Installation Guide

Select Standard Key 2021-2023 Ford F-150 Key & Push Start / Gas-Diesel-Hybrid Trucks

KLEINN SKU # - RSFD21 (HCX)

Years	Ford Standard Key & Push-to-Start				
2021-2023	F-150 Trucks	21	22	23	

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

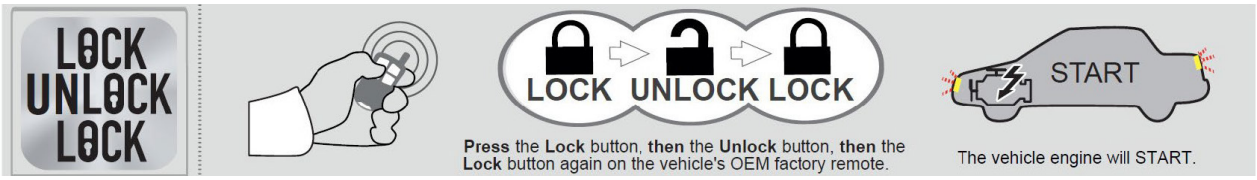
Introduction:

This guide covers multiple models that all have the same connectors. There are 2 T-Harness connections required. The first connection is on the drivers side at the OBD II port, the other is located behind the glove box.

- **Pre-flashed Module:** The correct firmware is installed on the remote start module. No programmer needed.
- **Activation**: Press the OEM Remote buttons Lock - Unlock - Lock to remote start the vehicle.
- **Disassembly**
- **System Wiring Overview** Step 2
- **Passenger Side T-Harness Connection** Step 2.1
- **Drivers Side OBD II T-Harness Connection** Step 2.2
- **Programming:** Program the module to the vehicle, no PC or Flasher required. Step 3
- **Vehicle Take Over Procedure:** Step 4

Remote Start Activation from OEM Transmitter:

Remote Starter Activation: Press Lock>Unlock>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:

- Idatalink HCX Module Pre-Flashed with (RSA-FM8) L-U-L Firmware
- T-Harness HCX-FORT21/24

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 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 Optional Wire-to-Wire Connections

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

Gateway T-Harness Connection Location

F-150

Push to Start / Key to Start with Keyless

2021-2023 Ford F-150



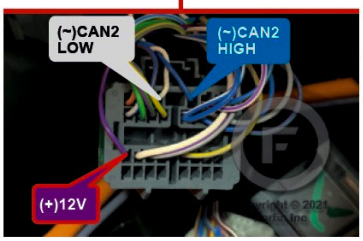
Standard Key and Push Button Start Gas-Diesel-Hybrid Models all have the same wiring.





② **Drivers Side Lower Dash OBD2 White 16-pin Connector**





① **Behind Glove Box**

THE REMOTE START WILL NOT OPERATE IF :

Hood is open or switch is not present	Check Engine light is ON	Low fuel light is ON	Vehicle battery voltage is too low

