

INSTALLATION GUIDE

DS4+

TL10



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.

2017-10-13

DIRECTED®

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Warning! Safety first

 The following safety warnings must be observed at all times:

- Due to the complexity of this system, installation of this product must only be performed by an authorized Directed dealer.
- When properly installed, this system can start the vehicle via a command signal from the remote control. Therefore, never operate the system in an area that does not have adequate ventilation.

The following precautions are the sole responsibility of the user; however, authorized Directed dealers should:

- Never use a test light or logic probe when installing this unit. Always use a multimeter.
- Never operate the system in an enclosed or partially enclosed area without ventilation (such as a garage).
- **USER MUST INSTALL A CARBON MONOXIDE DETECTOR IN OR ABOUT THE LIVING AREA ADJACENT TO THE VEHICLE. ALL DOORS LEADING FROM ADJACENT LIVING AREAS TO THE ENCLOSED OR PARTIALLY ENCLOSED VEHICLE STORAGE AREA MUST REMAIN CLOSED AT ALL TIMES.**

Use of this product in a manner contrary to its intended mode of operation may result in property damage, personal injury, or death. Except when performing the Safety Check outlined in this installation guide, (1) Never remotely start the vehicle with the vehicle in gear, and (2) Never remotely start the vehicle with the keys in the ignition. The user is responsible for having the neutral safety feature of the vehicle periodically checked, wherein the vehicle must not remotely start while the car is in gear. This testing should be performed by an authorized Directed dealer in accordance with the Safety Check outlined in this product installation guide. If the vehicle starts in gear, cease remote start operation immediately and consult with the user to fix the problem immediately.

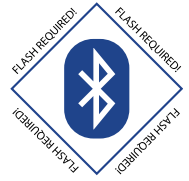
OPERATION OF THE REMOTE START MODULE IF THE VEHICLE STARTS IN GEAR IS CONTRARY TO ITS INTENDED MODE OF OPERATION. OPERATING THE REMOTE START SYSTEM UNDER THESE CONDITIONS MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY. IMMEDIATELY CEASE THE USE OF THE UNIT AND REPAIR OR DISCONNECT THE INSTALLED REMOTE START MODULE. DIRECTED WILL NOT BE HELD RESPONSIBLE OR PAY FOR INSTALLATION OR REINSTALLATION COSTS.

Remote starters for manual transmission pose significant risks if not properly installed and operated. When testing to ensure the installation is working properly, only remote start the vehicle in neutral gear, on a flat surface and with a functional, fully engaged parking brake. Do not allow anyone to stand in front of or behind the vehicle.

This product should not be installed in any convertible vehicles, soft or hard top with a manual transmission. Installation in such vehicles may pose certain risk.

Introduction

The TL10 firmware for DS4+ is compatible with specific Scion and Toyota vehicles. It is a complete solution for remote start, security (when security features are enabled), bypass, and features built in Bluetooth 4.0 allowing you to configure and control your system. This guide provides information on the installation of the module using TL10. Please refer to the DirectLink application or www.directechs.com for more information about which configuration is best for your application.



Warning! This module is designed to be configured using the DirectLink application for mobile devices, however it can also be configured using the web tool located at www.directechs.com. To download the DirectLink mobile application, please visit the Google Play or Apple store.

Pre-installation and application warnings

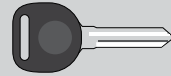
Start here

Firmware notes: 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.

T-Harness compatible



Yes - **THTON3, THTON4, THTON5**



Keys required for programming

1

Keys required for operation

0

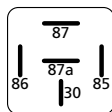
- This guide is compatible with TL10 v2.12+.
- It is important to make sure you **DO NOT** connect the keysense wire in the installation for each of these vehicles or you will encounter issues when attempting to start the vehicle.
- The optional Plug & Play THTON3, THTON4 and THTON5 T-Harnesses are sold separately. Refer to the "Vehicle wiring reference chart" for vehicle and t-harness compatibility.
- The OBDII Diagnostic Connector features will remain the same even when the T-Harness is installed.
- Unless specified otherwise, all connectors are displayed from the wire side, with the exception of the OBDII diagnostic connector.
- 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 wiring reference chart" following each installation type.

General notes: This section highlights important information for this specific firmware.


- [1] The installation of an aftermarket hood pin is **ONLY** required on vehicles that are **NOT** equipped with a factory hood pin.
- [2] The siren is **ONLY** required when enabling the security features during module flashing.
- [3] The Green wire is **ONLY** required for starter disable and antigrind applications.
- [4] Autolight Interrupt connection required only if the vehicle is equipped with automatic headlights.
- [5] SIL Interrupt connection required **ONLY** if the vehicle is equipped with TPMS (Tire Pressure Monitoring System).
- [6] Trunk release connection required when not available through Data.


Additional parts required (maximum required):

 0 x 1A Diodes



0 x Relay

 0 x Resistor

 0 x Fuse

Vehicle application guide

The following table lists the vehicles and features which are compatible with this product. The number assigned to each year allows you to determine which installation type should be used for your vehicle.

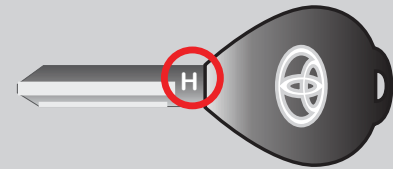
Vehicles	2018	2017	2016	2015	2014	2013	PK-Immobilizer Bypass-Data No Key Req'd	AV-Auto Headlamp Shutoff	AV-Parking Lights Control	DL-Arm Factory Security	DL-Disarm Factory Security	DL-Door Lock Control	DL-Door Unlock	DL-Driver Priority Unlock	DL-Sliding Door Control Driver	DL-Sliding Door Control Passenger	DL-Trunk / Hatch Release	DS4+ Only	FOB-Control of aftermarket alarm with OEM remote	RS-3x LOCK START (Start control using OEM Remote)	RS-Accessory Activation	RS-Ignition Activation	RS-SmartStart	RS-Start (Crank) Activation	RS-Tach / RPM Output	SS-Entry Monitoring ALL Door Pins	SS-Entry Monitoring Hood Pin	SS-Entry Monitoring Trunk/Hatch Pin	SS-Factory Alarm Trigger Monitoring	ST-Brake Status (foot brake)	ST-Door Locks Status	ST-E-Brake Status	ST-Ignition Status	
	Scion																																	
iM (H Key)			1																															
Toyota																																		
Camry (H Key)		15	15	15																														
CH-R (H Key)	14																																	
Corolla (H Key)		8	1	1	1																													
Corolla IM (H Key)		8																																
Highlander (H Key)		13	4	4	4																													
Prius c (H Key)		9	6	6																														
RAV4 (H Key)		7	7	16	16	16																												
Sequoia (H Key)		2	2	2																														
Sienna (H Key)		3	3	3																														
Tacoma (H Key)			10																															
Yaris Hatchback (H Key) W/ OEM Alarm		11	5	5																														
Yaris Hatchback (H Key) W/O OEM Alarm	12	12	6	6																														

- Legend:**
 AV: Horn & Lights Controls
 DL: OE Door Lock & Alarm Controls
 FOB: Sync CAN Interface w/ FOB Remote
 PK: Transponder & Immobilizer Override
 RS: Remote Start & Engine Controls
 SS: Integrated Security & Monitoring
 ST: Function/Feature Status

Key Types

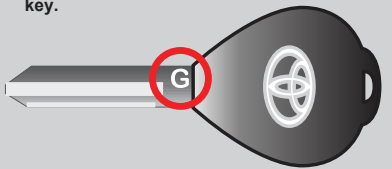
Some Toyota 2010+ models have different encryption types. Please look at your key blade and identify the markings. A "H" means the vehicle is compatible with TL10 firmware. "G" or a dot "." indicates the vehicle is not compatible with this firmware.

H-stamped keys



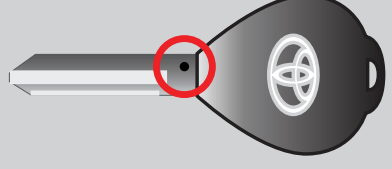
G-stamped keys

⚠ For vehicles with G-stamped key, see the TL7 firmware. TL11 works only with standard key.



Standard Key

⚠ For vehicles with dot-stamped key, see the TL11 firmware. TL11 works only with standard key.



Wiring connections

The wiring connections listed below are specific to this firmware.

Main harness (H1), 12-pin black connector

Conn./Pin	Color	Description
H1/1	Blue/White	Relay 1 N.C. – SIL Interrupt (vehicle side) ¹
H1/2	Blue/Red	Relay 1 N.O. – No Connection ¹
H1/3	Blue	Relay 1 COM – SIL Interrupt (connector side) ¹
H1/4	White/Brown	Relay 3 N.C. – No Connection ¹
H1/5	White	Relay 3 COM – (+) Starter 2 Output ¹
H1/6	Red	(+) 12 Volt (Battery)
H1/7	Lt. Green/Red	Relay 2 N.O. – No Connection ¹
H1/8	Lt. Green	Relay 2 COM – Autolight Interrupt (vehicle side) ¹
H1/9	Lt. Green/White	Relay 2 N.C. – Autolight Interrupt (connector side) ¹
H1/10	Black	(-) Ground
H1/11	White	Relay 3 COM – (+) Starter 2 Output ¹
H1/12	Red	(+) 12 Volt (battery)

Relay harness (H2), 10-pin white connector

Conn./Pin	Color	Description
H2/1	N/A	No Connection
H2/2	Red/Black	(+) 12 Volt Input (Accessory/Starter relay)
H2/3	Pink/Black	Relay N.C. – Flex Relay Isolation ¹
H2/4	Pink/White	Relay COM – Flex Relay Output ¹
H2/5	Red	(+) 12 Volt Input (Ignition relay)
H2/6	Green	Relay COM – (+) Starter Disable (key side) ¹
H2/7	Violet	Relay N.C. – (+) Starter Output (vehicle side) ¹
H2/8	Orange	Relay COM – (+) Accessory Output ¹
H2/9	Red/White	(+) 12 Volt Input (flex relay)
H2/10	Pink	Relay COM – (+) Ignition Output

Data harness (H3), 8-pin white connector

Conn./Pin	Color	Description
H3/1	Tan	HS CAN Low 1
H3/2	Tan/Black	HS CAN High 1
H3/3	Orange/Brown	HS CAN Low 2
H3/4	Orange/Green	HS CAN High 2
H3/5	Lt. Green	No Connection
H3/6	Violet/Brown	No Connection
H3/7	Orange/Black	RDA 2
H3/8	Yellow/Black	SIL Data

1. If these outputs are not used by the firmware, they can be configured by the installer when the module is flashed.

Analog input/output harness (H4), 22-pin white connector

Conn./Pin	Color	Description
H4/1	Lt. Green/Black	(-) Parking Lights Output ¹
H4/2	Blue/White	(-) Ground When Running (status) Output ¹
H4/3	Dk. Green/Black	(-) Lock Output ¹
H4/4	Red/White	(-) Trunk Release Output ¹
H4/5	Brown/Black	(-) Horn Output ¹
H4/6	Brown/White	(-) AUX 1 Output ¹
H4/7	White	(+) AUX 2 Output ¹
H4/8	Violet/Black	(+) AUX 3 Output ¹
H4/9	Dk. Blue/Black	(-) Unlock Output ¹
H4/10	Lt. Blue/Black	(-) Factory Alarm Disarm (FAD) Output ¹
H4/11	Brown/Red	(+) Siren Output ¹
H4/12	Pink	(+) Ignition Sense Input
H4/13	Violet	(+) Door Input ²
H4/14	Brown	(+) Brake Input ²
H4/15	White/Blue	(-) Activation Input ²
H4/16	Red/Blue	(-) Valet Switch ²
H4/17	Black/White	(-) E-Brake Input (manual transmission) ²
H4/18	Orange/Black	(-) Instant Alarm Input ²
H4/19	Blue	(-) Trunk Sense Input ²
H4/20	Green	(-) Door Sense Input ²
H4/21	Gray	(-) Hood Pin Input ²
H4/22	Violet/White	(AC) Tach Input

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

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

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

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 (H7), 2-pin black connector (optional, 8556T)

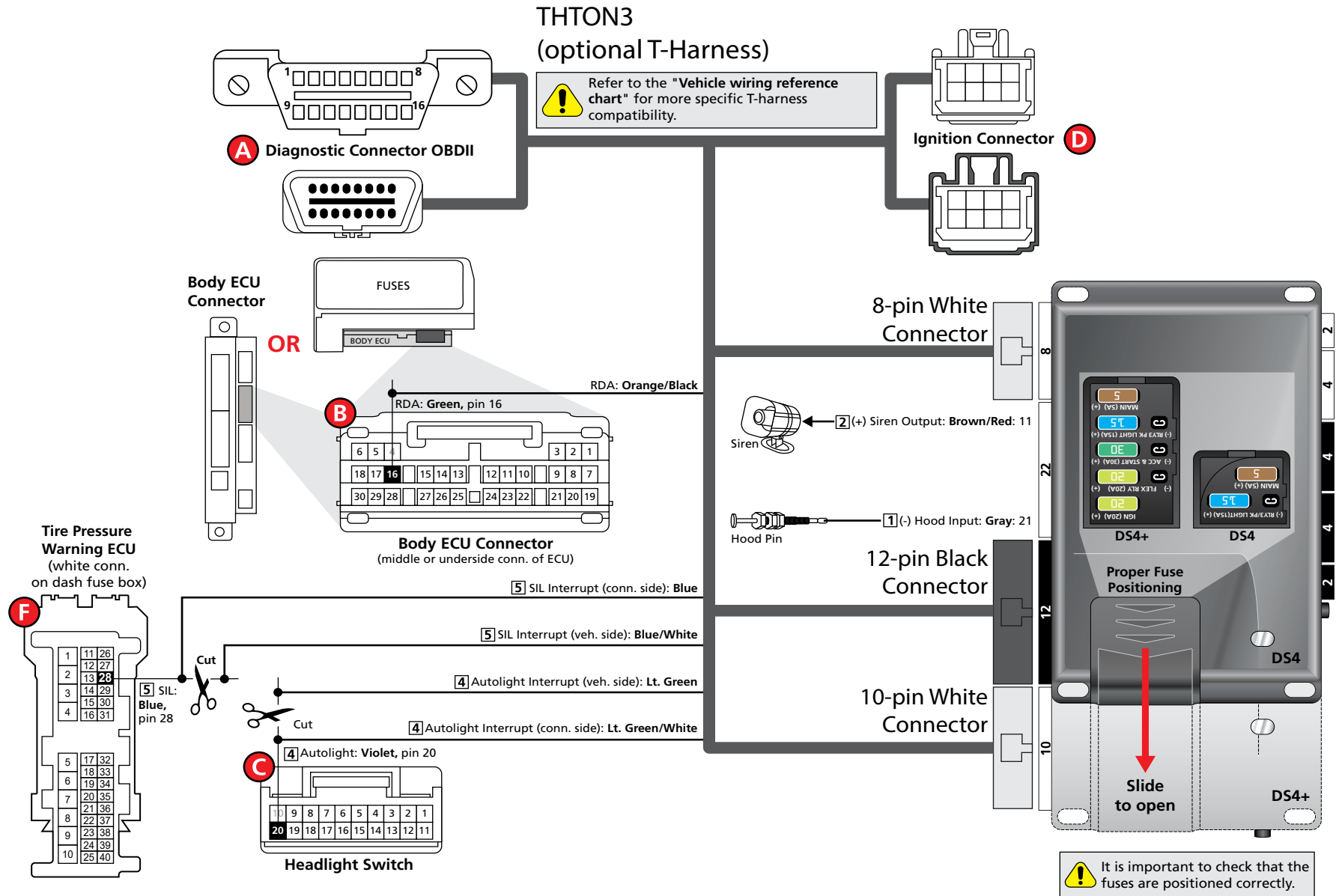
Conn./Pin	Color	Description
H7/1	Black	Temperature Sensor
H7/2	Black	Temperature Sensor

1. If these outputs are not used by the firmware, they can be configured by the installer when the module is flashed. Note that they are low current and a relay may be necessary.
2. These connections are only required if the corresponding statuses are not supported by the firmware. See "Vehicle application guide" on page 6 for a list of compatible features. If these outputs are not used by the firmware, they can be configured by the installer when the module is flashed. Note that they are low current and a relay may be necessary.

Installation (wiring diagrams, fuse selection & vehicle wiring reference charts)

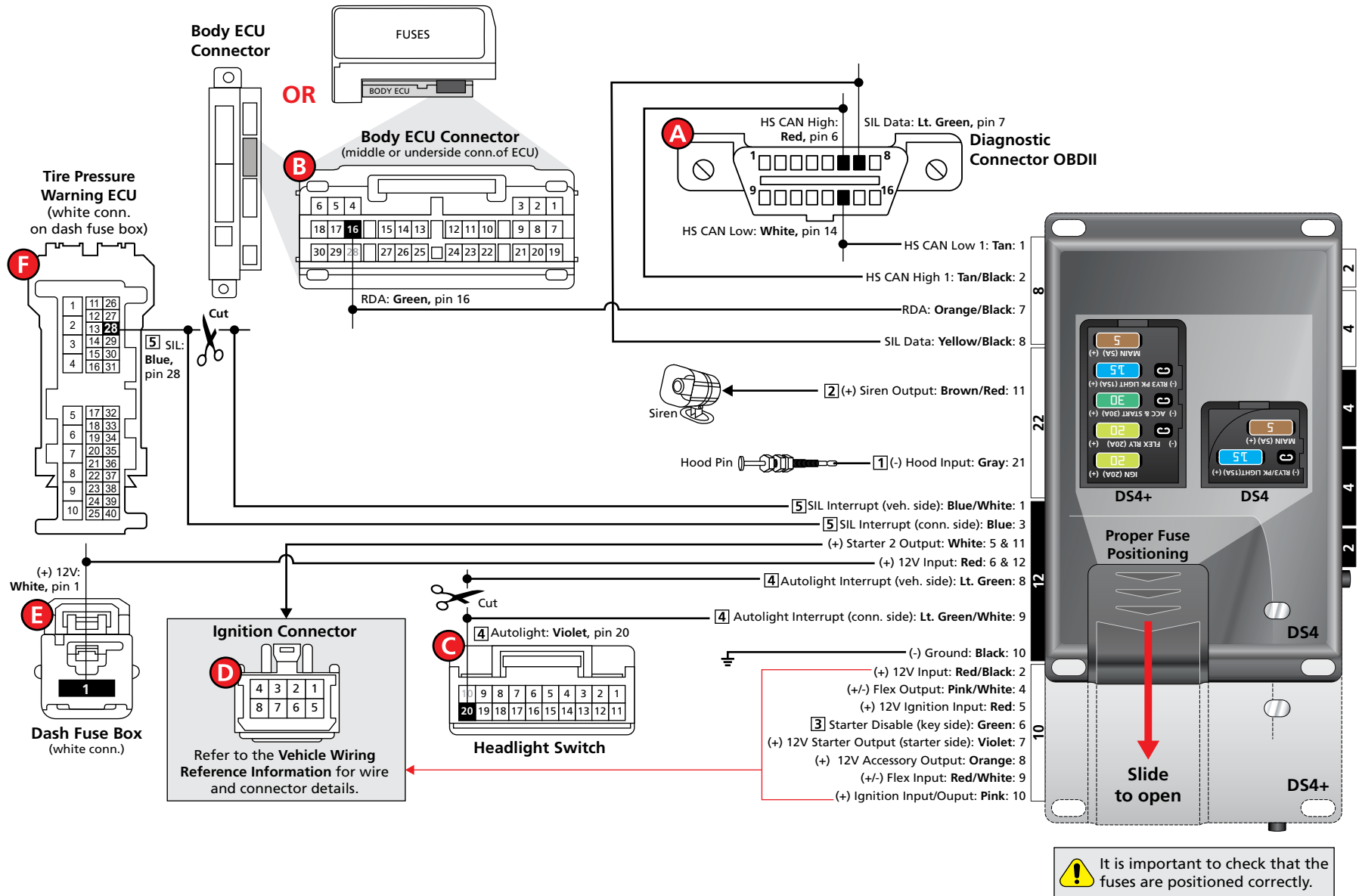
Type 1 with T-Harness (THTON3)

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



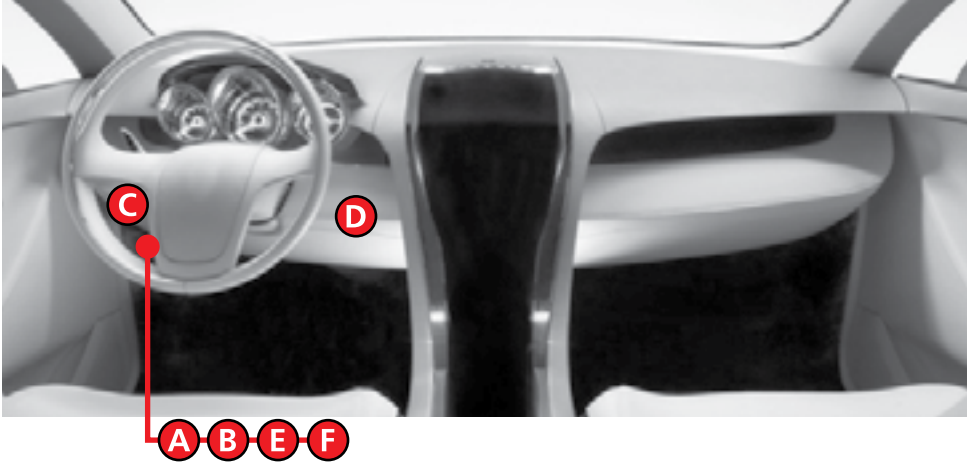
Type 1

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



Vehicle wiring reference chart

This section provides vehicle wiring information to guide you through the various stages of your installation. Refer to www.directechs.com for additional information.



