



KIA MOTORS

KIA Genuine Accessories

Vehicle Model Forte (Push Button)
Model Year 2014 ~
Part No. A7056 ADU10

Accessory Remote Engine Start
Difficulty (B)

Note: Difficulty stated above reflects the minimum level of expertise required to install the accessory

(A) Customer (B) Dealer Technician (C) Master Technician

Ensure vehicle is equipped with automatic transmission, power door locks and power windows. If the vehicle is not equipped with these options, do not proceed. Ensure vehicle DOES have SMART KEY.

Instruction Symbols / Definitions

	Denotes warnings that may lead to serious physical injury or vehicle damage.		Denotes quality processes to be checked prior to moving to the next step.	Denotes safety equipment required to be used such as a mask, goggles, rubber gloves, and hearing protection.	
	Denotes cautions to be taken to avoid physical injury or electronic component damage.		Denotes specific tools that are necessary to complete the step.		
	Denotes cautions to be taken to avoid vehicle and component damage.	NOTE	Denotes instructional steps necessary to complete the process.		

Basic Required Hand Tools

Ratchet	10 mm Socket	13 mm Deep Socket
#2 Phillips Screwdriver	Pliers	Extension
Trim Tool	Wire Cutters	Alcohol Cleaner / Clean Cloth
Torque Wrench	Tape Measure	

Notes to the Installer:

Read the entire installation manual prior to beginning the installation of the accessory.

Factory wire harness colors are subject to change, please use the specified pin # in the harness connector to identify the correct wire for T-Tap installation.

Ensure that the vehicle is properly protected in the area that the accessory is to be installed.

To prevent vehicle damage, never place tools on top of painted surfaces, seats, dash pad, console or floor carpet / mat.

Always wear appropriate safety gear to include gloves and eye protection when required.

To prevent stress on the remote start wire harness, ensure the tilt/telescopic steering column is fully extended, if equipped.

Ensure the transportation fuse is properly installed before performing the function check on page 19.

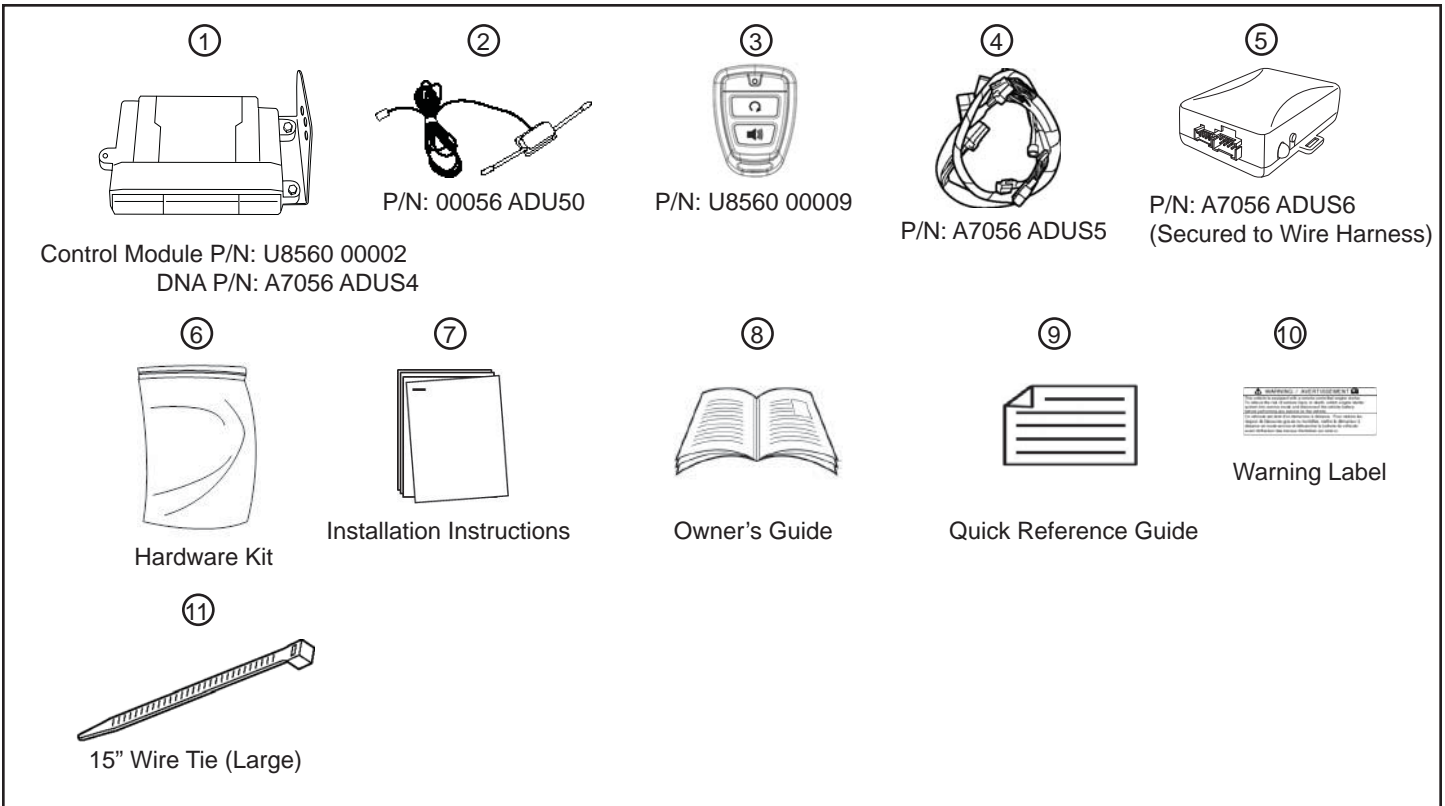


Technical Support

For Authorized Dealers - (800) 667-5176

Hours: 9:00 a.m. - 5:30 p.m. EST Monday - Friday

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① Control Module P/N: U8560 00002
DNA P/N: A7056 ADUS4

② P/N: 00056 ADU50

③ P/N: U8560 00009

④ P/N: A7056 ADUS5

⑤ P/N: A7056 ADUS6
(Secured to Wire Harness)

⑥ Hardware Kit

⑦ Installation Instructions

⑧ Owner's Guide





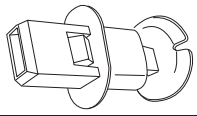
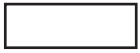
⑨ Quick Reference Guide

⑩ Warning Label

⑪ 15" Wire Tie (Large)

No.	Qty.	Description	No.	Qty.	Description
1	1	Control Module/DNA	7	1	Installation Instructions
2	1	Dipole Antenna	8	1	Owner's Guide
3	2	Transmitters	9	1	Quick Reference Guide
4	1	Wire Harness	10	1	Warning Label
5	1	CAN Interface Module	11	6*	15" Wire Tie (Large)
6	1	Hardware Kit			

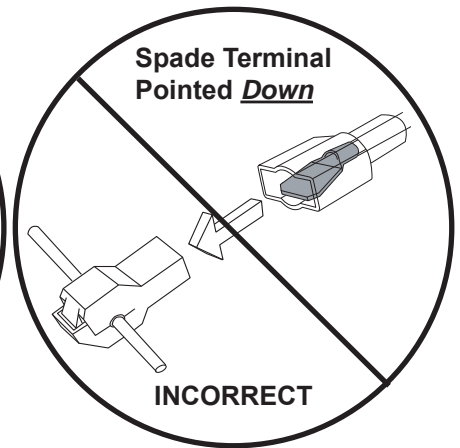
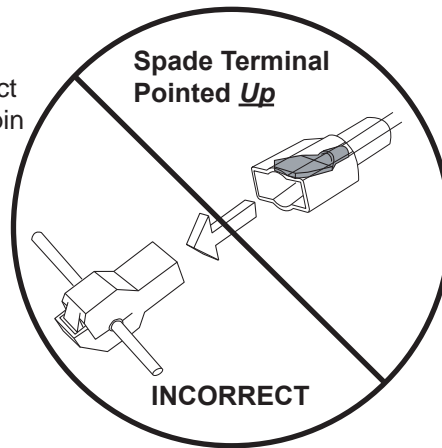
Hardware Kit Contents

A		B		C		D	
18*	8" Wire Tie (Small)	7*	Female T-Tap	3	Small Foam Tape	2	M8 Serrated Flange Hex Nut
E		F		Hardware Kit Total			
1	Tether Clip P/N: 85815 1R000	1	Large Foam Tape	32			

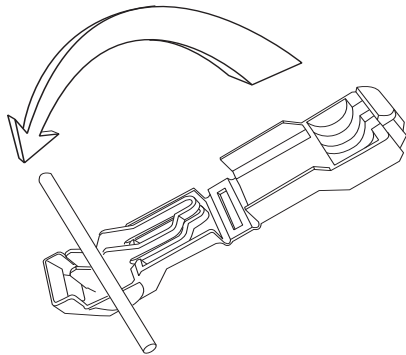
* Extra components intentionally placed in kit as spares. Please follow directions for proper placement of each component.

T-Tap Installation Procedure

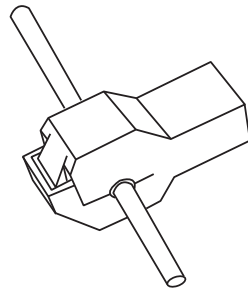
Factory wire harness colors are subject to change. Please use the specified pin # in the harness connector to identify the correct wire for T-Tap installation.



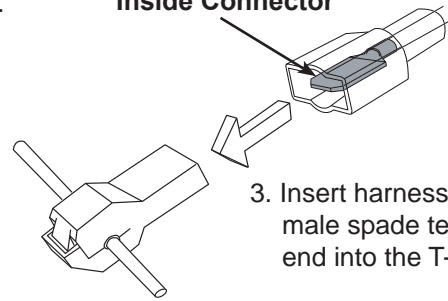
1. Place T-Tap on vehicle wire.



2. Using pliers, close and crimp T-Tap around vehicle wire.

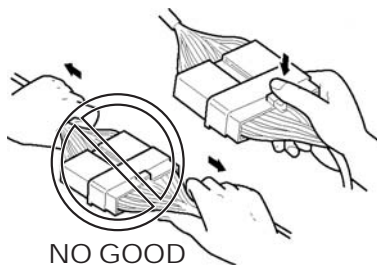


CORRECT
Spade Terminal CENTERED
Inside Connector



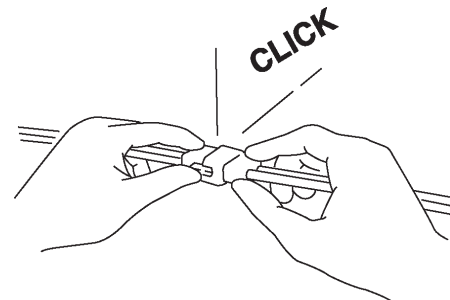
3. Insert harness wire with male spade terminal end into the T-Tap.

**** Extreme care must be taken to ensure that the male spade terminal is inserted into the T-Tap properly.**



Disconnecting Connectors

When disconnecting connectors, grasp the connectors, not the wires.

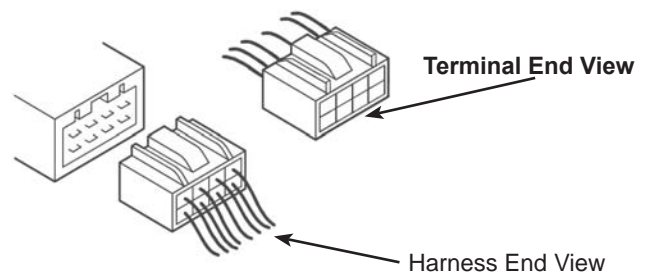
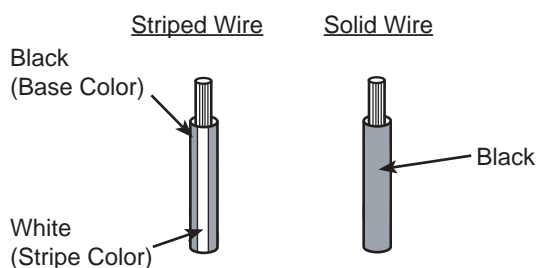


Locking Connectors

When locking connectors, listen for a click indicating they are securely locked.

Wire Colors

When a two-color wire is listed, the first color indicates the base color of the wire, the second color indicates the color of the stripe. For example: Black/White.



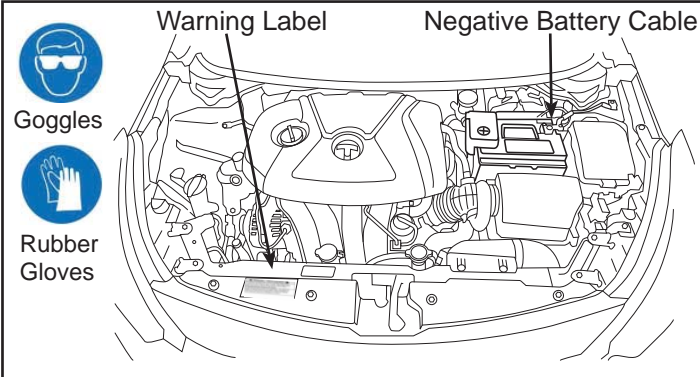
Connector Diagrams

Connector diagrams may be shown on the harness side or the terminal side, extreme care must be taken to verify proper terminal location before a T-Tap connection is made.

