INSTALLATION GUIDE | DS3+ / DS4+

2018 Acura ILX (Smart Key). 933.HONDA9 2.03.195.3

This product is intended for installation by a professional installer only! Attempts to install this product by a person other than a trained professional may result in severe damage to a vehicle's electrical system and components.

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Contents

Introduction

This guide provides information on the installation of the **DS3/DS3+** and **DS4/DS4+** modules as a digital solution. Using these modules in a digital configuration require the module to be flashed with vehicle specific firmware. Refer to our website (www.directechs.com) and click on the DIRECTLINK text in the header for additional information.

DS3/DS3+ and **DS4/DS4+** modules provide an all-in-one solution for most modern vehicles, and include remote start, keyless entry, security, and immobilizer bypass capabilities. T-harnesses may also be used in many applications for easy installation.

The following methods are available to configure modules:

- Web: www.directechs.com (**DS3/DS3+** and **DS4/DS4+**)
- Desktop Application: Directlink DT (**DS3/DS3+** and **DS4/DS4+**)
- Mobile Device: Directlink App (**DS4/DS4+** only)

When Flashing via Directlink DT (Desktop app) or via the Web, an XKloader2 will be required.

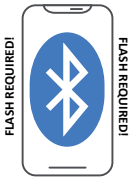
To configure via Web or DirectLink DT (mobile app):

1. Disconnect the main module from any (+) 12V power source.
2. Connect the module to your computer using the XKLoader2.
3. Follow the steps in the pop-up window that will be displayed when the module is detected.

Notes:

- Flashing via web is only possible using Internet Explorer on Windows 8, 8.1, and 10.
- This method is not compatible with any other browser (Edge, Chrome, Firefox, etc.)
- When using Windows 11 or newer, Directlink DT is mandatory.

The **DS4/DS4+** module is designed to be configured using the DirectLink application through mobile devices. To download the DirectLink mobile application, visit the Google Play or Apple store. They can also be configured via Web and DirectLink DT. The **DS4/DS4+** features are built in Bluetooth® 4.0, allowing you to configure and control your system. The **DS3/DS3+** module is not equipped with Bluetooth®, therefore is not compatible with the DirectLink app for mobile devices.



To configure via DirectLink DT (mobile app):

1. Follow and complete the wiring diagram(s) related to your installation through the app.
2. When installation is complete, select **Configure DS4/DS4+**.
3. Follow the on-screen instructions.

Vehicle function compatibilities

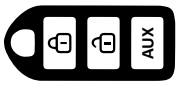
This section lists all the functions compatible with this vehicle for the installation illustrated in this guide.
Note: The telematics features listed below (with an asterisk) ONLY apply when using SmartStart.

- Arm Factory Security
- Disarm Factory Security
- Door Lock Control
- Door Unlock
- Driver Priority Unlock
- Trunk / Hatch Release
- Control of aftermarket alarm with OEM remote
- * Fuel Level
- Key2GO
- * Odometer
- Immobilizer Bypass-Data No Key Req'd
- 3x LOCK START (Start control using OEM Remote)
- 3x LOCK STOP (Stop control using OEM Remote)
- Accessory Activation
- Ignition Activation
- RAP Shut Down (Retained ACC Power)
- Remote Start Takeover
- SmartStart
- Start (Crank) Activation
- Tach / RPM Output
- Entry Monitoring ALL Door Pins
- Entry Monitoring Hood Pin
- Entry Monitoring Trunk/Hatch Pin
- Factory Alarm Trigger Monitoring
- Brake Status (foot brake)
- Door Locks Status
- E-Brake Status
- Ignition Status

Pre-installation and application warnings

This section highlights important information for this specific firmware and will assist in pricing accordingly, as well as bringing awareness to any operational or vehicle limitations.

Compatibilities and Requirements

T-Harness compatible 	**Yes** ☒ –	THHON9 - with vehicle takeover OR THHON1 - without vehicle takeover		**Keys required for programming**	**1**	**Keys required for operation** **0**
Vehicle Takeover	**Yes** ☒ –	Refer to the **Quick Reference Guide** section for more details.				

Firmware notes

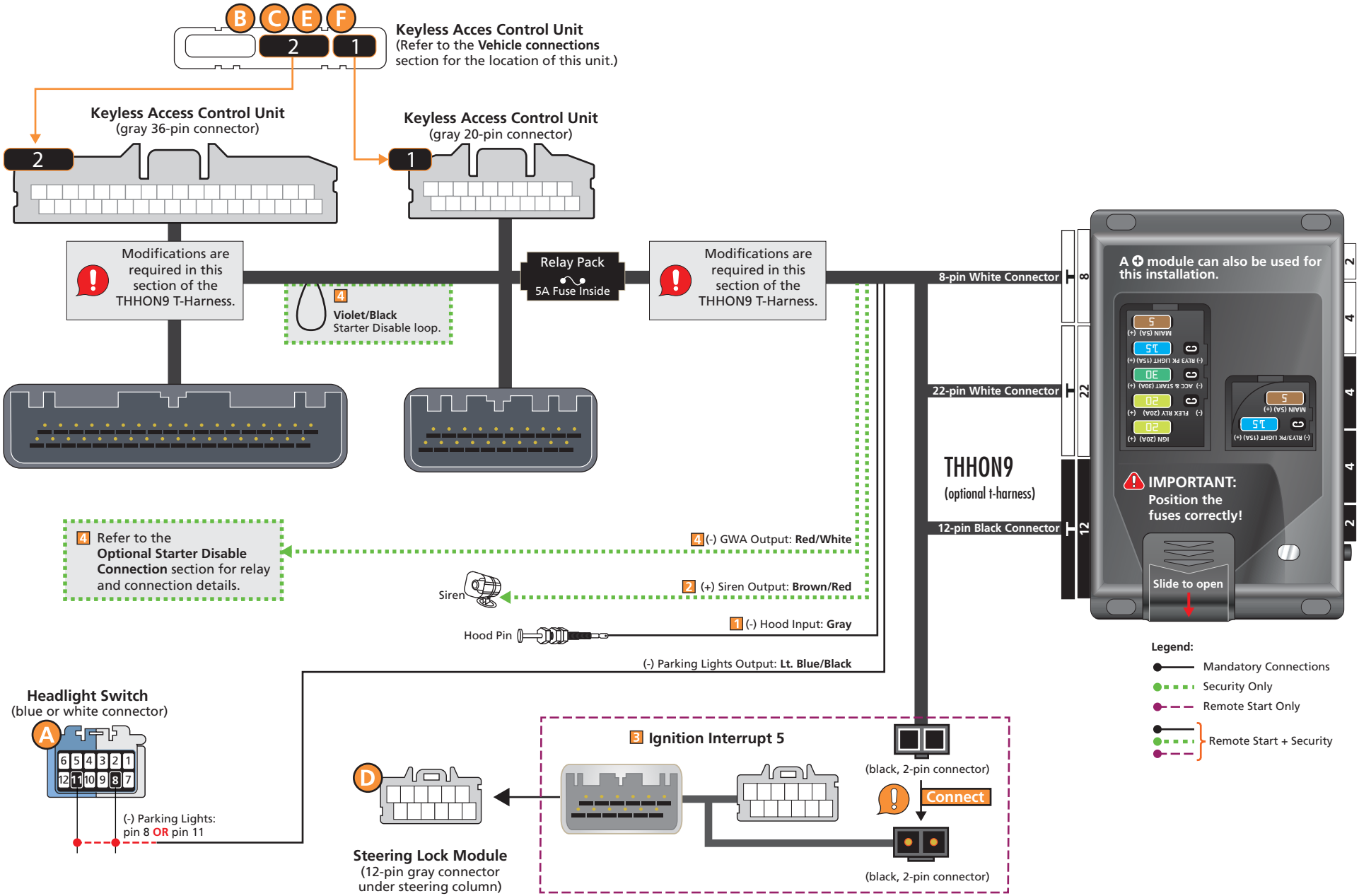
- **IMPORTANT: Do NOT turn vehicle ignition ON with ANY vehicle connectors disconnected, including during module programming. Failure to do so may result with errors in the instrument cluster or hidden error messages.**
- **IMPORTANT:** Modifications to the THHON9 are required. Refer to the THHON9 T-Harness modification section for proper use of the THHON9 T-Harness for steps and connection details.
- The optional Plug & Play **THHON9 & THHON1** T-Harnesses are sold separately.
- All T-Harness wires NOT listed in the diagram are NOT required for the installation. Loose wires such as Siren Output and Hood Input may need to be pulled from the tapped section of the T-harness. Refer to the "wiring diagram with T-Harness" for more information on connections and installation instructions.
- Key2GO may be required if the interface does not program using the traditional method. Refer to the "Module programming" section for more information.
- All connectors are displayed from the wire side (unless specified otherwise).
- It is important to check that the fuses are positioned correctly in the module. Proper fuse positioning is displayed on each wiring diagram.
- Refer to the "Vehicle connections" following the installation diagram.

Footnotes 1 2 3

[1] The installation of an aftermarket hood pin is ONLY required on vehicles that are NOT equipped with a factory hood pin or NOT supported in data.
[2] The siren is only required when enabling the security features during module flashing.
[3] The steering lock connection is ONLY required if the connector is present in the vehicle.
[4] For Security only installations, refer to the "Optional starter disable connection" section.
[5] When using an external relay, use a 1N4002 diode or larger. Directed Part No. 8616 Mini Relays must be used for this connection. Refer to the "8616 wire and color reference" on the installation diagram.
[6] The PTS wire is mandatory in vehicles equipped with a manual transmission; otherwise it is ONLY required for Pit Stop/Idle mode shutdown.

Wiring diagram with T-Harness (THHON9) with Vehicle Takeover

- Modifications to the THHON9 are required. Refer to the ***THHON9 T-Harness modifications*** section for proper use of the THHON9 T-Harness for steps and connection details.
- Refer to "Pre-installation and application warnings" for important information, such as the description of each special note referenced in the diagram (1 2 3).