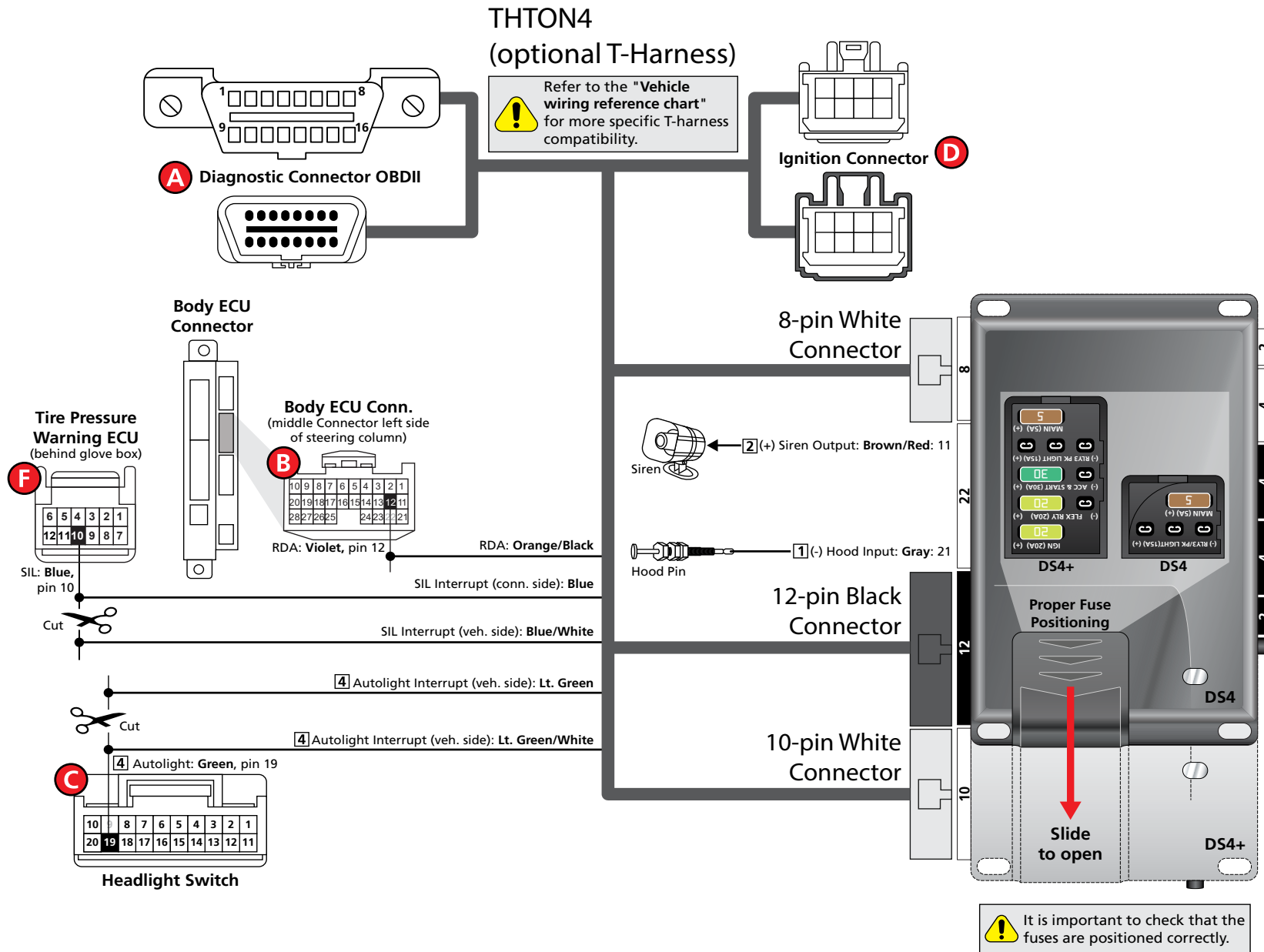
T-Harness compatibility

Vehicle	Year	T-Harness
Scion iM (H Key)	2016	THTON3
Toyota Corolla (H Key)	2014-2016	THTON3

Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
Scion iM (H Key) 2016							
HS CAN High	Red	6	Data	OBDII.	White	16	A
HS CAN Low	White	14	Data	OBDII.	White	16	A
SIL	Lt. Green	7	Data	OBDII.	White	16	A
RDA	Green	16	Data	Body ECU, below drivers fuse box.	White	30	B
Autolights	Violet	20	Cut	Headlight switch.	White	20	C
Accessory	Black	7	(+)	Ignition switch.	White	8	D
Ignition 1	Green	8	(+)	Ignition switch.	White	8	D
Ignition 2	Gray	3	(+)	Ignition switch.	White	8	D
Starter 1	White	2	(+)	Ignition switch.	White	8	D
12V	White	1	(+)	Dash fuse box.	White	1	E
SIL Interrupt	Blue	28	Cut	Rear of dash fusebox.	White	40	F
Corolla (H Key) 2014-2016							
HS CAN High	Red	6	Data	OBDII.	White	16	A
HS CAN Low	White	14	Data	OBDII.	White	16	A
SIL	Lt. Green	7	Data	OBDII.	White	16	A
RDA	Green	16	Data	Below drivers fuse box.	White	30	B
Autolights	Violet	20	Cut	Headlight switch.	White	20	C
Accessory	Black	7	(+)	Ignition switch.	White	8	D
Ignition 1	Gray	3	(+)	Ignition switch.	White	8	D
Ignition 2	Green	8	(+)	Ignition switch.	White	8	D
Starter 1	White	2	(+)	Ignition switch.	White	8	D
12V	White	1	(+)	Dash fuse box.	White	1	E
SIL Interrupt	Blue	28	Cut	Rear of dash fusebox.	White	40	F

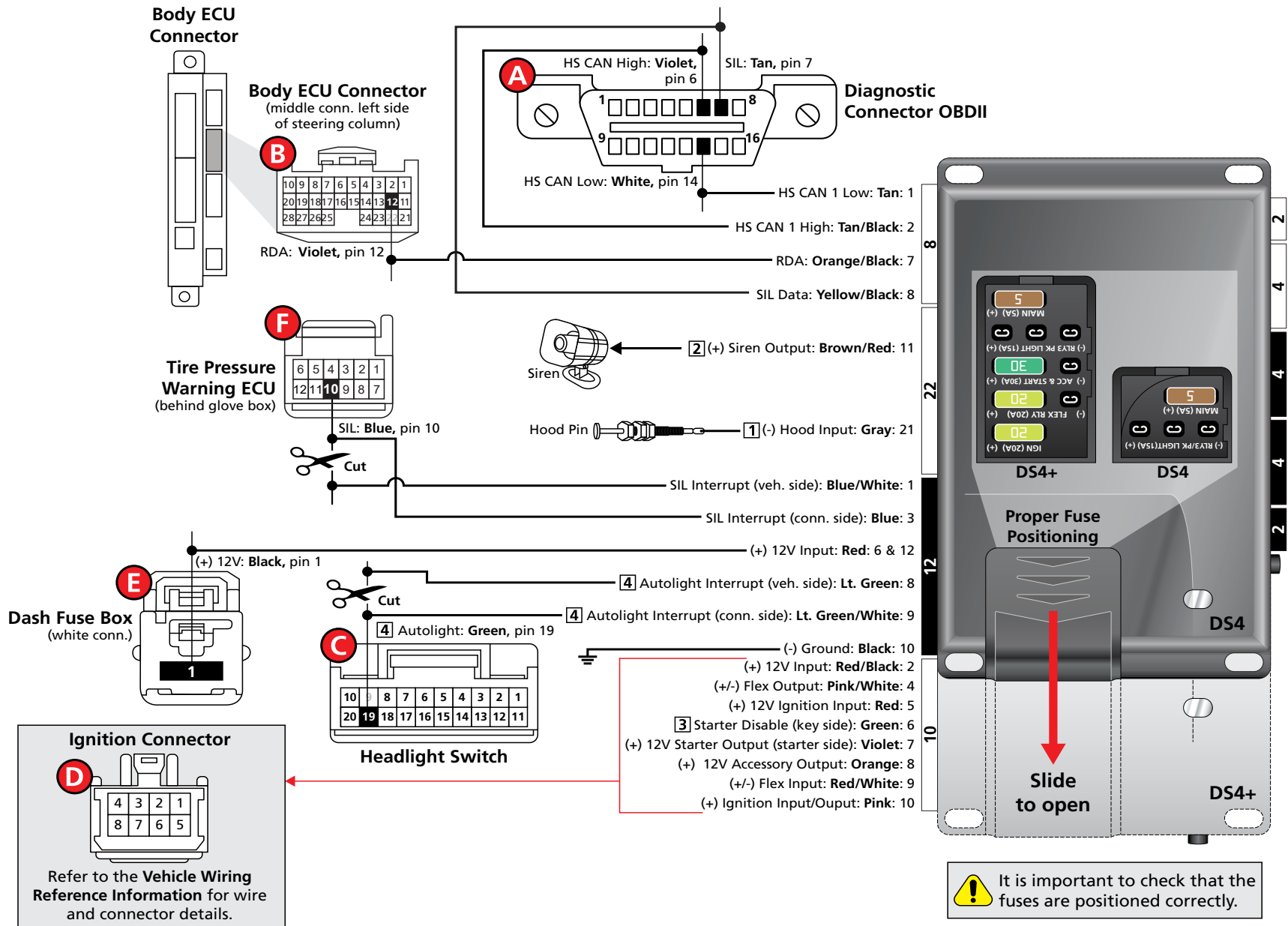
Type 2 with T-Harness (THTON4)

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



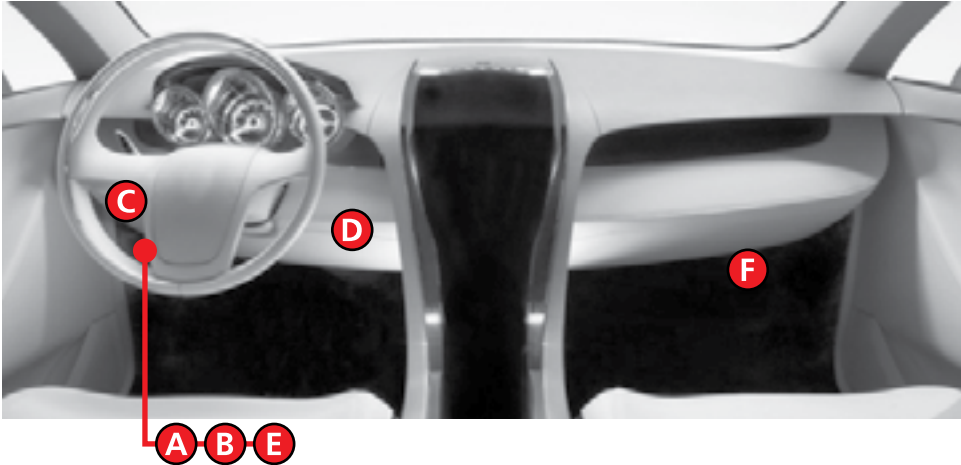
Type 2

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



Vehicle wiring reference chart

This section provides vehicle wiring information to guide you through the various stages of your installation. Refer to www.directechs.com for additional information.



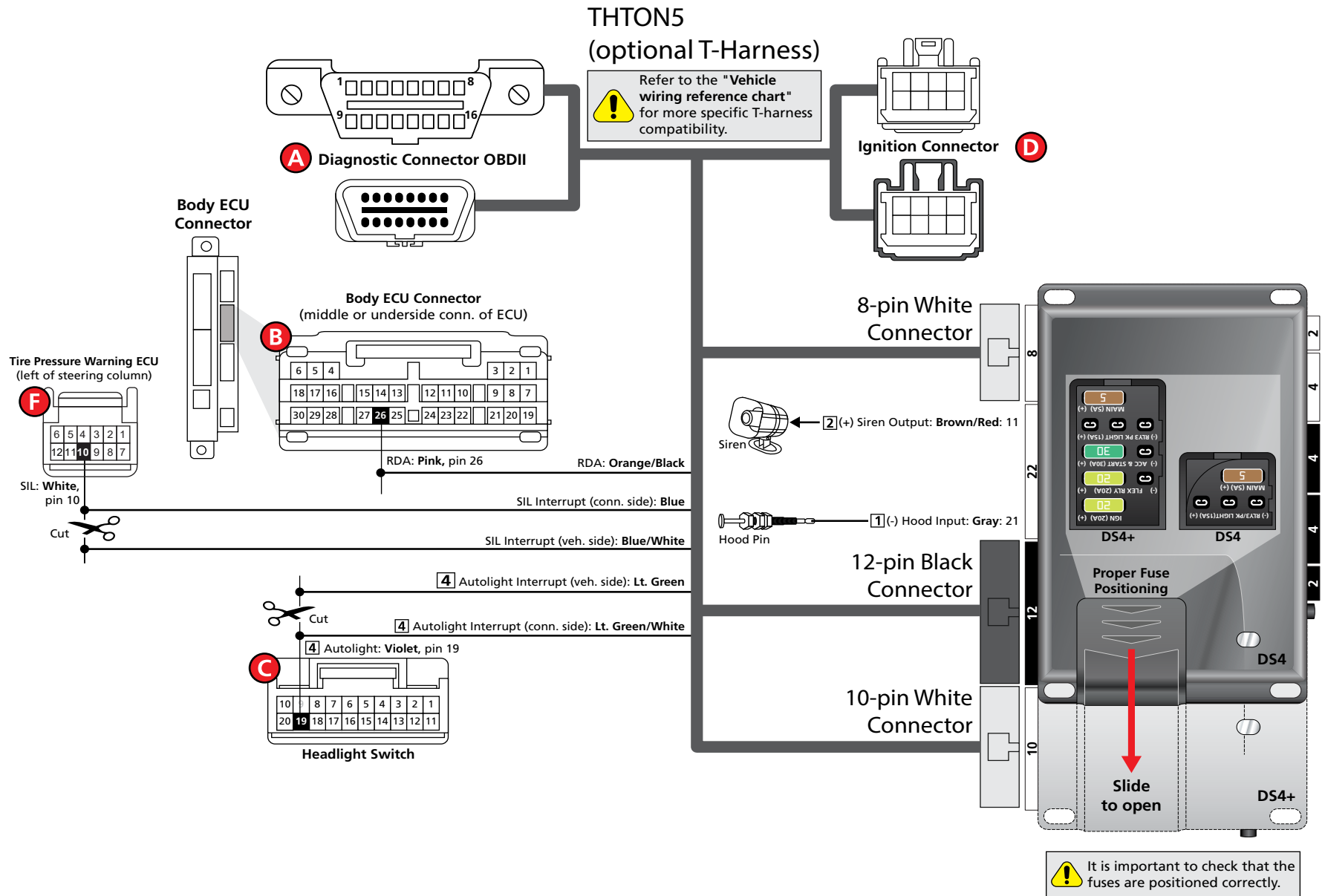
T-Harness compatibility

Vehicle	Year	T-Harness
Toyota Sequoia (H Key)	2015-2017	THTON4

Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
Sequoia (H Key) 2015-2017							
HS CAN High	Violet	6	Data	OBDII.	White	16	A
HS CAN Low	White	14	Data	OBDII.	White	16	A
SIL	Tan	7	Data	OBDII.	White	16	A
SIL Interrupt	Blue	10	Cut	TPMS warning ECU behind glove box.	White	12	F
RDA	Violet	12	Data	Main body ECU left of steering column.	White	28	B
Autolights	Green	19	Cut	Headlight switch.	White	20	C
Accessory	Gray	2	(+)	Ignition switch.	White	8	D
Ignition 1	Black	6	(+)	Ignition switch.	White	8	D
Ignition 2	Lt. Green	1	(+)	Ignition switch.	White	8	D
Starter	Green	7	(+)	Ignition switch.	White	8	D
12V	Black	1	(+)	Dash fuse box.	White	1	E

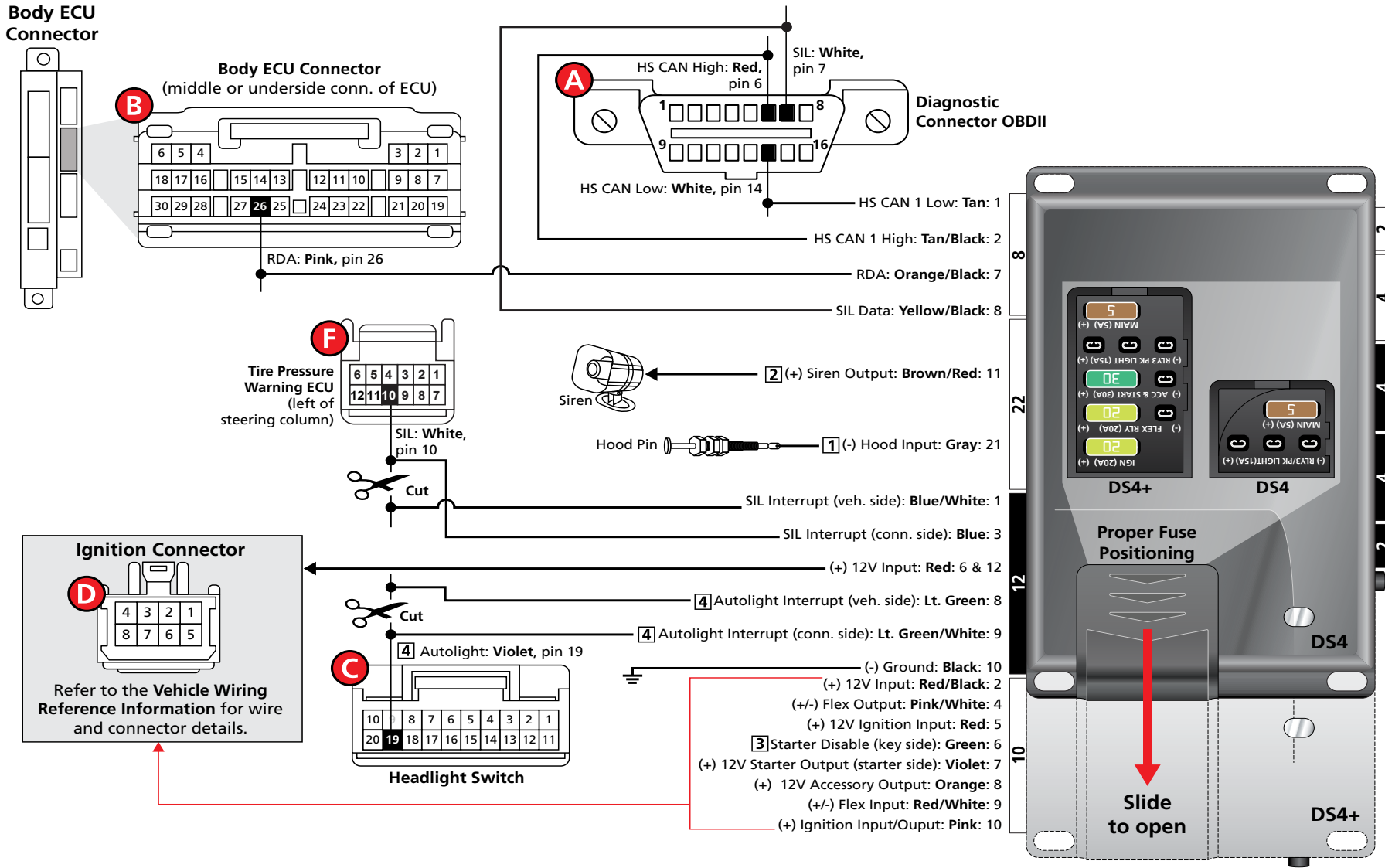
Type 3 with T-Harness (THTON5)

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



Type 3

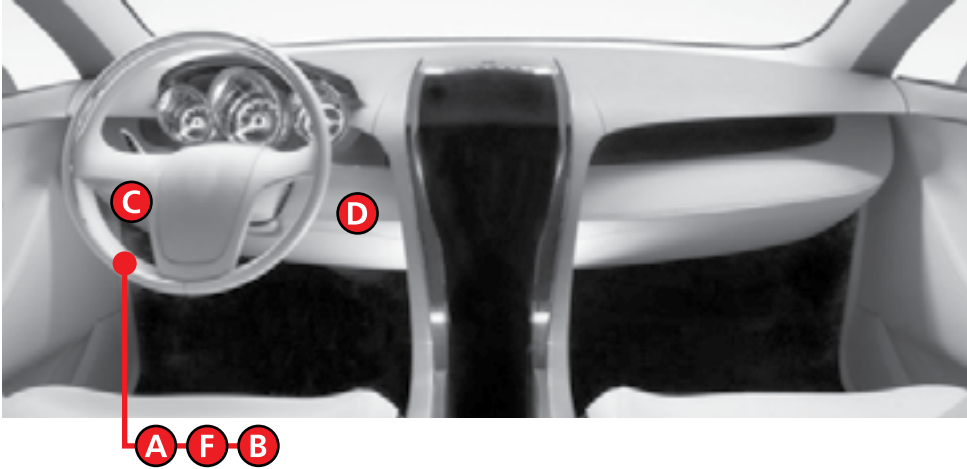
⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



⚠ It is important to check that the fuses are positioned correctly.

Vehicle wiring reference chart

This section provides vehicle wiring information to guide you through the various stages of your installation. Refer to www.directechs.com for additional information.



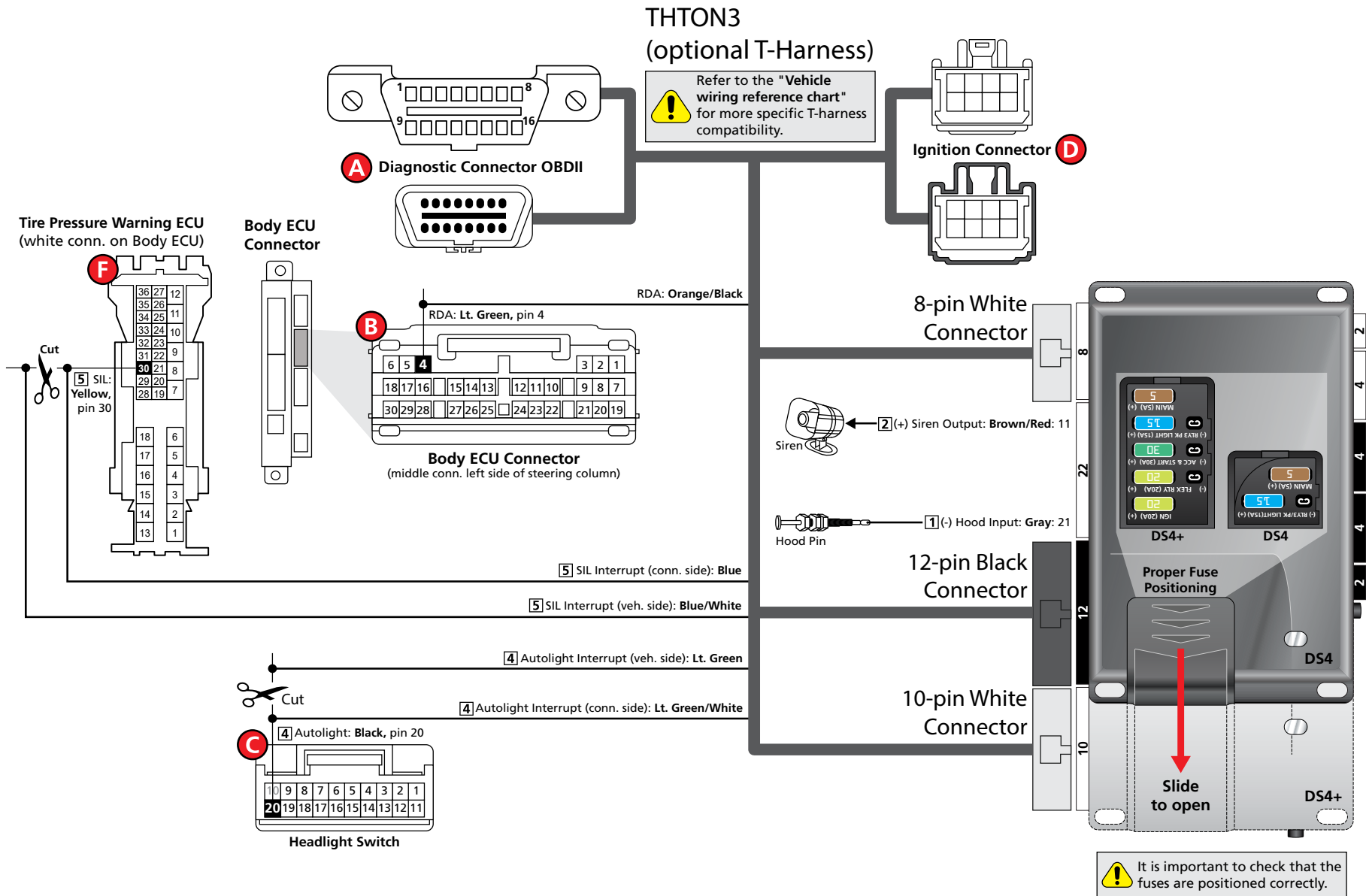
T-Harness compatibility

Vehicle	Year	T-Harness
Toyota Sienna (H Key)	2015-2017	THTON5

Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
Sienna (H Key) 2015-2017							
HS CAN High	Red	6	Data	OBDII.	White	16	A
HS CAN Low	White	14	Data	OBDII.	White	16	A
SIL	White	7	Data	OBDII.	White	16	A
SIL Interrupt	White	10	Cut	ECU left side of the dash fuse box.	White	12	F
RDA	Pink	26	Data	Middle Plug main body ECU left of steering column.	White	30	B
Autolights	Violet	19	Cut	Headlight switch.	White	20	C
Accessory	Blue	3	(+)	Ignition switch.	White	8	D
Ignition 1	Black	6	(+)	Ignition switch.	White	8	D
Ignition 2	Yellow	4	(+)	Ignition switch.	White	8	D
Starter	Red	8	(+)	Ignition switch.	White	8	D
12V	Red	7	(+)	Ignition switch.	White	8	D

