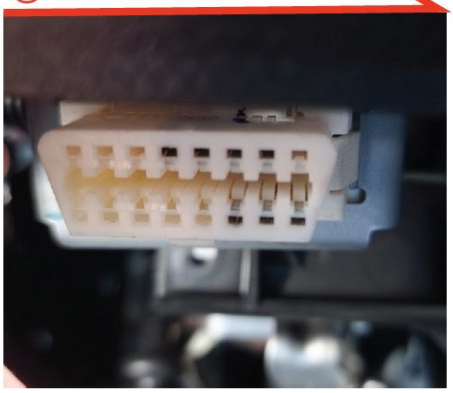
NOTE: The TPMS light in the vehicle will turn on during vehicle remote start. but will turn off once the Key Takeover procedure is performed to drive the vehicle away.
This is a normal operation.

Toyota Tundra Connection Location

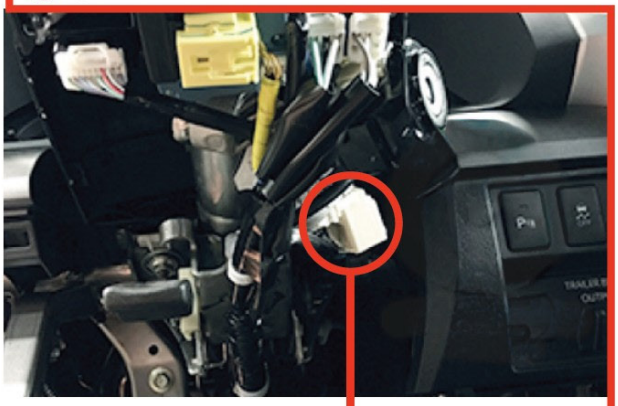
TUNDRA



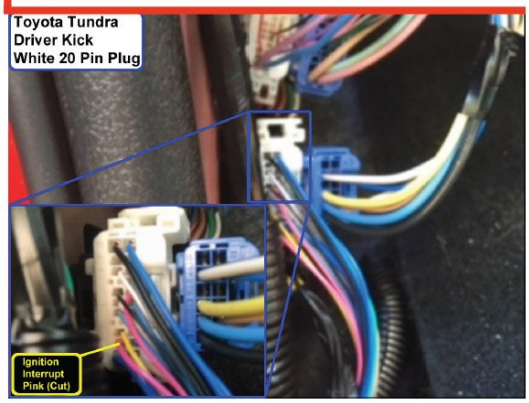
② OBDII Connector

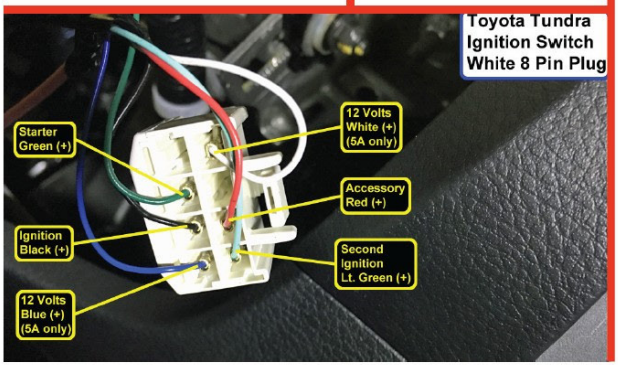


① Ignition Switch Connector

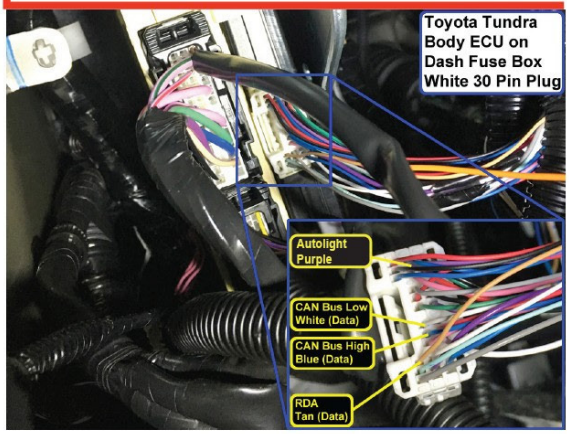


④ TPMS Connector



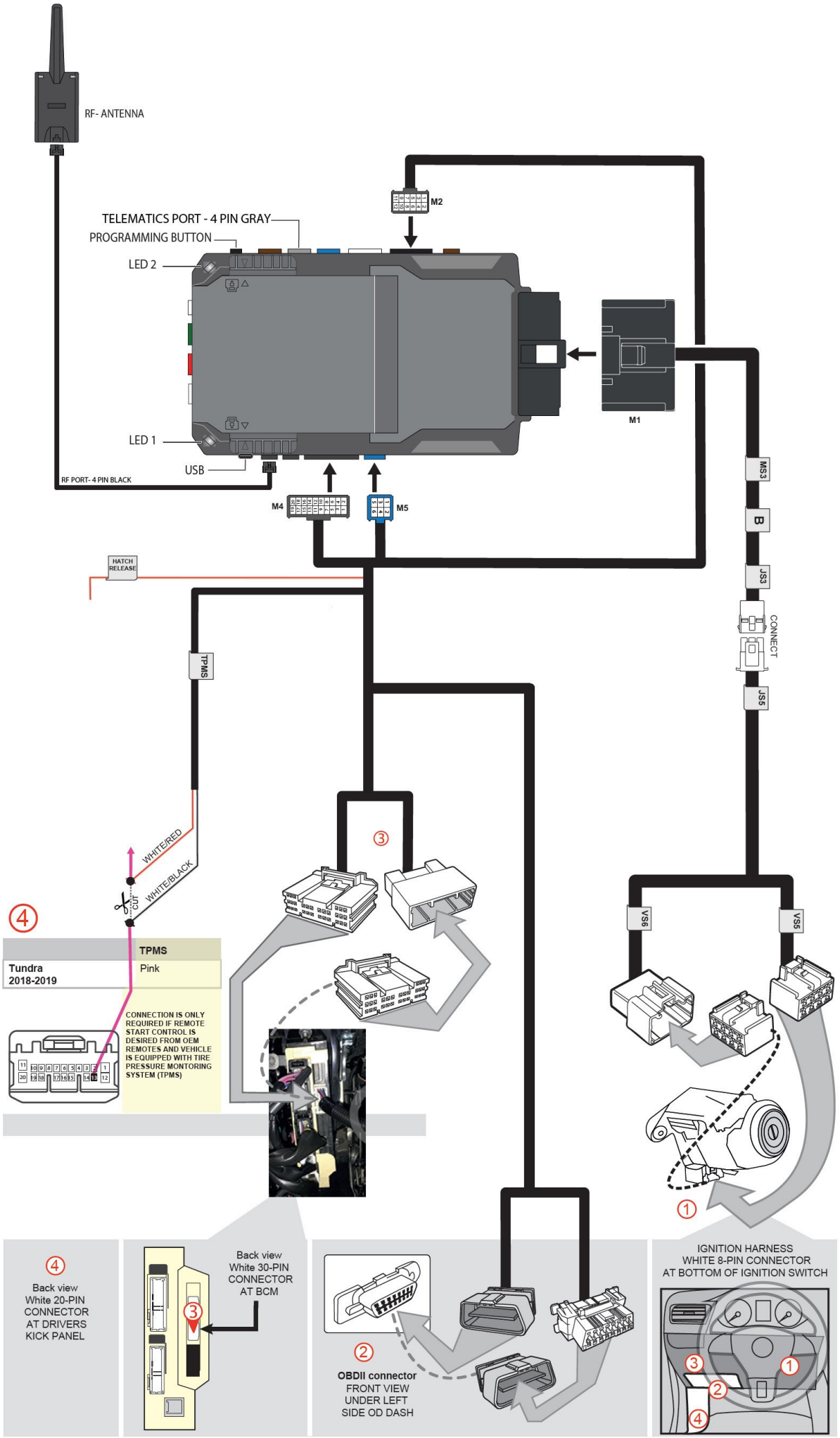


③ CAN, RDA, Autolight Connections



THE SECURITY AND TPMS LIGHT WILL FLASH DURING THE REMOTE START SEQUENCE AND WILL TURN OFF UPON VEHICLE TAKEOVER.

Toyota Sequoia Wiring Diagram



STEP 3: Programming the Module in the Vehicle

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.



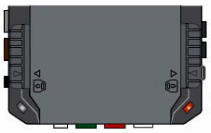
Program the Remote Start Module

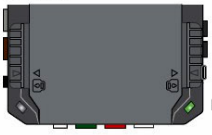
>> 
IMPORTANT: The hood must be closed.

01 
Use the BLACK key only. DO NOT use the GRAY valet key.

02 

Turn key to ON position.

03 
LED 1 will turn solid RED.


04 
Wait, LED 1 will turn solid GREEN for 2 seconds.


05 

Turn key to OFF position.

06 

START vehicle for 15 seconds.

07 
Press and hold the brake pedal.

08 
Press and release the module's programming button.

09 
Release the brake pedal.

10 
Wait, LED 2 will flash GREEN.


11 