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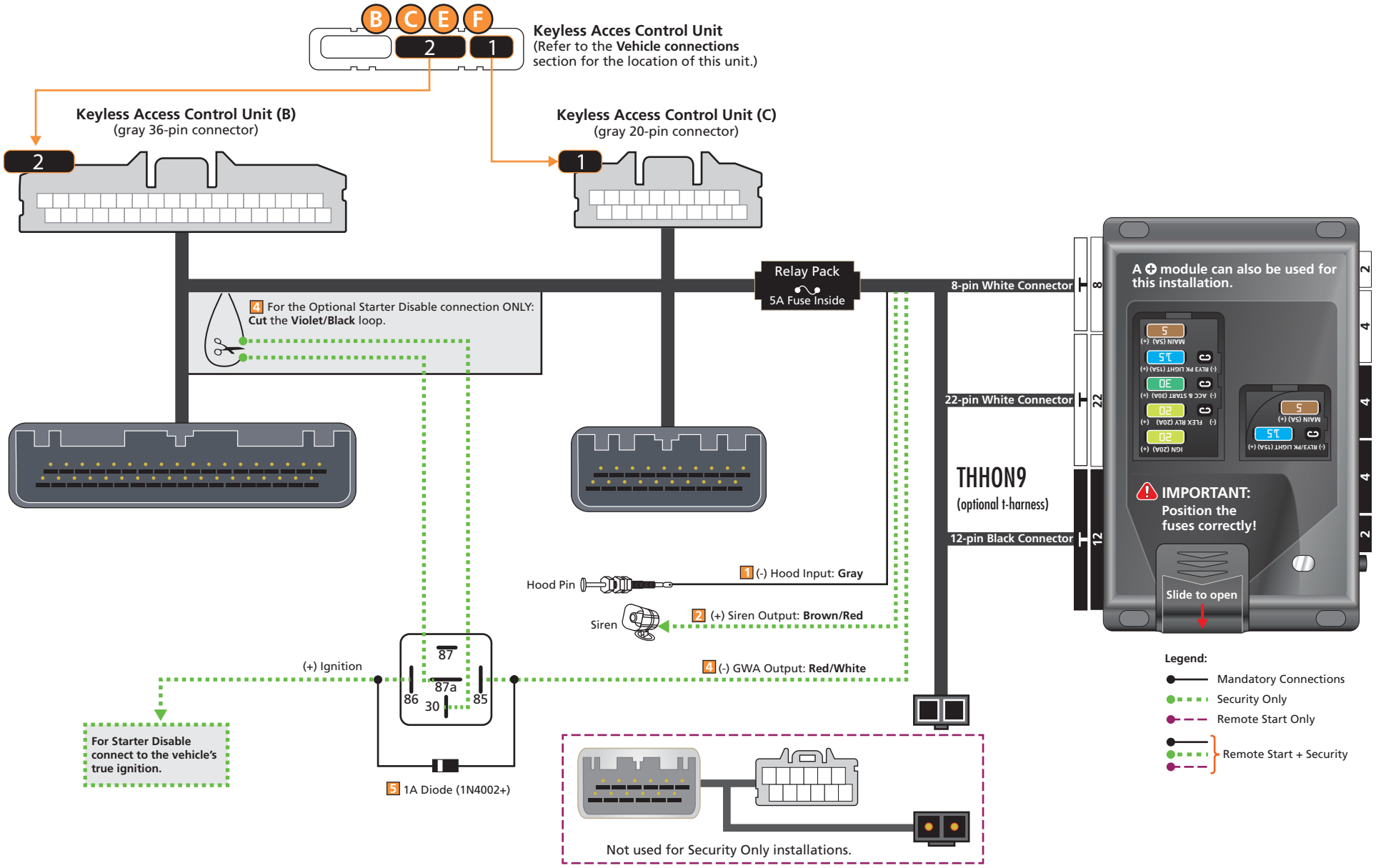
Optional starter disable connection with T-Harness (THHON9) with Vehicle Takeover

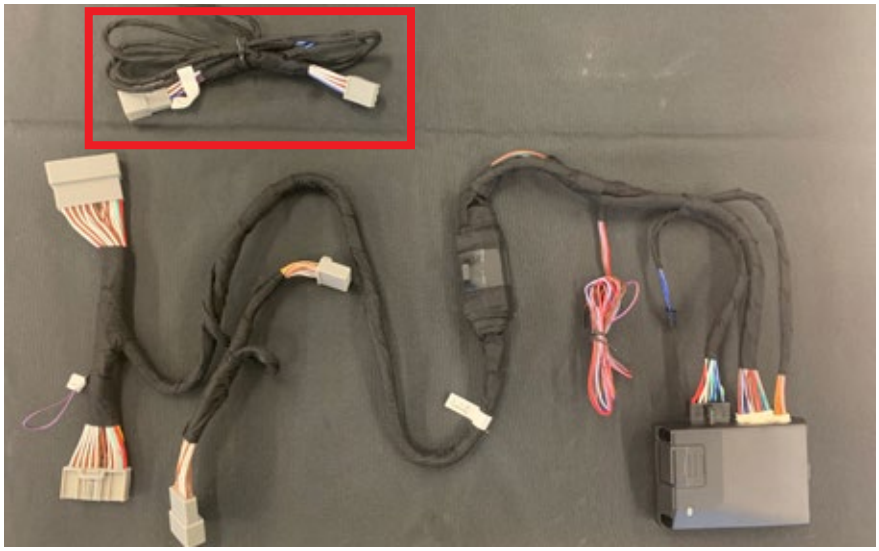
Refer to "Pre-installation and application warnings" for important information, such as the description of each special note referenced in the diagram (1 2 3).



THHON9 T-Harness modifications

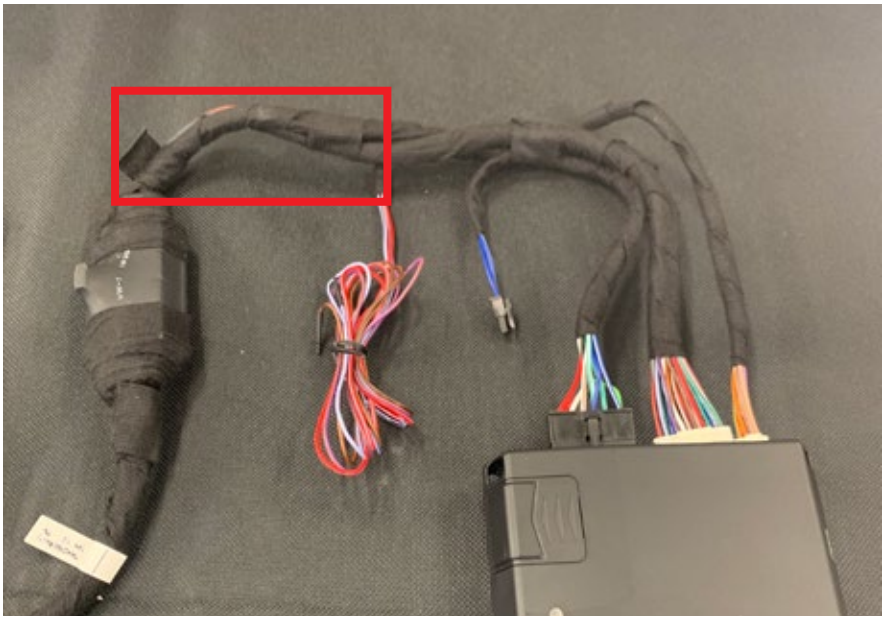
IMPORTANT: The following modifications **MUST** be done before connecting it to the vehicle.
Required: **THHON9** T-Harness

Note: The small gray connector shown highlighted in **red** does not require any modifications.



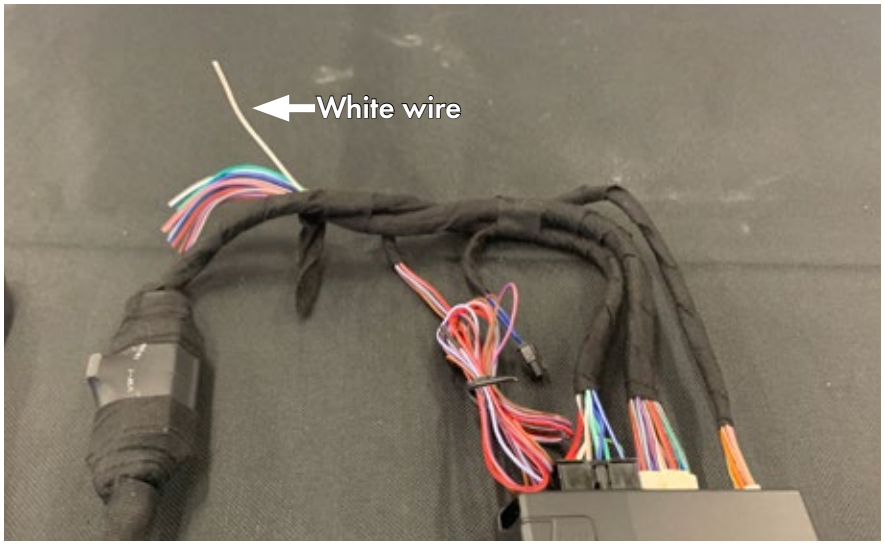
Step 1

Remove the cloth tape near the relay pack to expose additional wiring.



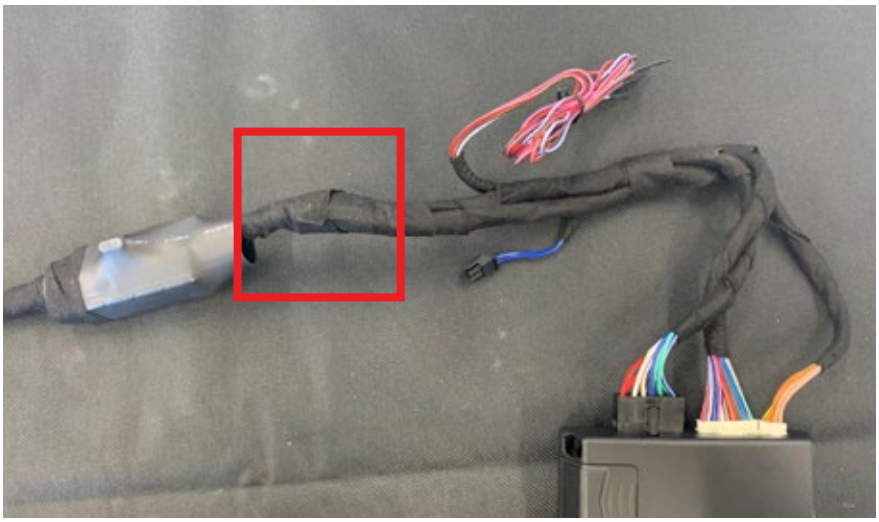
Step 2

Identify the White wire in the exposed wire section of the **THHON9** T-Harness shown below and pull out the White wire.



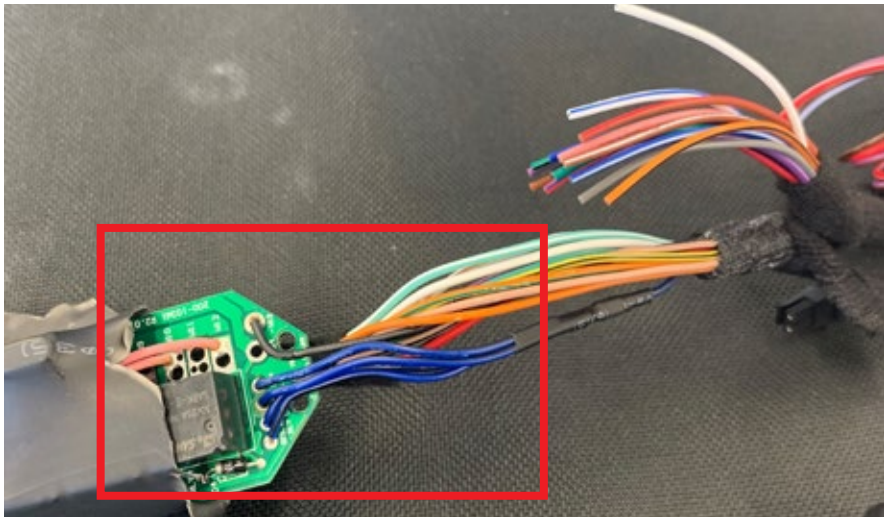
Step 3

Remove the cloth tape on the relay pack.



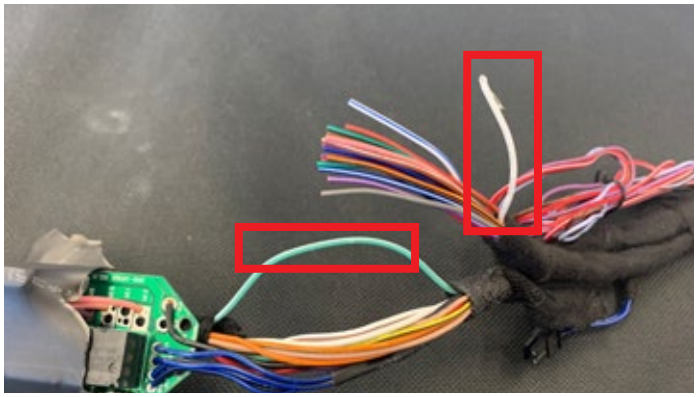
Step 4

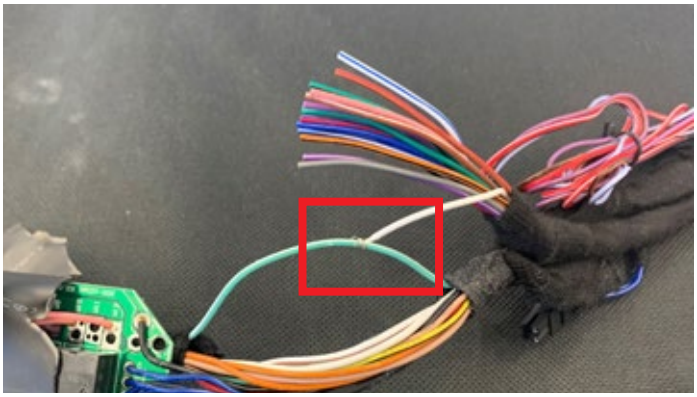
Remove part of the shrink wrap on the relay pack, as well as the tie wrap and cloth tape to expose additional wiring.