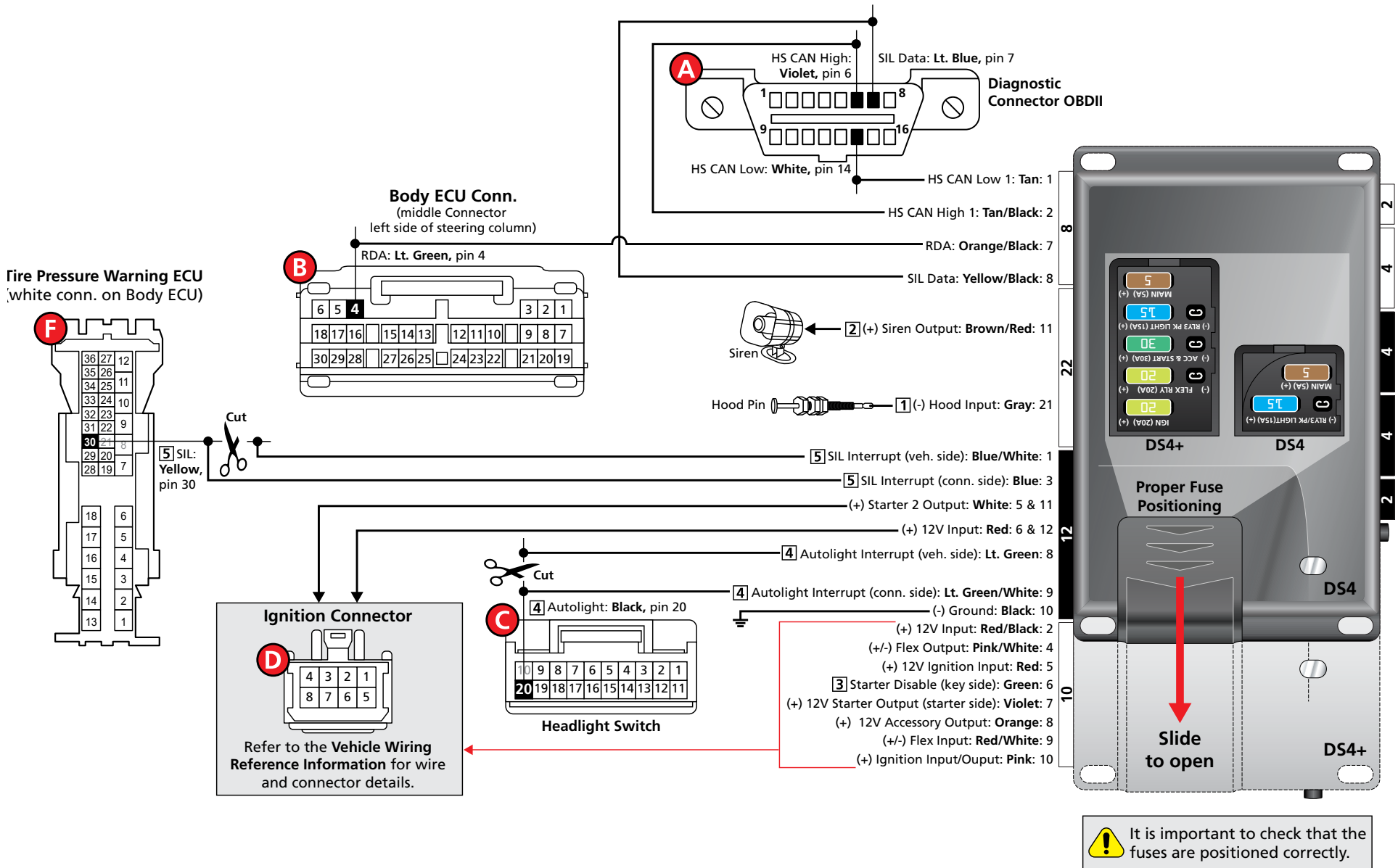
Type 4 with T-Harness (THTON3)

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



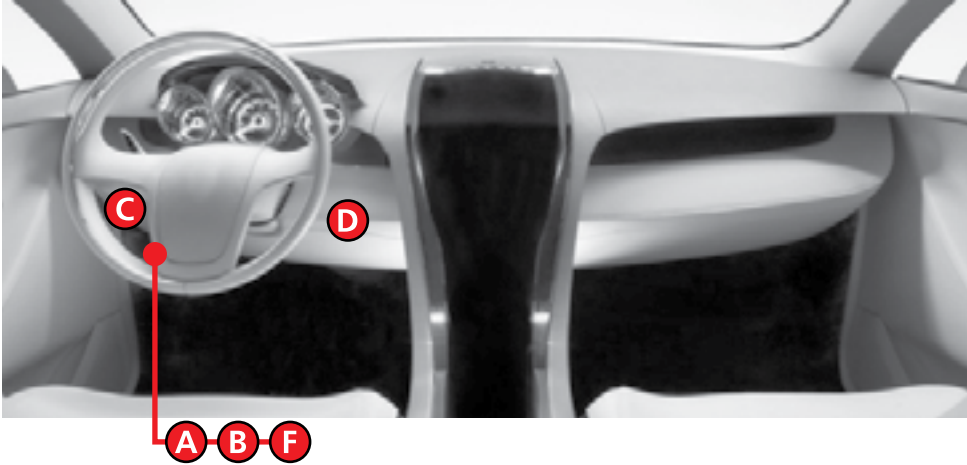
Type 4

 Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



Vehicle wiring reference chart

This section provides vehicle wiring information to guide you through the various stages of your installation. Refer to www.directechs.com for additional information.



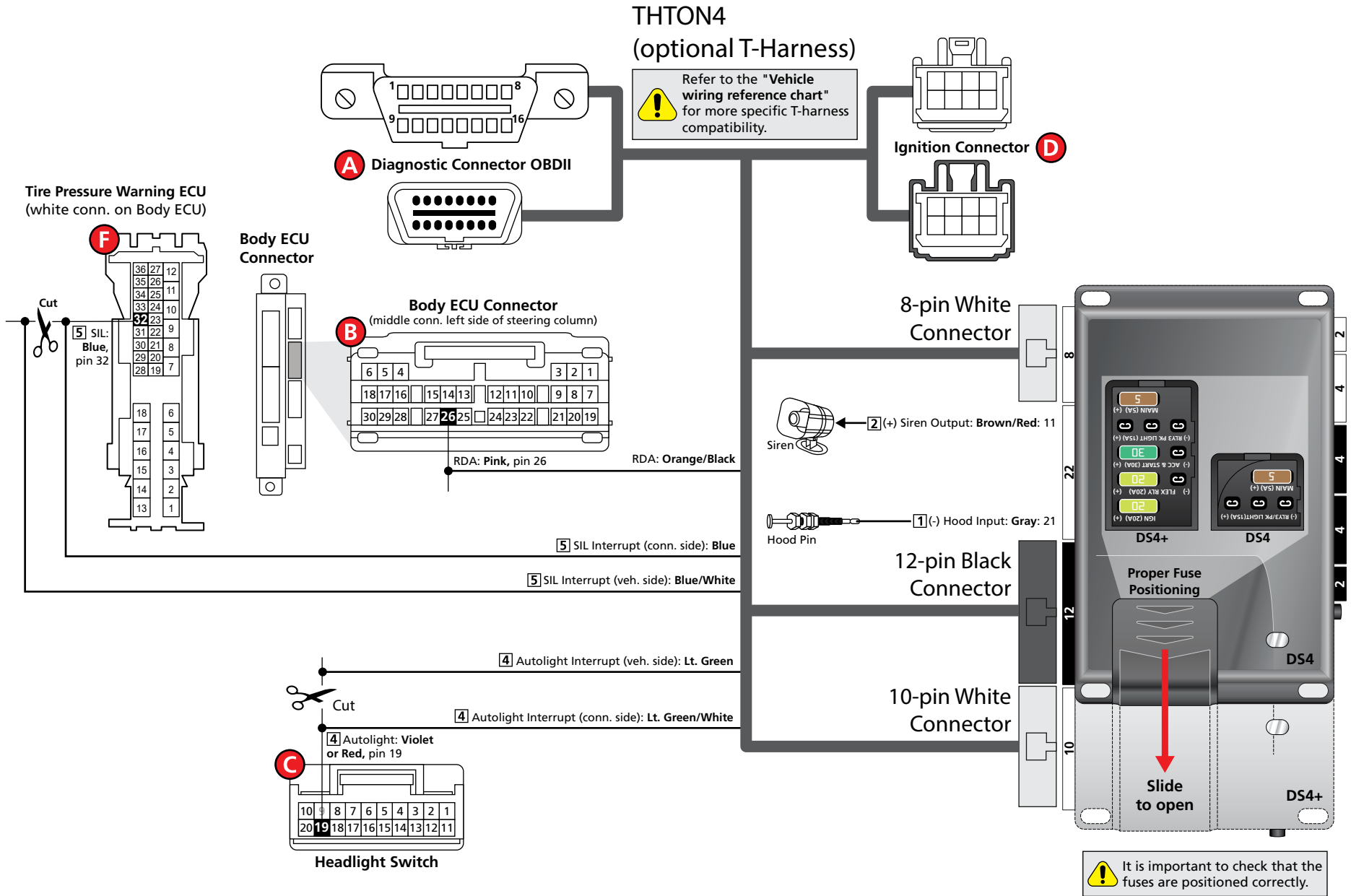
T-Harness compatibility

Vehicle	Year	T-Harness
Toyota Highlander (H Key)	2014-2016	THTON3

Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
Highlander (H Key) 2014-2016							
HS CAN High	Violet	6	Data	OBDII.	White	16	A
HS CAN Low	White	14	Data	OBDII.	White	16	A
SIL	Lt.Blue	7	Data	OBDII.	White	16	A
RDA	Lt.Green	4	Data	Middle Plug main body ECU left of steering column.	White	30	B
Autolights	Black	20	Cut	Headlight switch.	White	20	C
Accessory	Gray	7	(+)	Ignition switch.	White	8	D
Ignition 1	Black	3	(+)	Ignition switch.	White	8	D
Ignition 2	Green	8	(+)	Ignition switch.	White	8	D
Starter 1	Blue	2	(+)	Ignition switch.	White	8	D
Starter 2	Gray	6	(+)	Ignition switch.	White	8	D
12V	Black	4	(+)	Ignition switch.	White	8	D
SIL Interrupt	Yellow	30	Cut	Body ECU left of steering column.	White	36	F

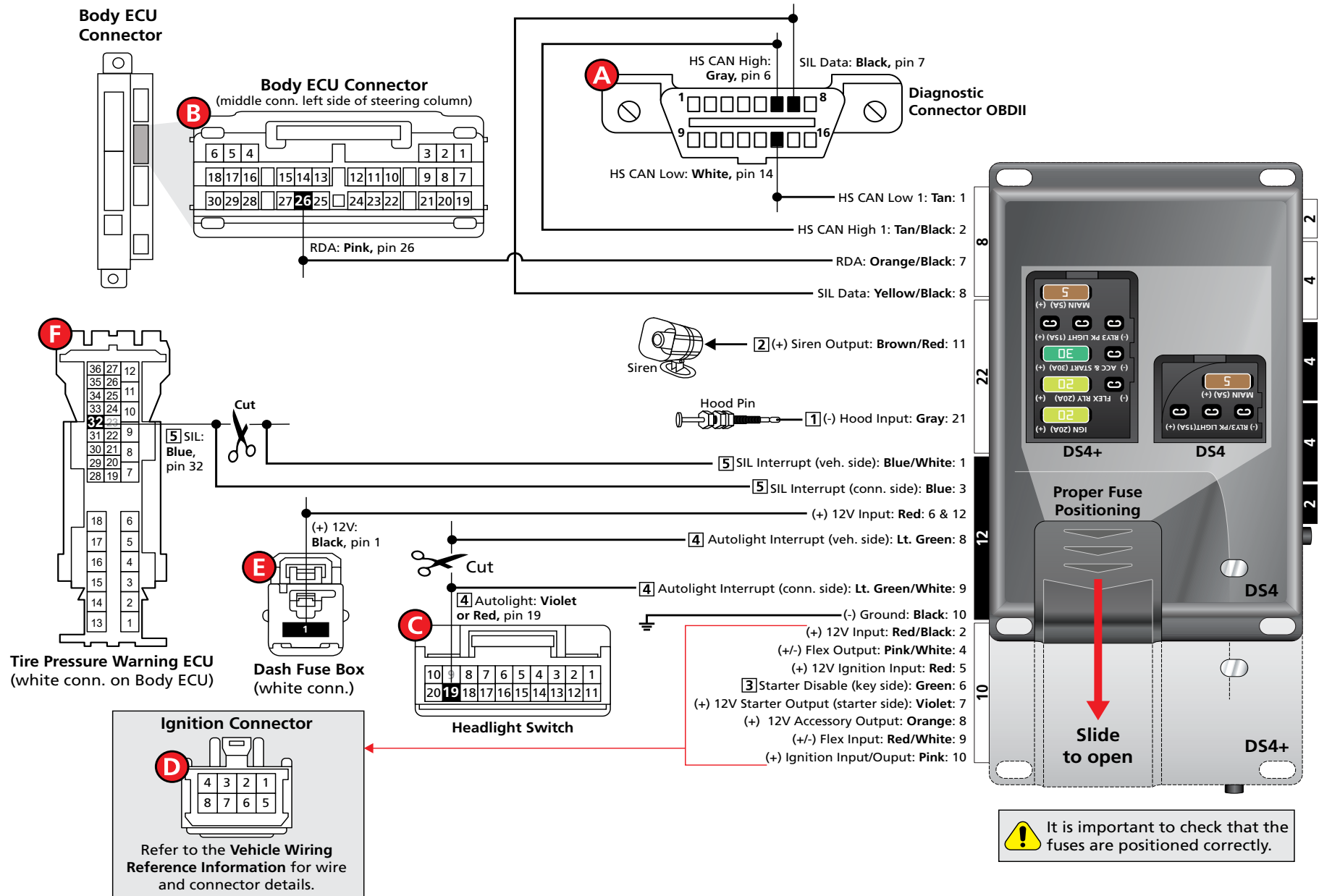
Type 5 with T-Harness (THTON4)

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



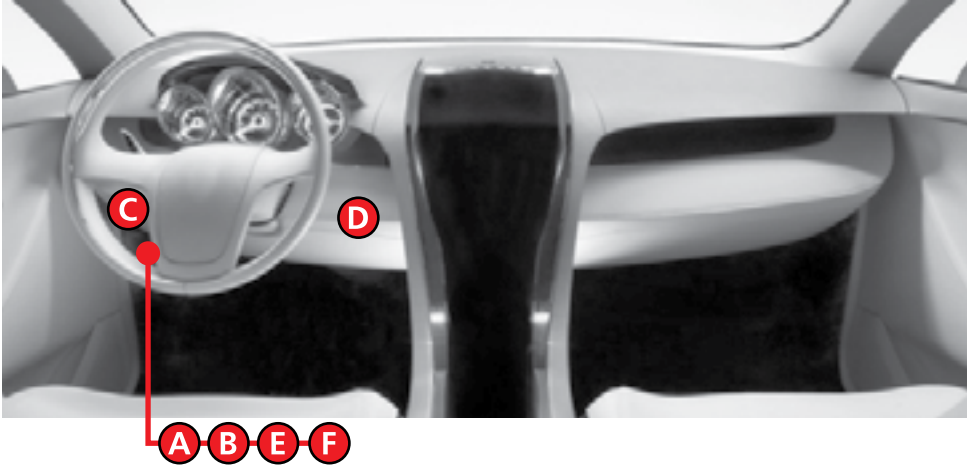
Type 5

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



Vehicle wiring reference chart

This section provides vehicle wiring information to guide you through the various stages of your installation. Refer to www.directechs.com for additional information.



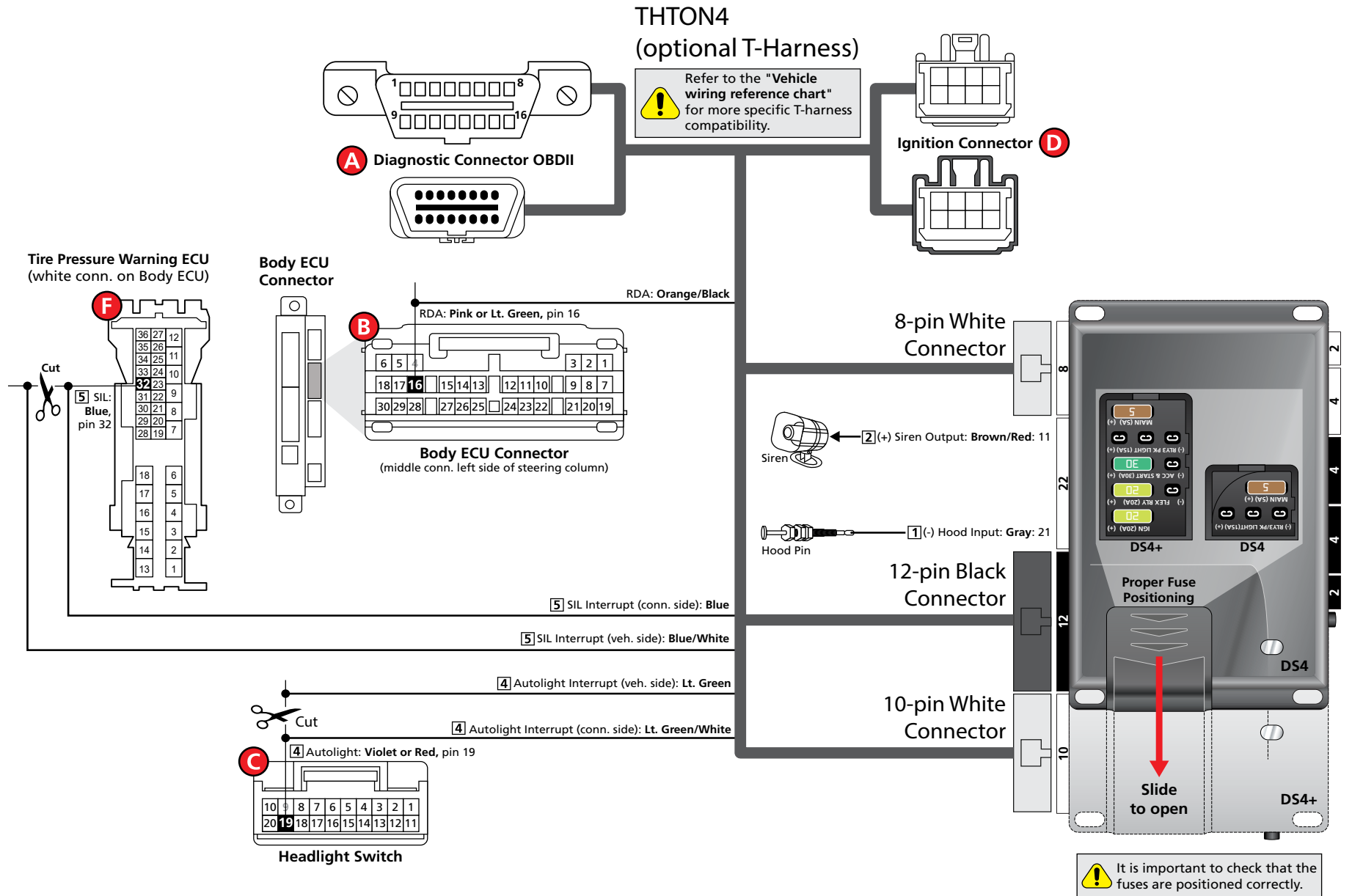
T-Harness compatibility

Vehicle	Year	T-Harness
Toyota Yaris Hatchback (H Key)	2015-2016	THTON4

Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
Yaris Hatchback (H Key) W/ OEM Alarm 2015-2016							
HS CAN High	Gray	6	Data	OBDII.	White	16	A
HS CAN Low	White	14	Data	OBDII.	White	16	A
SIL	Black	7	Data	OBDII.	White	16	A
RDA	Pink	26	Data	Middle Plug main body ECU left of steering column.	White	30	B
Autolights	Violet or Red	19	Cut	Headlight switch.	White	20	C
Accessory	Blue	2	(+)	Ignition switch.	White	8	D
Ignition 1	Pink	6	(+)	Ignition switch.	White	8	D
Ignition 2	Lt.Blue	1	(+)	Ignition switch.	White	8	D
Starter 1	Green	7	(+)	Ignition switch.	White	8	D
12V	Black	1	(+)	Dash fuse box.	White	1	E
SIL Interrupt	Blue	32	Cut	Main Body ECU left of steering column.	White	36	F

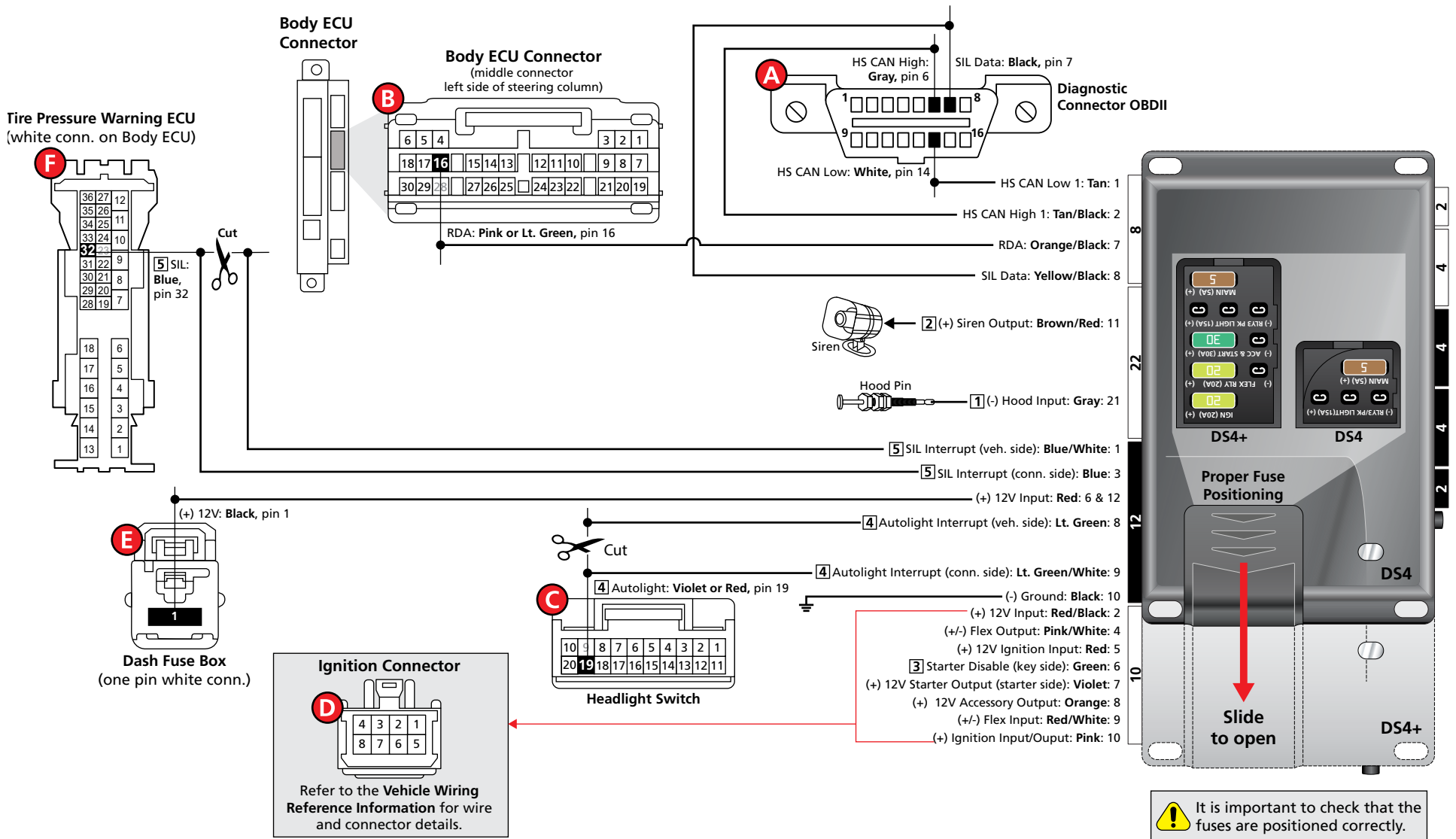
Type 6 with T-Harness (THTON4)

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



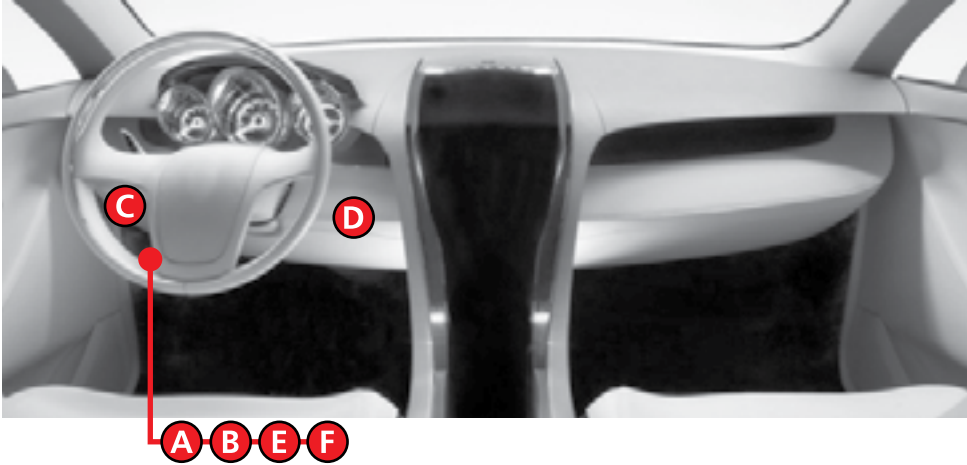
Type 6

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



Vehicle wiring reference chart

This section provides vehicle wiring information to guide you through the various stages of your installation. Refer to www.directechs.com for additional information.