Vehicle Preparation

0

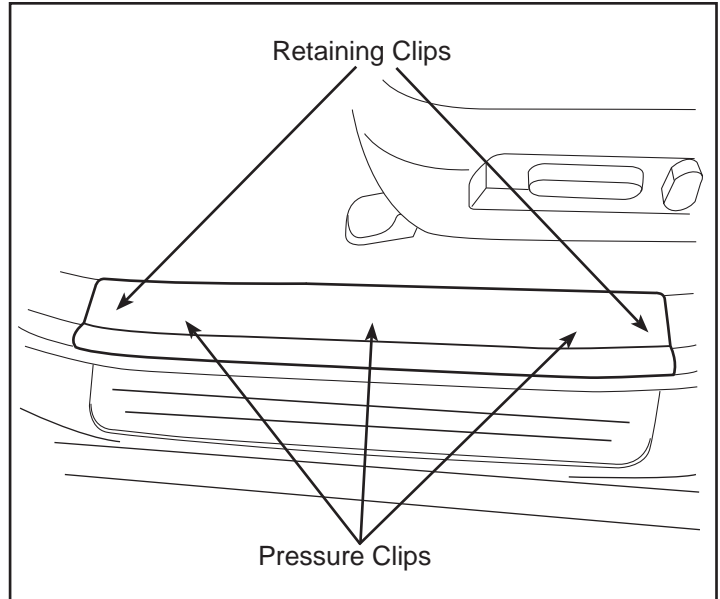
1. Clean hands.
2. Set the parking brake and open driver's door window.
3. Vehicle should be at room temperature.
4. **Ensure vehicle is equipped with automatic transmission, power door locks and power windows. If the vehicle is not equipped with these options, do not proceed. Ensure vehicle DOES have SMART KEY.**
5. **ENSURE THE TILT/TELESCOPIC STEERING WHEEL COLUMN IS FULLY EXTENDED AND LOCKED BEFORE INSTALLING THIS ACCESSORY.**



Ratchet, 10 mm Socket, Alcohol Cleaner and Clean Cloth **1**

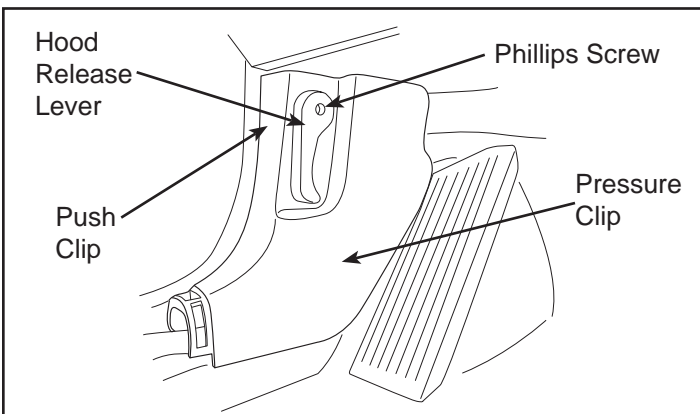
- N O T E**
1. Remove and isolate the negative battery cable from the battery.
 2. Using alcohol cleaner and a clean cloth, clean the top surface of the plastic cover near the radiator core support. Ensure the surface is completely dry.
 3. Remove the backing on the warning label and mount in place, as shown above.

WARNING! Shock Hazard. Do not touch vehicle's negative battery terminal to vehicle's positive battery terminal. Serious physical injury or vehicle damage may occur.



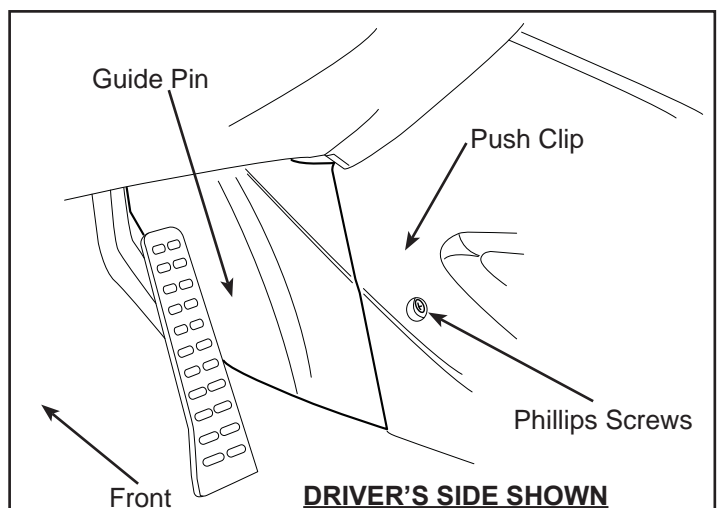
Trim Tool **2**

- N O T E**
1. Remove the driver's side front door step sill trim panel by inserting the trim removal tool under the trim panel and prying upward to release the three (3) pressure clips and two (2) retaining clips.



#2 Phillips Screwdriver and Trim Tool **3**

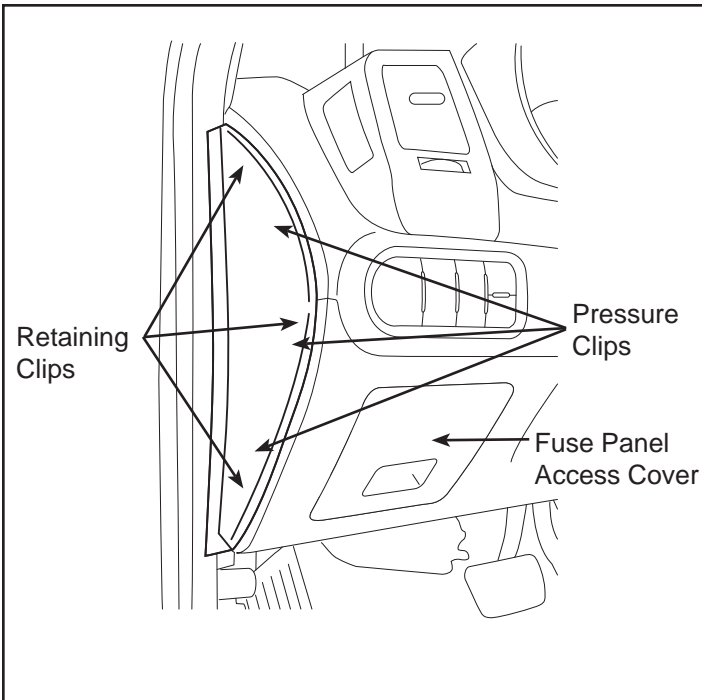
- N O T E**
1. Carefully pull the weatherstrip away from the side of the driver's kick panel.
 2. Remove the hood release lever by removing the one (1) #2 phillips screw and pulling toward the center of the vehicle.
 3. Remove the driver's side kick panel from the vehicle by prying toward the center of the vehicle to disengage the one (1) pressure clip and pulling toward the rear of the vehicle to release the one (1) push clip.



#2 Phillips Screwdriver and Trim Tool **4**

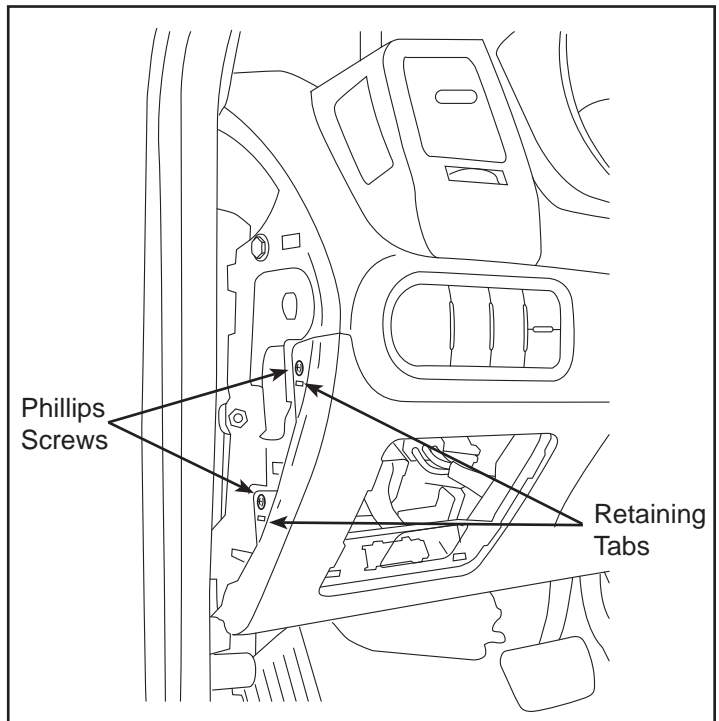
- N O T E**
1. Remove the front trim panel on the driver's side and passenger's side of the center console by removing the one (1) #2 phillips screw and pulling outward to disengage the one (1) push clip.
 2. Slide the trim panels forward to clear the center console trim and then rearward to disengage the one (1) guide pin.

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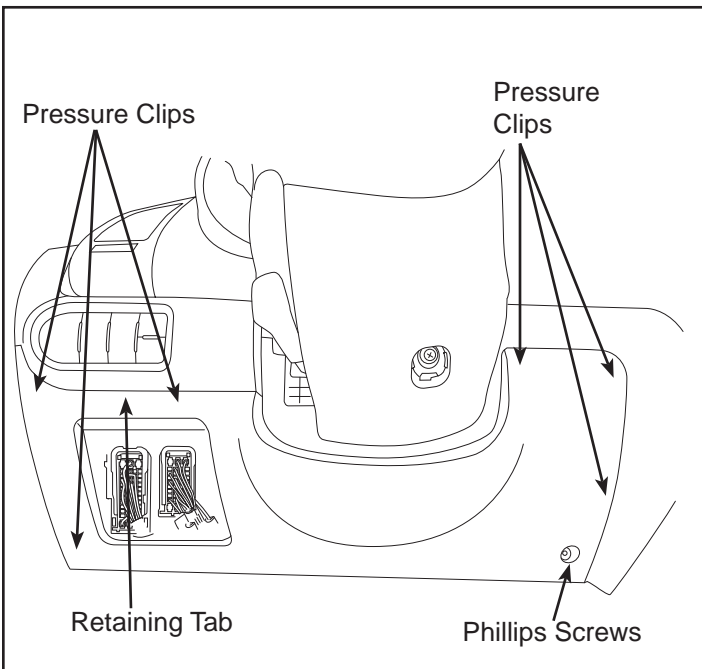
 Trim Tool **5**

- NOTE**
1. Remove the fuse panel access cover to assist in the removal of the driver's side dash end cap.
 2. Remove the driver's side dash end cap panel by prying outward to disengage the three (3) pressure clips and three (3) retaining clips.



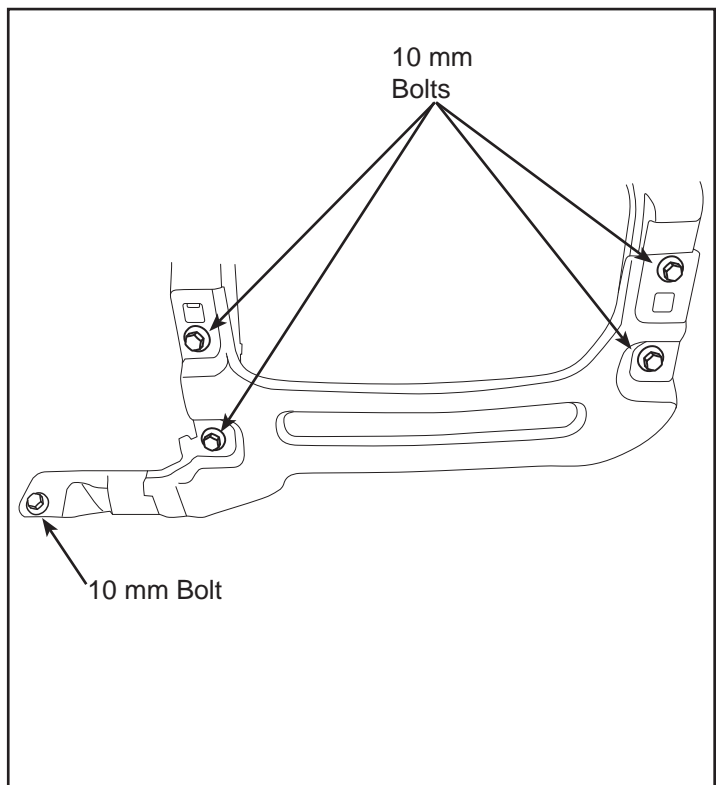
 #2 Phillips Screwdriver **6**


- NOTE**
1. Remove the two (2) #2 phillips screws from the side of the lower dash finish panel.