Step 5

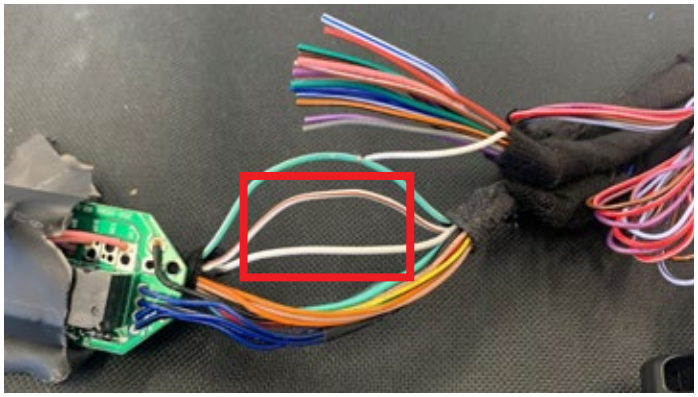
Pinpoint the Lt. Green/White wire in the exposed section. **Connect** the loose White wire to the loose Lt. Green/White wire.

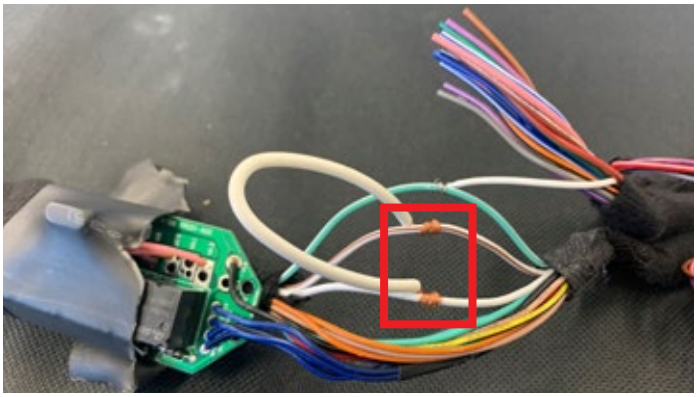




Step 6

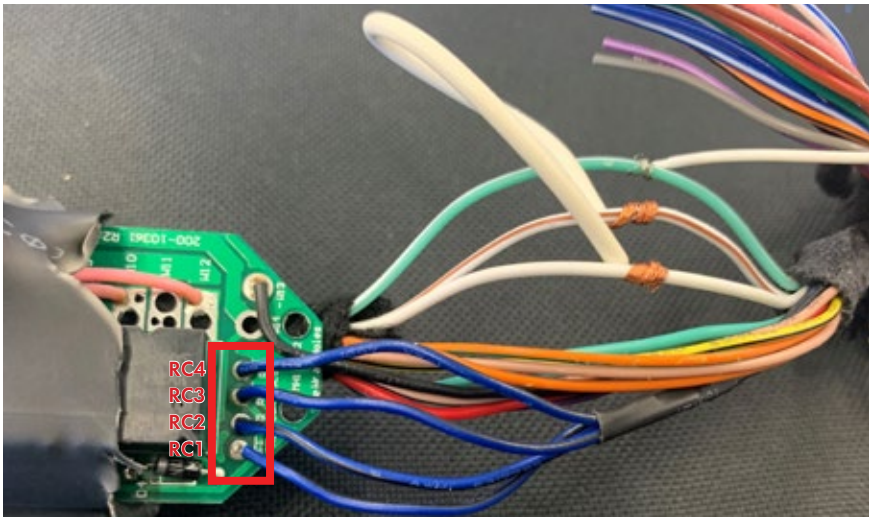
Identify the exposed White and White/Brown wires and connect them together as shown.





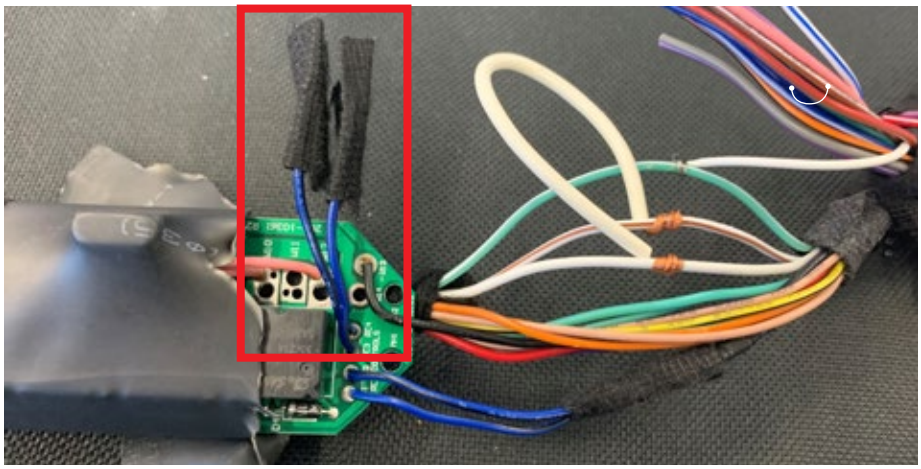
Step 7

Identify the four (4) Dk. Blue/Black wires on the PCB labeled **RC1, RC2, RC3** and **RC4.**



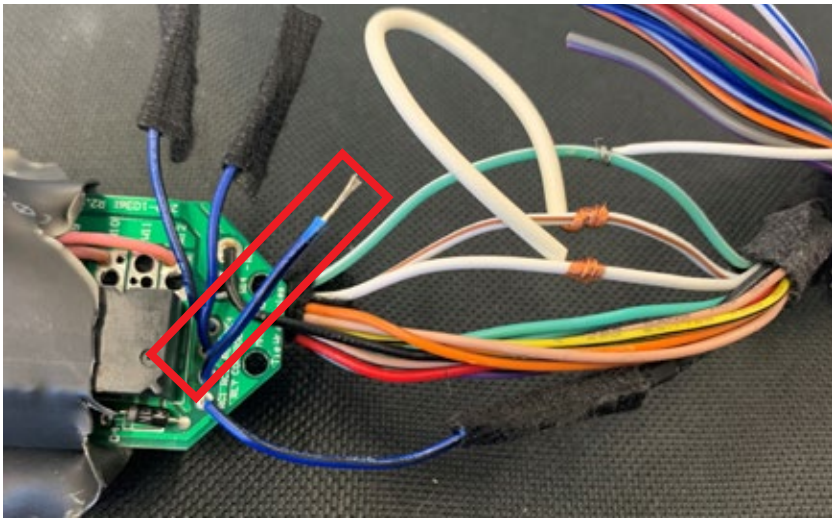
Step 8

Cut the Dk. Blue/Black wires labeled **RC3 & RC4**, then isolate them as they are no longer needed.



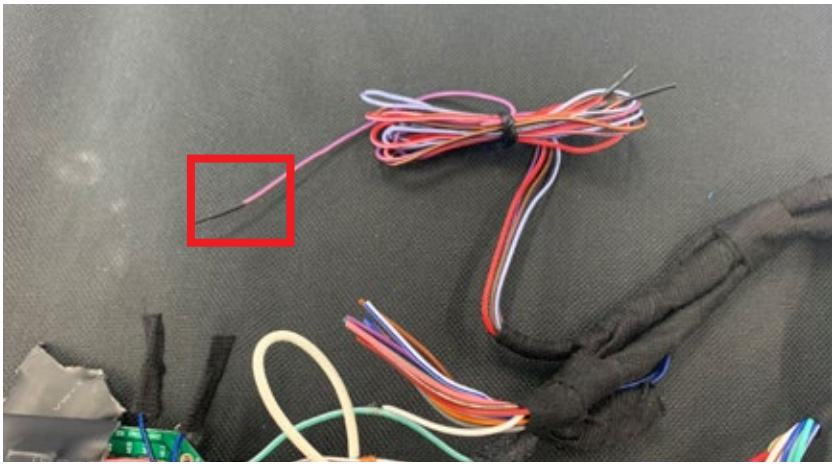
Step 9

Identify and **cut** the Dk. Blue/Black wire on the PCB labeled **RC2**.



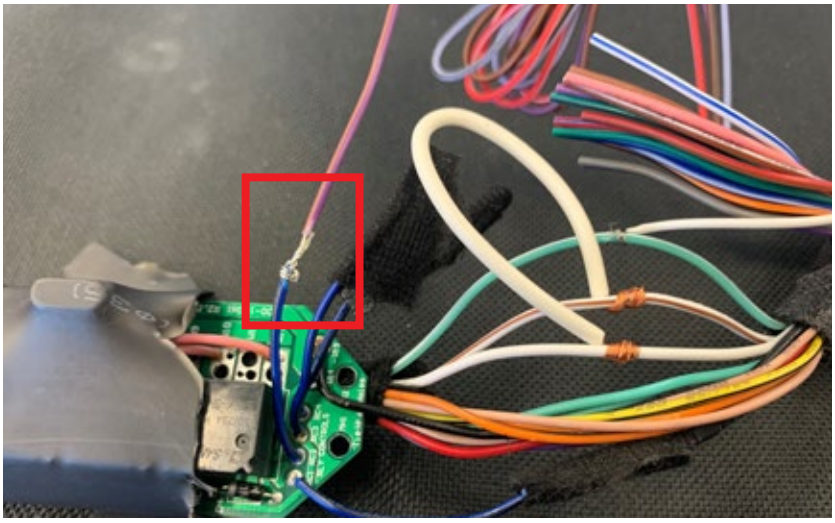
Step 10

Pinpoint the loose Violet/Brown MUX wire of the **THHON9** T-Harness.



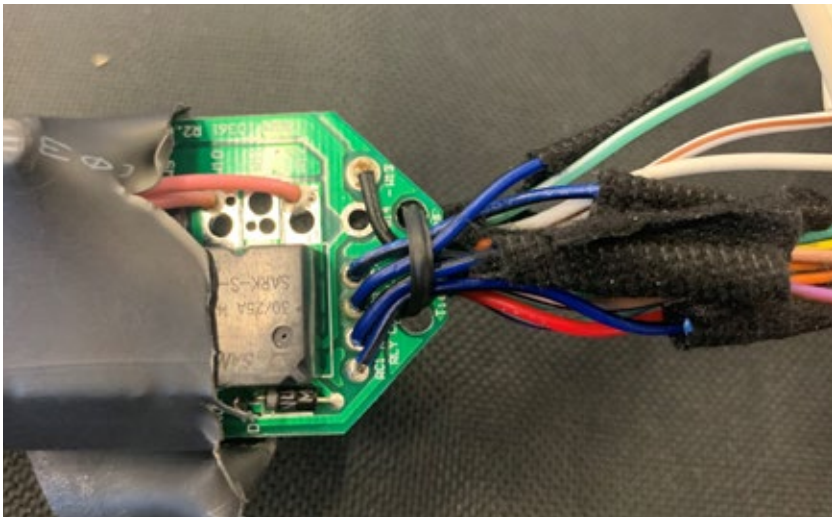
Step 11

Connect the Violet/Brown MUX wire to the Dk. Blue/Black wire labeled **RC2** as shown.