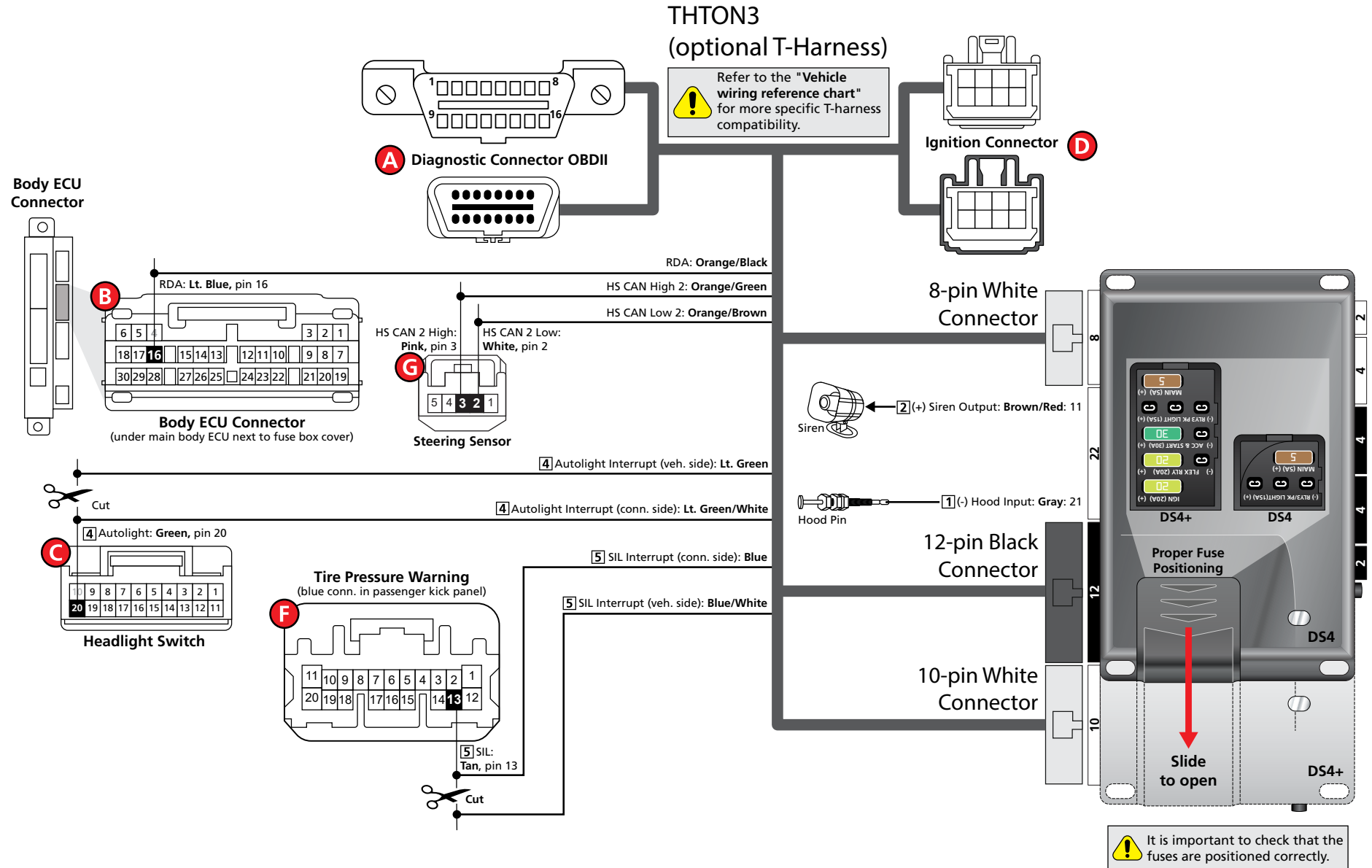
T-Harness compatibility

Vehicle	Year	T-Harness
Toyota Yaris Hatchback (H Key) w/o OEM Alarm	2015-2016	THTON4
Toyota Prius c (H Key)	2015-2016	THTON4

Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
Yaris Hatchback (H Key) W/O OEM Alarm 2015-2016							
HS CAN High	Gray	6	Data	OBDII.	White	16	A
HS CAN Low	White	14	Data	OBDII.	White	16	A
SIL	Black	7	Data	OBDII.	White	16	A
RDA	Pink	16	Data	Middle Plug main body ECU left of steering column.	White	30	B
Autolights	Violet or Red	19	Cut	Headlight switch.	White	20	C
Accessory	Blue	2	(+)	Ignition switch.	White	8	D
Ignition 1	Pink	6	(+)	Ignition switch.	White	8	D
Ignition 2	Lt.Blue	1	(+)	Ignition switch.	White	8	D
Starter	Green	7	(+)	Ignition switch.	White	8	D
12V	Black	1	(+)	Dash fuse box.	White	1	E
SIL Interrupt	Blue	32	Cut	Main Body ECU left of steering column.	White	36	F
Prius c (H Key) 2015-2016							
HS CAN High	Gray	6	Data	OBDII.	White	16	A
HS CAN Low	White	14	Data	OBDII.	White	16	A
SIL	Black	7	Data	OBDII.	White	16	A
RDA	Lt.Green	16	Data	Middle Plug main body ECU left of steering column.	White	30	B
Autolights	Red	19	Cut	Headlight switch.	White	20	C
Accessory	Blue	2	(+)	Ignition switch.	White	8	D
Ignition 1	Pink	6	(+)	Ignition switch.	White	8	D
Ignition 2	Lt.Blue	1	(+)	Ignition switch.	White	8	D
Starter	Green	7	(+)	Ignition switch.	White	8	D
12V	Black	1	(+)	Dash fuse box.	White	1	E
SIL Interrupt	Blue	32	Cut	Main Body ECU left of steering column.	White	36	F

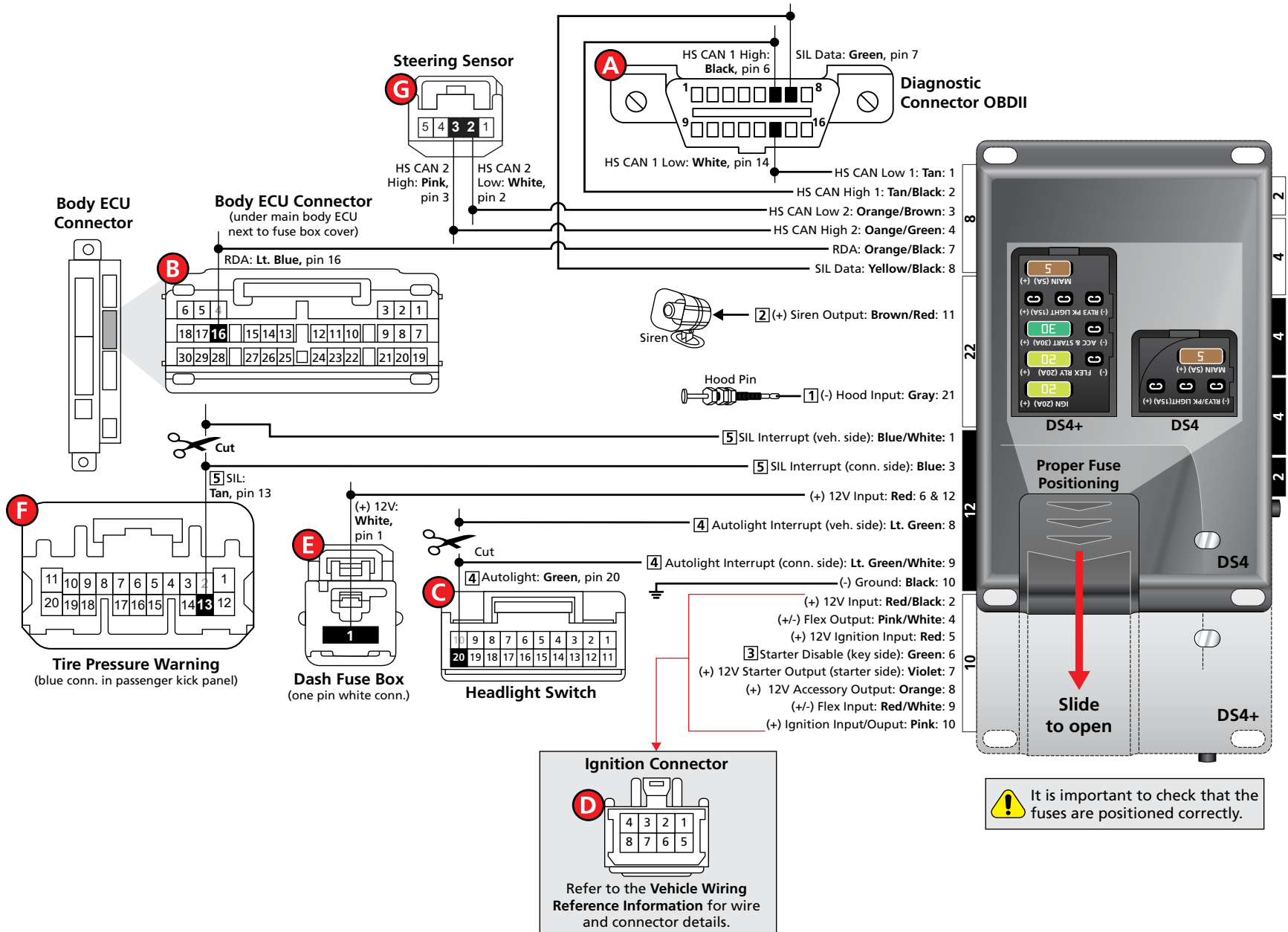
Type 7 with T-Harness (THTON3)

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



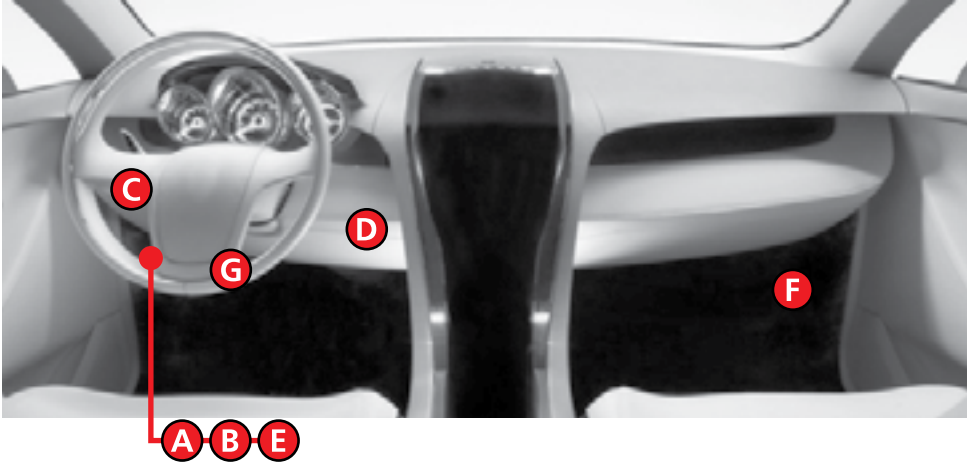
Type 7

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



Vehicle wiring reference chart

This section provides vehicle wiring information to guide you through the various stages of your installation. Refer to www.directechs.com for additional information.



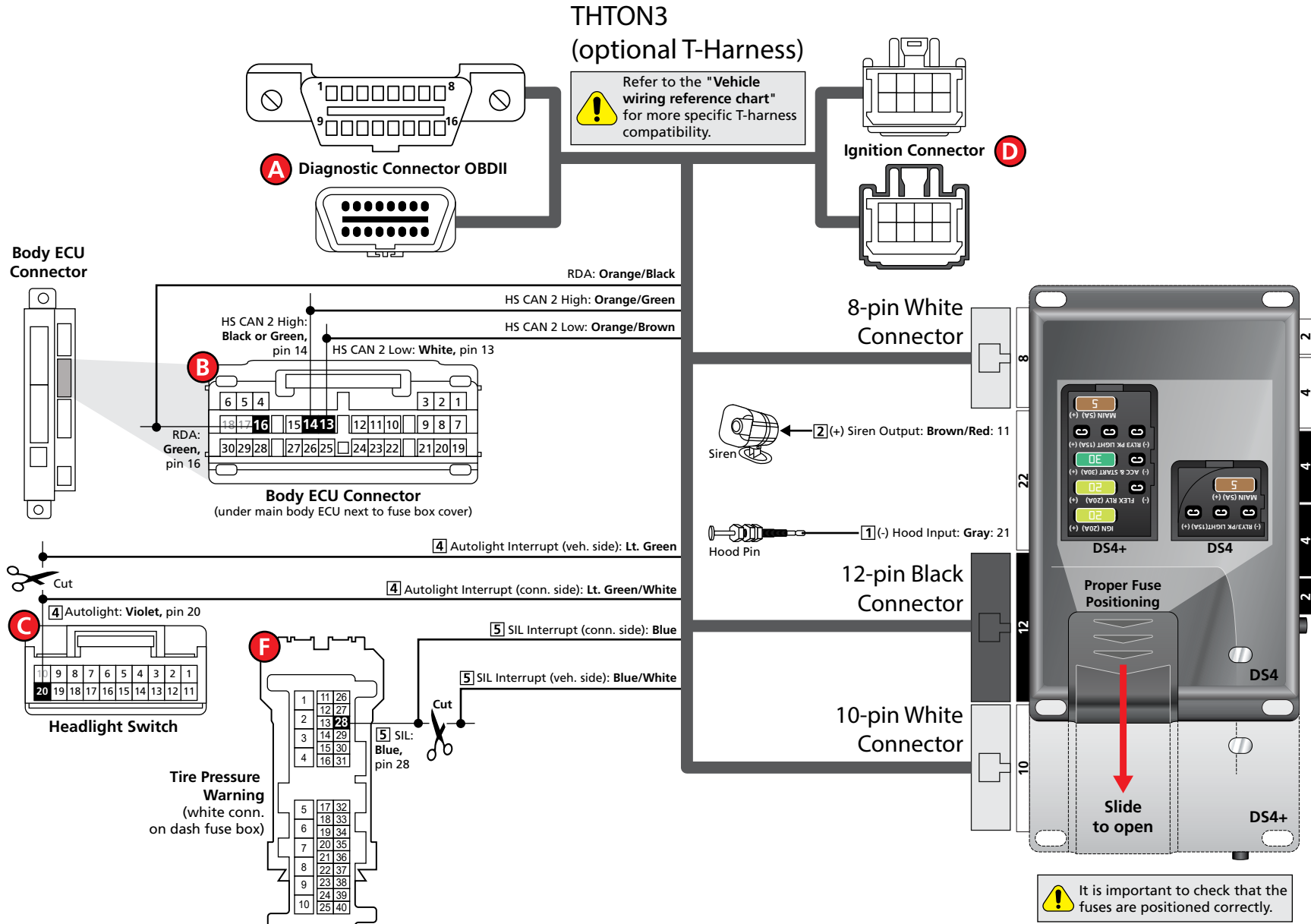
T-Harness compatibility

Vehicle	Year	T-Harness
Toyota RAV 4 (H Key)	2016-2017	THTON3

Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
RAV4 (H Key) 2016-2017							
HS CAN 1 High	Black	6	Data	OBDII.	White	16	A
HS CAN 1 Low	White	14	Data	OBDII.	White	16	A
SIL	Green	7	Data	OBDII.	White	16	A
HS CAN 2 High	Pink	3	Data	Steering sensor connector.	Black	5	G
HS CAN 2 Low	White	2	Data	Steering sensor connector.	Black	5	G
RDA	Lt. Blue	16	Data	Below drivers fuse box.	White	30	B
Autolights	Green	20	Cut	Headlight switch.	Black	20	C
SIL Interrupt	Tan	13	Cut	Passenger kick panel.	Blue	20	F
Accessory	Red	7	(+)	Ignition switch.	White	8	D
Ignition 1	White	3	(+)	Ignition switch.	White	8	D
Ignition 2	Pink	8	(+)	Ignition switch.	White	8	D
Starter	White	2	(+)	Ignition switch.	White	8	D
12V	White	1	(+)	Dash fuse box.	White	1	E

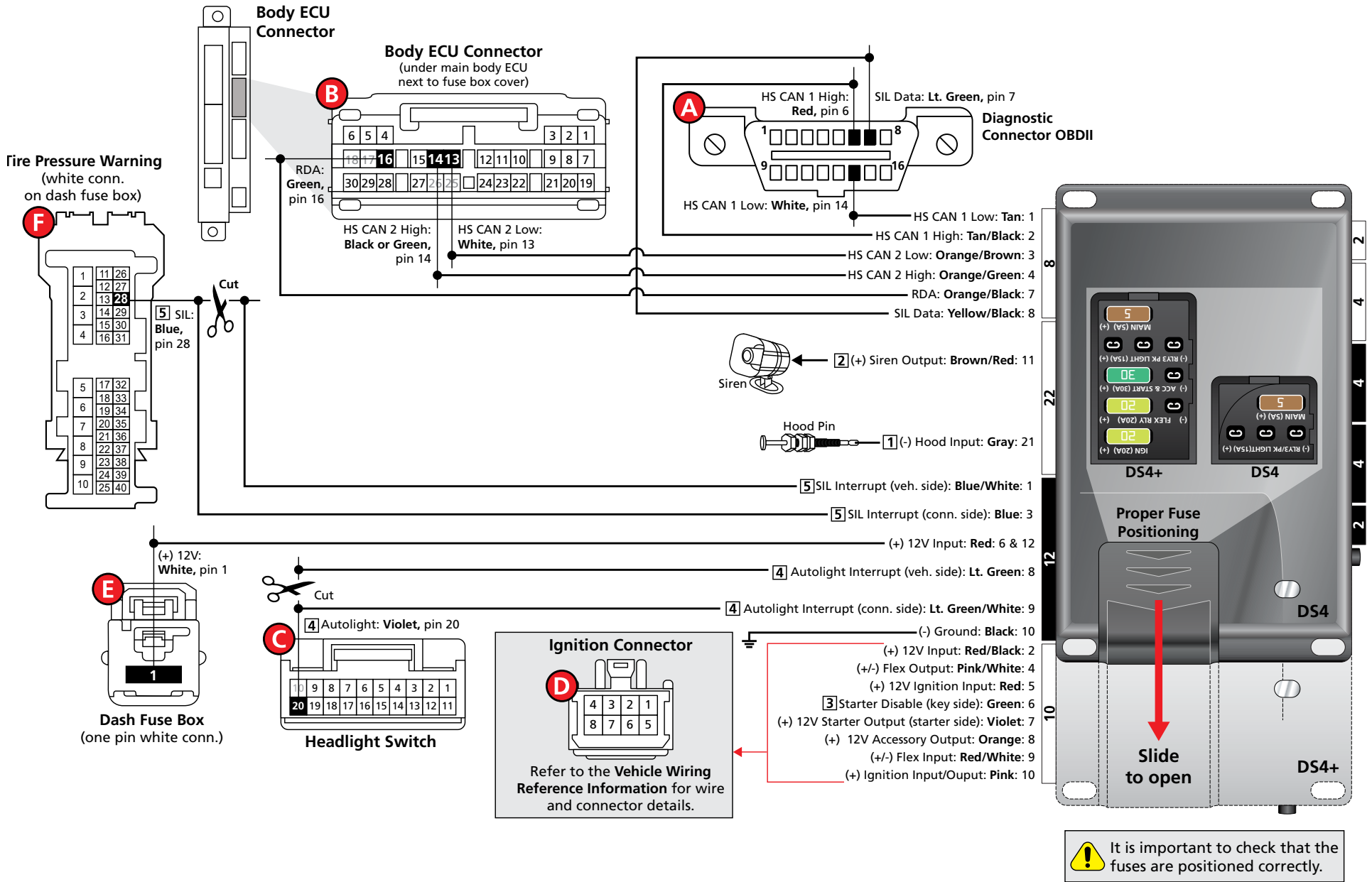
Type 8 with T-Harness (THTON3)

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



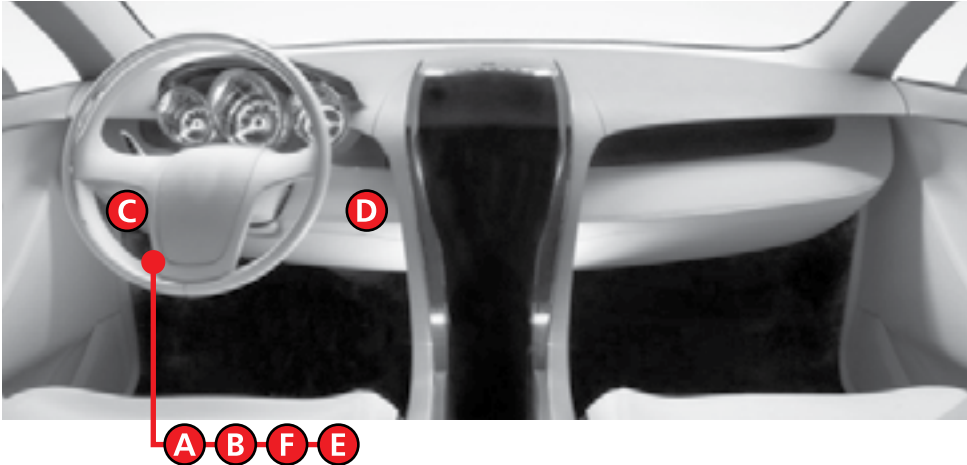
Type 8

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



Vehicle wiring reference chart

This section provides vehicle wiring information to guide you through the various stages of your installation. Refer to www.directechs.com for additional information.