 #2 Phillips Screwdriver and Trim Tool **6**

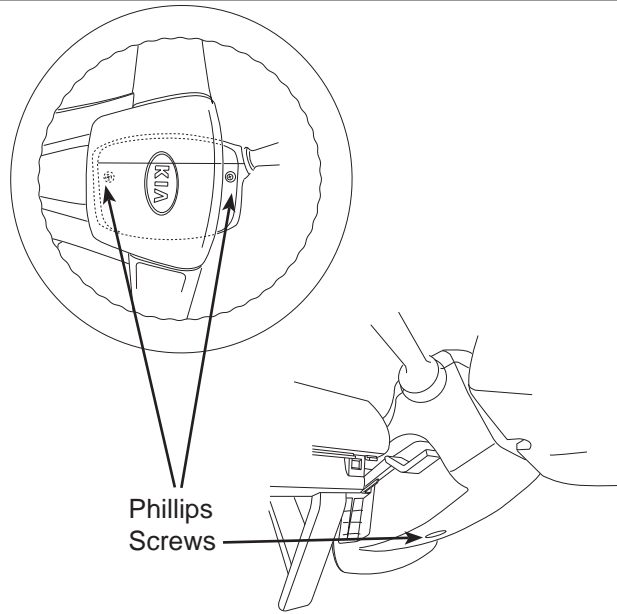
- NOTE**
1. Remove the lower dash finish panel by removing the one (1) #2 phillips screw from the bottom of the panel. Using a trim tool, carefully pry outward to release the two (2) retaining tabs from the side, as shown in step 6, and the six (6) pressure clips and one (1) retaining tab from the front of the panel.
 2. Remove the OBDII connector from the panel.
 3. Disconnect the remaining connectors, if equipped.



 Ratchet, Extension and 10 mm Socket **8**

- NOTE**
1. Remove the five (5) 10 mm bolts securing the steel knee bolster panel.
 2. Remove the steel knee bolster panel from the vehicle.

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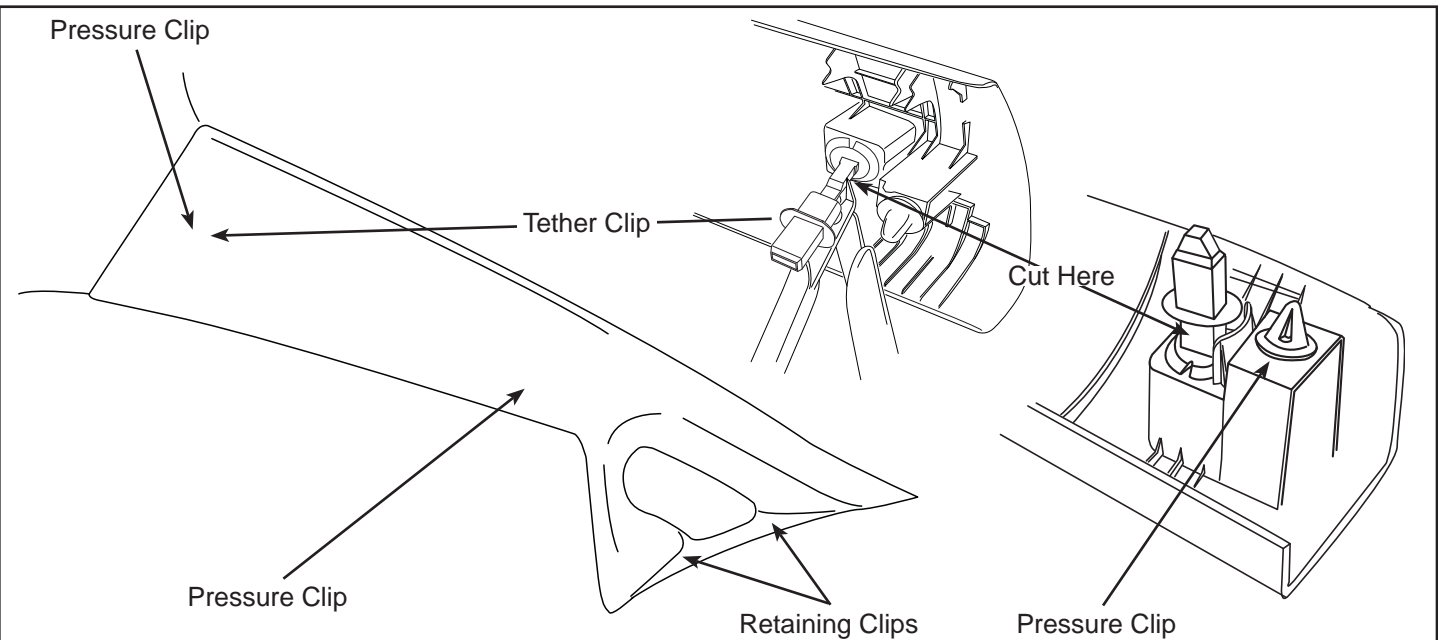
Phillips
Screws



#2 Phillips Screwdriver and Trim Tool

9

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1. Remove the three (3) #2 phillips screws securing the steering column shroud (one (1) underneath and two (2) behind the steering wheel). Turn the steering wheel for access.
 2. Release the tilt steering wheel adjuster lever.
 3. Pull down to separate the lower steering column shroud (use trim tool if necessary) and remove from the vehicle.
- **NOTE:** Ensure the tilt/telescopic steering wheel column is fully extended and locked after removing the steering column shroud.



Trim Tool and Wire Cutters

10

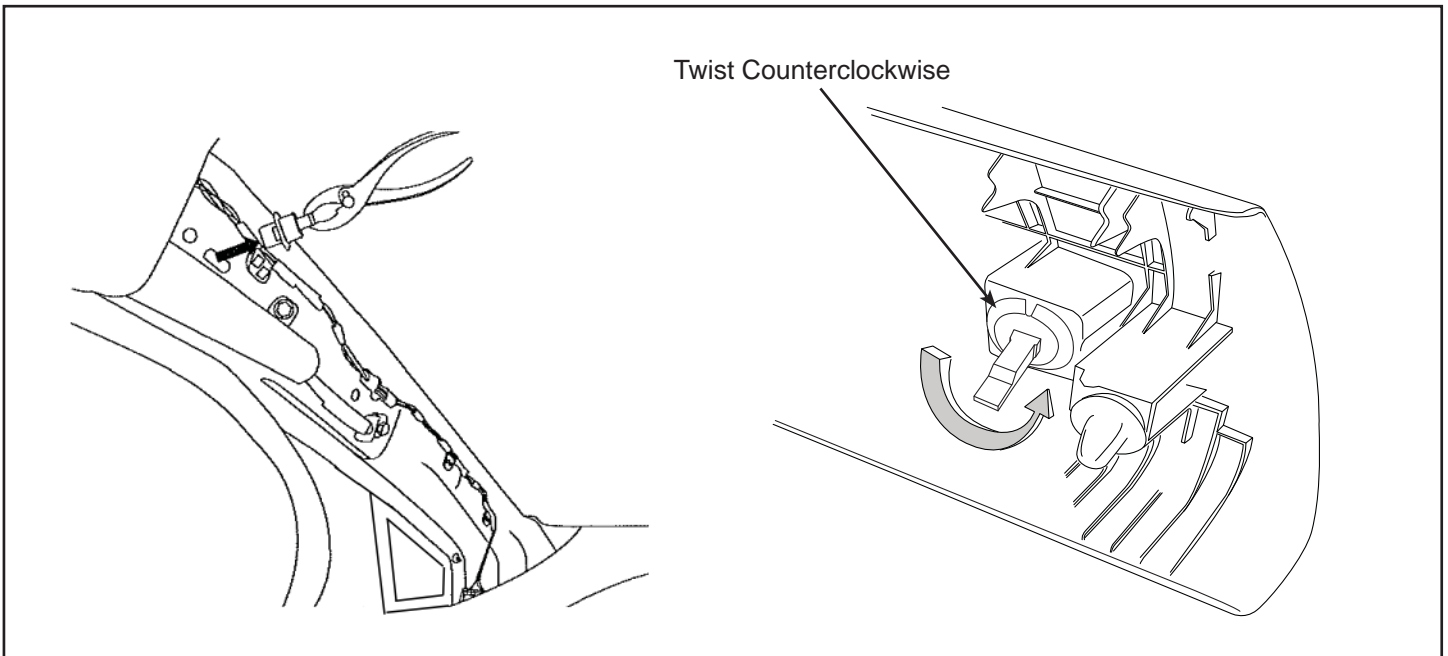
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E**
1. Carefully pull the weatherstrip away from the driver's side "A" pillar.
 2. Starting at the top, partially remove the driver's "A" pillar trim panel by carefully pulling toward the center of the vehicle to release the one (1) tether clip, two (2) pressure clips and two (2) retaining clips.
 3. With the "A" pillar trim panel partially pulled away from the body structure, reach behind the trim panel and cut the tether clip, as shown above.
 4. Remove the "A" pillar trim panel from the vehicle.



WARNING! Do not damage air bag components.



CAUTION! Do not lose the two (2) pressure clips. Do not cut anything other than the "A" pillar tether clip.



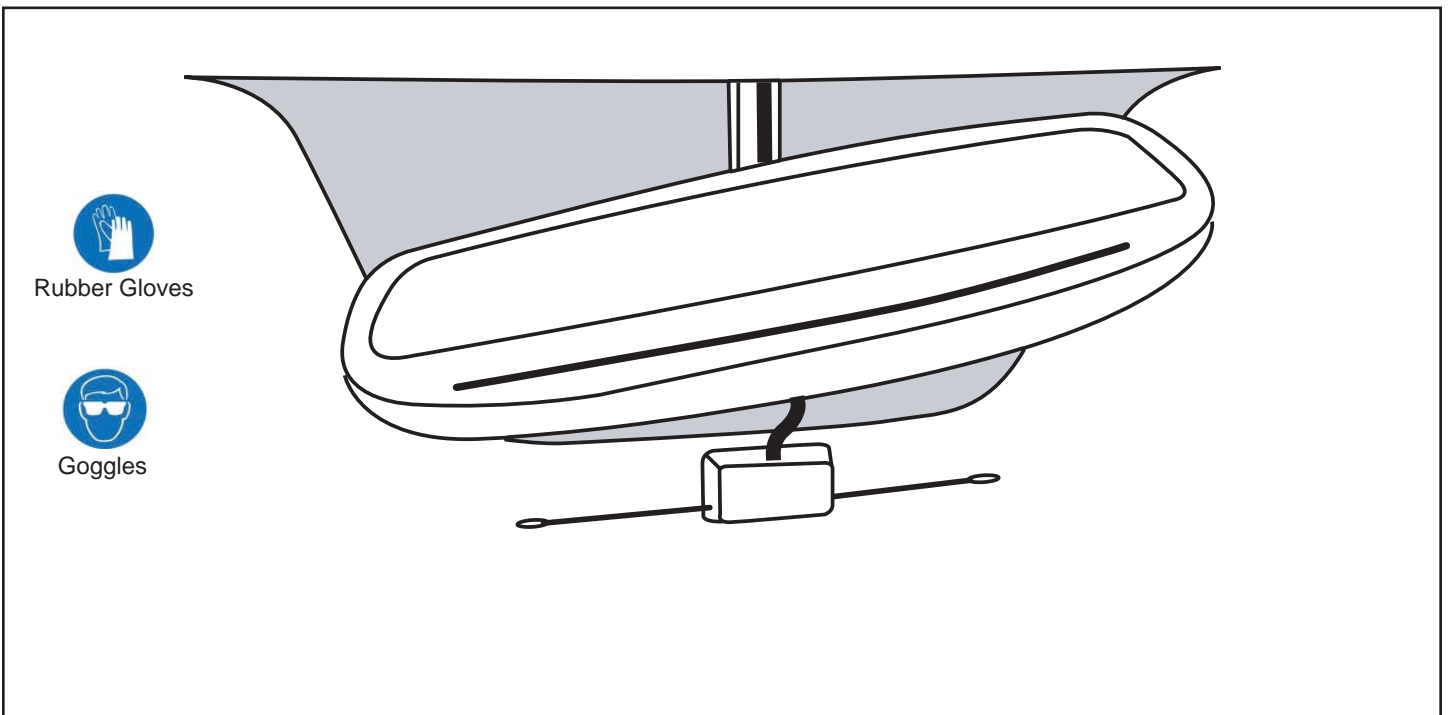
Pliers

11

- NOTE**
1. Using pliers, pull the remaining portion of the tether clip from the “A” pillar body structure.
 2. Remove the portion of the tether clip that is in the “A” pillar trim panel by twisting counterclockwise 90° and pulling outward, as shown above.
 3. Discard both portions of the tether clip.