Step 12

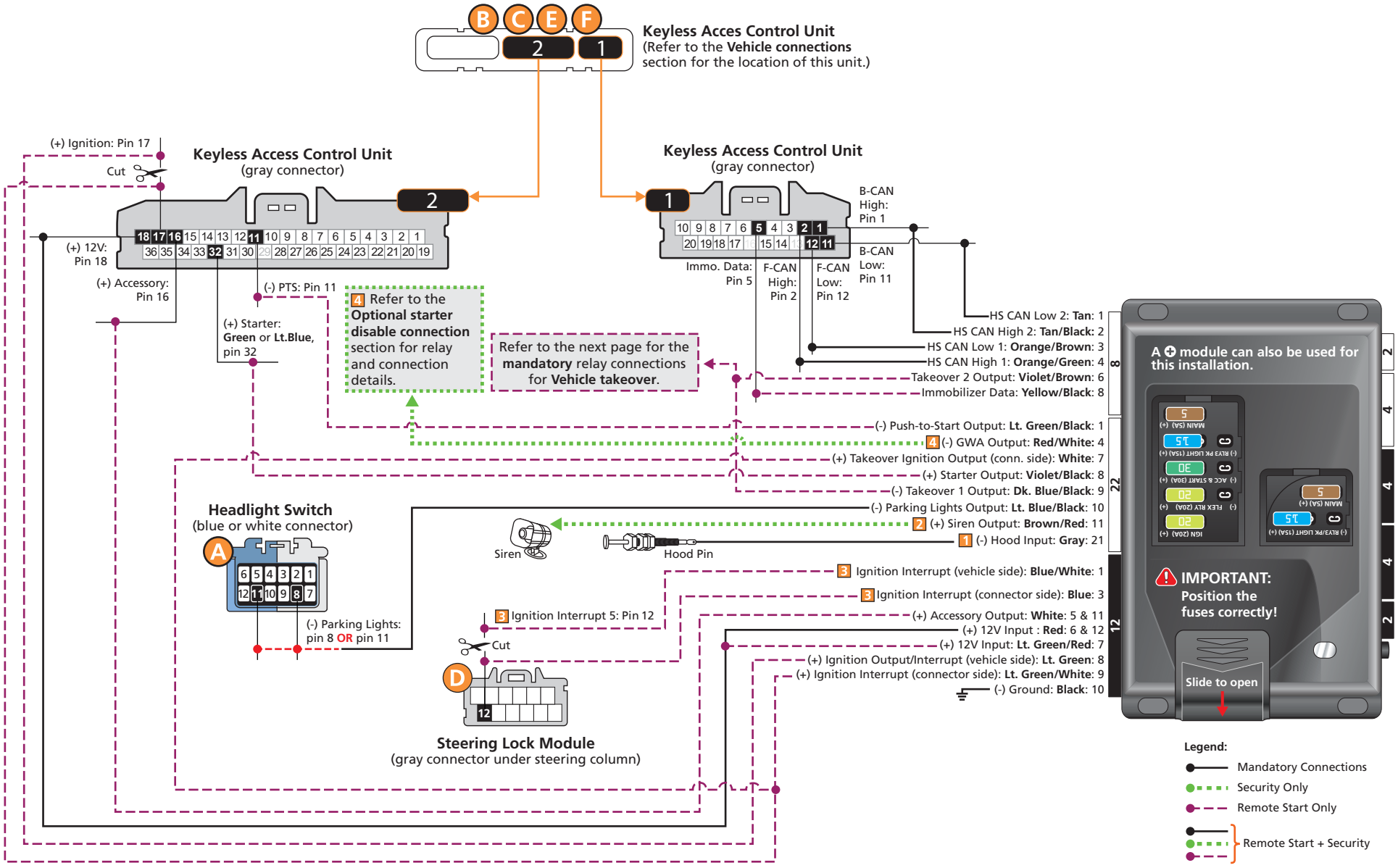
Place a new tie wrap and ensure all connections are well taped and secure.



IMPORTANT! Ensure that all connections are done properly and taped.

Wiring diagram with Vehicle Takeover

Refer to "Pre-installation and application warnings" for important information, such as the description of each special note referenced in the diagram (1 2 3).



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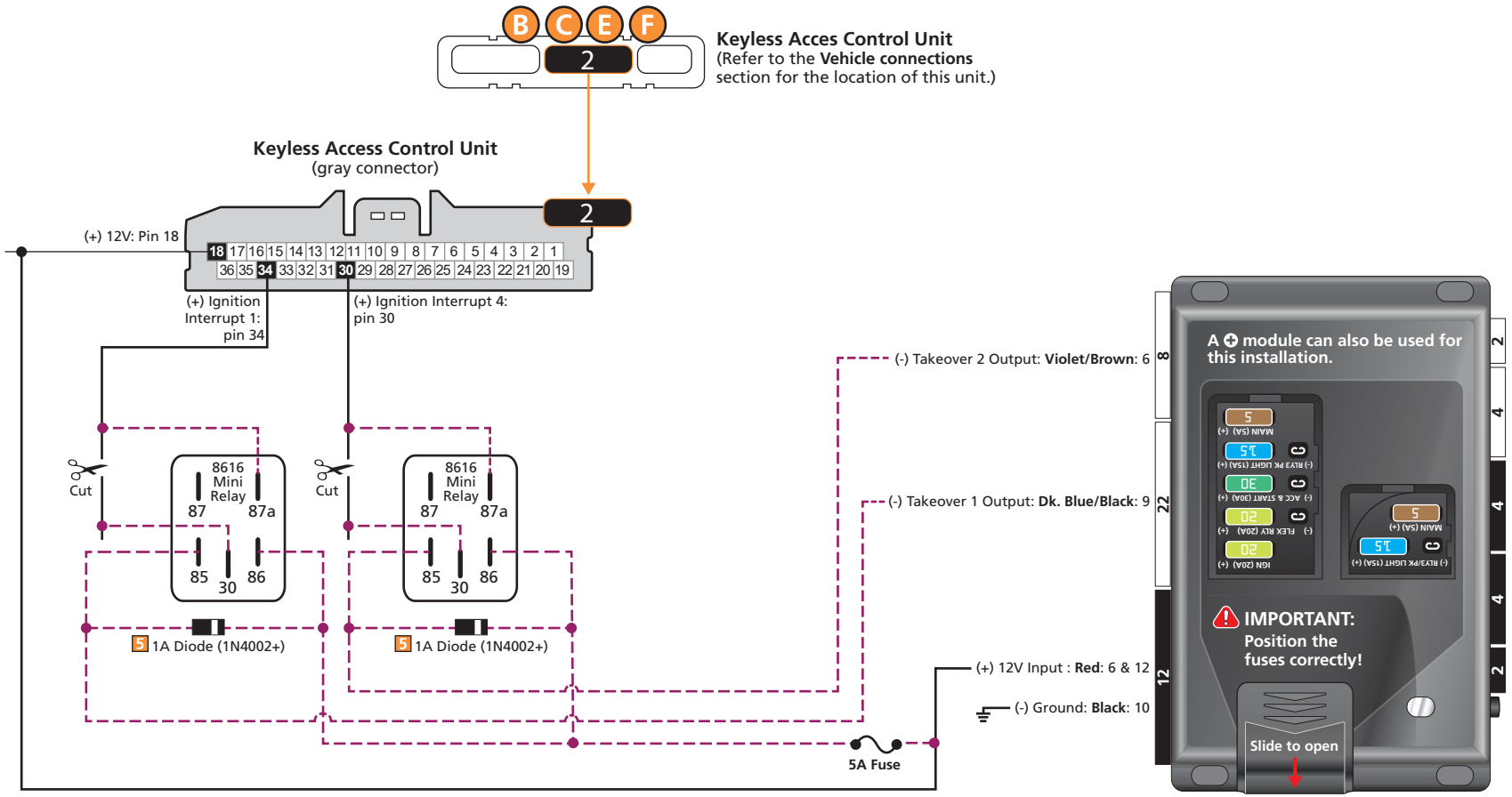
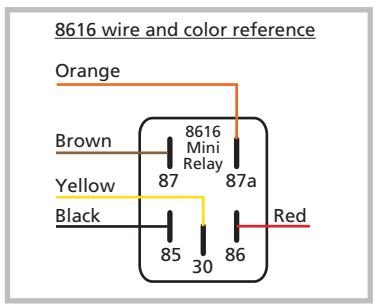
Vehicle takeover additional connections

- Hardwire installations - required for takeover. For T-Harness installations, **DO NOT** make connections on this diagram, they have relays built-in.
- Refer to "Pre-installation and application warnings" for important information, such as the description of each special note referenced in the diagram (1 2 3).





Legend:

- Mandatory Connections
- Security Only
- Remote Start Only
- Remote Start + Security

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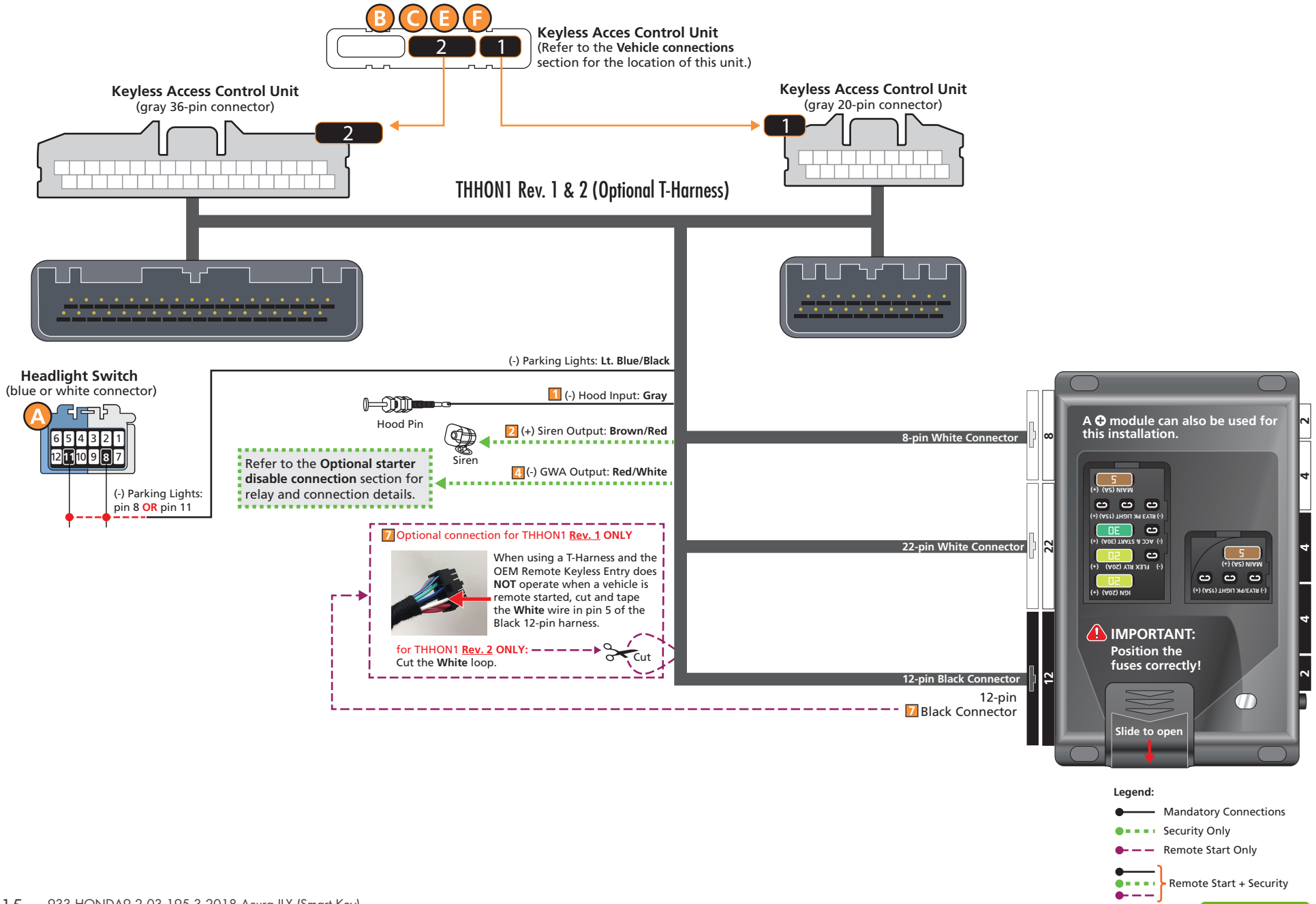
Wiring diagram with T-Harness (THHON1 Rev. 1 & 2) without Vehicle Takeover

Refer to "Pre-installation and application warnings" for important information, such as the description of each special note referenced in the diagram (1 2 3).