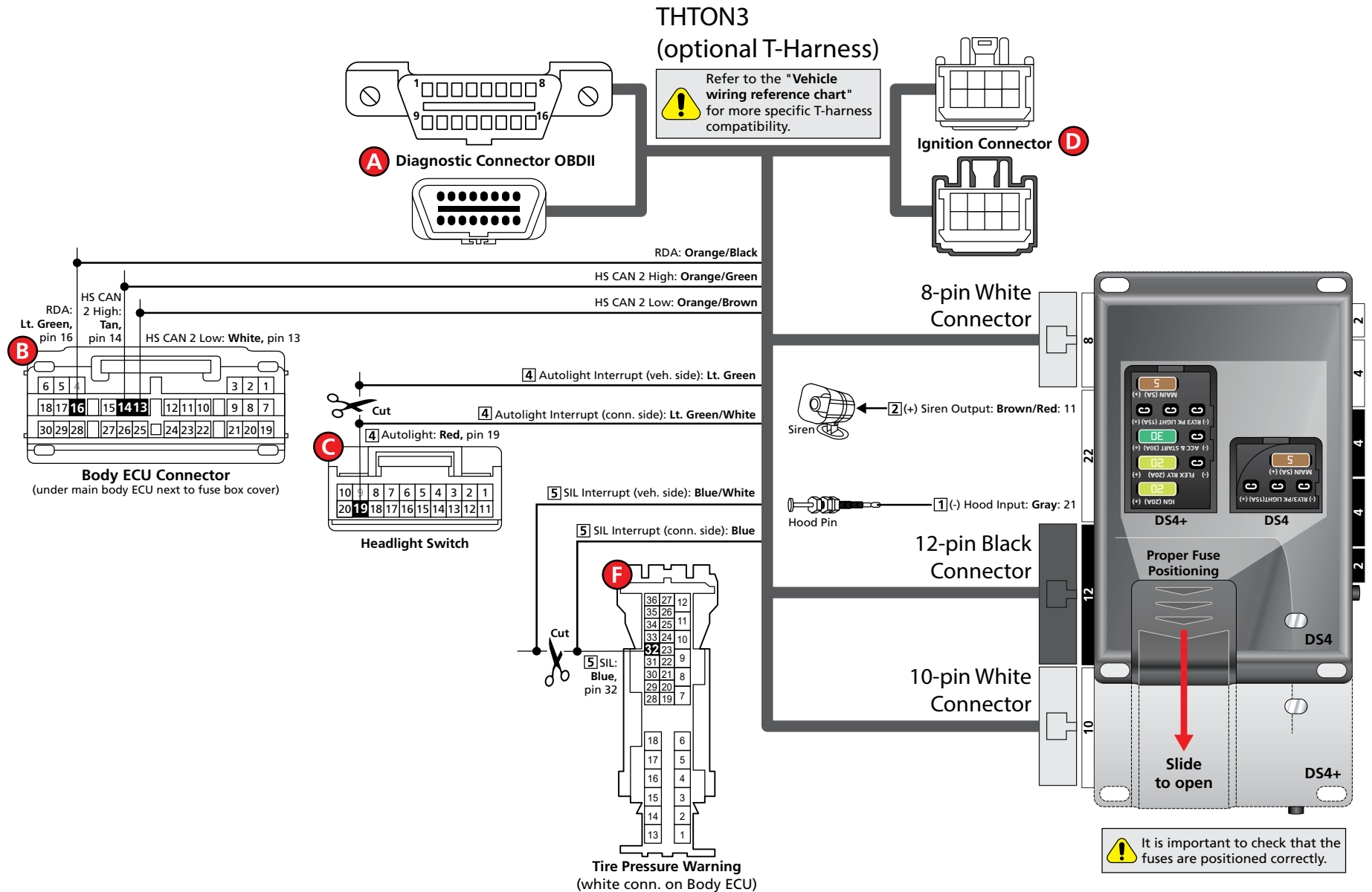
T-Harness compatibility

Vehicle	Year	T-Harness
Toyota Corolla (H Key)	2017	THTON3
Toyota Corolla IM (H Key)	2017	THTON3

Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
Corolla (H Key) 2017							
HS CAN 1 High	Red	6	Data	OBDII.	White	16	A
HS CAN 1 Low	White	14	Data	OBDII.	White	16	A
SIL	Lt. Green	7	Data	OBDII.	White	16	A
HS CAN 2 High	Black	14	Data	Body ECU.	White	30	B
HS CAN 2 Low	White	13	Data	Body ECU.	White	30	B
RDA	Green	16	Data	Body ECU.	White	30	B
Autolights	Violet	20	Cut	Headlight switch.	Black	20	C
SIL Interrupt	Blue	28	Cut	Dash Fuse Box.	White	40	F
Accessory	Black	7	(+)	Ignition switch.	White	8	D
Ignition 1	Gray	3	(+)	Ignition switch.	White	8	D
Ignition 2	Green	8	(+)	Ignition switch.	White	8	D
Starter	White	2	(+)	Ignition switch.	White	8	D
12V	White	1	(+)	Dash fuse box.	White	1	E
Corolla IM (H Key) 2017							
HS CAN High	Red	6	Data	OBDII.	White	16	A
HS CAN Low	White	14	Data	OBDII.	White	16	A
SIL	Lt.Green	7	Data	OBDII.	White	16	A
HS CAN 2 High	Green	14	Data	Body ECU.	White	30	B
HS CAN 2 Low	White	13	Data	Body ECU.	White	30	B
RDA	Green	16	Data	Body ECU.	White	30	B
Autolights	Violet	20	Cut	Headlight switch.	White	20	C
SIL Interrupt	Blue	28	Cut	Dash Fuse Box.	White	40	F
Accessory	Black	7	(+)	Ignition switch.	White	8	D
Ignition 1	Gray	3	(+)	Ignition switch.	White	8	D
Ignition 2	Green	8	(+)	Ignition switch.	White	8	D
Starter	White	2	(+)	Ignition switch.	White	8	D
12V	White	1	(+)	Dash fuse box.	White	1	E

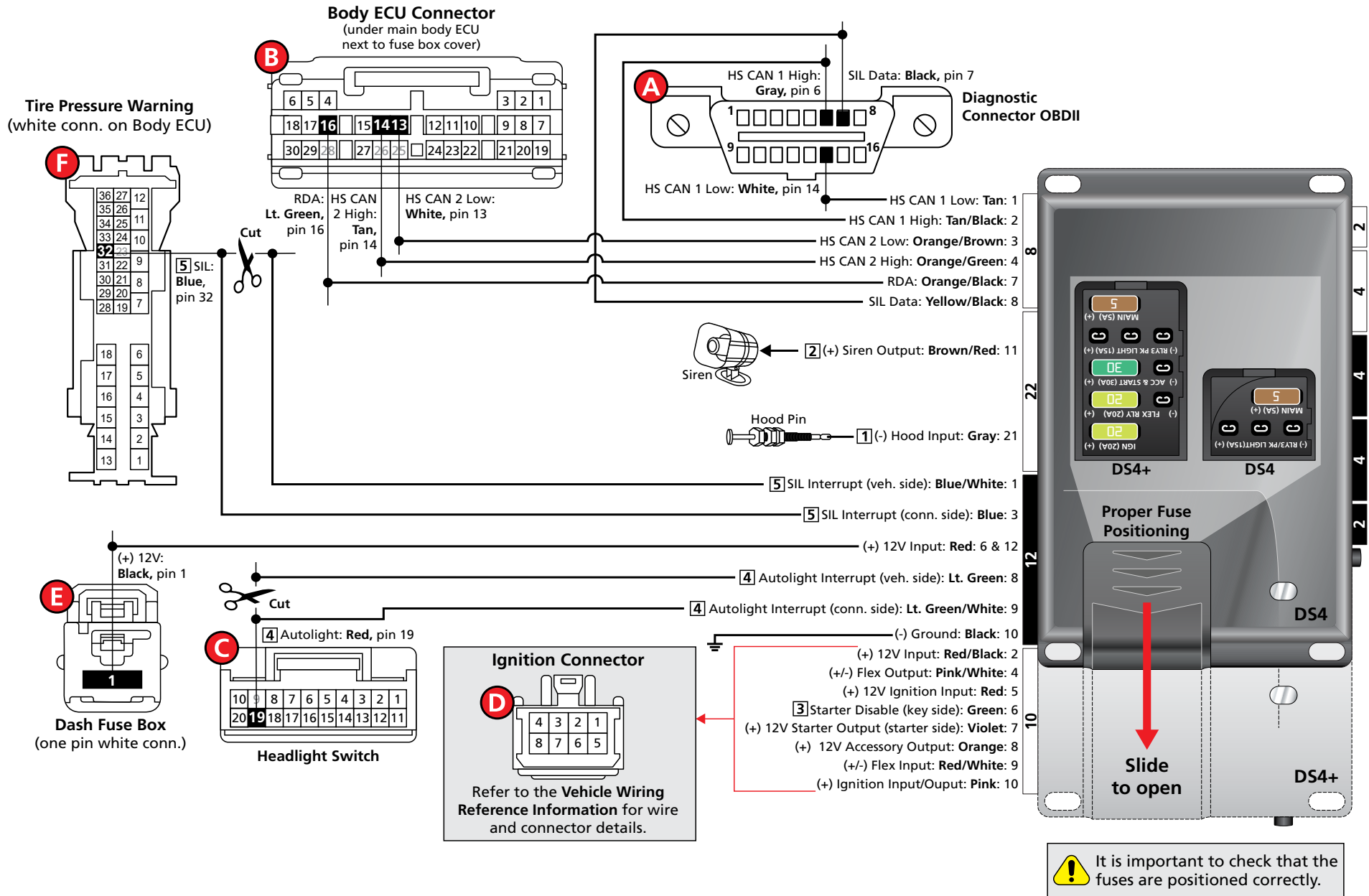
Type 9 with T-Harness (THTON3)

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



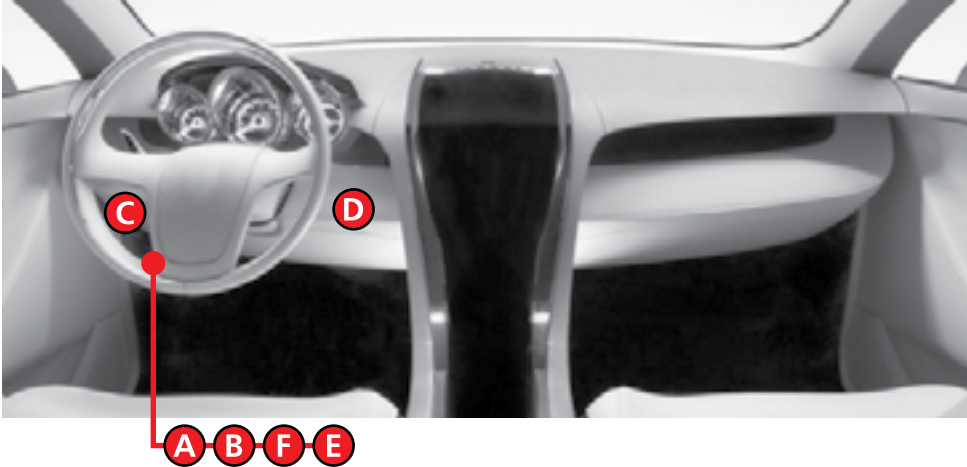
Type 9

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



Vehicle wiring reference chart

This section provides vehicle wiring information to guide you through the various stages of your installation. Refer to www.directechs.com for additional information.



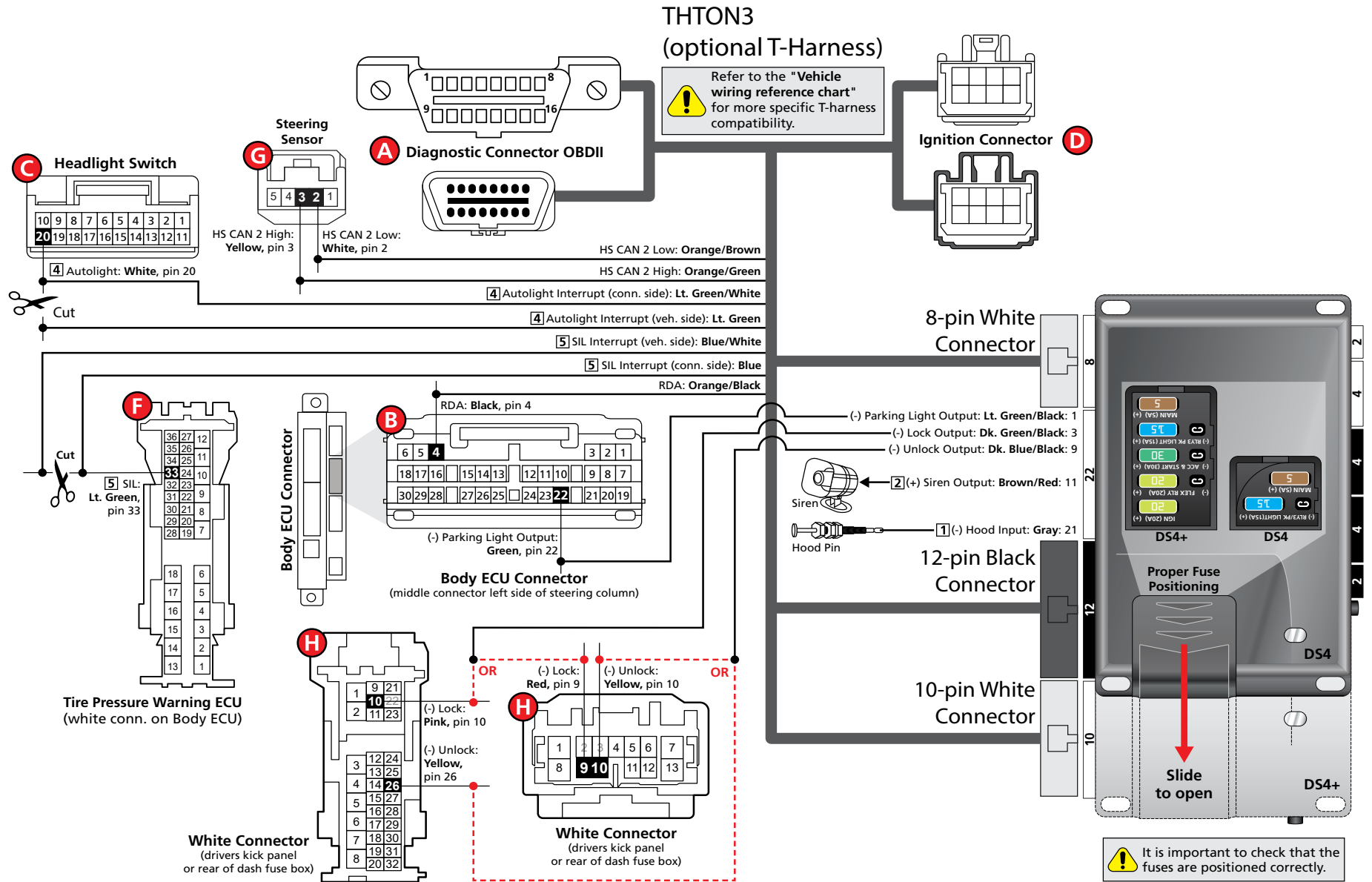
T-Harness compatibility

Vehicle	Year	T-Harness
Toyota Prius c (H Key)	2017	THTON3

Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
Prius c (H Key) 2017							
HS CAN High	Gray	6	Data	OBDII.	White	16	A
HS CAN Low	White	14	Data	OBDII.	White	16	A
SIL	Black	7	Data	OBDII.	White	16	A
HS CAN 2 High	Tan	14	Data	Body ECU.	White	30	B
HS CAN 2 Low	White	13	Data	Body ECU.	White	30	B
RDA	Lt. Green	16	Data	Body ECU.	White	30	B
Autolights	Red	19	Cut	Headlight switch.	White	20	C
SIL Interrupt	Blue	32	Cut	Body ECU.	White	36	F
Accessory	Blue	2	(+)	Ignition switch.	White	8	D
Ignition 1	Pink	6	(+)	Ignition switch.	White	8	D
Ignition 2	Lt. Blue	1	(+)	Ignition switch.	White	8	D
Starter	Green	7	(+)	Ignition switch.	White	8	D
12V	Black	1	(+)	Dash fuse box.	White	1	E

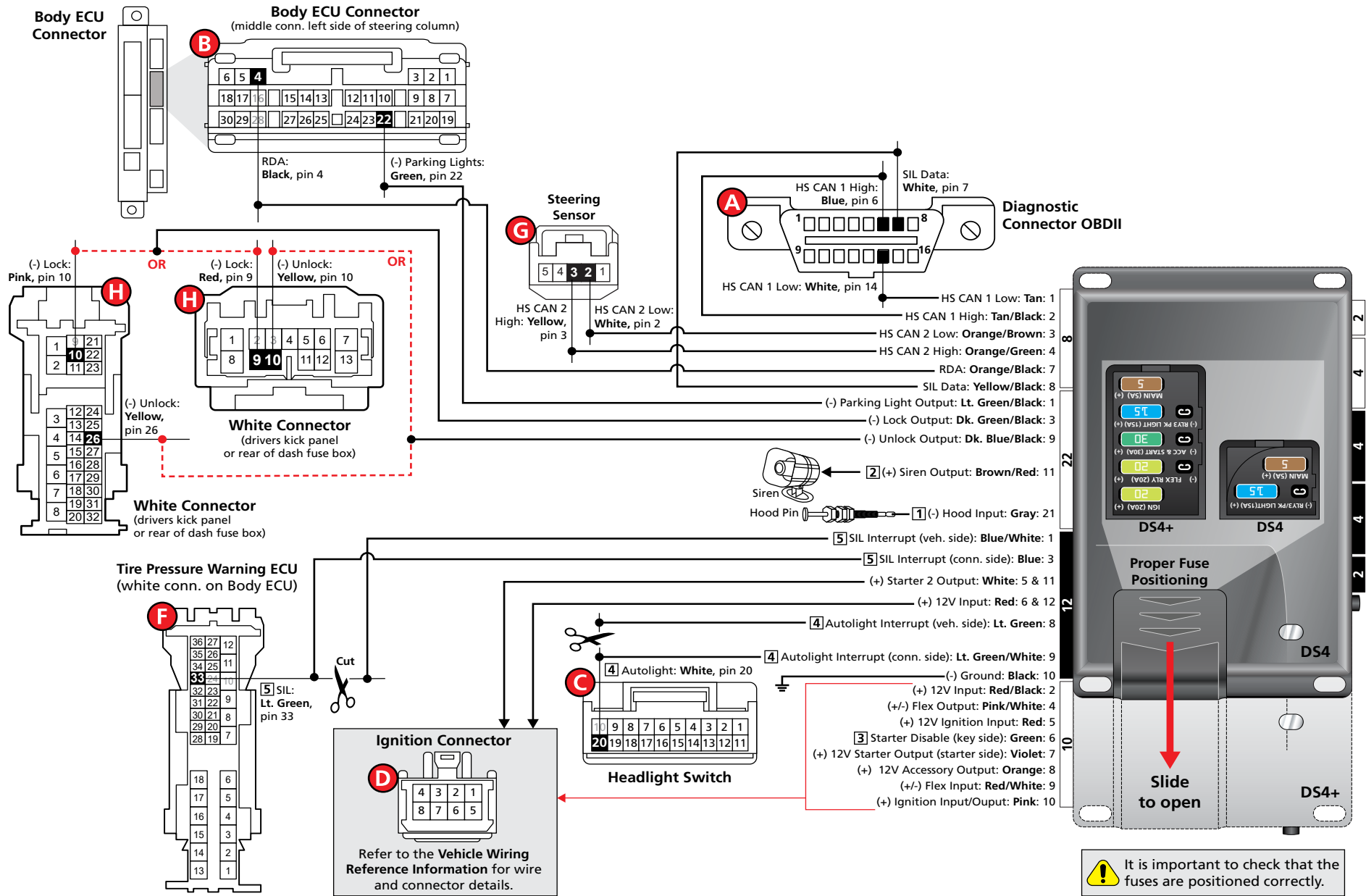
Type 10 with T-Harness (THTON3)

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



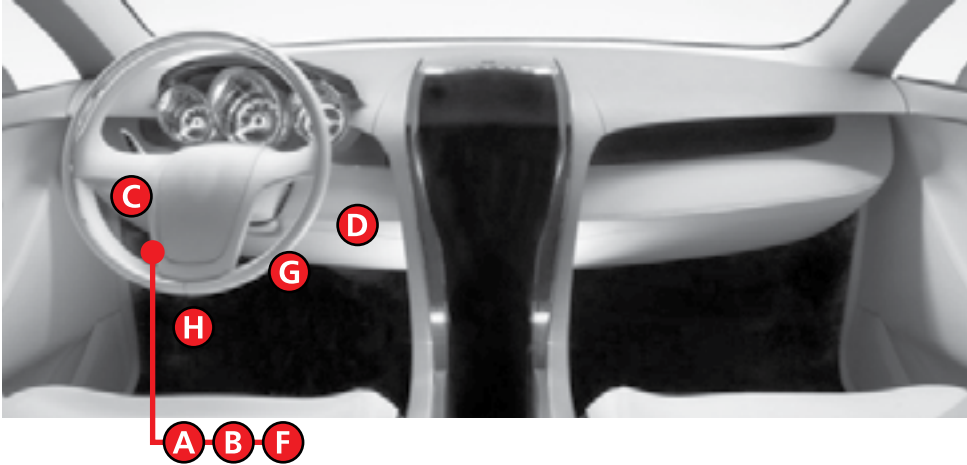
Type 10

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



Vehicle wiring reference chart

This section provides vehicle wiring information to guide you through the various stages of your installation. Refer to www.directechs.com for additional information.