CAUTION! Do not scratch or damage the “A” pillar trim panel.



Rubber Gloves



Goggles

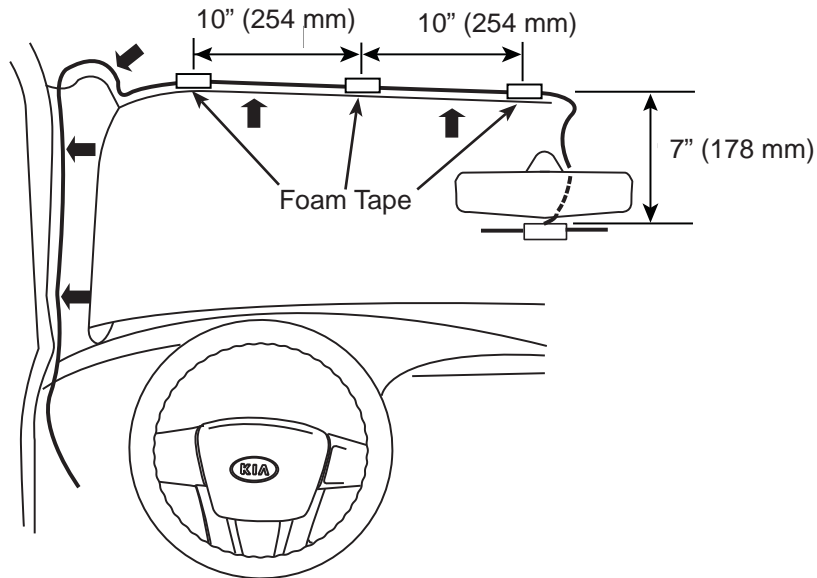


Alcohol Cleaner, Clean Cloth and Tape Measure

12

- NOTE**
1. Clean the area of the windshield where the antenna will be mounted with an alcohol cleaner and clean cloth. Ensure the glass surface is completely dry.
 2. Remove protective backing and mount the dipole antenna to the windshield approximately 0.25” (7 mm) below the mirrors lowest attachment point and/or any windshield electronic gridwork. Press firmly to ensure a good glass to adhesive bond.

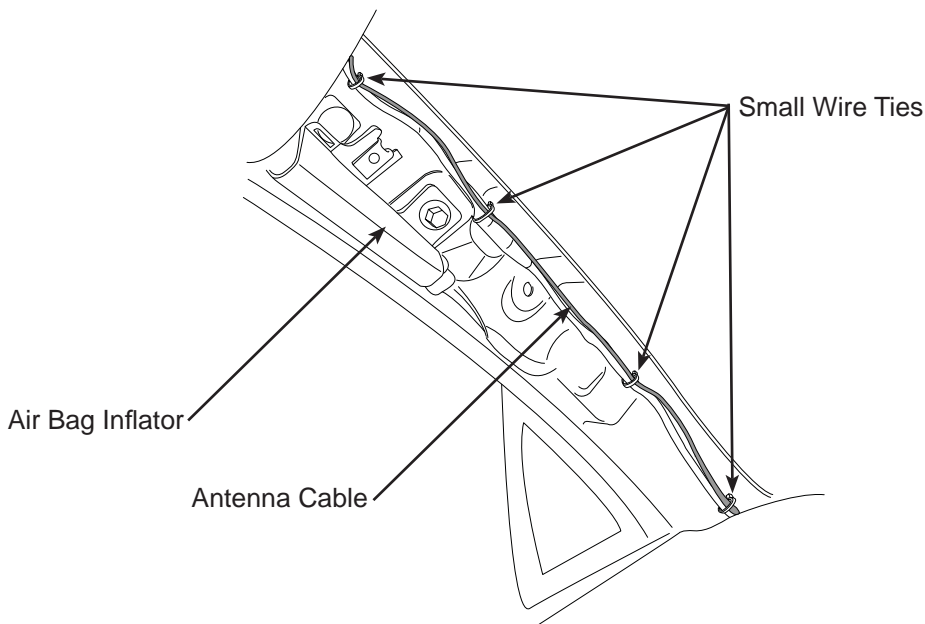
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Trim Tool and Tape Measure

13

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1. Wrap the antenna cable with three (3) pieces of small foam tape, at the distances shown above, to ensure that the antenna cable will stay in place after routing.
 2. Route the antenna cable vertically on the right hand side of the mirror mount up to the headliner. Tuck the cable behind the headliner and down the "A" pillar, as shown above.



Wire Cutters

14

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1. Use four (4) small wire ties to secure the antenna cable to the factory harness located within the "A" pillar, as shown above. Trim off excess wire ties.



WARNING! Air Bag system interference hazard. DO NOT wrap antenna cable around or secure antenna cable to any Air Bag components. Damage to the vehicle's Air Bag system may occur which could result in serious physical injury.

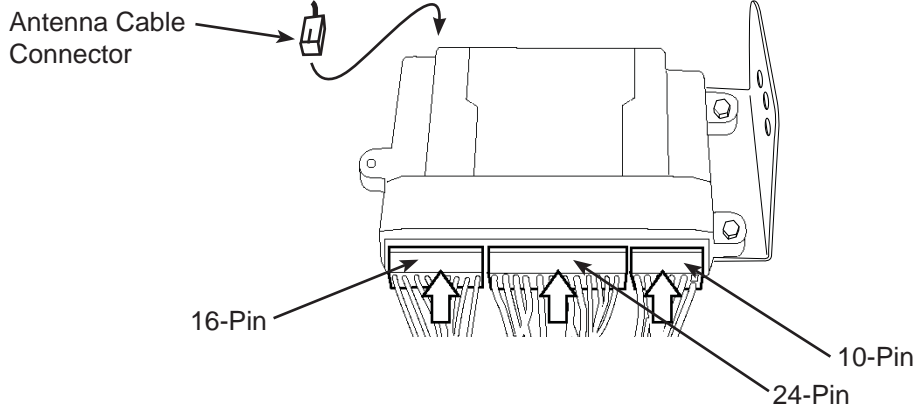


CAUTION! Ensure the antenna cable is routed away from the Air Bag Inflator.



CAUTION! If the vehicle is equipped with a sunroof, be careful not to place the wire ties around the drain tube or the sunroof may not drain properly.

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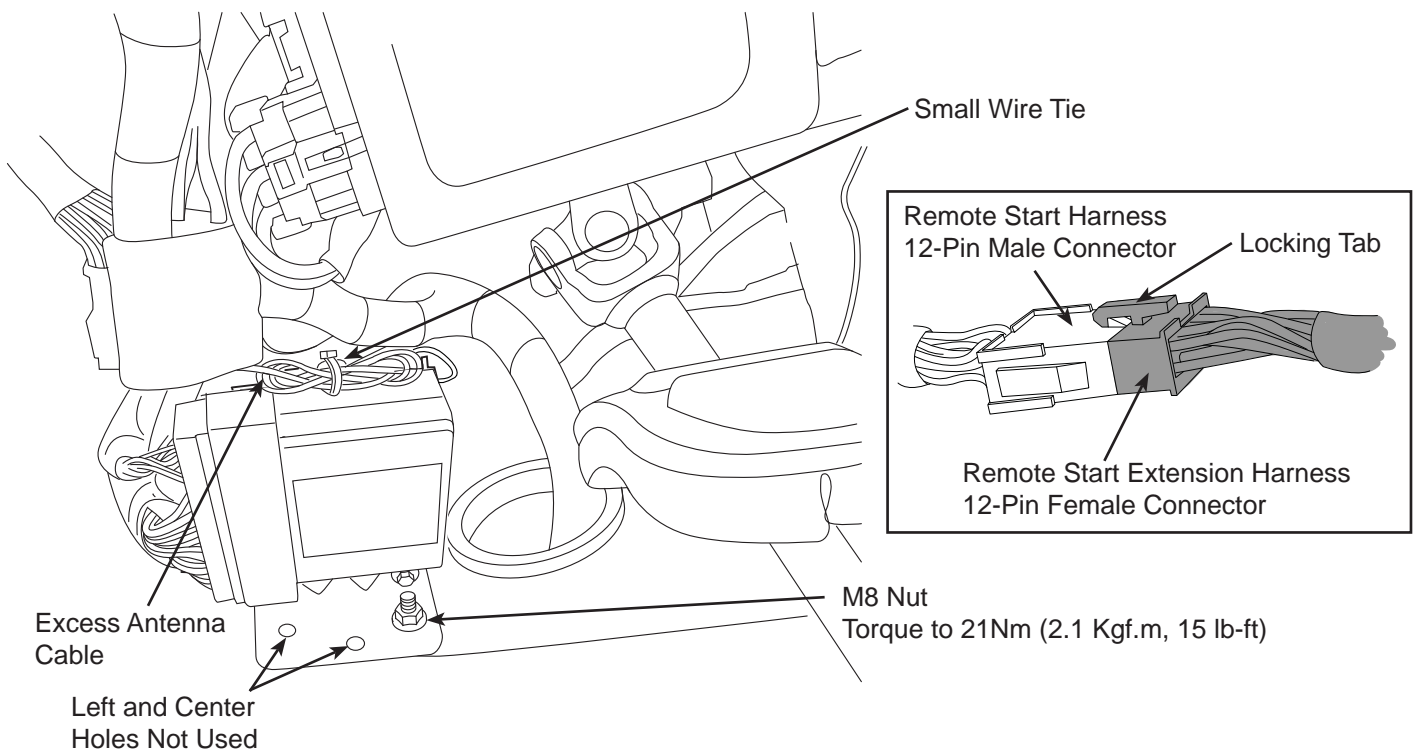
15

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1. Remove the two (2) transmitters and attach individually to each factory key.
 2. Route the antenna cable past the left side of the dashboard and over to the dash wall area.
 3. Plug the 16-pin, 24-pin and 10-pin remote start harness connectors and the 2-pin antenna connector into the remote start module before mounting.
 4. Ensure all connectors are properly locked into position.
- **NOTE:** It is not possible to install the remote start harness connectors after the remote start module is mounted in the vehicle.



CAUTION! Be careful not to bend/damage any of the terminals inside the remote start module.



Ratchet, Extension, 13 mm Deep Socket, Torque Wrench and Wire Cutters

16

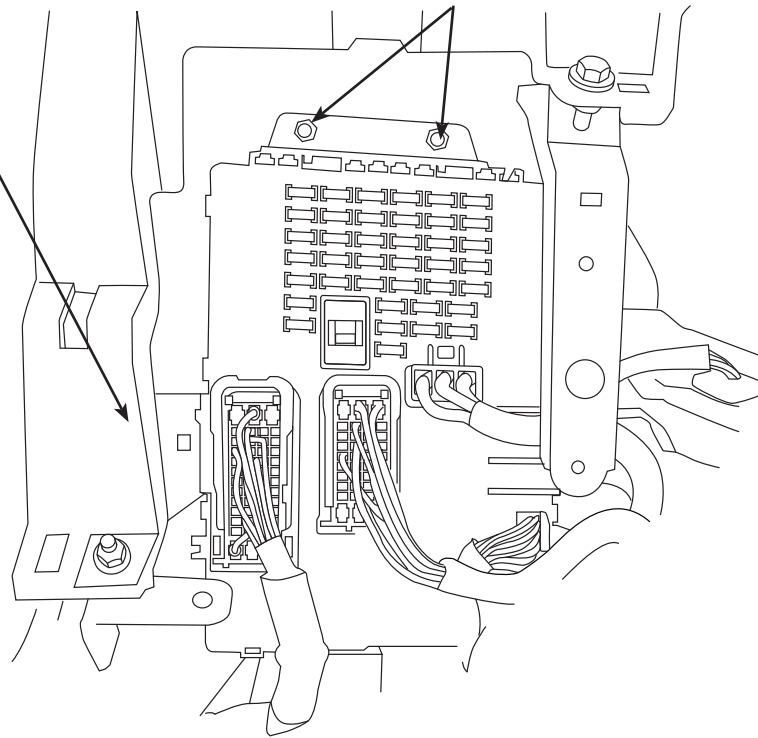
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1. Secure the remote start module to the factory stud, located on the vehicle dash wall, to the left of the steering column with one (1) supplied M8 hex nut, as shown above.
 2. Torque the M8 hex nut to 21Nm (2.1 Kgf.m, 15 lb-ft).
 3. Disconnect the remote start harness 12-pin junction connectors by pressing on the locking tab. Remove the remote start extension harness with the 12-pin female connector and set aside until Step 25.
 4. Secure the excess antenna cable to the available module mounting hole with one (1) small wire tie. Trim off excess wire tie.
- **NOTE:** Ensure the green production tag attached to the remote start harness is NOT visible after installation.