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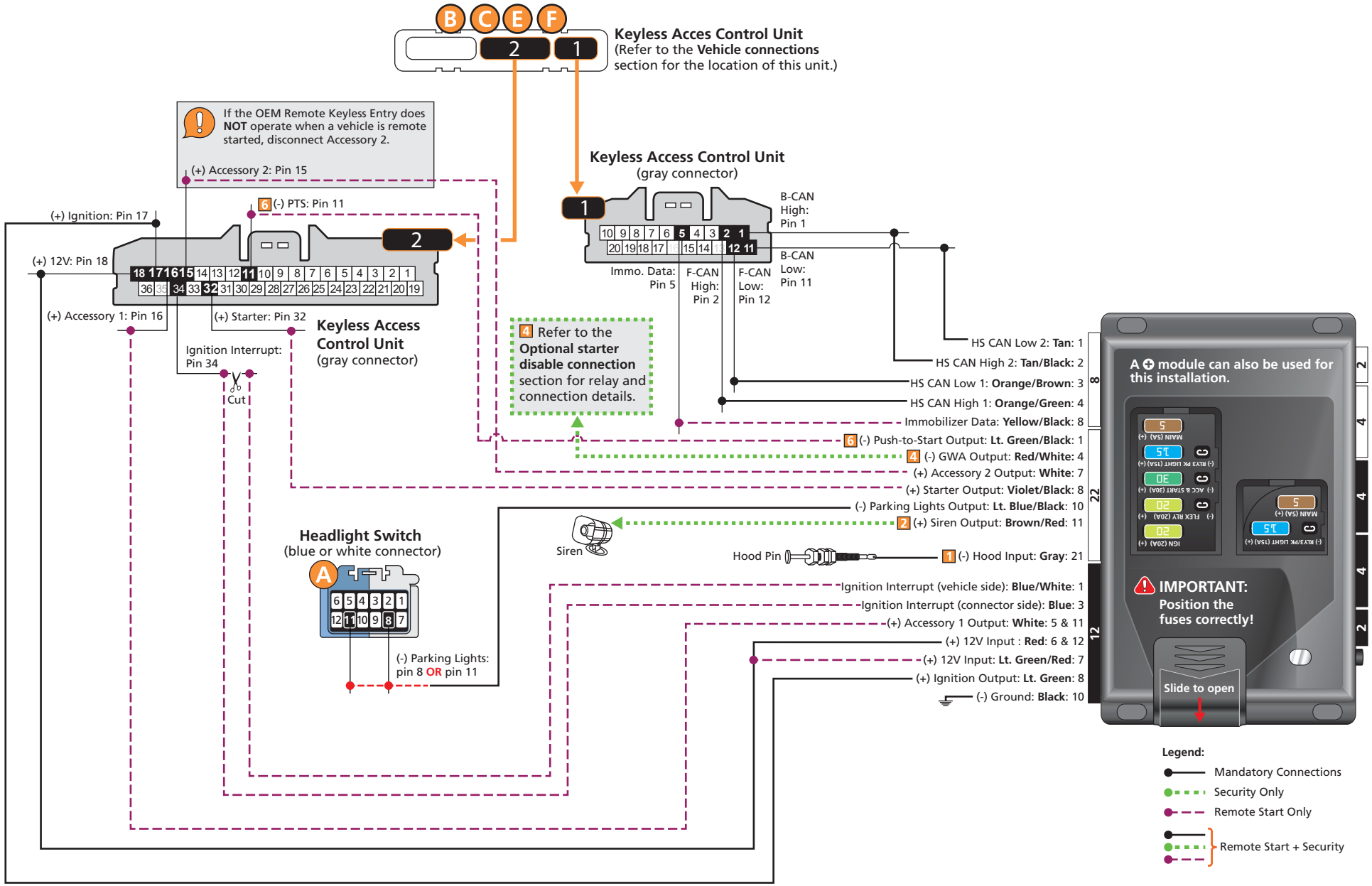
Wiring diagram without Vehicle Takeover

Refer to "Pre-installation and application warnings" for important information, such as the description of each special note referenced in the diagram (1 2 3).



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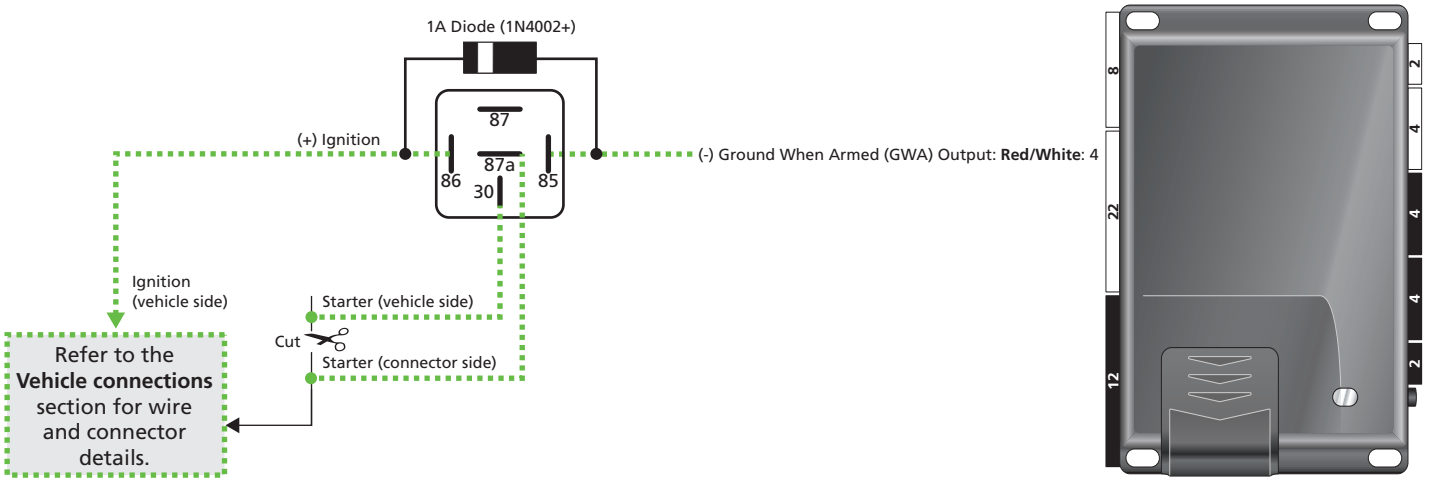
Locating components in the vehicle

Vehicle	Keyless Access Control Unit Location
Acura ILX (Smart Key) 2016-2020	E right of steering column
Acura MDX (Smart Key) 2014-2020	B above glove box
Acura RDX (Smart Key) 2016-2018	E right of steering column
Acura RLX (Smart Key) 2016-2018	F left of steering column
Acura TLX (Smart Key) 2015-2020	B above glove box

Vehicle	Keyless Access Control Unit Location
Honda Fit (Smart Key) 2015-2020	C behind instrument cluster
Honda HR-V (Smart Key) 2016-2021	C behind instrument cluster
Honda Odyssey (Smart Key) 2014-2017	E above gas pedal
Honda Pilot (Smart Key) 2016-2020	B above glove box
Honda Ridgeline (Smart Key) 2017-2019	B above glove box

Optional starter disable connection

⚠ When using an external relay, use a 1N4002 diode or larger.



Important! When flashing your module for Security Only, the Ground When Armed (GWA) function is pre-configured. When flashing your module for Remote Start & Security, you must manually assign the designated output to Anti Grind (AG) Starter Kill. (Applicable to CORE 194+.)

Vehicle connections

The connection information listed below is specific to the 2018 Acura ILX (Smart Key). Refer to "Pre-installation and application warnings" for a list of important notes.

Data harness, 8-pin white connector (H1)

Module			Connects To			
Conn./Pin	**Color**	**Description**	**Wire Location**	**(+/-)**	**Wire Color**	**Connection**
H1/1	Tan	(Data) HS CAN Low 2	Keyless Access Control Unit right of steering column, gray 20 pin plug, pin 11	Data	Blue (B-CAN)	Mandatory
H1/2	Tan/Black	(Data) HS CAN High 2	Keyless Access Control Unit right of steering column, gray 20 pin plug, pin 1	Data	Pink (B-CAN)	Mandatory
H1/3	Orange/Brown	(Data) HS CAN Low 1	Keyless Access Control Unit right of steering column, gray 20 pin plug, pin 12	Data	Red (F-CAN)	Mandatory
H1/4	Orange/Green	(Data) HS CAN High 1	Keyless Access Control Unit right of steering column, gray 20 pin plug, pin 2	Data	White (F-CAN)	Mandatory
H1/5	Lt. Green	No Connection	No Connection			
H1/6	Violet/Brown	(-) Takeover 2 Output - Required for installations with vehicle takeover ONLY.	Must use (2) 8616 mini relays. Must use (2) 1N4002 diode or larger. 5A fuse to 12V. Keyless Access Control Unit right of steering column, gray 36 pin plug, pin 30	Cut	Red	Remote Start Only
H1/7	Orange/Black	No Connection	No Connection			
H1/8	Yellow/Black	(Data) Immo. Data	Keyless Access Control Unit right of steering column, gray 20 pin plug, pin 5	Data	Gray	Remote Start Only

Analog input/output harness, 22-pin white connector (H2)

Module			Connects To			
Conn./Pin	**Color**	**Description**	**Wire Location**	**(+/-)**	**Wire Color**	**Connection**
H2/1	Lt. Green/Black	(-) PTS Output [6]	Keyless Access Control Unit right of steering column, gray 36 pin plug, pin 11	-	Green	Remote Start Only
H2/2	Blue/White	(-) Clutch Activation Output	No Connection			
H2/3	Dk. Green/Black	(-) Lock Output	No Connection			
H2/4	Red/White	(-) Ground When Armed (GWA) Output [4]	Starter: Keyless Access Control Unit right of steering column, gray 36 pin plug, pin 32 Ignition: Keyless Access Control Unit right of steering column, gray 36 pin plug, pin 17 Must use a relay. Must use a 1N4002 diode or larger.	+ +	Yellow White	Security Only
H2/5	*Brown/Black*	*(-) Horn Output*	*Horn Switch-Clock Spring or Dash Fuse Box, white 38 pin plug (C), pin 35*	-	*Orange to Pink*	*Optional*
H2/6	Brown/White	(-) AUX 1 Output	No Connection			