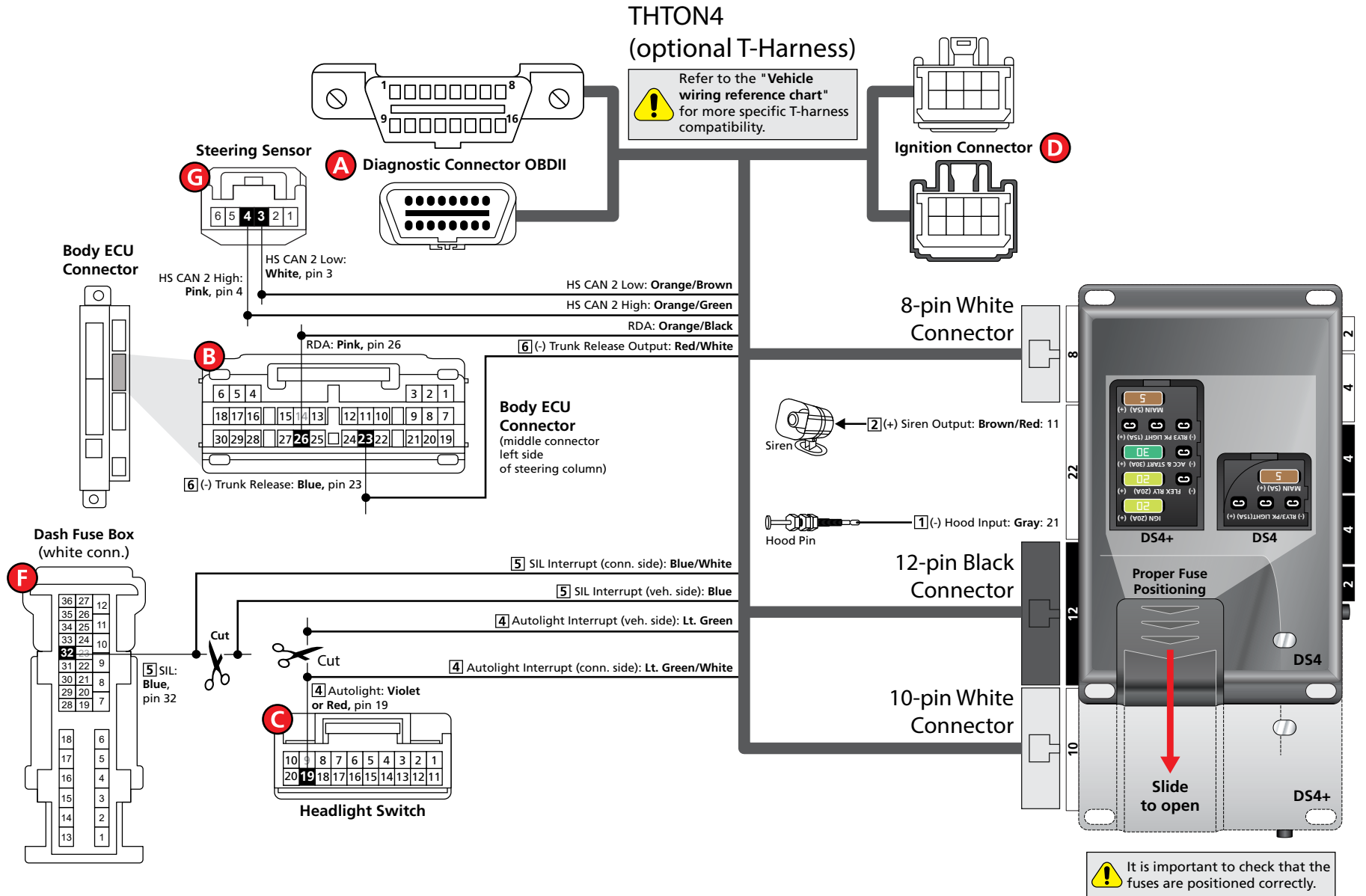
T-Harness compatibility

Vehicle	Year	T-Harness
Toyota Tacoma (H Key)	2016	THTON3

Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
Tacoma (H Key) 2016							
HS CAN 1 High	Blue	6	Data	OBDII.	White	16	A
HS CAN 1 Low	White	14	Data	OBDII.	White	16	A
SIL	White	7	Data	OBDII.	White	16	A
HS CAN 2 High	Yellow	3	Data	Steering sensor connector.	White	5	G
HS CAN 2 Low	White	2	Data	Steering sensor connector.	White	5	G
RDA	Black	4	Data	Middle Plug main body ECU left of steering column.	White	30	B
Parking Lights	Green	22	(-)	Middle Plug main body ECU left of steering column.	White	30	B
Autolights	White	20	Cut	Headlight switch	White	20	C
Accessory	Red	7	(+)	Ignition switch.	White	8	D
Ignition 1	Black	3	(+)	Ignition switch.	White	8	D
Ignition 2	White	8	(+)	Ignition switch.	White	8	D
Starter 1	Green	2	(+)	Ignition switch.	White	8	D
Starter 2	Violet	6	(+)	Ignition switch.	White	8	D
12V	Red	4	(+)	Ignition switch.	White	8	D
Lock	"Red (without window jam protection) or Pink (with window jam protection)"	9 or 10	(-)	Drivers kick panel or rear of dash fuse box.	White	13 or 32	H
Unlock	"Yellow (without window jam protection) or yellow (with window jam protection)"	10 or 26	(-)	Drivers kick panel or rear of dash fuse box.	White	13 or 32	H
SIL Interrupt	Lt. Green	33	Cut	Main Body ECU left of steering column.	White	36	F

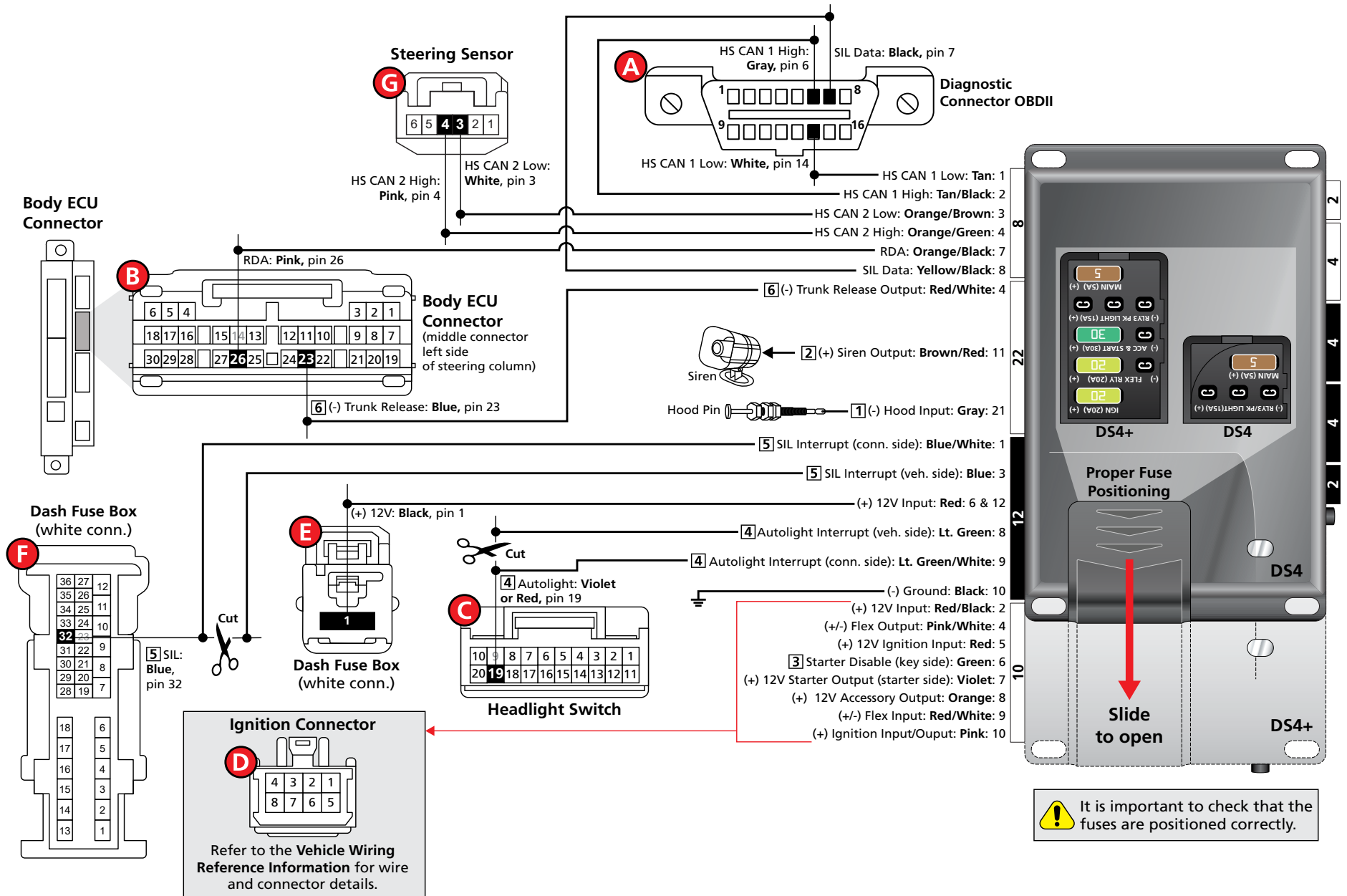
Type 11 with T-Harness (THTON4)

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



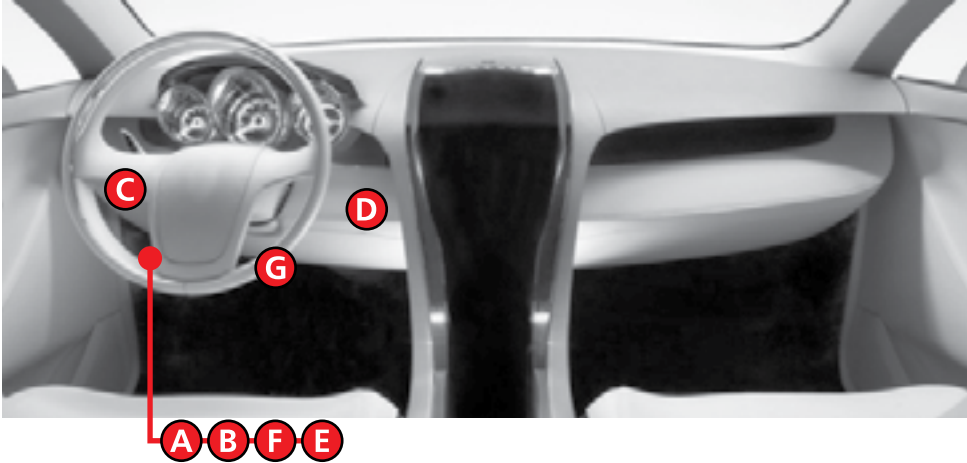
Type 11

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



Vehicle wiring reference chart

This section provides vehicle wiring information to guide you through the various stages of your installation. Refer to www.directechs.com for additional information.



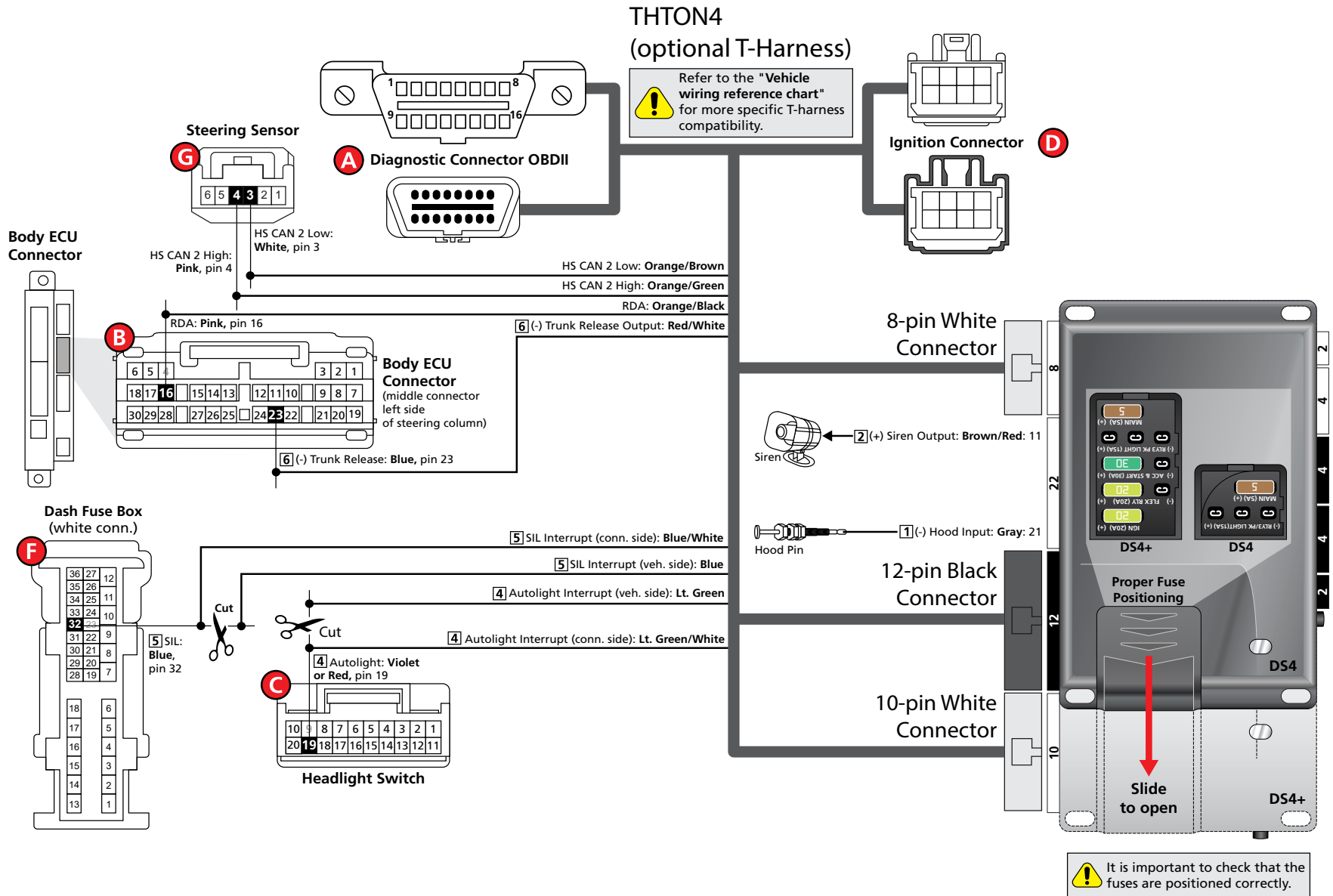
T-Harness compatibility

Vehicle	Year	T-Harness
Toyota Yaris Hatchback (H Key) w/ OEM Alarm	2017	THTON4

Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
Yaris Hatchback (H Key) w/ OEM Alarm 2017							
HS CAN 1 High	Gray	6	Data	OBDII.	White	16	A
HS CAN 1 Low	White	14	Data	OBDII.	White	16	A
SIL	Black	7	Data	OBDII.	White	16	A
HS CAN 2 High	Pink	4	Data	Steering sensor connector.	White	6	G
HS CAN 2 Low	White	3	Data	Steering sensor connector.	White	6	G
RDA	Pink	26	Data	Middle Plug main body ECU left of steering column.	White	30	B
Trunk Release	Blue	23	(-)	Middle Plug main body ECU left of steering column.	White	30	B
Autolights	Violet or Red	19	Cut	Headlight switch.	White	20	C
SIL Interrupt	Blue	32	Cut	Dash fuse box.	White	36	F
Accessory	Blue	2	(+)	Ignition switch.	White	8	D
Ignition 1	Pink	6	(+)	Ignition switch.	White	8	D
Ignition 2	Lt.Blue	1	(+)	Ignition switch.	White	8	D
Starter	Green	7	(+)	Ignition switch.	White	8	D
12V	Black	1	(+)	Dash fuse box.	White	1	E

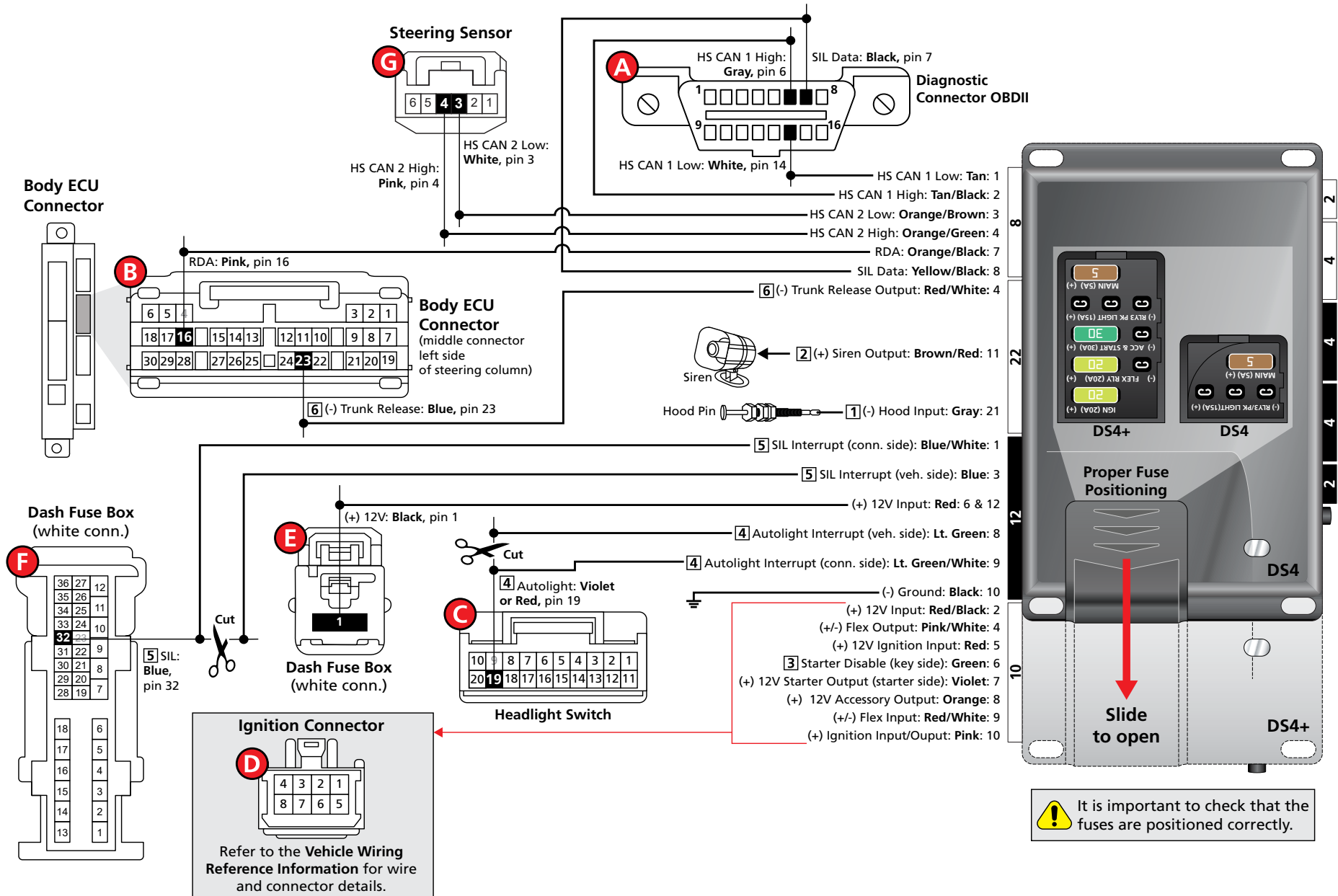
Type 12 with T-Harness (THTON4)

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



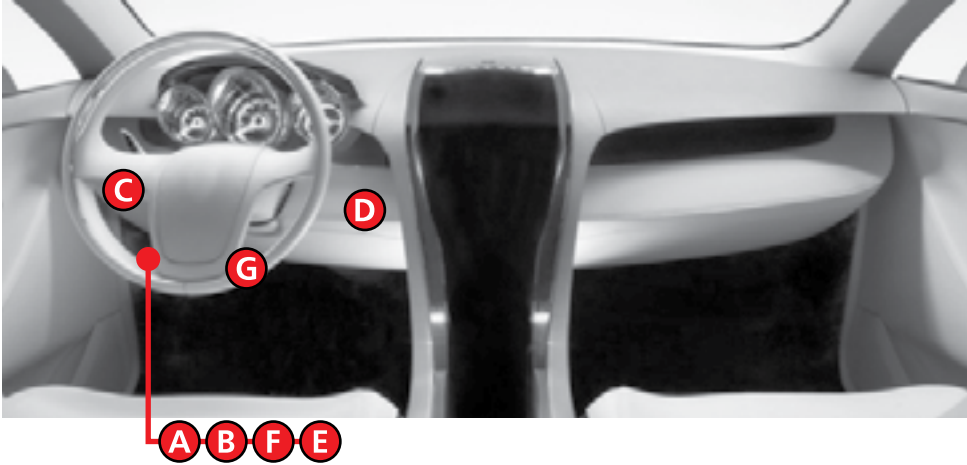
Type 12

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



Vehicle wiring reference chart

This section provides vehicle wiring information to guide you through the various stages of your installation. Refer to www.directechs.com for additional information.



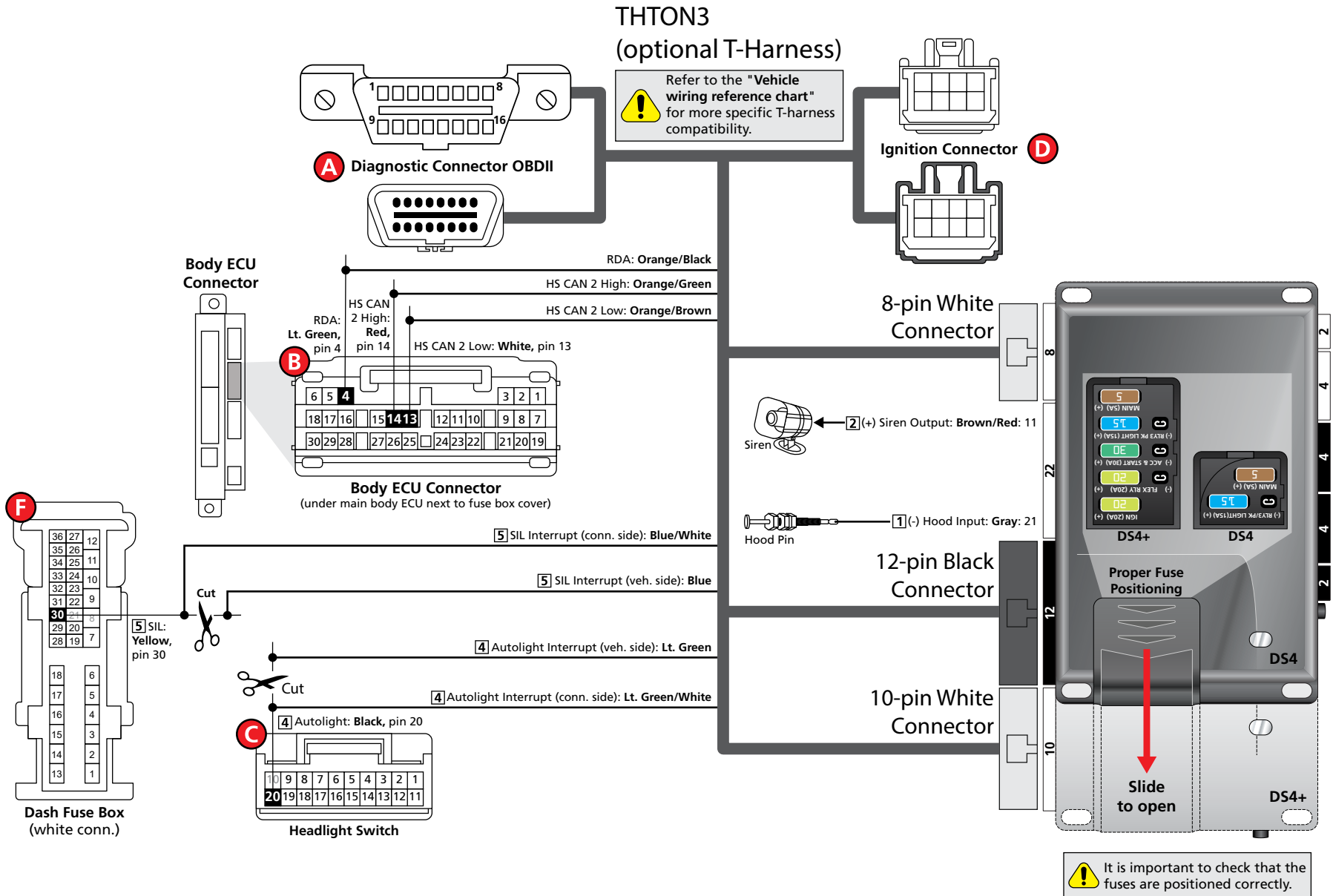
T-Harness compatibility

Vehicle	Year	T-Harness
Toyota Yaris Hatchback (H Key) w/o OEM Alarm	2017	THTON4

Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
Yaris Hatchback (H Key) w/o OEM Alarm 2017-2018							
HS CAN 1 High	Gray	6	Data	OBDII.	White	16	A
HS CAN 1 Low	White	14	Data	OBDII.	White	16	A
SIL	Black	7	Data	OBDII.	White	16	A
HS CAN 2 High	Pink	4	Data	Steering sensor connector.	White	6	G
HS CAN 2 Low	White	3	Data	Steering sensor connector.	White	6	G
RDA	Pink	16	Data	Middle Plug main body ECU left of steering column.	White	30	B
Trunk Release	Blue	23	(-)	Middle Plug main body ECU left of steering column.	White	30	B
Autolights	Violet or Red	19	Cut	Headlight switch.	White	20	C
SIL Interrupt	Blue	32	Cut	Dash Fuse Box	White	36	F
Accessory	Blue	2	(+)	Ignition switch.	White	8	D
Ignition 1	Pink	6	(+)	Ignition switch.	White	8	D
Ignition 2	Lt.Blue	1	(+)	Ignition switch.	White	8	D
Starter	Green	7	(+)	Ignition switch.	White	8	D
12V	Black	1	(+)	Dash fuse box.	White	1	E