CAUTION

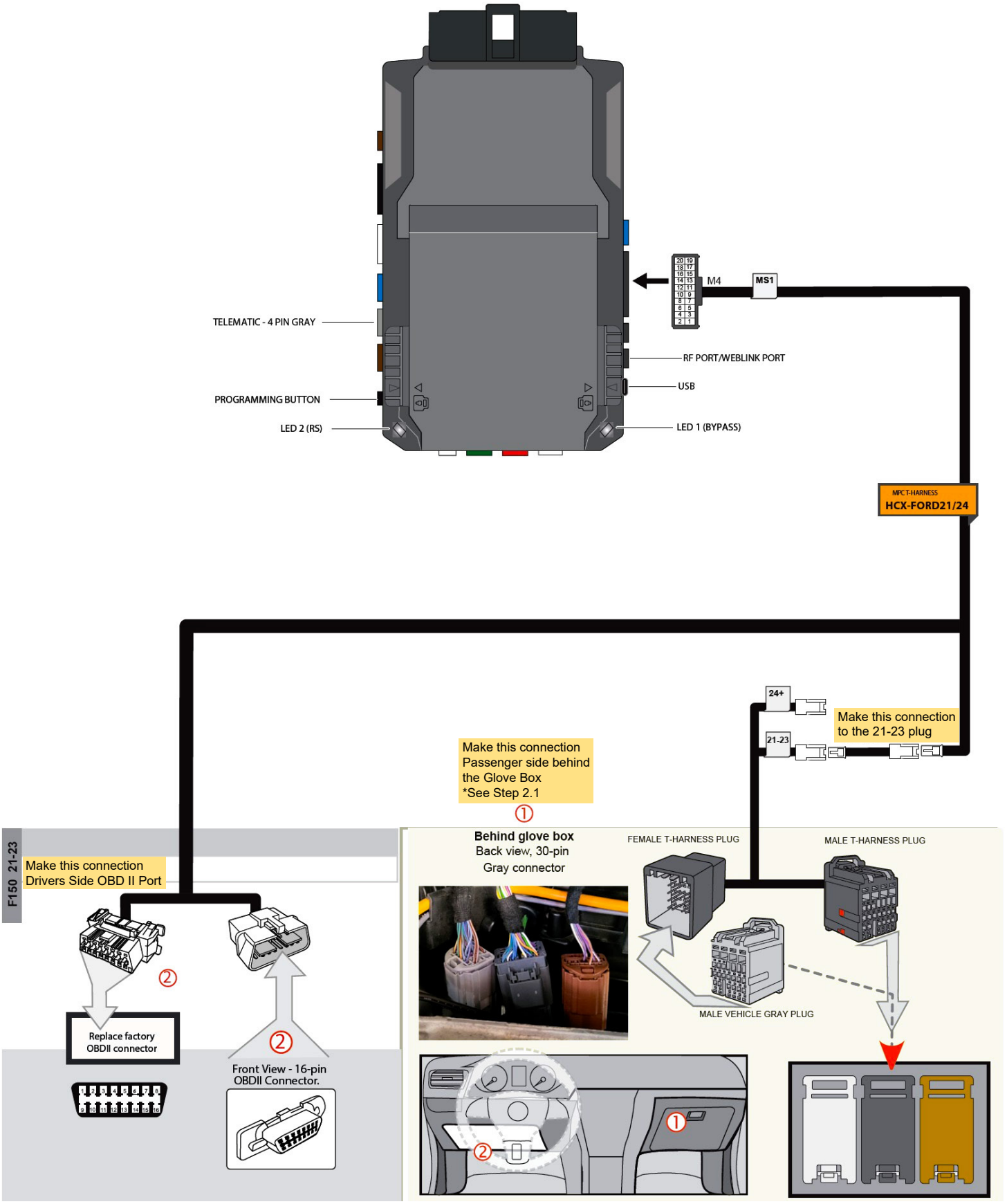


The remote start is limited to two consecutive command **Start or Stop.**



To use the remote again **ignition** must be turned **ON and OFF.**

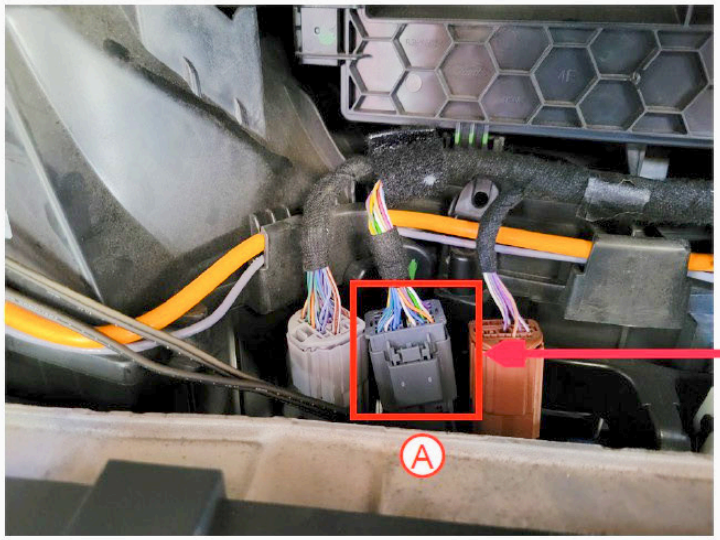
STEP 2: Wiring Diagram Overview

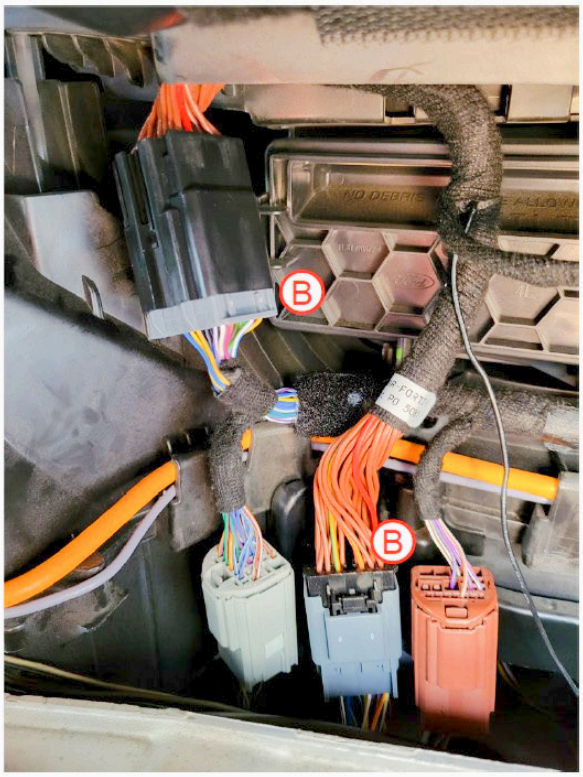


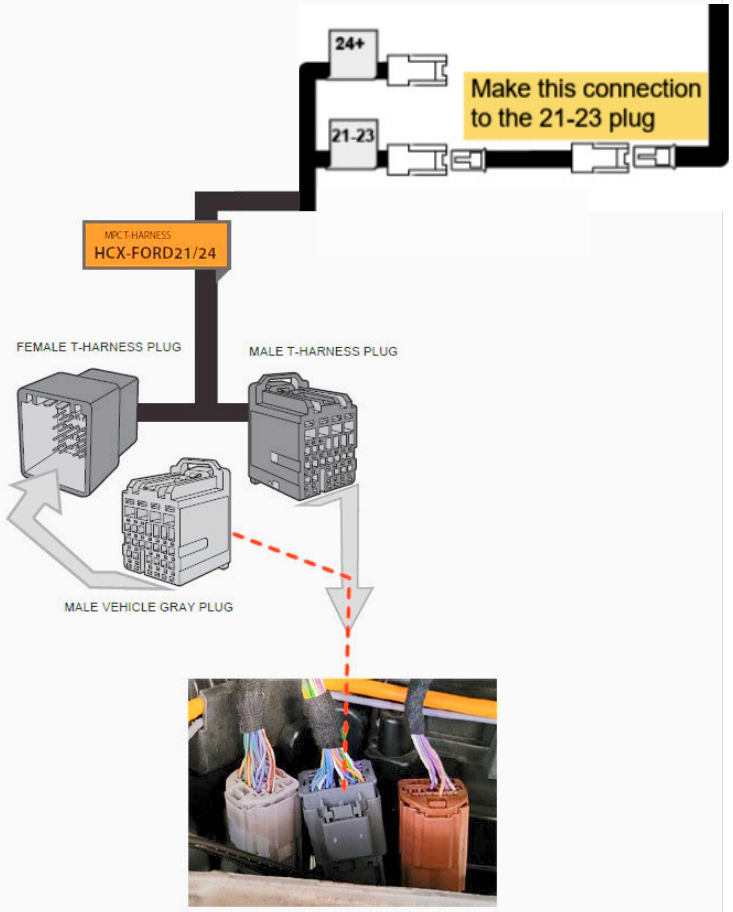
STEP 2.1: Pass Side T-Harness Connection Behind Glove Box



① Junction Module Behind Glove Box





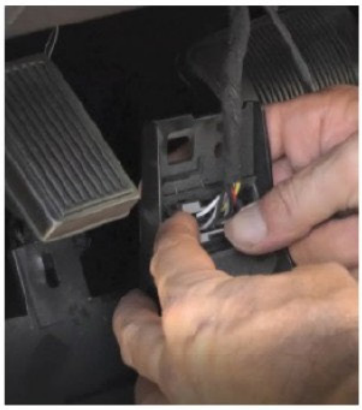


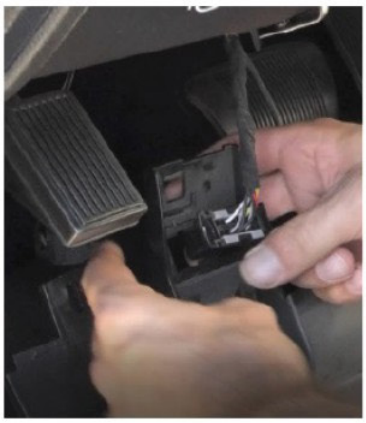
Junction Module connector Behind Glove Box

Remove the Glove Box door to access the Junction Module connectors behind the glove box. Locate the Gray 30-Pin connector as shown in image A. Use the T-Harness connectors for the in-line connections to the Gray 30-pin connector as shown in image B. Plugging the Male Black connector of the T-haness in to the Factory Gray Female connector. Plug the T-Harnes Black Female in to the Fcatory Gray Male connector. The Black Ground wire connection can be made at a body bolt lower corner of floor board.