Module			Connects To			
Conn./Pin	**Color**	**Description**	**Wire Location**	**(+/-)**	**Wire Color**	**Connection**
H2/7	White	(+) Takeover Ignition Output or (+) Accessory 2 Output	- Required for installations with vehicle takeover ONLY. Keyless Access Control Unit right of steering column, gray 36 pin plug, pin 17 - Required for installations without vehicle takeover ONLY. Keyless Access Control Unit right of steering column, gray 36 pin plug, pin 15	+ +	White Violet	Remote Start Only
H2/8	Violet/Black	(+) Starter Output	Keyless Access Control Unit right of steering column, gray 36 pin plug, pin 32	+	Yellow	Remote Start Only
H2/9	Dk. Blue/Black	(MUX) Takeover 2 Output - Required for installations with vehicle takeover ONLY.	Must use (2) 8616 mini relays. Must use (2) 1N4002 diode or larger. 5A fuse to 12V. Keyless Access Control Unit right of steering column, gray 36 pin plug, pin 34	Cut	Yellow	Remote Start Only
H2/10	Lt. Blue/Black	(-) Parking Light Output	Headlight Switch, white 12 pin plug, pin 8	-	Gray	Mandatory
H2/11	*Brown/Red*	*(+) Siren Output [2]*				*Security Only*
H2/12	Pink	(+) Ignition Sense Input	No Connection			
H2/13	Violet	(+) Door Trigger Input	No Connection			
H2/14	Brown	(+) Brake Input	No Connection			
H2/15	White/Blue	(-) Activation Input	No Connection			
H2/16	Red/Blue	(-) Headlight Detection Input	No Connection			
H2/17	Black/White	(-) E-Brake Input	No Connection			
H2/18	Orange/Black	(+) Instant Trigger Input	No Connection			
H2/19	Blue	(-) Trunk Trigger Input	No Connection			
H2/20	Green	(-) Door Trigger Input	No Connection			
H2/21	*Gray*	*(-) Hood Switch Input [1]*				
H2/22	Violet/White	(AC) Tach Input	No Connection			

Main harness, 12-pin black connector (H3)

Module			Connects To			
Conn./Pin	**Color**	**Description**	**Wire Location**	**(+/-)**	**Wire Color**	**Connection**
H3/1	Blue/White	Relay N.C. Ignition Interrupt (vehicle side) [3]	Required for installations with vehicle takeover ONLY. Steering Lock Module under steering column, gray 12 pin plug, pin 12 Required for installations without vehicle takeover ONLY. Keyless Access Control Unit right of steering column, gray 36 pin plug, pin 34	Cut Cut	Yellow (if equipped) Yellow	Remote Start Only
H3/2	Blue/Red	Relay N.O. No Connection	No Connection			
H3/3	Blue	Relay COM Ignition Interrupt (conn. side) [3]	Required for installations with vehicle takeover ONLY. Steering Lock Module under steering column, gray 12 pin plug, pin 12 Required for installations without vehicle takeover ONLY. Keyless Access Control Unit right of steering column, gray 36 pin plug, pin 34	Cut Cut	Yellow (if equipped) Yellow	Remote Start Only

Module			Connects To			
Conn./Pin	Color	Description	Wire Location	(+/-)	Wire Color	Connection
H3/4	White/Brown	Relay N.C. (+) Accessory Interrupt 1 (connector side)	No Connection			
H3/5	White	Relay COM (+) Accessory Output	Keyless Access Control Unit right of steering column, gray 36 pin plug, pin 16	+	Gray	Remote Start Only
H3/6	Red	(+) 12 Volt Input	Keyless Access Control Unit right of steering column, gray 36 pin plug, pin 18	+	Green (10A)	Mandatory
H3/7	Lt. Green/Red	Relay N.O. (+) 12 Volt Input	Keyless Access Control Unit right of steering column, gray 36 pin plug, pin 18	+	Green (10A)	Remote Start Only
H3/8	Lt. Green	Relay COM (+) Ignition Output/Interrupt (vehicle side)	Keyless Access Control Unit right of steering column, gray 36 pin plug, pin 17	+	White	Mandatory
H3/9	Lt. Green/White	Relay N.C. Ignition Interrupt (conn. side)	Keyless Access Control Unit right of steering column, gray 36 pin plug, pin 17 Required for installations with vehicle takeover ONLY.	+	White	Remote Start Only
H3/10	Black	(-) Ground			(chassis ground)	Mandatory
H3/11	White	Relay COM (+) Accessory Output	Keyless Access Control Unit right of steering column, gray 36 pin plug, pin 16	+	Gray	Remote Start Only
H3/12	Red	(+) 12 Volt Input	Keyless Access Control Unit right of steering column, gray 36 pin plug, pin 18	+	Green (10A)	Mandatory

Relay harness, 10-pin white connector (H4)

Module			Connects To			
Conn./Pin	Color	Description	Wire Location	(+/-)	Wire Color	Connection
H4/1	N/A	No Connection	No Connection			
H4/2	Red/Black	(+) 12 Volt Input	No Connection			
H4/3	Pink/Black	Flex Relay (pin 87a)	No Connection			
H4/4	Pink/White	(+) Flex Relay Output	No Connection			
H4/5	Red	(+) 12 Volt Input	No Connection			
H4/6	Green	Starter Input (conn. side)	No Connection			
H4/7	Violet	(+) Starter Output (vehicle side)	No Connection			
H4/8	Orange	(+) Accessory Output	No Connection			
H4/9	Red/White	(+) 12 Volt Input	No Connection			
H4/10	Pink	(+) Ignition Input/Output	No Connection			

RF Port harness, 2-pin white connector (H5)

Module		
Conn./Pin	Color	Description
H5/1	N/A	RF Loop
H5/2	N/A	RF Loop

D2D harness, 4-pin white (1) and black (2) connectors (H6)

Module		
Conn./Pin	**Color**	**Description**
H6/1	Blue	(Data) TX
H6/2	Black	(-) Ground
H6/3	Green	(Data) RX
H6/4	Red	(+) 12 Volt

Temperature sensor harness, 2-pin black connector (H7)

Module			Connects To			
Conn./Pin	**Color**	**Description**	**Wire Location**	**(+/-)**	**Wire Color**	**Connection**
H7/1	*Black*	*Temperature Sensor*				
H7/2	*Black*	*Temperature Sensor*				

Module programming

Refer to "LED diagnostics and troubleshooting" for more information and for troubleshooting purposes.

(For skip transponder programming or security-only programming, see following pages.)

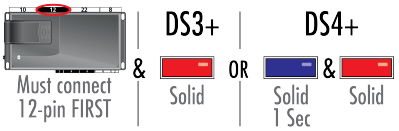
1 IMPORTANT!
The vehicle battery must be in good condition and fully charged for successful programming. A battery charger may be connected during programming if necessary.

2 Ensure vehicle is in a safe location, and cannot move forward during programming. For vehicles equipped with a manual transmission, make sure the gearshift is in the neutral position.

3 Connect the 12-pin main power harness to the module.

DS3+: Wait until the LED turns on solid red then proceed to the next step.

DS4+: The LED turns ON solid blue for 1 second to confirm Bluetooth communication. Wait until the LED turns ON solid red, then proceed to the next step.



4 Connect the remaining harnesses to the module.

5 Press twice (2) on the Push-to-Start (PTS) button to turn the ignition ON. The LED flashes orange quickly for approximately 5 seconds, then flashes green (may flash green for 30-60 seconds).

Note: If the LED flashes red 3 or 4 times after the initial 30-60 seconds, wait an extra 30 seconds.

6 If the LED starts flashing orange slowly, Key2GO programming will be required for your vehicle.

Press the PTS button once (1) more to turn ignition OFF, remove the module from the vehicle, and reconnect it to your computer. The web site will automatically recognize that you are moving onto the second phase of the programming sequence. Proceed to step 6.

If however, the LED turns ON solid green for 3 seconds, then shuts OFF, press the PTS button once (1) more to turn the ignition OFF. The programming sequence was successfully completed.

7 Click on Submit Key2GO Request.

8 Once the configuration is completed, reconnect the module.
The LED turns ON solid green for 3 seconds, then shuts OFF.

If however, the LED returns to flashing orange slowly, perform a soft reset on the module. When the LED turns solid red, start the vehicle. The LED will turn ON solid green for 3 seconds then shuts off.

9 Pair remotes (if applicable).

10 DATA/Hardwired Tach Learning: When using Data Tach, it is recommended to follow the Tach Learning procedure; however, when using a Hardwired Tach, the procedure is mandatory.
For more information, refer to the Tach Learning procedure section.

* Your aftermarket remote may differ from the model shown in the illustrations.For information on how to pair a specific remote, please refer to its corresponding owner documentation, which can be found inside the product packaging of the complete system or on www.directechs.com.

You have successfully completed the module programming sequence.

Module programming for convenience features only (skip transponder programming)

⚠ Refer to "LED diagnostics and troubleshooting" for more information and for troubleshooting purposes.

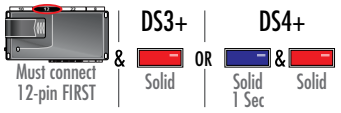
To connect the module:

1 Ensure vehicle is in a safe location and cannot move forward during programming. For vehicles equipped with a manual transmission, make sure the gearshift is in the neutral position.

2 Connect the 12-pin main power harness to the module.

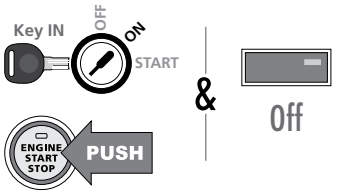
DS3+: Wait until the LED turns on solid red then proceed to the next step.

DS4+: The LED turns ON solid blue for 1 second to confirm Bluetooth communication. Wait until the LED turns on solid red, then proceed to the next step.



3 Connect remaining harnesses to the module then press the programming button five (x5) times. The LED turns ON solid orange.

4 Turn ignition ON and wait until the LED turns OFF.



5 Turn ignition OFF.

6 Pair remotes (if applicable).

* Your aftermarket remote may differ from the model shown in the illustrations. For information on how to pair a specific remote, please refer to its corresponding owner documentation, which can be found inside the product packaging of the complete system or on www.directechs.com.

You have successfully completed the module programming sequence.

Module programming for security-only installations

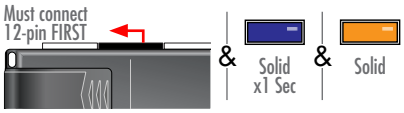
⚠ Refer to "LED diagnostics and troubleshooting" for more information and for troubleshooting purposes.

To connect the module:

1 Please **ensure** that the vehicle is in a safe location and cannot move forward during programming. For vehicles equipped with a manual transmission, make sure the gearshift lever is in the neutral position.

2 **Connect** the 12-pin main power harness to the DS4+ module **FIRST**. The LED will turn ON solid blue for 1 second to confirm Bluetooth communication.

Wait until the LED turns ON solid orange before proceeding to the next step.



3 **Connect** the remaining harnesses to the DS4+ module.

4 **Press** twice on the Push-to-Start (PTS) button to turn the ignition ON, and **wait** until the LED turns OFF.

5 **Press** once more on the PTS button to turn the ignition OFF.

6 **Pair** remotes (if applicable). For information on how to pair a specific remote, please refer to its corresponding owner documentation, which can be found inside the product packaging of the complete system or on www.directechs.com.*

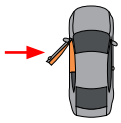
* Your aftermarket remote may differ from the model shown in the illustrations.

You have successfully completed the module programming sequence.

Pairing Remotes

To enter pairing:

1. **Open** the driver side door.

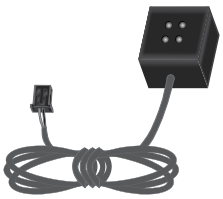


2. **Turn** the vehicle ignition to the ON position.
   OR
   Press the PTS button to turn the ignition ON.
   * The number of times the PTS button is pressed depends on the vehicle.

3. Within 10 seconds, **press** and **release** <u>once</u>, and then **press** and **hold** the programming button on the Control Center (antenna) or the LED/Valet Pod (standalone switch) until the LED starts flashing then **release** the button.
   * Your antenna may differ from the model shown in the illustration.