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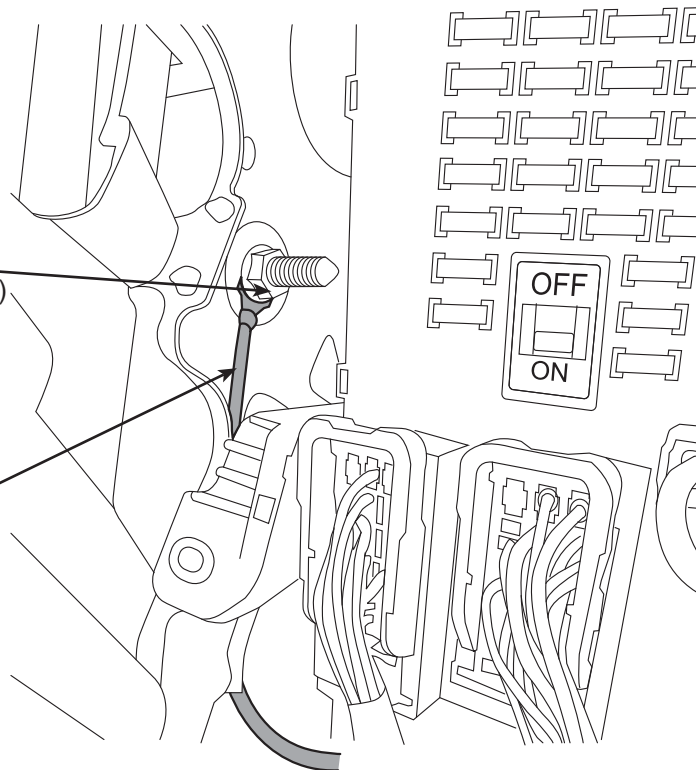
10 mm Bolt (Hidden From View)
7 Nm (0.7Kgf.m, 5 lb-ft)

10 mm Nuts
7 Nm (0.7Kgf.m, 5 lb-ft)



Factory M8 Stud
Torque to 14 Nm (1.4 Kgf.m, 10 lb-ft)

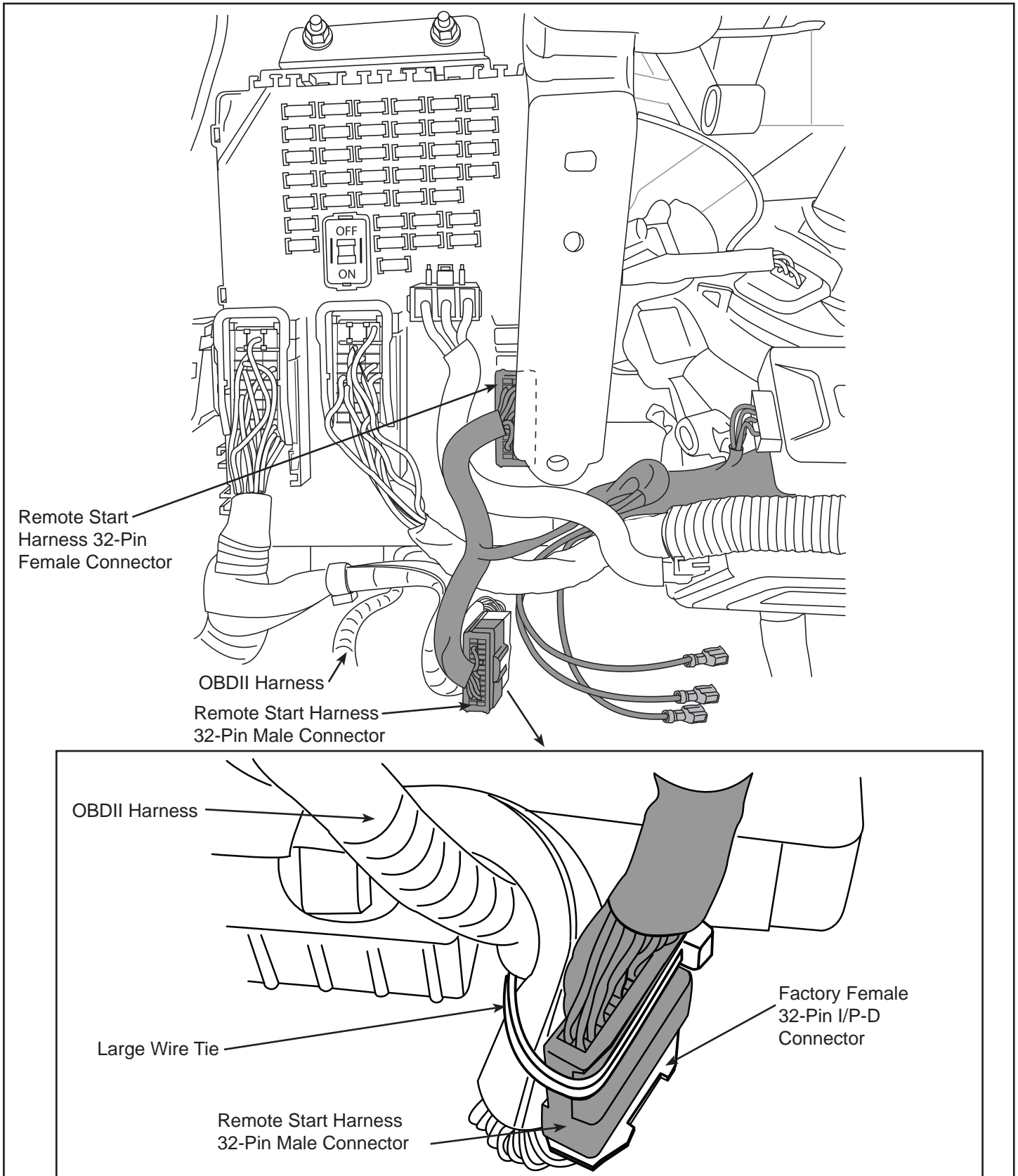
Black Ground Wire With Ring Terminal



Ratchet, Extension, 10 mm Socket, 13 mm Deep Socket and Torque Wrench

17

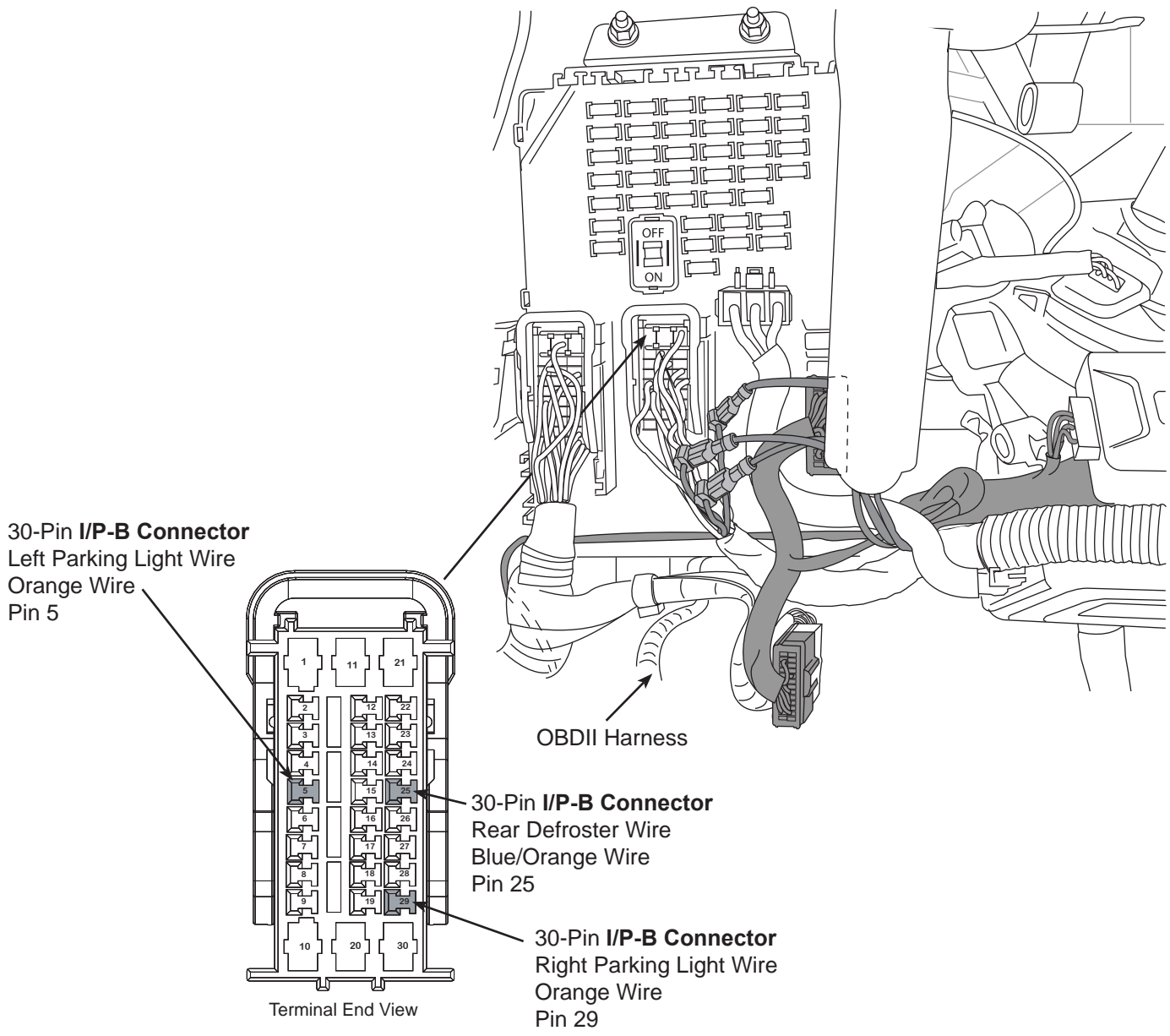
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E**
1. Route the Black (Ground) wire along the front of the fuse panel.
 2. Remove the two (2) 10 mm nuts and one (1) 10 mm bolt securing the fuse panel, as shown above.
 3. Tilt the fuse panel forward and locate the factory M8 stud, to the left of the fuse panel.
 4. Position the Black (Ground) wire with ring terminal over the bolt and install one (1) supplied M8 nut.
 5. Torque to 14 Nm (1.4 Kgf.m, 10 lb-ft).
 6. Reinstall the fuse panel with the two (2) 10 mm nuts and one (1) 10 mm bolt, as shown above. Torque hex nuts and bolt to 7 Nm (0.7Kgf.m, 5 lb-ft).



 Wire Cutters

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1. Route the 32-pin male and female remote start harness connectors to the front of the fuse panel.
 2. Locate the 32-pin I/P-D connector on the front of the fuse panel. Disconnect the factory female 32-pin I/P-D connector and plug in the corresponding remote start harness connectors.
 3. Secure the 32-pin male remote start harness connector to the factory female 32-pin I/P-D connector with one (1) large wire tie, as shown above. Trim off excess wire tie.

*Unplug connector, if necessary, to identify proper pin location and to make T-Tap connections.



Pliers

NOTE

***Refer to Page 3 for T-Tap Installation Procedure.**

1. Route the Orange (Left Parking Light Output), Orange/Black (Right Parking Light Output) and the Blue/Orange (Rear Defroster Output) wires to the front of the fuse panel.
2. Locate the Orange wire in **pin #5** of the 30-pin I/P-B female connector.
3. Using pliers, crimp one (1) T-Tap on the Orange wire located in **pin #5** of the 30-pin I/P-B female connector.
4. Connect the Orange (Left Parking Light Output) wire from the remote start harness to the Orange wire (Pin #5 of the I/P-B connector) by engaging the T-Tap.
5. Locate the Orange wire in **pin #29** of the 30-pin I/P-B female connector.
6. Using pliers, crimp one (1) T-Tap on the Orange wire located in **pin #29** of the 30-pin I/P-B female connector.
7. Connect the Orange/Black (Right Parking Light Output) wire from the remote start harness to the Orange wire (Pin #29 of the I/P-B connector) by engaging the T-Tap.
8. Locate the Blue/Orange wire in **pin #25** of the 30-pin I/P-B female connector.
9. Using pliers, crimp one (1) T-Tap on the Blue/Orange wire located in **pin #25** of the 30-pin I/P-B female connector.
10. Connect the Blue/Orange (Rear Defroster Output) wire from the remote start harness to the Blue/Orange wire (Pin #25 of the I/P-B connector) by engaging the T-Tap.



CAUTION! Ensure the correct pin location is identified. There may be several wires of the same/similar color.