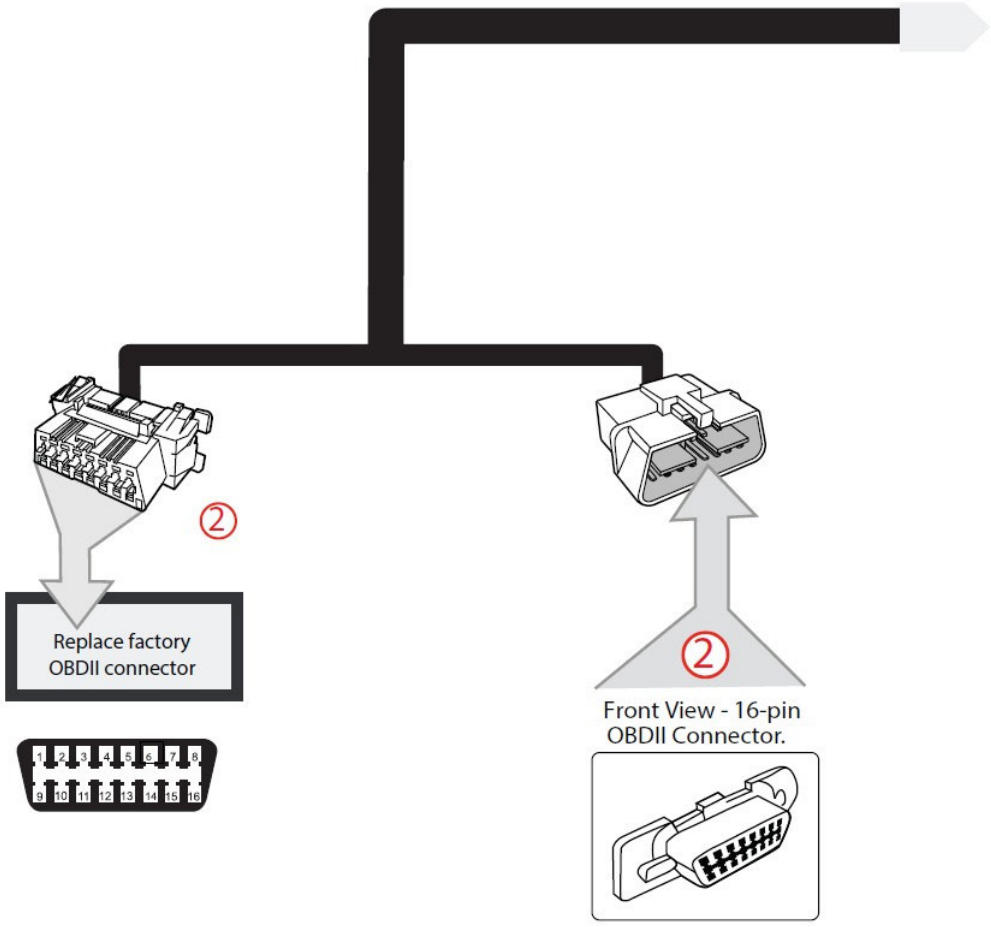
STEP 2.2: OBDII T-Harness Connection Driver Side OBD2 Port







Locate the OBD2 under the the bottom of dash below the Parking Brake release lever. The OBD2 connector is held in by a clip on each side of the plug. Press in the tabs to release the plug and push the plug back through the bracket. Then plug the OBD2 factory male plug into the T-Harness female plug. Then plug the T-Harness male plug into the factory mounting bracket slot.



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

01 

Set ignition to ON position.

02 
Wait, LED 1 will turn solid GREEN for 2 seconds.

03 

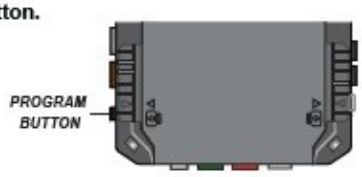
Set ignition to OFF position.

04 

START vehicle for 15 seconds.

05 
Press and hold the brake pedal.

06 
Press and release the module's programming button.



07 
Release the brake pedal.

08 
Wait, LED 2 will flash GREEN.



09 
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 5-10-15 minutes depending on the cluster setting, then turn off on its own. You can restart it one more time before you have to enter the vehicle resetting the system. 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 Lock, Unlock, Lock buttons on the vehicles OEM factory remote.



03 The vehicle engine will start.



04 Press Unlock on OEM remote.



05 Open driver door and enter vehicle.



06 Close driver door.



07 Turn key to ON position.



08 Press and release BRAKE pedal.



09 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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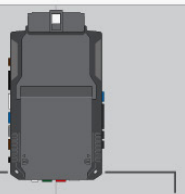
Troubleshooting Charts

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.