Note: Connected devices become registered within 4 to 6 seconds.

8556T Temperature Sensor



The 8556T Temperature Sensor is optional, but included with your DS3+/DS4+ module.

When used, the Temperature Sensor must be plugged into the 2-pin black connector of your module.

Note: When the system is configured as a remote starter, the temperature is reported by the 8556T Temperature Sensor. When security features are enabled, it is reported by the 8504D Combo Sensor.

8504D Combo Sensor

The 8504D Combo Sensor is optional, but included with the purchase of a DS4SU security package.

The Combo Sensor is preset for the majority of applications; however, it can be adjusted using the DirectLink application, as well as a compatible LED or LCD remote. Please refer to the instructions included with the DS4SU for more information on how to make adjustments.

Note: When the system is configured as a remote starter, the temperature is reported by the 8556T Temperature Sensor. When security features are enabled, it is reported by the 8504D Combo Sensor.
IMPORTANT: The Combo Sensor must be paired to the device before it can be used.

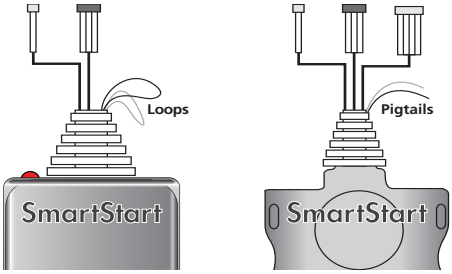
RF Systems

An RF System consists of one or multiple remotes, a Control Center (antenna), and an antenna cable – various combinations exist. An RF System allows the vehicle owner to control the system with enhanced range. Two-way models are available. Please follow the instructions included with the kit for appropriate installation and programming information.

When used in conjunction with Directed SmartStart®

To enable D2D communication between the DS3+/DS4+ and the Directed SmartStart® one of the following actions must be performed before providing power to the Directed SmartStart® unit:

SmartStart with **Loops** – The brown loop must be cut.
SmartStart with **Pigtails** – The gray wire must be connected to a ground source.



DO NOT connect the Directed SmartStart® 2-pin power harness when using the DS3+/DS4+. Power and ground will be provided by the D2D connector on the module. Refer to the Directed SmartStart® documentation for further details.

D2D port configuration

Caution! Do not connect the Control Center (antenna) or any digital sensors (8504D) to the white D2D1 port.

The white D2D1 port is reserved ONLY for SmartStart, Module flashing or 3rd Party bypass. The two black D2D2 ports are reserved for the Control Center (antenna) and digital sensors (8504D).

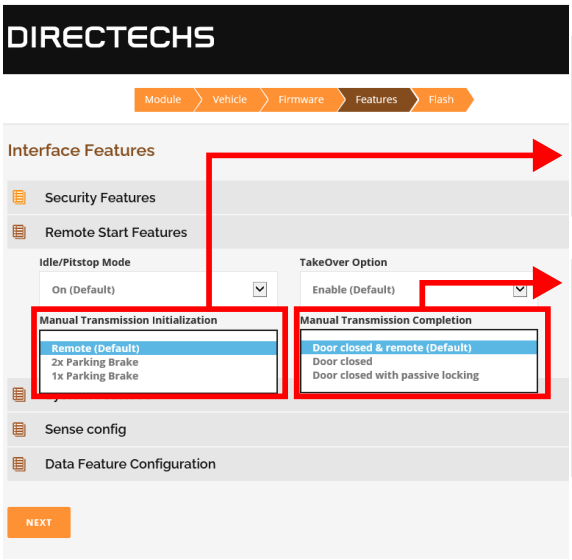
Manual Transmission

IMPORTANT! Directed does not approve nor support installations of manual transmission and remote starts on any electronic vehicles (EV), OEM Remote Start Activation firmware, vehicles with convertibles and/or removable tops, including but not limited to Jeep Wrangler, Honda S2000, Mazda Miata, and other such vehicles.

⚠ This system supports manual transmission installations.
Refer to "Directwire" section at www.directechs.com for further information on vehicle-specific wiring connections.

When flashing the module for Manual Transmission on the Directechs website:

1. In the **Remote Start Features** section, select the desired configurations for **Manual Transmission Initialization** & **Manual Transmission Completion**.



Manual Transmission Initialization
Sets how the manual transmission sequence is initialized

Feature visible to	Installer
Remote (Default)	With foot on brake, set e-brake, remove foot brake, press ANY button on Directed remote. Ready mode is activated. Parking lights will flash 5 times confirming.
2x Parking Brake	With foot on brake, setting the parking brake ON, OFF, ON within 10 seconds then removing foot brake will initialize the manual transmission ready mode. Parking lights will flash 5 times confirming.
1x Parking Brake	With foot on brake, setting the parking brake ON then removing foot brake will initialize the manual transmission ready mode. Parking lights will flash 5 times confirming.

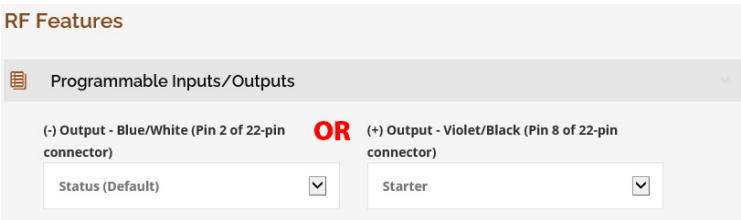
Manual Transmission Completion
Sets how the manual transmission sequence is ended.

Feature visible to	Installer
Door closed & Remote (Default)	To complete the manual ready mode sequence and shut down the remote start, turn off the ignition (engine stays running), exit the vehicle with your keys, shut all doors and press lock on the Directed remote.
Door closed with passive locking	To complete the manual ready mode sequence and shut down the remote start, turn off the ignition (engine stays running), exit the vehicle with your keys, 8 seconds after the last door is closed, the remote starter will shut down, the door will automatically lock and the system will arm at the same time.
Door closed	To complete the manual ready mode sequence and shut down the remote start, turn off the ignition (engine stays running), exit the vehicle with your keys, 8 seconds after the last door is closed, the remote starter will shut down. Doors will stay unlocked.

Note 1: For PTS vehicle specific instructions, please see the bottom of the "Vehicle Specific Install Guide" for manual transmission sequence procedures.

Note 2: The trunk input trigger is considered a "door" for manual ready mode. If trunk or any other door is opened, manual transmission ready mode will be canceled.

2. In addition, if no Clutch Output is pre-configured in the firmware, an output can be configured when flashing the module under the **Programmable Input/Output** section. Use any available positive (+) or negative (-) outputs depending on the polarity of the clutch switch listed on Directwire, set it to **Starter**.



3. **Note**: A Relay may be required depending on your vehicle.

   See Tech Tips 10000 - Clutch Bypass for Remote Start - https://directechs.blob.core.windows.net/techtips/10000.pdf

4. Additional connections may be required if these functions are not supported by the firmware.

Connection	Description
(-) E-Brake Status Input (Black/White, pin 17)	Must be connected to a working emergency brake in the vehicle. Although most vehicles have simple (-) trigger emergency brake circuits note some vehicles do not and may require unique integration methodologies.
(-) Door Trigger Input (Green, pin 20) OR (+) Door Input (Violet, pin 13)	Must be connected to a working door trigger in the vehicle, which monitors all doors. The unit must monitor the door pins to allow the Ready Mode process to be enabled. **Note**: Some vehicles may require unique integration methodologies for this circuit. For more information, refer to www.directechs.com.
(AC) Tachometer Input (Violet/White, pin 22)	Must be connected to a working tachometer signal in the vehicle (fuel injector, ignition coil, true tach, etc.) and learned successfully to the DS4+.

See Tech Tips 10001 - https://directechs.blob.core.windows.net/techtips/10001.pdf

LED diagnostics and troubleshooting

This section provides LED diagnostics and troubleshooting information to guide you through the various stages of your installation.

Module Programming

LED	Description	Troubleshooting
Off	Module has no power.	Make sure the D2D harness is connected and that 12 Volt is present between the red and black wires. If 12 Volt is present, the module may be defective.
Solid blue	Confirmation of Bluetooth communication (Applicable to DS4/DS4+ ONLY).	Normal operation.
Solid red	Waiting to begin the programming sequence.	Ensure the correct programming procedure is being followed.
Flashes green & red	Initialization failed.	Reset the module and complete the programming again. If the issue persists, please contact Technical Support.
Solid orange	Transponder functions were skipped.	(If compatible) when RXT mode is not desired or convenience features are needed, please reset the and reprogram the module.
Flashes green	All required CAN networks has been detected.	Normal operation.
Flashes orange	1 of 2 CAN networks has been detected.	Normal operation.
Flashes orange slowly	Key2GO initiated.	Please follow the steps indicated in "Module programming" to complete the Key2GO programming.
Solid green x 3 secs	Module was successfully programmed with all functions.	Normal operation.
Solid orange x 3 secs	Module was successfully programmed without transponder functions.	Normal operation.

Analog Error Codes

LED	Description	Troubleshooting
Flashes red, green & orange	DEI feature error.	A feature config file mismatch was detected. Please contact Technical Support.

Module Programming - Error codes

LED	Description	Troubleshooting
Flashes red x 1	CAN2 not detected.	Check the CAN2 Orange/Green and Orange/Brown wire connections. Wake up the data bus by turning the ignition on and try again. If your installation does not require this connection, skip this step by pressing the programming button 5 times.
Flashes red x 1	J1850 not detected.	Check the J1850 wire connection. Wake up the data bus by turning the ignition on and try again.
Flashes red x 2	CAN1 not detected.	Check the CAN1 Tan and Tan/Black wire connections. Wake up the data bus by turning the ignition on and try again. If your installation does not require this connection, skip this step by pressing the programming button 5 times.
Flashes red x 3	Bypass data not detected.	Check the bypass line connection. If more than one wire is used, make sure they are not inverted. Ensure the vehicle still operates correctly using the factory key.
Flashes red x 4	Bypass processing error.	The bypass calculation failed. Reset the module and try again. If the condition persists, please contact Technical Support.
Flashes red x 5	ISO 1 not detected.	The Yellow/Black wire did not detect the expected signal. Refer to "Installation (wiring diagrams & vehicle wiring reference charts)" to check the connections.
Flashes red x 6	ISO 2 not detected.	The Orange/Black wire did not detect the expected signal. Refer to "Installation (wiring diagrams & vehicle wiring reference charts)" to check the connections.
Flashes red x 7	MUX not detected.	The Violet/Green or Violet/Brown wire did not detect the expected voltage value. Refer to "Installation (wiring diagrams & vehicle wiring reference charts)" to check the connections.

External Module Synchronization

LED	Description	Troubleshooting
(Flashes red, red, then orange) x 10	OBDII feature not supported.	The diagnostic data bus was not detected, therefore the SmartStart features will be limited.

Active Ground When Running (Status)

LED	Description	Troubleshooting
Flashes green	Ground When Running (Status) command received.	The module has initialized the remote start sequence.
Flashes red & orange	Ignition ON command received.	The module has received the Ignition ON command and is processing the remote start sequence.
Flashes green quickly	Start ON command received.	The module has received the Start ON command and is processing the remote start sequence.
Flashes red x 10	PTS shutdown error.	The PTS output from the module was not activated due to safety protection.
Flashes red x 21	CAN bus incorrectly detected.	Verify the CAN1 and CAN2 connections. Refer to "Installation (wiring diagrams & vehicle wiring reference charts)" to check the connections.