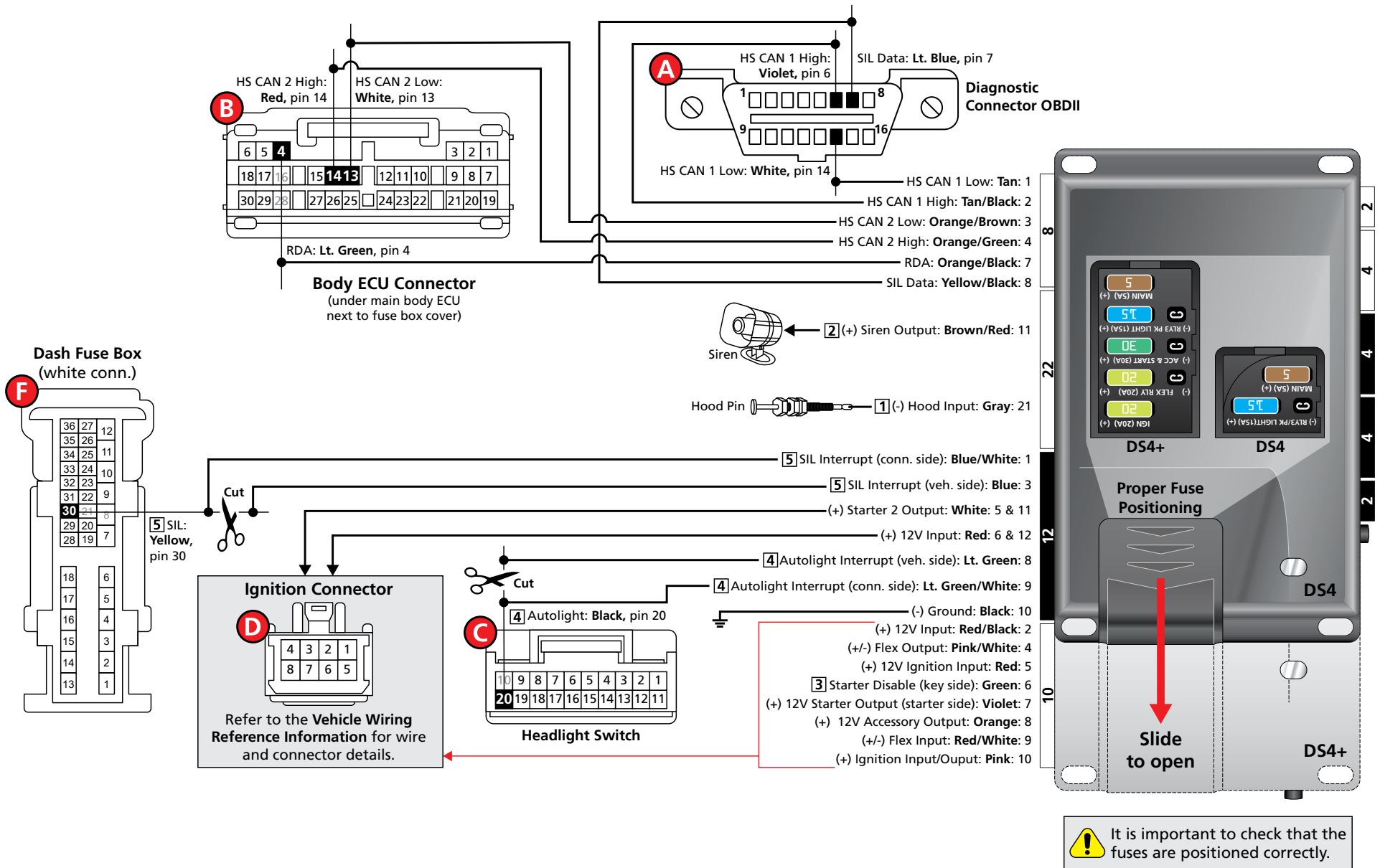
Type 13 with T-Harness (THTON3)

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



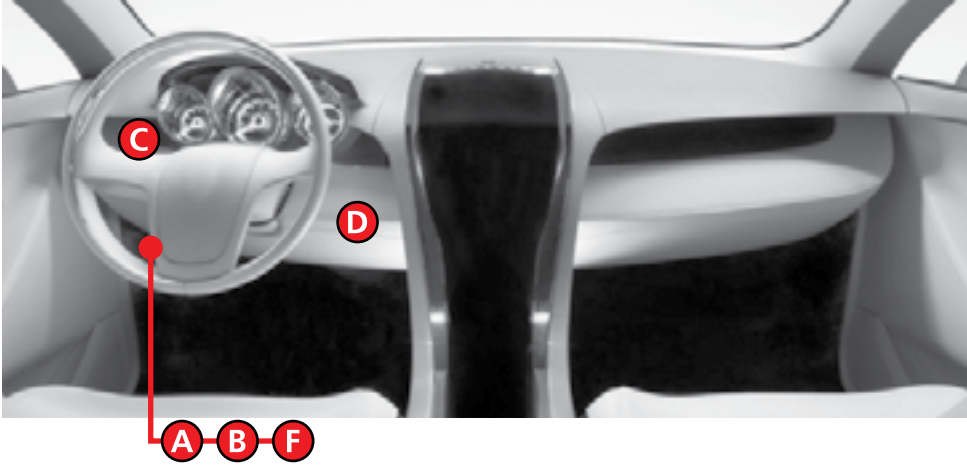
Type 13

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



Vehicle wiring reference chart

This section provides vehicle wiring information to guide you through the various stages of your installation. Refer to www.directechs.com for additional information.



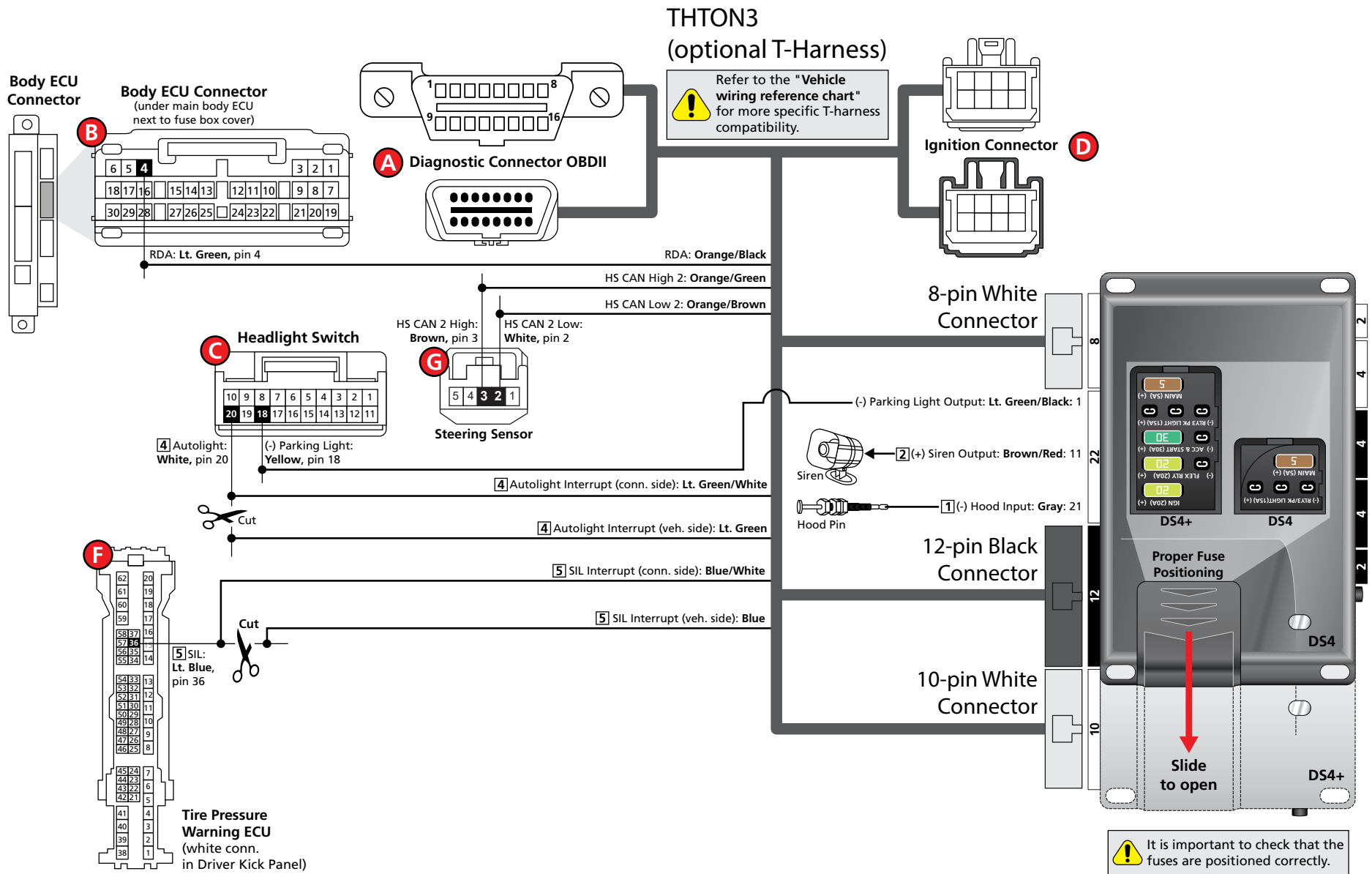
T-Harness compatibility

Vehicle	Year	T-Harness
Toyota Highlander (H Key)	2017	THTON3

Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
Highlander (H Key) 2017							
HS CAN 1 High	Violet	6	Data	OBDII.	White	16	A
HS CAN 1 Low	White	14	Data	OBDII.	White	16	A
SIL	Lt. Blue	7	Data	OBDII.	White	16	A
HS CAN 2 High	Red	14	Data	Middle Plug main body ECU left of steering column.	White	30	B
HS CAN 2 Low	White	13	Data	Middle Plug main body ECU left of steering column.	White	30	B
RDA	Lt. Green	4	Data	Middle Plug main body ECU left of steering column.	White	30	B
Autolights	Black	20	Cut	Headlight Switch.	White	20	C
SIL Interrupt	Yellow	30	Cut	Dash Fuse Box.	White	36	F
Accessory	Gray	7	(+)	Ignition switch.	White	8	D
Ignition 1	Black	3	(+)	Ignition switch.	White	8	D
Ignition2	Green	8	(+)	Ignition switch.	White	8	D
Starter 1	Blue	2	(+)	Ignition switch.	White	8	D
Starter 2	Gray	6	(+)	Ignition switch.	White	8	D
12V	Black	4	(+)	Ignition switch.	White	8	D

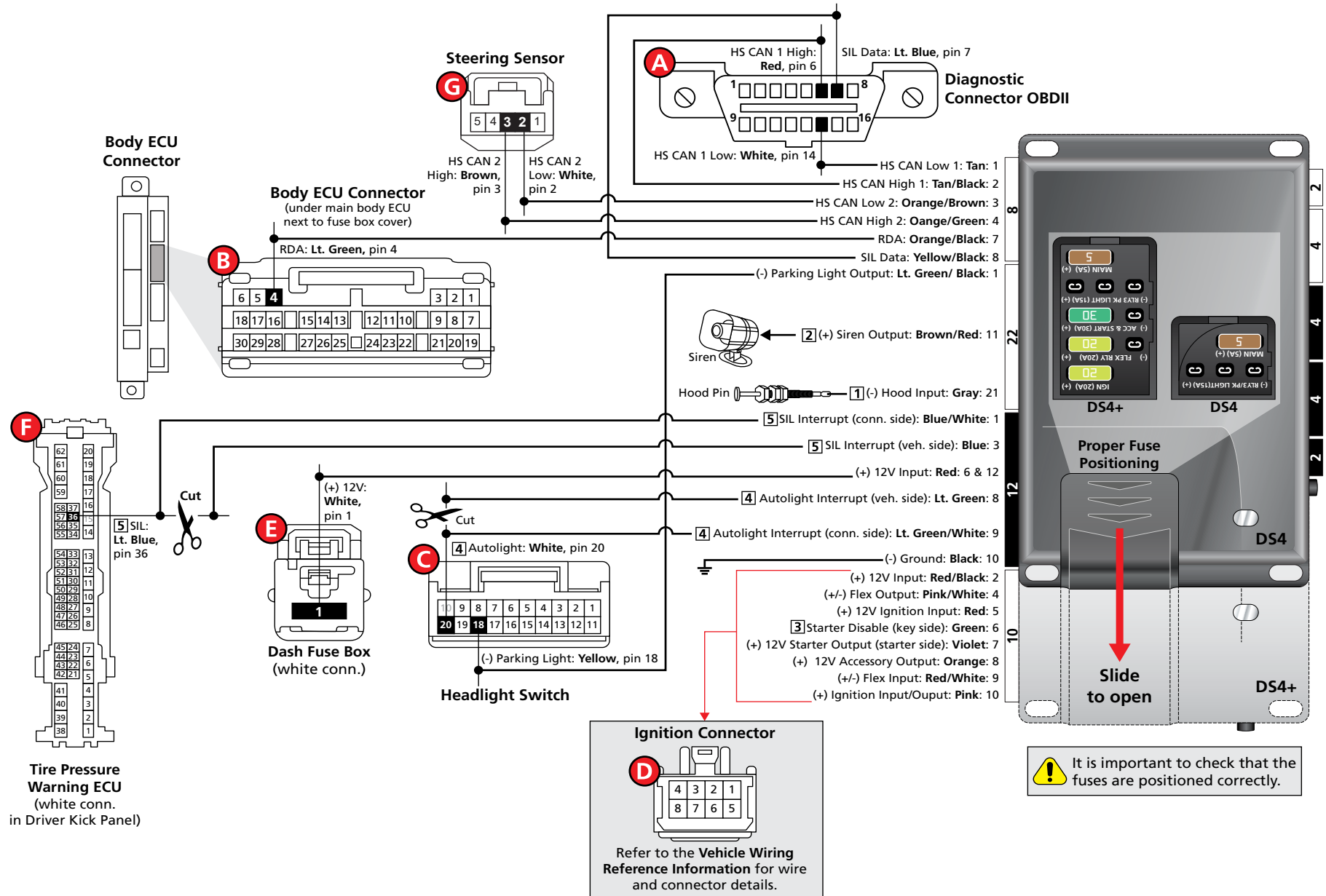
Type 14 with T-Harness (THTON3)

⚠️ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



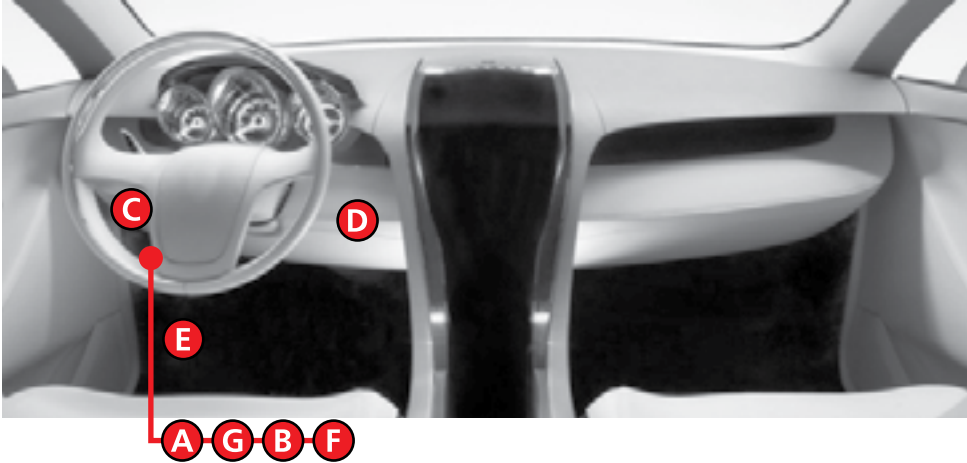
Type 14

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



Vehicle wiring reference chart

This section provides vehicle wiring information to guide you through the various stages of your installation. Refer to www.directechs.com for additional information.



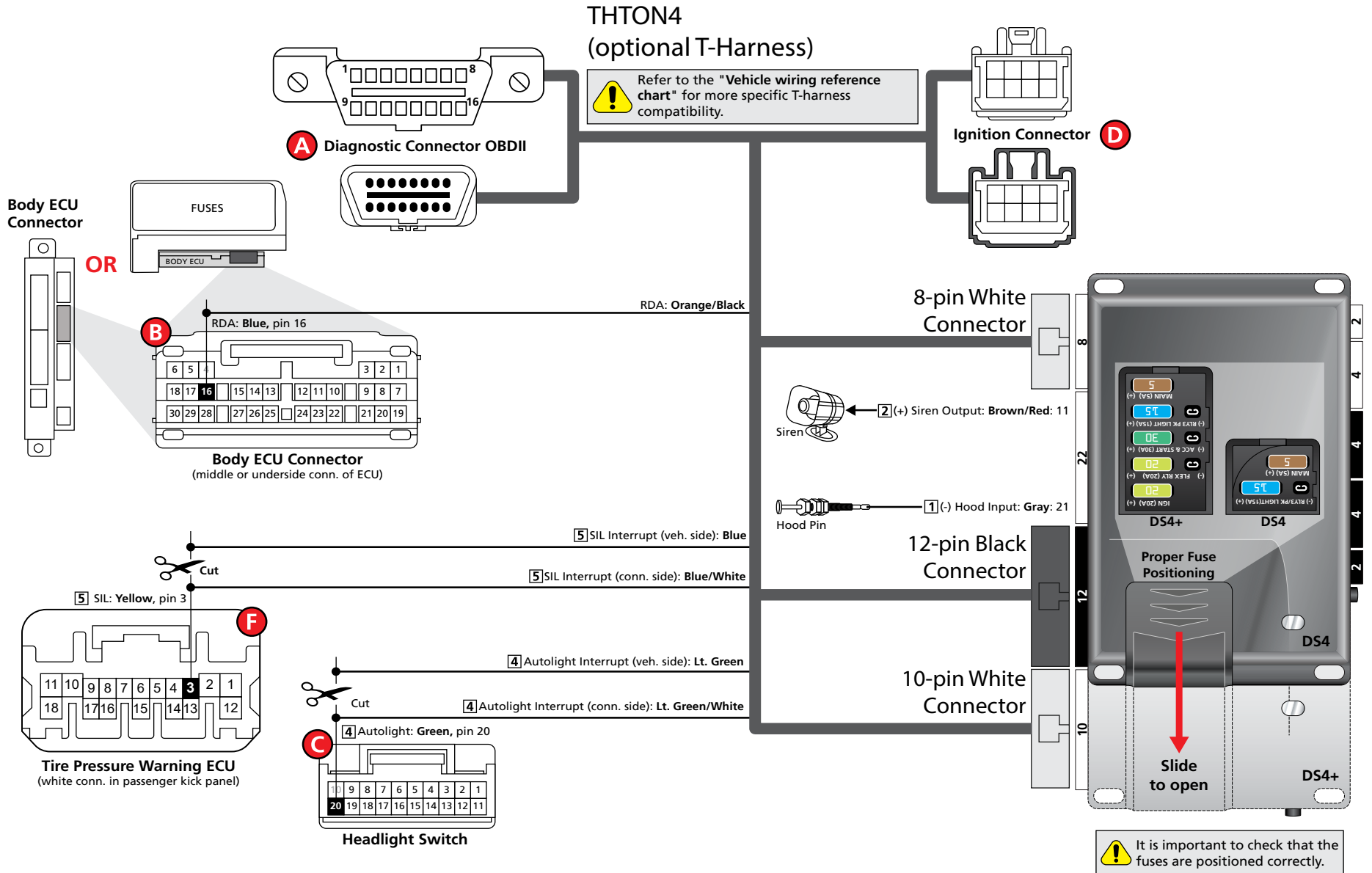
T-Harness compatibility

Vehicle	Year	T-Harness
Toyota CHR (H Key)	2018	THTON3

Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
CH-R (H Key) 2018							
HS CAN 1 High	Red	6	Data	OBDII	White	16	A
HS CAN 1 Low	White	14	Data	OBDII	White	16	A
SIL	Lt. Blue	7	Data	OBDII	White	16	A
HS CAN 2 High	Brown	3	Data	Steering sensor connector.	Blue	5	G
HS CAN 2 Low	White	2	Data	Steering sensor connector.	Blue	5	G
RDA	Lt. Green	4	Data	Body ECU connector.	White	30	B
Autolights	White	20	Cut	Headlight switch.	White	20	C
Parking Lights	Yellow	18	(-)	Headlight switch.	White	20	C
Accessory	Green	7	(+)	Ignition switch.	White	8	D
Ignition	Gray	8	(+)	Ignition switch.	White	8	D
Starter	Violet	6	(+)	Ignition switch.	White	8	D
12V	Black/White	1	(+)	Dash Fuse Box.	White	1	E
SIL Interrupt	Lt. Blue	36	Cut	Driver Kick Panel.	White	62	F

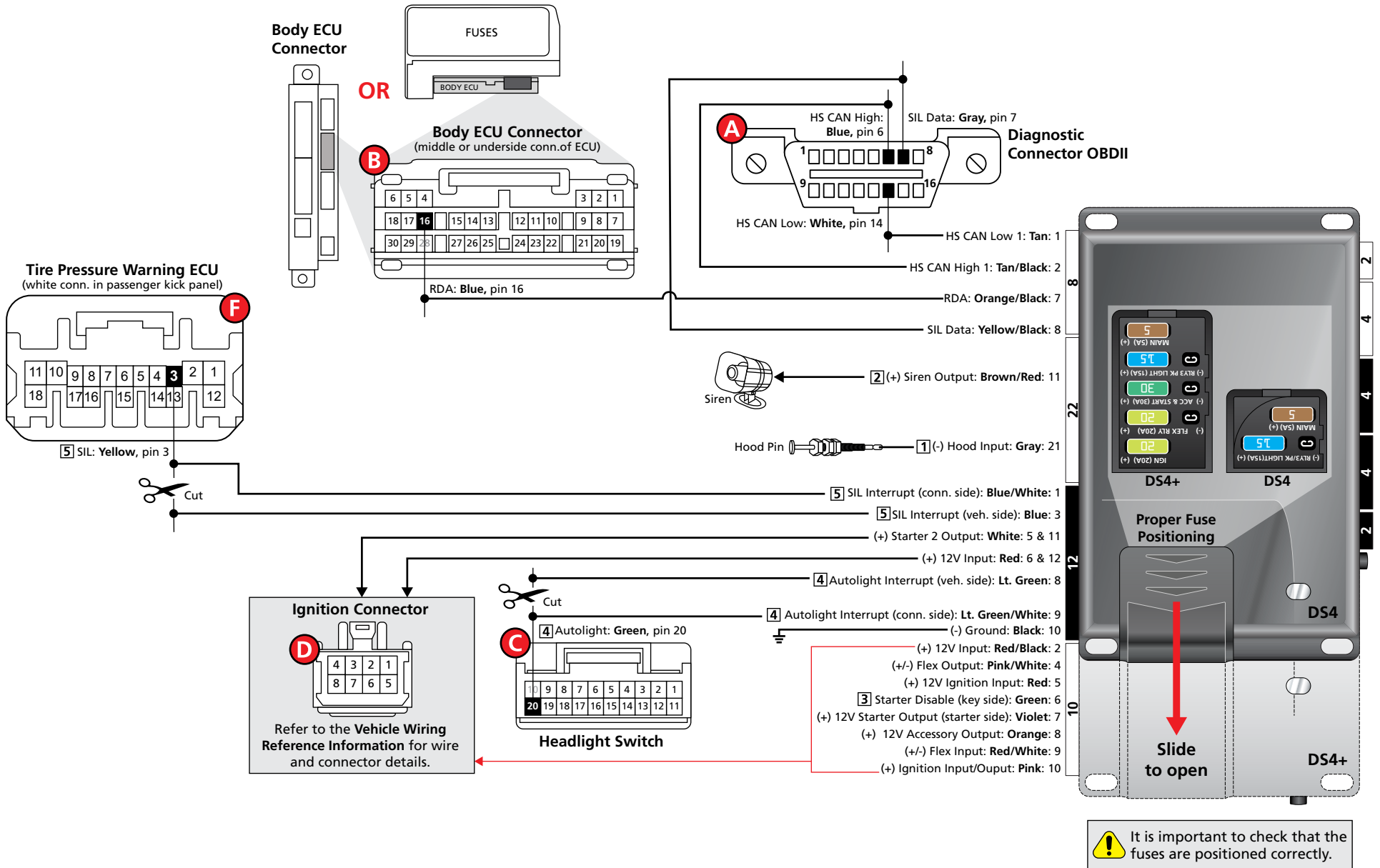
Type 15 with T-Harness (THTON4)

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



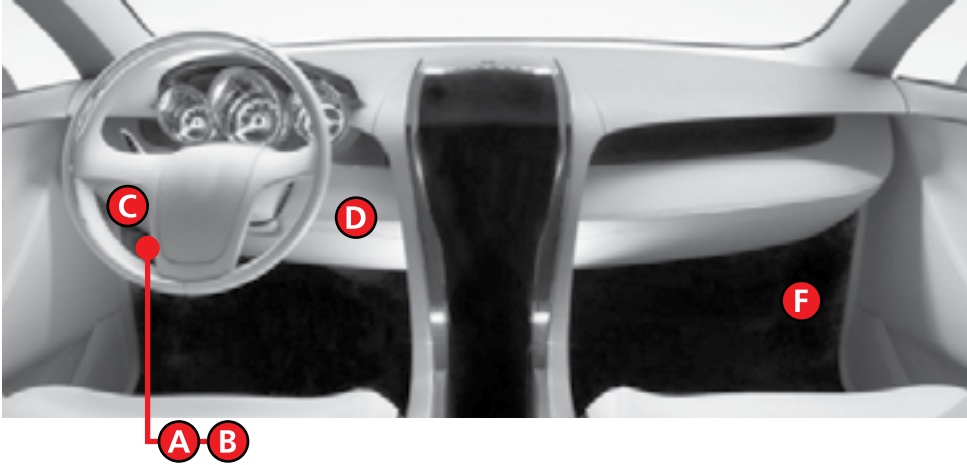
Type 15

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



Vehicle wiring reference chart

This section provides vehicle wiring information to guide you through the various stages of your installation. Refer to www.directechs.com for additional information.