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 any 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 depending on the cluster setting, then turn off on its own. If you approach the vehicle while it is still running, unlock the doors, enter the vehicle and close the door, turn the ignition on, you will hear a click from the remote starter turning off and you can drive away.

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 icon on the Smartphone app.

05  Open driver door and enter vehicle.

06  Close driver door.

07 

Insert key into ignition.

08 

Turn key to ON position.

08  Press and release BRAKE pedal.

10  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

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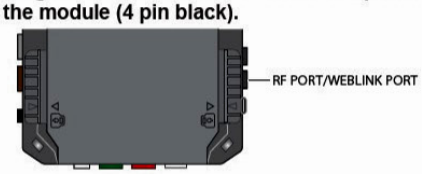
Programming for OPTIONAL RF Remote Upgrade Kits RFKIT1-RFKIT2W-RFKIT4

>>



Plug the antenna into the RF/Weblink port of the module (4 pin black).



01



WARNING: Complete the module programming procedure and tach programming procedure before programming the remotes. A maximum of four [4x] aftermarket remotes per system.

02



Set ignition to ON position.

03



Press and release the antenna button, then press and hold the antenna button. The antenna's LEDs will turn ON solid.

04



Parking Light will flash once [1x].
The HCX brain will click [1x].

05



While holding the antenna button, press once [1x] on the START button of each aftermarket remote

06



The antenna's LEDs will flash once [1x] for each successful pairing.

07



Release the antenna button. The antenna's LEDs will turn OFF.

08



Set ignition to OFF position.

09



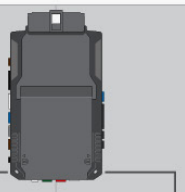
Remote Programming Procedure completed.

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.