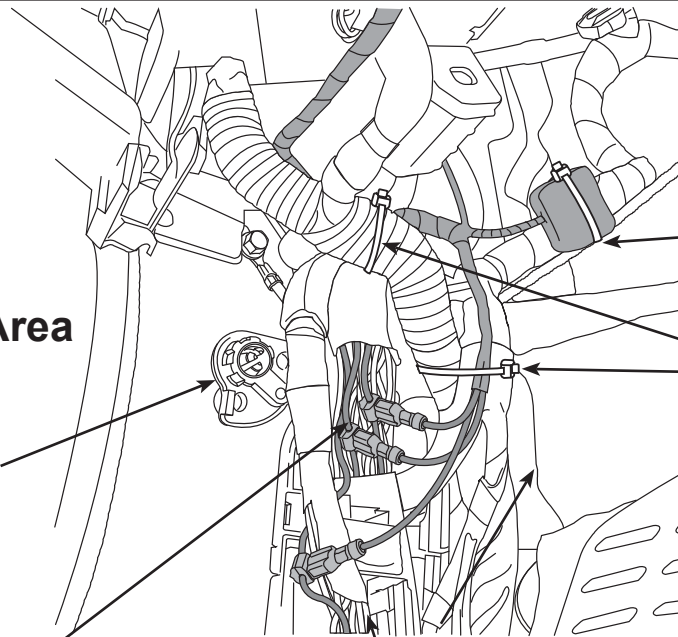
*Unplug connector, if necessary, to identify proper pin location and to make T-Tap connections.

Driver's Kick Panel Area

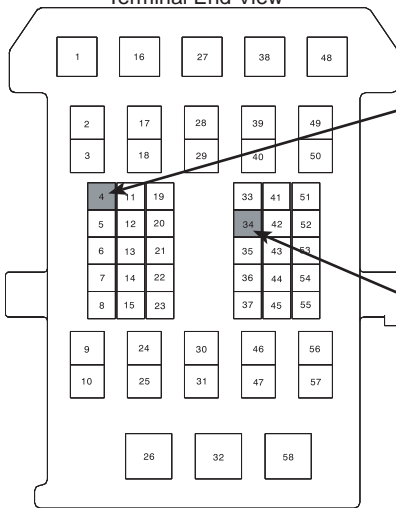
Hood Release Mechanism

Large Wire Tie

Small Wire Ties



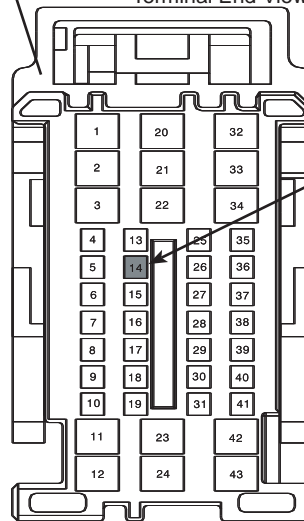
Terminal End View



58-Pin EM11 Connector
Horn Wire
White Wire
Pin 4

58-Pin EM11 Connector
Alternator Wire
Brown Wire
Pin 34

Terminal End View



43-Pin MF11 Connector
Dome Light Wire
Yellow/Black Wire
Pin 14

Pliers and Wire Cutters

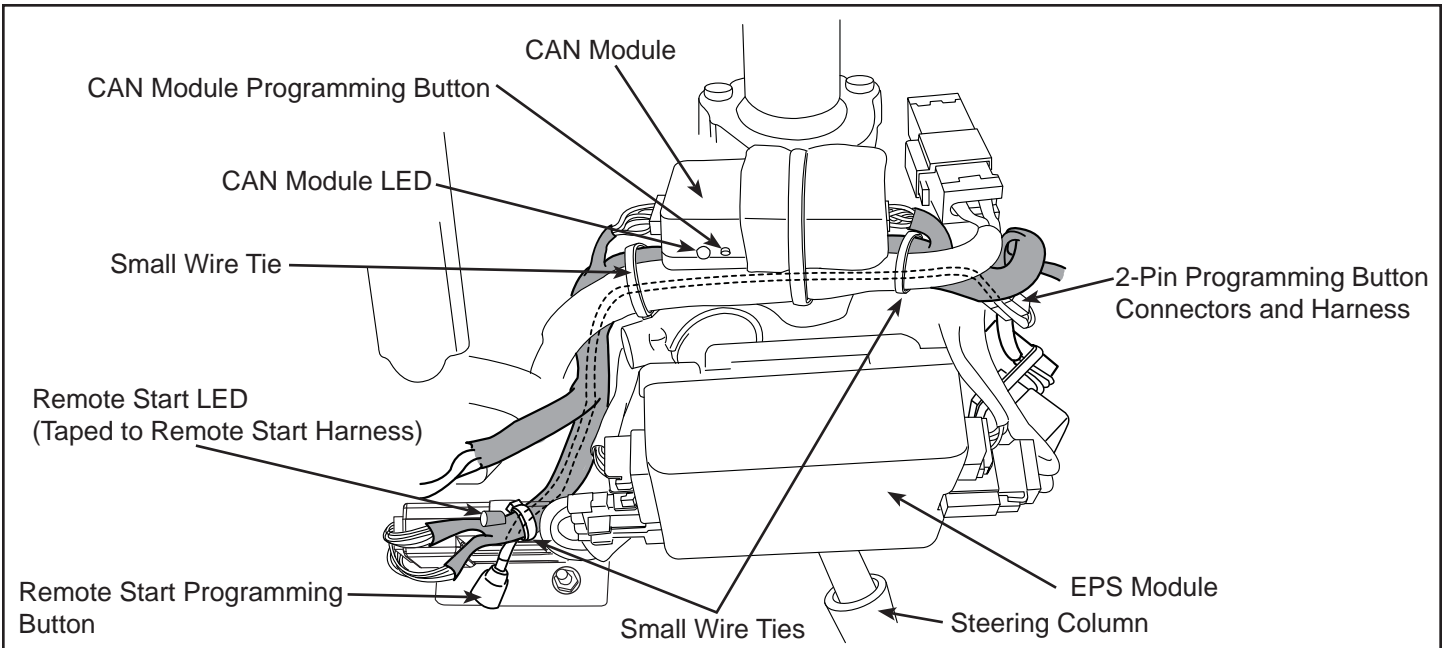
N *Refer to Page 3 for T-Tap Installation Procedure.

- O**
1. Route the Yellow/Black (Dome Light Output), Brown (Alternator Input) and the White (Horn Output) wires to the driver's kick panel area.
 2. Locate the Brown wire in **pin #34** of the 58-pin EM11 female connector.
 3. Using pliers, crimp one (1) T-Tap on the Brown wire located in **pin #34** of the 58-pin EM11 female connector.
 4. Connect the Brown (Alternator Input) wire from the remote start harness to the Brown wire (Pin #34 of the EM11 connector) by engaging the T-Tap.
 5. Locate the White wire in **pin #4** of the 58-pin EM11 female connector.
 6. Using pliers, crimp one (1) T-Tap on the White wire located in **pin #4** of the 58-pin EM11 female connector.
 7. Connect the White (Horn Output) wire from the remote start harness to the White wire (Pin #4 of the EM11 connector) by engaging the T-Tap.
 8. Locate the Yellow/Black wire in **pin #14** of the 43-pin MF11 female connector.
 9. Using pliers, crimp one (1) T-Tap on the Yellow/Black wire located in **pin #14** of the 43-pin MF11 female connector.
 10. Connect the Yellow/Black (Dome Light Output) wire from the remote start harness to the Yellow/Black wire (Pin #14 of the MF11 connector) by engaging the T-Tap.
 11. Secure the Yellow/Black (Dome Light Output), Brown (Alternator Input) and the White (Horn Output) wires to the factory harness using two (2) small wire ties, as shown above.
 12. Secure the relay (wrapped in foam) to the factory harness with one (1) large wire tie, as shown above. Trim off excess wire ties.
- E**



CAUTION! Ensure the correct pin location is identified. There may be several wires of the same/similar color.

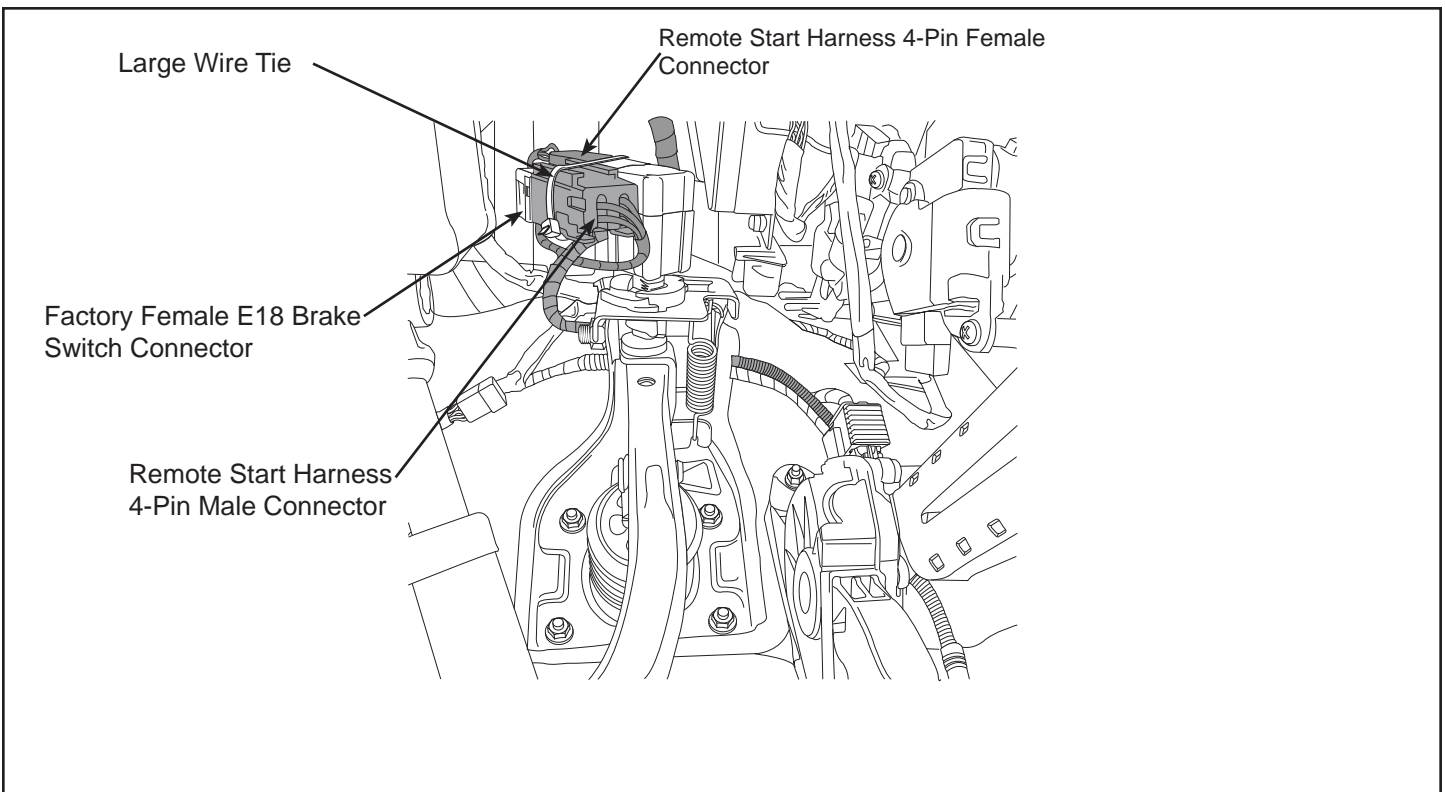
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 Wire Cutters