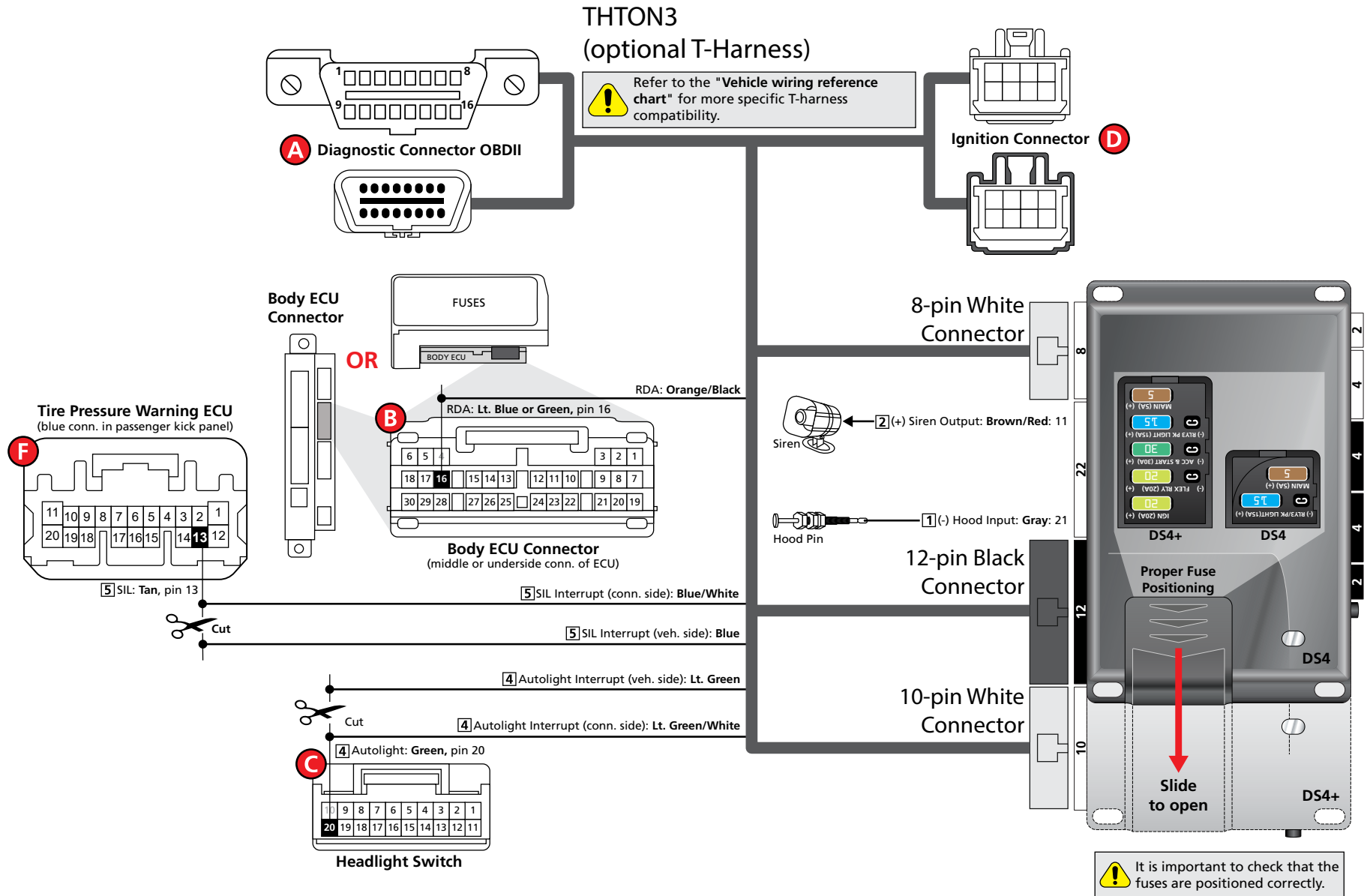
T-Harness compatibility

Vehicle	Year	T-Harness
Toyota Camry (H Key)	2015-2017	THTON4

Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
Camry (H Key) 2015-2017							
HS CAN High	Blue	6	Data	OBDII.	White	16	A
HS CAN Low	White	14	Data	OBDII.	White	16	A
SIL	Gray	7	Data	OBDII.	White	16	A
RDA	Blue	16	Data	Middle Plug main body ECU left of steering column.	White	30	B
Autolights	Green	20	Cut	Headlight switch.	White	20	C
Accessory	White	2	(+)	Ignition switch.	White	8	D
Ignition 1	Black	6	(+)	Ignition switch.	White	8	D
Ignition 2	Pink	1	(+)	Ignition switch.	White	8	D
Starter 1	Blue	7	(+)	Ignition switch.	White	8	D
Starter 2	Lt. Green	3	(+)	Ignition switch.	White	8	D
12V	Green	5	(+)	Ignition switch.	White	8	D
SIL Interrupt	Yellow	3	Cut	Passenger Kick Panel.	White	18	F

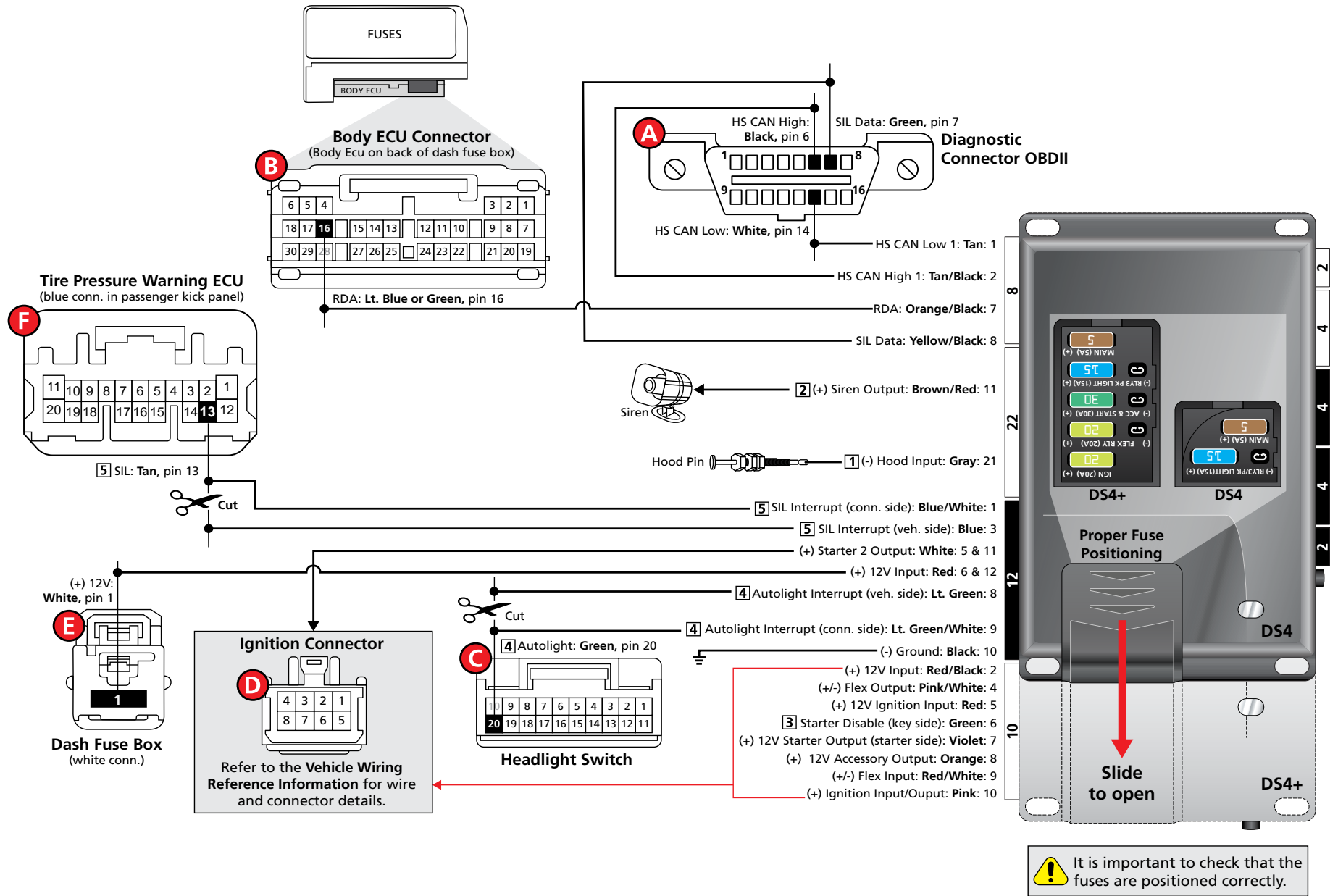
Type 16 with T-Harness (THTON3)

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



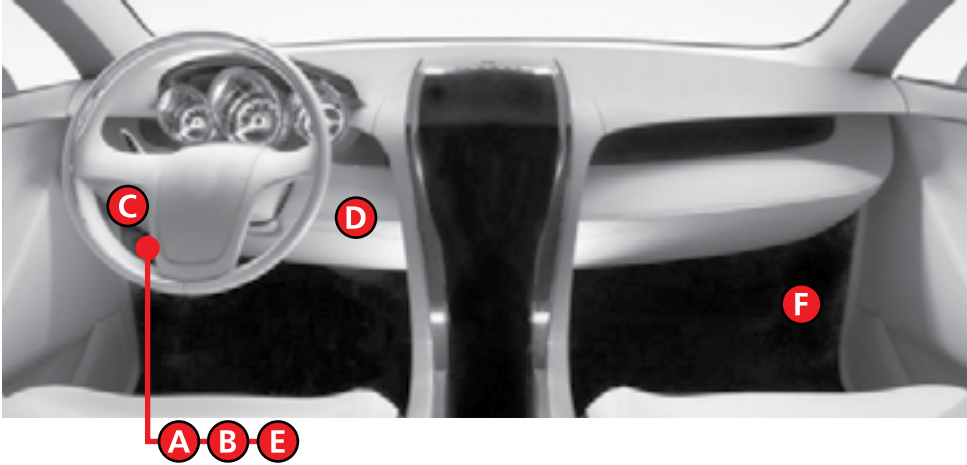
Type 16

⚠ Refer to "Pre-installation and application warnings" on page 5 for important information, such as the description of special notes referenced in the diagram (1 2 3).



Vehicle wiring reference chart

This section provides vehicle wiring information to guide you through the various stages of your installation. Refer to www.directechs.com for additional information.



T-Harness compatibility

Vehicle	Year	T-Harness
Toyota RAV 4 (H Key)	2013-2015	THTON3

Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
RAV4 (H Key) 2013-2015							
HS CAN High	Black	6	Data	OBDII.	White	16	A
HS CAN Low	White	14	Data	OBDII.	White	16	A
SIL	Green	7	Data	OBDII.	White	16	A
RDA	Lt. Blue or Green	16	Data	Body ECU on back of dash fuse box.	White	30	B
Autolights	Green	20	Cut	Headlight switch.	White	20	C
Accessory	Red	7	(+)	Ignition switch.	White	9	D
Ignition 1	White	3	(+)	Ignition switch.	White	8	D
Ignition 2	Pink	8	(+)	Ignition switch.	White	8	D
Starter 1	White	2	(+)	Ignition switch.	White	8	D
12V	White	1	(+)	Dash fuse box.	White	1	E
SIL Interrupt	Tan	13	Cut	Passenger Kick Panel.	Blue	20	F

Configuring the system

Important!

Once the DS4+ module is installed in the vehicle following the instructions in "Installation (wiring diagrams, fuse selection & vehicle wiring reference charts)" on page 10, **launch** the DirectLink application on your mobile device, and **select** Configure DS4/DS4+. **Follow** the on-screen instructions to configure the system.

Note: Your system can also be configured using XKLoader2 on www.directechs.com.

Vehicles equipped with a manual transmission

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+.

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.

8504D Combo Sensor

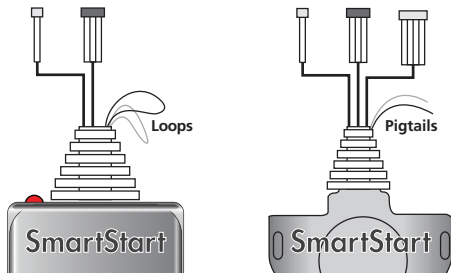
The 8504D Combo Sensor must be paired to the device before it can be used. To enter pairing, **turn** the vehicle ignition to the ON position, then **press** and **hold** the programming button on the Control Center (antenna) until the LED starts flashing. Once pairing mode has been entered, your Combo Sensor is ready to use.

Your 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 your sensor for more information on how to make adjustments.

When used in conjunction with SmartStart

To enable D2D communication between the DS4+ and the SmartStart one of the following actions must be executed:

- 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 SmartStart 2-pin power harness when using the DS4+. Power and ground will be provided by the D2D connector on main module. Refer to the SmartStart documentation for further details.

D2D port configuration

The system will automatically configure the D2D ports based on your selections in the module programming. The white D2D port is reserved for SmartStart. To ensure proper functionality with SmartStart, it is important that it is selected in the system programming of the DirectLink application or via the online web tool.


Note: Both black D2D ports are reserved for the Control Center (antenna) and 8504D Combo Sensor.

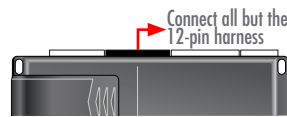
Module programming

 Refer to "LED diagnostics and troubleshooting" on page 60 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** all the harnesses to the DS4+, **EXCEPT** the 12-pin main power harness.

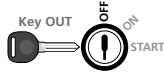

- 3** **Connect** the 12-pin main power harness, and wait until the LED turns ON solid red.


Note: To skip the transponder programming and use convenience features only, press the programming button 5 times. The LED will turn orange then proceed to step 4.




- 4** **Insert** and **turn** the key to the ignition position. Wait for the LED to turn on solid green for 3 seconds, and turn OFF.

Note: If transponder programming was skipped, the LED turns ON solid orange for 3 seconds then shuts off when programming is done.




- 5** **Turn** vehicle ignition OFF once the module is successfully programmed.


- 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. *


- 7** By default, the tachometer is preprogrammed for the vehicle. For instructions on how to program tach, see page 63.













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

You have successfully completed the module programming sequence.









LED diagnostics and troubleshooting

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

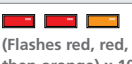
Module programming

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 red	Waiting to begin the programming sequence.	Ensure the correct programming procedure is being followed.
 Flashes red & green	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 the RXT mode is not desired or convenience features are needed, please reset and reprogram the module.
 Flashes red	Custom 1.	Custom 1.
 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" on page 59 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.






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, fuse selection & vehicle wiring reference charts)" on page 9 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, fuse selection & vehicle wiring reference charts)" on page 9 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, fuse selection & vehicle wiring reference charts)" on page 9 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, fuse selection & vehicle wiring reference charts)" on page 9 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.	
 Flashes orange x 3	TRUNK command received.	
 Flashes orange x 4	AUX1 command received.	
 Flashes orange x 5	AUX2 command received.	
 Flashes orange x 6	AUX3 command received.	

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.

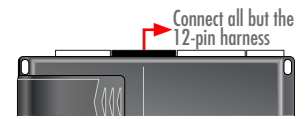
Analog error codes

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

Soft reset

A module reset will only erase the steps performed in "Module programming" on page 59. The firmware and settings flashed to the module will not be affected.

- 1 If required for your installation, **connect** all the harnesses to the DS4+, **EXCEPT** the 12-pin main power harness. **Press** and **hold** the programming button, then **connect** the 12-pin harness to the module.



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

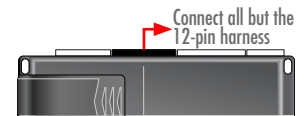


Hard reset

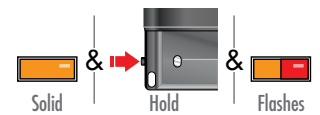
Warning Against Executing a Hard Reset!

A hard reset will revert the flashed firmware back to its default 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 DS4+, **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 **Release** the programming button. The LED turns ON solid red.



Learning the Tach (not needed with Virtual Tach)

Tach comes preprogrammed, therefore learning is not required; however, it can be readjusted with the following operations:

1. **Start** the vehicle using the key.
2. Within 5 seconds, **press** and **hold** the Control Center (antenna) or the main module programming button, until the LED on the Control Center (antenna) or the main module turns ON solid.
3. **Release** the button. The 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 module reset must be done.

Note: Virtual Tach cannot be used in Manual Transmission Mode. It is also not recommended for diesel trucks.

Virtual Tach handles disengaging the starter motor during remote starting – it does not address over-rev. If the customer wants to have the over-rev protection capability, the tach wire or data tach must be used.

Important! 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 using the DirectLink application for mobile devices to adjust the starter output time in 50mS increments to compensate for such an occurrence.

Limited lifetime consumer warranty

Directed Electronics. ("Directed") promises to the original purchaser to repair or replace (at Directed's election) with a comparable reconditioned model any Directed unit (hereafter the "unit"), excluding without limitation the siren, the remote transmitters, the associated sensors and accessories, which proves to be defective in workmanship or material under reasonable use during the lifetime of the vehicle provided the following conditions are met: the unit was purchased from an authorized Directed dealer, the unit was professionally installed and serviced by an authorized Directed dealer; the unit will be professionally reinstalled in the vehicle in which it was originally installed by an authorized Directed dealer; and the unit is returned to Directed, shipping prepaid with a legible copy of the bill of sale or other dated proof of purchase bearing the following information: consumer's name, telephone number and address; the authorized dealers name, telephone number and address; complete product description, including accessories; the year, make and model of the vehicle; vehicle license number and vehicle identification number. All components other than the unit, including without limitation the siren, the remote transmitters and the associated sensors and accessories, carry a one-year warranty from the date of purchase of the same. ALL PRODUCTS RECEIVED BY DIRECTED FOR WARRANTY REPAIR WITHOUT PROOF OF PURCHASE FROM AN AUTHORIZED DEALER WILL BE DENIED. This warranty is non-transferable and is automatically void if: the unit's date code or serial number is defaced, missing or altered; the unit has been modified or used in a manner contrary to its intended purpose; the unit has been damaged by accident, unreasonable use, neglect, improper service, installation or other causes not arising out of defects in materials or construction. The warranty does not cover damage to the unit caused by installation or removal of the unit. Directed, in its sole discretion, will determine what constitutes excessive damage and may refuse the return of any unit with excessive damage.

TO THE MAXIMUM EXTENT ALLOWED BY LAW, ALL WARRANTIES, INCLUDING BUT NOT LIMITED TO EXPRESS WARRANTY, IMPLIED WARRANTY, WARRANTY OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF NON-INFRINGEMENT OF INTELLECTUAL PROPERTY, ARE EXPRESSLY EXCLUDED; AND DIRECTED NEITHER ASSUMES NOR AUTHORIZES ANY PERSON OR ENTITY TO ASSUME FOR IT ANY DUTY, OBLIGATION OR LIABILITY IN CONNECTION WITH ITS PRODUCTS. DIRECTED DISCLAIMS AND HAS ABSOLUTELY NO LIABILITY FOR ANY AND ALL ACTS OF THIRD PARTIES INCLUDING ITS AUTHORIZED DEALERS OR INSTALLERS. DIRECTED SECURITY SYSTEMS, INCLUDING THIS UNIT, ARE DETERRENENTS AGAINST POSSIBLE THEFT. DIRECTED IS NOT OFFERING A GUARANTEE OR INSURANCE AGAINST VANDALISM, DAMAGE OR THEFT OF THE AUTOMOBILE, ITS PARTS OR CONTENTS; AND HEREBY EXPRESSLY DISCLAIMS ANY LIABILITY WHATSOEVER, INCLUDING WITHOUT LIMITATION, LIABILITY FOR THEFT, DAMAGE AND/OR VANDALISM. THIS WARRANTY DOES NOT COVER LABOR COSTS FOR MAINTENANCE, REMOVAL OR REINSTALLATION OF THE UNIT OR ANY CONSEQUENTIAL DAMAGES OF ANY KIND. IN THE EVENT OF A CLAIM OR A DISPUTE INVOLVING DIRECTED OR ITS SUBSIDIARY, THE VENUE SHALL BE SAN DIEGO COUNTY IN THE STATE OF CALIFORNIA. CALIFORNIA STATE LAWS AND APPLICABLE FEDERAL LAWS SHALL APPLY AND GOVERN THE DISPUTE. THE MAXIMUM RECOVERY UNDER ANY CLAIM AGAINST DIRECTED SHALL BE STRICTLY LIMITED TO THE AUTHORIZED DIRECTED DEALER'S PURCHASE PRICE OF THE UNIT. DIRECTED SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES WHATSOEVER, INCLUDING BUT NOT LIMITED TO, ANY CONSEQUENTIAL DAMAGES, INCIDENTAL DAMAGES, DAMAGE TO VEHICLE, DAMAGES FOR THE LOSS OF TIME, LOSS OF EARNINGS, COMMERCIAL LOSS, LOSS OF ECONOMIC OPPORTUNITY AND THE LIKE. NOTWITHSTANDING THE ABOVE, THE MANUFACTURER DOES OFFER A LIMITED WARRANTY TO REPLACE OR REPAIR THE CONTROL MODULE SUBJECT TO THE CONDITIONS AS DESCRIBED HEREIN. THIS WARRANTY IS VOID IF THE UNIT HAS NOT BEEN PURCHASED FROM DIRECTED, OR AN AUTHORIZED DIRECTED DEALER, OR IF THE UNIT HAS BEEN DAMAGED BY ACCIDENT, UNREASONABLE USE, NEGLIGENCE, ACTS OF GOD, NEGLIGENCE, IMPROPER SERVICE, OR OTHER CAUSES NOT ARISING OUT OF DEFECT IN MATERIALS OR CONSTRUCTION.

Some states do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages. This warranty gives you specific legal rights and you may also have other rights that vary from State to State.

This warranty is only valid for sale of product(s) within the United States of America and in Canada. Product(s) sold outside of the United States of America or Canada are sold "AS-IS" and shall have NO WARRANTY, express or implied.

For further details relating to warranty information of Directed products, please visit the support section of Directed's website at: www.directed.com.

This product may be covered by a Guaranteed Protection Plan ("GPP"). See your authorized Directed dealer for details of the plan or call Directed Customer Service at 1-800-876-0800.

(920-10011-01 2011-06)

Quick Reference Guide



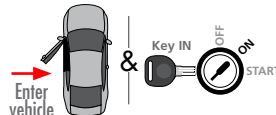

Sending commands to your vehicle

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.




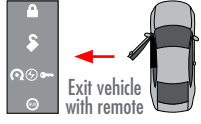
If applicable, you can also start the engine remotely by pressing the Lock button 3 times quickly on your factory remote.

Vehicle takeover with regular key

- 1 **Close** the vehicle doors, hood and trunk, then **send** the Remote Start command to start the vehicle.* 
- 2 **Send** the Unlock command on the factory or aftermarket remote.* 
- 3 **Enter** the vehicle, **insert** your key in the ignition barrel, and **turn** it to the ON position. 
- 4 **Depress** the brake pedal, **put** the car in gear and **drive** off. 

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






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 , Clifford, Python, Avital 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

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