Commands

LED	Description	Troubleshooting
Flashes orange x 1	LOCK command received.	If the bypass module fails to flash, it did not receive the signal. Commands can come from RF or D2D.
Flashes orange x 2	UNLOCK command received.	If the bypass module fails to flash, it did not receive the signal. Commands can come from RF or D2D.
Flashes orange x 3	TRUNK command received.	If the bypass module fails to flash, it did not receive the signal. Commands can come from RF or D2D.
Flashes orange x 4	AUX1 command received.	If the bypass module fails to flash, it did not receive the signal. Commands can come from RF or D2D.
Flashes orange x 5	AUX2 command received.	If the bypass module fails to flash, it did not receive the signal. Commands can come from RF or D2D.
Flashes orange x 6	AUX3 command received.	If the bypass module fails to flash, it did not receive the signal. Commands can come from RF or D2D.

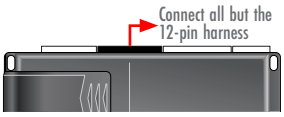
Shutdown Codes

LED	Description	Troubleshooting
Flashes green x 1	Takeover successful.	Normal operation.
Flashes red x 1	Runsafe was not disabled.	No UNLOCK command was received prior to opening the door, or the 45 second timer expired in takeover mode.
Flashes red x 2	Brake was not detected.	The brakes were not detected, which prevents the system from shutting down the vehicle.
Flashes red x 3	Smart key was not detected.	The smart key was not detected, which prevents the system from shutting down the vehicle.
Flashes red x 4	Speed was detected.	The vehicle was detected as moving, which prevents the system from shutting it down.

Soft reset

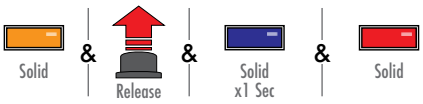
A module reset will only erase the steps perfomed in “Module Programming”. The firmware and settings flashed to the module will not be affected.

1 If required for your installation, **connect** all the harnesses to the module, **EXCEPT** the 12-pin main power harness. **Press** and **hold** the programming button, then **connect** the 12-pin harness to the module.



2 **DS3+: Wait** 3 seconds until the LED turns ON solid orange then **release** the programming button.
The LED turns ON solid red.

DS4+: **Wait** 3 seconds until the LED turns ON solid orange then **release** the programming button.
The LED turns ON blue for 1 second then solid red.

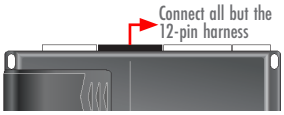


Hard reset

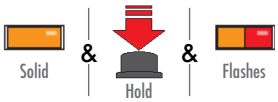
Warning Against Executing a Hard Reset!

A hard reset will revert the flashed firmware back to its default factory settings. Depending on the installation, some settings may need to be reconfigured. Connect your module to a computer and use the web configuration tool to edit its programmable features.

1 If required for your installation, **connect** all the harnesses to the module, **EXCEPT** the 12-pin main power harness. **Press** and **hold** the programming button, then **connect** the 12-pin harness to the module.

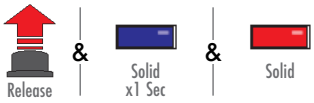


2 After 3 seconds the LED turns ON solid orange. **Keep holding** the programming button until the LED flashes red, then orange slowly.



3 **DS3+**: **Release** the programming button. The LED turns solid red.

DS4+: Release the programming button. The LED turns ON blue for 1 second then solid red.



Tach learning procedure (not needed with Virtual Tach)

Data Tach: The procedure is not required as the tach comes preprogrammed. However, it is strongly recommended to learn the exact value of the vehicle for the most consistent and reliable starting and functionality.

Hardwired Tach: The procedure is required.

Before starting the procedure: In the *Data Sense* settings menu, if using Data Tach, ensure the *Sense Tach Status* option is set to **On** or **Enabled**. If using Hardwired Tach, ensure the option is set to **Off** or **Disabled**.

To perform the Tach Learning procedure:

1. Start the vehicle using the key.
2. Within 5 seconds, press and hold the Control Center (antenna) or Valet Pod button until the LED turns on Solid. OR Within 5 seconds press and hold the IPB (integrated programming button) on the main module, until the LED turns ON solid green.
3. Release the button. Tachometer value is now stored in memory.

If the LED does not turn ON solid, find an alternate tach source.

Note: When the tachometer is programmed, the main module automatically enters the Tachometer engine checking mode.

Initializing Virtual Tach (not needed with hardwired or data tach applications)

To program Virtual Tach:

1. After the install is complete, remote start the engine. The programming operation may require 3 cranks of the starter before the engine starts and runs. Do not turn off the remote start if this happens, it is a normal programming operation.
2. Once the engine begins running, let it run for at least 30 seconds.
3. Using the Remote, send the Remote start command to turn remote start off.

Virtual Tach is programmed. To reset Virtual Tach, a hard or soft module reset must be done.

Note:

- After successfully learning Virtual Tach, a small minority of vehicle starters may over crank or under crank during remote start. Use the VirtualTach Fine tune feature, in the configuration wizard, to adjust the starter output time in 50ms increments to compensate for such an occurrence.
- Virtual Tach can disengage the starter motor during remote starting; however, it does not address over-rev. If the customer requests the over-rev protection capability, the tach wire or data tach must be used.
- Virtual Tach cannot be used in Manual Transmission Mode. It is also not recommended for diesel vehicles.
- To reset Virtual Tach, a hard or soft module reset must be done.

Hybrid Vehicles

For some Hybrid vehicles without Data Tach, it may be necessary to change the Engine Checking Mode option to the OFF setting and adjust the Cranking Time setting to 2.0 or 4.0 seconds.

CAUTION: When configuring the Engine Checking Mode option to the OFF setting, there is no way to monitor or confirm if the vehicles engine is actually running. Therefore, there is no Over-Rev protection. If the vehicle attempts to remote start, but is unsuccessful, the remote start will keep the ignition on for the entire runtime period.

Limited Lifetime Consumer Warranty

VOXX DEI LLC (the Company) warrants to the original purchaser of this product that should this product or any part thereof, under normal use and conditions, be proven defective in material or workmanship within the Lifetime from the date of original purchase in the original vehicle, such defect(s) will be repaired or replaced with new or reconditioned product, (at the Company's option) without charge for parts or repair labor. A transmitter for a vehicle security or remote start system is warranted for 12 months from the date of original purchase.

To obtain repair or replacement within the terms of this Warranty, the product is to be delivered with proof of warranty coverage (e.g. dated bill of sale), authorization number, specification of defect(s), transportation prepaid, to an approved warranty station. This warranty is not transferable.

This Warranty does not cover damage to the vehicle's electrical system or costs incurred for the installation, removal or reinstallation of the product. This Warranty does not cover batteries, broken LCD transmitter display screens, nor apply to any product or part thereof which, in the opinion of the Company, has suffered or been damaged through alteration, improper installation, mishandling, misuse, abuse, neglect, accident, or by removal or defacement of the factory serial number/ bar code label(s).

This Warranty is in lieu of all other express warranties or liabilities. ANY IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, SHALL BE LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. ANY ACTION FOR BREACH OF ANY WARRANTY HEREUNDER INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY MUST BE BROUGHT WITHIN A PERIOD OF 24 MONTHS FROM DATE OF ORIGINAL PURCHASE. IN NO CASE SHALL THE COMPANY BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY. No person or representative is authorized to assume for the Company any liability other than expressed herein in connection with the sale of this product.

The company does not warrant that this product cannot be compromised or circumvented. THE EXTENT OF THE COMPANY'S LIABILITY UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT PROVIDED ABOVE AND, IN NO EVENT, SHALL THE COMPANY'S LIABILITY EXCEED THE PURCHASE PRICE PAID BY PURCHASER FOR THE PRODUCT WITHOUT INSTALLATION LABOR.

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damage so the above limitations or exclusions may not apply to you. This Warranty gives you specific legal rights and you may also have other rights which vary from state to state.

VOXX DEI LLC, 2351 J. Lawson Blvd., Orlando, Florida 32824

Quick Reference Guide (customer copy)

Sending commands to your vehicle

Whether you want to remote start the engine, lock/unlock the doors or pop the trunk, there are 3 possible ways you can send commands to your vehicle, using the:

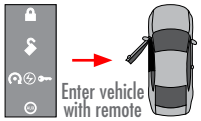
- Factory remote.
- Aftermarket remote.
- Directed SmartStart application via your smartphone.

If applicable, you can also start the engine remotely by pressing the Lock button 3 times quickly on your factory remote.

IMPORTANT! Vehicle takeover is not available on the 2020-2021 Honda CR-V (Smart Key) and 2022 Honda Civic (Smart Key).

The vehicle takeover feature is **NOT** available in this firmware. The vehicle engine will shut down as soon as a door is opened.
Wait at least 2 seconds before restarting the engine or an error message can appear on the vehicle information display.

Vehicle takeover with Get In and Go

1	**Close** the vehicle doors, hood and trunk, then **press** the Remote Start button on the transmitter to start the vehicle.*	
2	**Press** the Unlock button on the factory or aftermarket remote.*	
	Complete the following steps within 45 seconds or the vehicle will shut down.	
3	**Enter** the vehicle, while making sure the factory remote is inside with you.	
4	**Depress** the brake pedal for a minimum of **3 seconds**, **put** the car in gear and **drive** off. For Manual Transmission, **press** and **hold** the clutch first, then depress the brake pedal for a minimum **3 seconds**.	

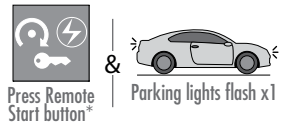
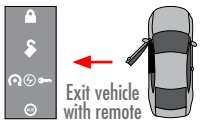
* Icon and remote appearance may differ depending on the model purchased.

Get In and Go

Get In and Go is designed to provide users with easy takeover when entering their Push-to-Start (PTS) equipped vehicle, once it has been remote started.

Typically, users would have to remote start their vehicle, then get inside and press the PTS button to perform a takeover. There is therefore a physical action required to drive away. With Get In and Go, you simply remote start the vehicle, unlock the doors, get in and go... All that's left to do is put the gear in drive and drive off.

Pit stop/idle mode

1	**Stop** the vehicle in a safe parking spot and **put** the gear in Park (P).	
2	**Press** the Remote Start button on the transmitter.* The parking lights will flash once to indicate the vehicle is now in Pit Stop Mode.	
3	It is safe to **leave** the engine running and **exit** the vehicle with the factory remote in hand. **Note**: We recommend that you always **lock** the doors of your vehicle when leaving it unattended.	

* Icon and remote appearance may differ depending on the model purchased.

List of available commands

Note that the information below is for many Viper, Clifford, Python, Avital, Automate, Autostart and AstroStart models. Icons and commands may differ depending on the model and options purchased. Refer to your authorized installation center for more specific information.

Button(s)	Actions
	**Press** & **hold** for 1 second to lock.
	**Press** & **hold** for 1 second to unlock.
 *	**Press** & **hold** for 1 second to remote start.
 *	**Press** & **hold** for 5 seconds to activate the trunk release (optional).

* Icon and remote appearance may differ depending on the model purchased.

SmartStart compatible (applicable to DS4/DS4+ only)

This system is equipped with a Bluetooth version of SmartStart offering up to 200' of range. The simple graphical interface gives you control over the following features of your installed remote start system or security with remote start system:

- Lock/Arm
- Unlock/Disarm
- Remote Car Starter
- Trunk Release
- Panic
- AUX Channels

You can also control multiple vehicles – great for families – and assign more than one user to control a vehicle. It's easy with SmartStart! But, this is only the beginning! SmartStart is loaded with additional features including GPS tracking, SmartSchedule, vehicle status, roadside assistance, parked car finder and more.

The application enables a "Cloud-Connected Car" like never before, providing 2-way interaction with your vehicle. Connectivity is managed through the Directed Cloud Services (DCS) network linking car, app, end user, and the Internet.

For more information, visit www.mysmartstart.com.

Notes