21

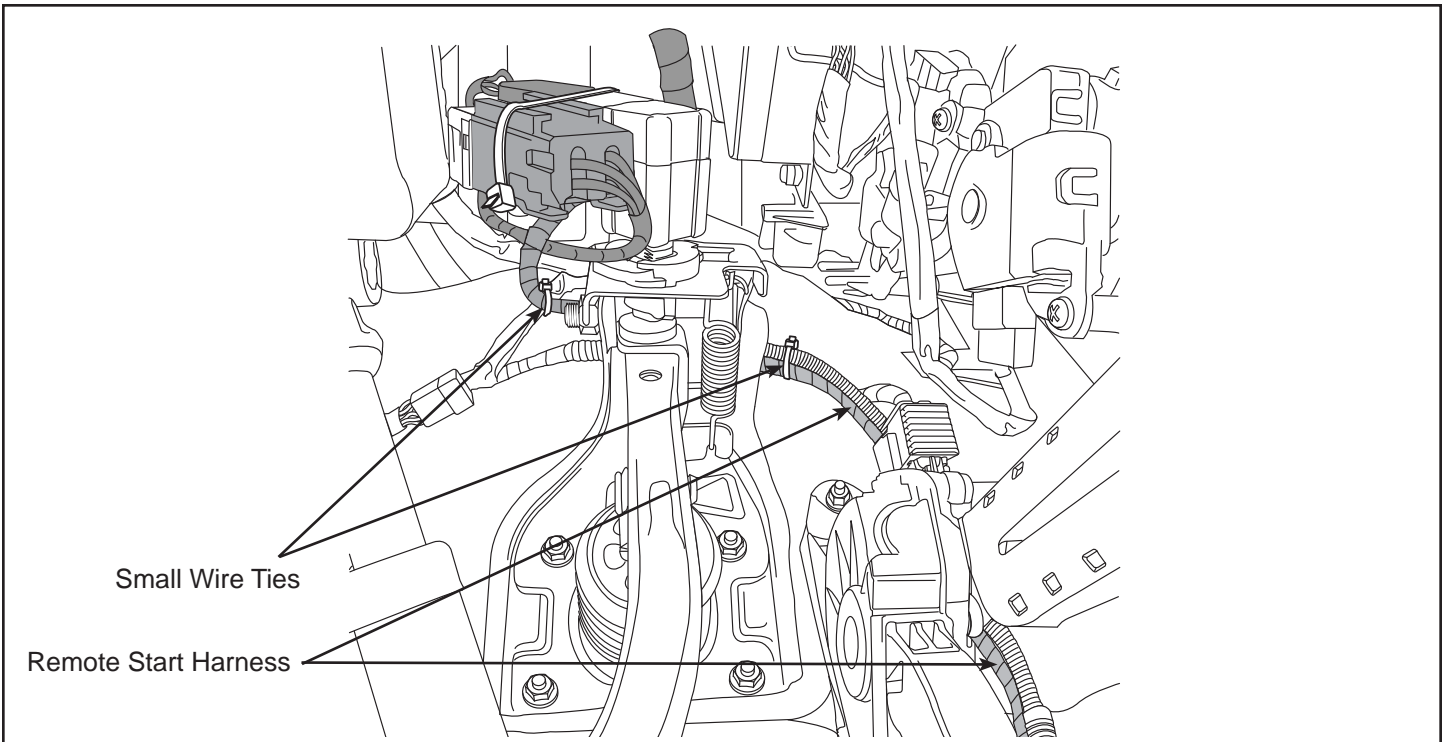
- N
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E**
1. Route the remote start harness, CAN module (wrapped in foam) and 4-pin male and female brake switch connectors in front of the Electric Power Steering (EPS) module to the brake switch at the top of the brake pedal, as shown above.
 2. Secure the programming button harness and the remote start harness with two (2) small wire ties to the factory harness, as shown above.
 3. Secure the programming button harness to the remote start harness with one (1) small wire tie, as shown above. Trim off excess wire ties.



 Wire Cutters

22

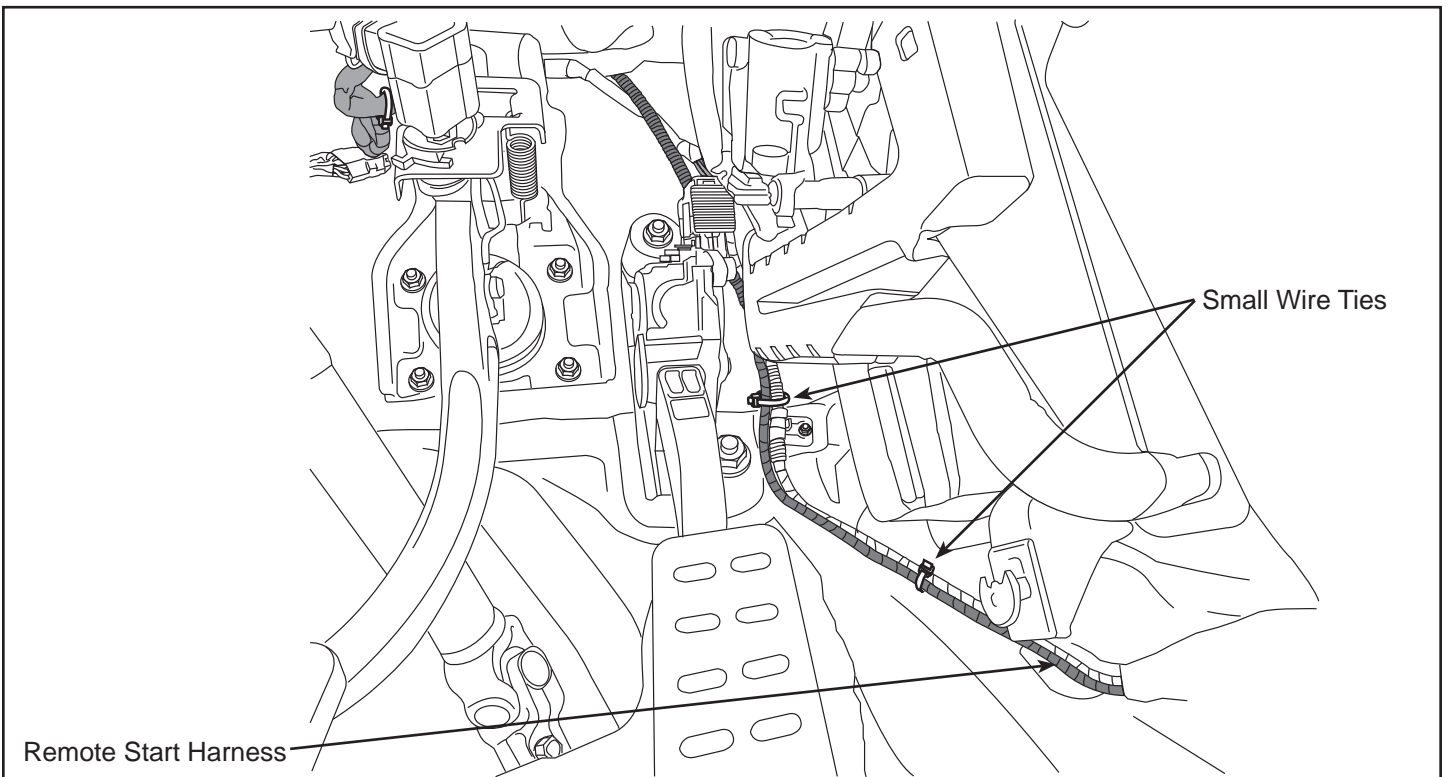
- N
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1. Disconnect the factory female 4-pin E18 connector and plug in the corresponding remote start harness connectors.
 2. Secure the factory female 4-pin E18 connector and the remote start harness male connector to the brake switch with one (1) large wire tie, as shown above. Trim off excess wire tie.



Wire Cutters

23

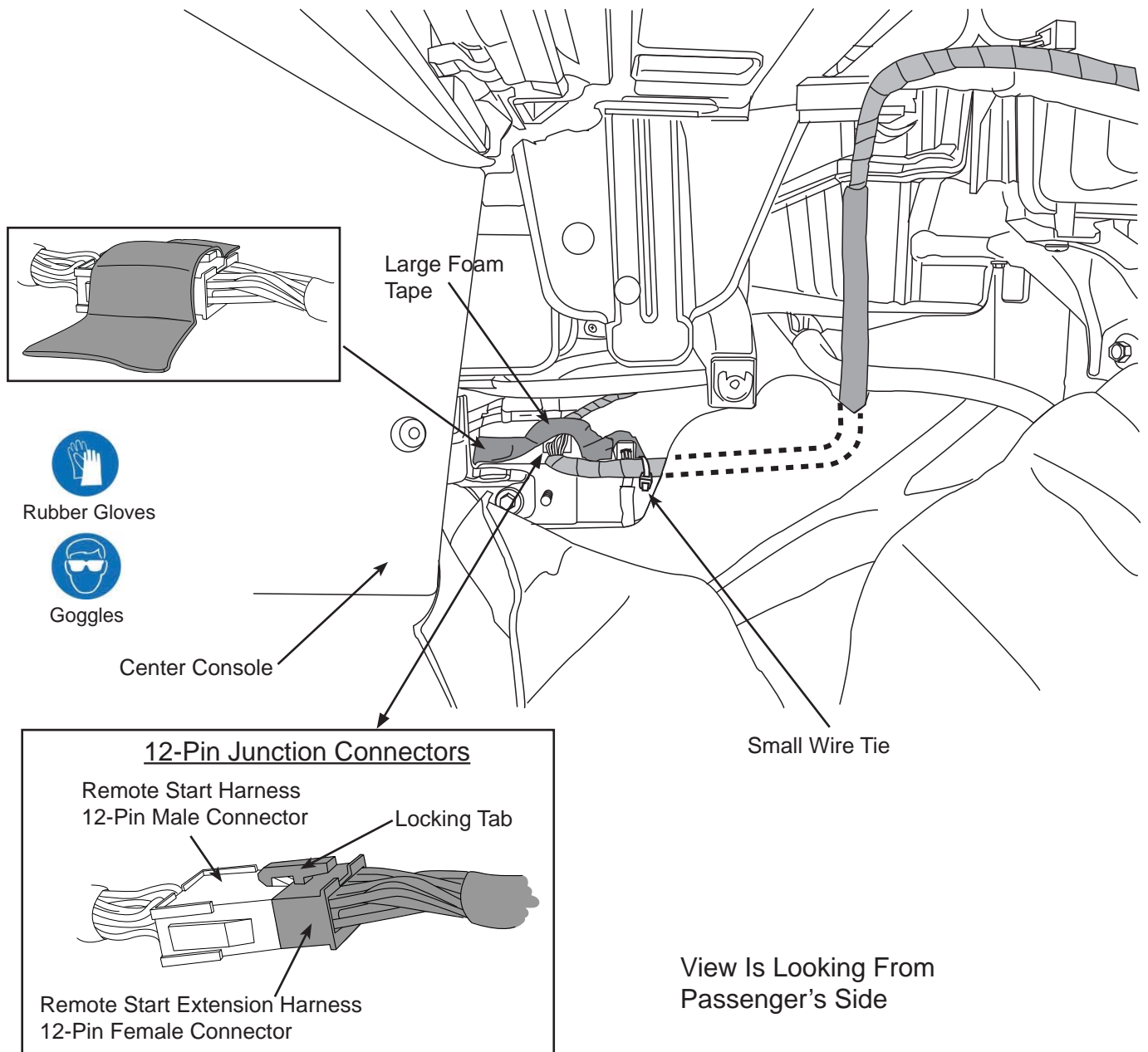
- N
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E**
1. Route the 12-pin male remote start harness connector along the factory harness toward the vehicle dash wall and down to the center console area.
 2. Secure the remote start harness to the factory harness with two (2) small wire ties, as shown above. Trim off excess wire ties.



Wire Cutters

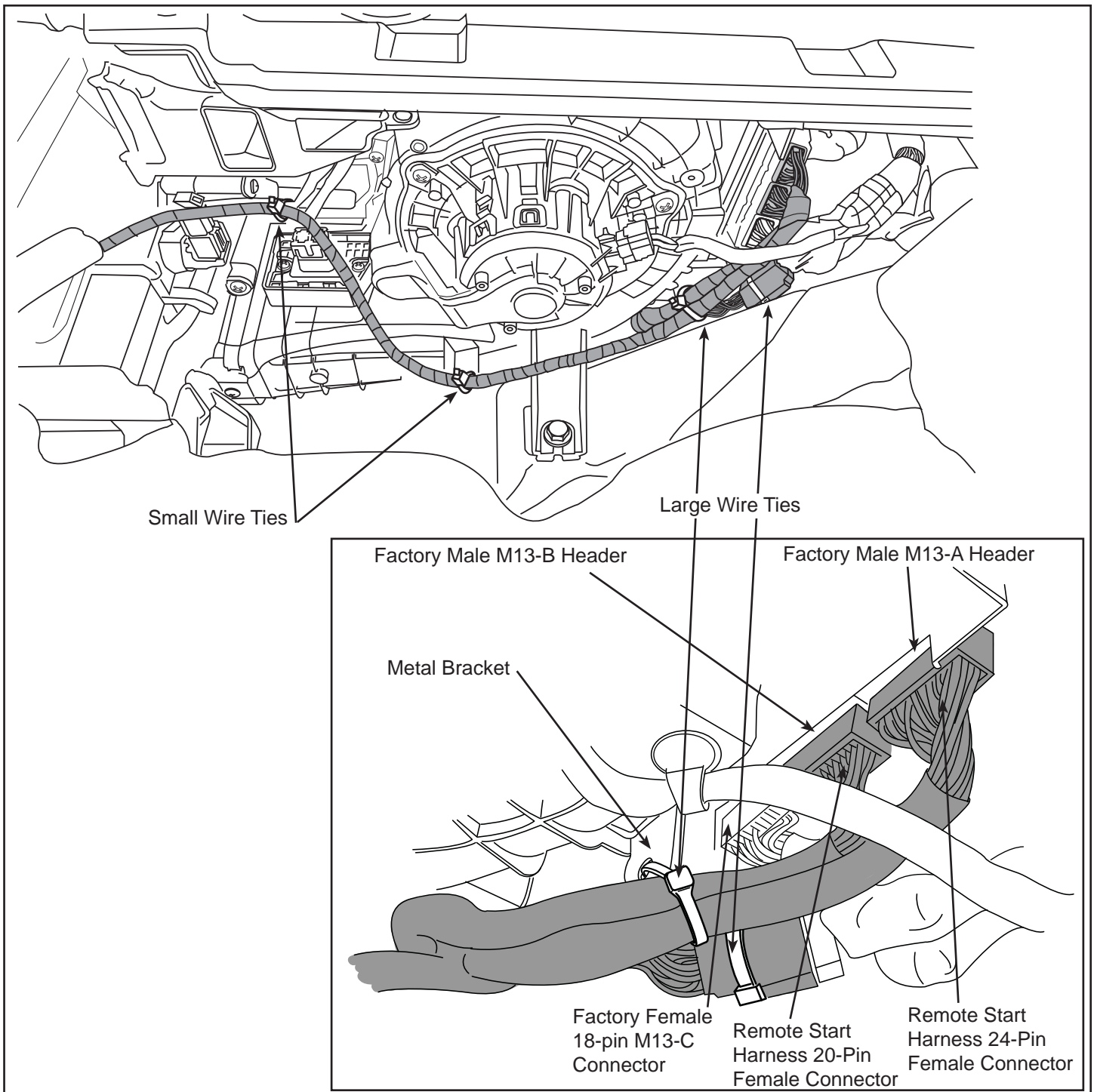
24

- N
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E**
1. Continue to route the 12-pin male remote start harness connector along the factory harness next to the center console area.
 2. Secure the remote start harness to the factory harness with two (2) small wire ties, as shown above. Trim off excess wire ties.



Alcohol Cleaner, Clean Cloth and Wire Cutters

- N
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1. Route the remote start harness behind the center console toward the passenger's foot well area.
 2. Connect the 12-pin male remote start harness junction connector to the 12-pin female remote start extension harness connector. Ensure both connectors are locked together.
 3. Clean the area of the vehicle body structure where the foam pad will be adhered with an alcohol cleaner and clean cloth. Ensure the vehicle body structure is completely dry.
 4. Secure the 12-pin remote start harness connectors to the vehicle body structure with one (1) piece of large foam tape and to the factory harness with one (1) small wire tie, as shown above. Trim off excess wire tie.



Wire Cutters

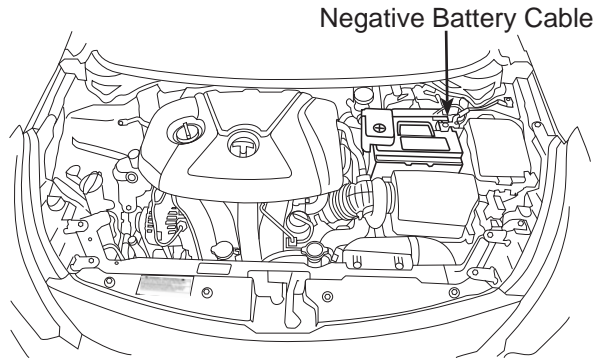
- NOTE**
1. Route the remote start extension harness from the center console area to the Smart Key Module.
 2. Secure the remote start extension harness to the HVAC blower motor assembly and to the factory harness with two (2) small wire ties, as shown above. Trim off excess wire ties.
 3. Locate the 24-pin **M13-A connector** at the Smart Key Control Module. Disconnect the factory female 24-pin M13-A connector and plug in the corresponding remote start harness connectors. Ensure both connectors are locked in place.
 4. Locate the 20-pin **M13-B connector** at the Smart Key Control Module. Disconnect the factory female 20-pin M13-B connector and plug in the corresponding remote start harness connectors. Ensure both connectors are locked in place.
 5. Secure the factory female 24-pin M13-A connector, factory female 20-pin M13-B connector and the corresponding remote start harness male connectors together with one (1) large wire tie, as shown above.
 6. Secure the remote start extension harness to the factory metal bracket, located to the left of the Smart Key Control Module with one (1) large wire tie, as shown above. Trim off excess wire ties.



Goggles



Rubber
Gloves



Ratchet and 10 mm Socket

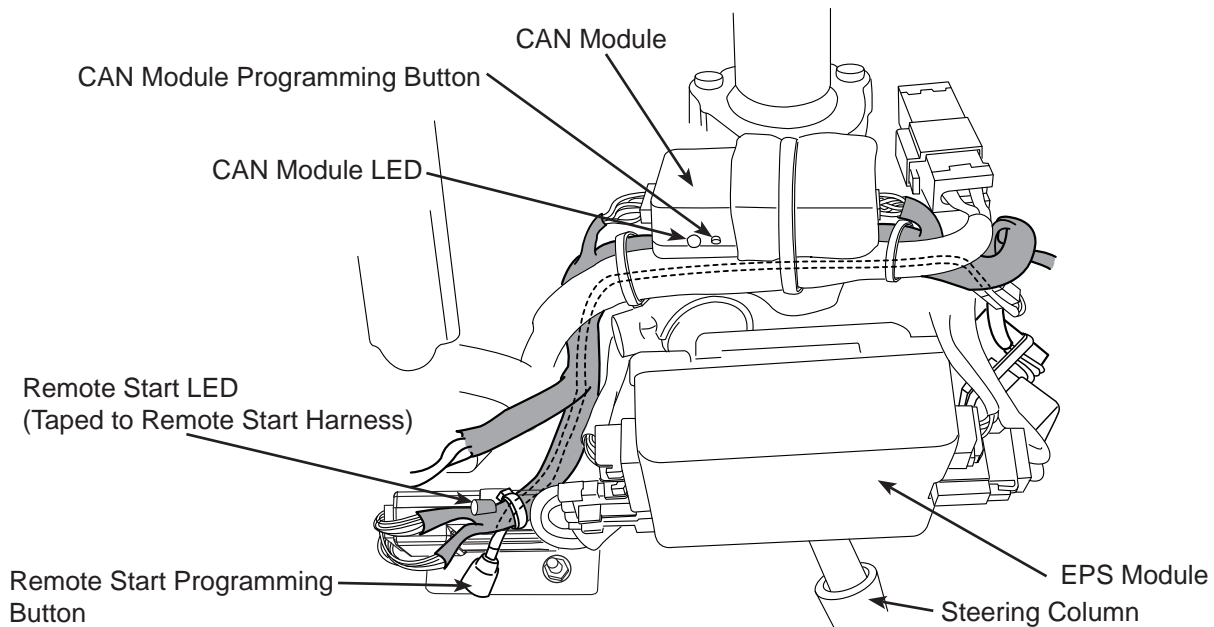
27

- N
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1. Verify all connections are secure as per the installation instructions.
 2. Reconnect the negative battery cable.
 3. Start the vehicle and verify that no air bag or engine codes have been triggered. Any fault codes should be addressed before proceeding to the next step.
 4. Turn off the vehicle.



WARNING! Shock Hazard. Do not touch vehicle's negative battery terminal to vehicle's positive battery terminal. Serious physical injury or vehicle damage may occur.

Immobilizer Programming Procedure



28








- N
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1. Press and hold the brake pedal and the remote start programming button for ten (10) - fifteen (15) seconds to initiate Learn Mode. The LED on the remote start harness will turn On and the LED on the CAN Module will start flashing Red, for up to thirty (30) seconds. Release the brake pedal and programming button.
 2. With a valid factory Smart Key present, press the Engine Start/Stop button two (2) times to turn On the vehicle ignition. The LED on the CAN Module will turn Green for two (2) seconds and then turn Off.
 3. Press the Engine Start/Stop button one (1) time to turn Off the vehicle ignition. The remote start LED will turn Off.

NOTE: Once the Immobilizer Programming Procedure has been initiated (Remote Start LED = On), the steps must be completed within thirty (30) seconds or the system will automatically exit the Learn Mode.





KIA Genuine Accessories Function Check

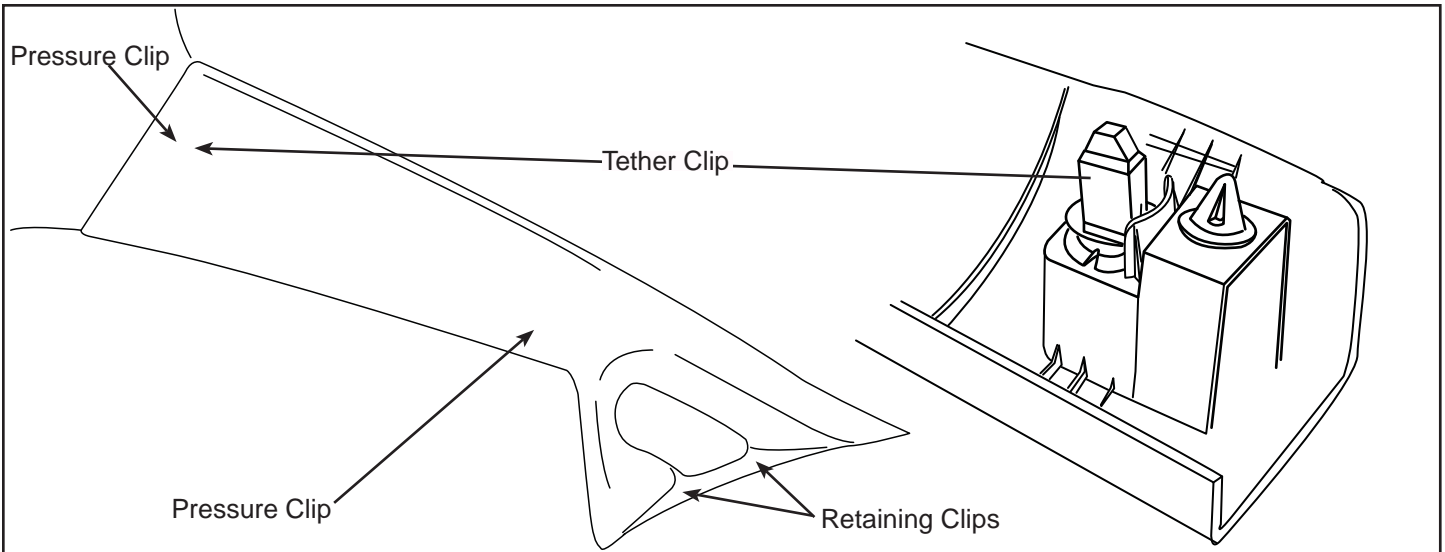
Ensure the transportation fuse is properly installed before performing the Function Check.
If the transmitters fail to operate, refer to Page 28 (Transmitter Programming and Battery Test Procedure).

Ensure the parking brake is set and one (1) factory Smart Key transmitter and one (1) remote start transmitter are in hand before performing the Function Check.

Items To Be Checked	Results Of The Check
 Remote Engine Start - Make sure the hood, all doors and trunk are closed. Activate the remote start by pressing the start button two (2) times within three (3) seconds. NOTE: Ensure the factory Smart Key transmitter is <u>inside</u> the vehicle with the driver's window open.	The doors will lock, the parking lights will flash and the horn will beep one (1) time, then the vehicle will crank and start. Once started, the parking lights will turn on and stay on signifying the engine is running.
 Rear Defroster - Press the remote start button on the transmitter one (1) time while the vehicle is running.	The parking lights will flash one (1) time. Locate the rear defroster switch and verify that the indicator portion of the switch is illuminated.
 Door Unlock/Interior Lamp - Press the unlock button on the factory Smart Key transmitter or press the button on the driver's outside door handle one (1) time. Door Lock - Press the lock button on the factory Smart Key transmitter one (1) time. All Door Unlock - Press the unlock button on the factory Smart Key transmitter or press the button on the driver's outside door handle two (2) times within three (3) seconds. NOTE: Smart Key transmitter must be in range to lock/unlock the doors.	The hazard lights will flash two (2) times to indicate that the vehicle is disarmed, unlock the driver's door only and turn on the interior lamp for up to thirty (30) seconds. NOTE: Interior lamp switch must be set to the door position to illuminate. The hazard lights will flash one (1) time to indicate that the vehicle is locked. The hazard lights will flash two (2) times to indicate that the vehicle is disarmed and unlock all doors.
 Hood Safety Switch - Open the driver's door and temporarily reinstall the hood release lever to release the hood.	The engine/remote start will turn off immediately. The hood should not have to be lifted to activate the hood safety switch.
 Trunk Safety Switch - Close the hood and all doors. Activate the remote start by pressing the start button two (2) times within three (3) seconds and proceed to the rear of the vehicle with a factory Smart Key transmitter. Open the trunk using the trunk release button located above the license plate area.	The doors will lock, the parking lights will flash and the horn will beep one (1) time, then the vehicle will crank and start. Once started, the parking lights will turn on and stay on signifying the engine is running. The engine/remote start will turn off immediately.
 Car Find Feature - Close the trunk and press the red find/panic button on the remote start transmitter. Repeat this process two (2) times.	The parking lights will flash and the horn will beep five (5) times. Subsequent presses within five (5) seconds of the first press will beep the horn slightly louder.
 Panic Feature - Press and hold the red find/panic button on the remote start transmitter for three (3) seconds to activate. Press the red find/panic button a second time to deactivate.	The parking lights will flash and the horn will beep for up to thirty (30) seconds.

KIA Genuine Accessories Function Check

Items To Be Checked	Results Of The Check
 <p><u>Pre-start shut down (Hood)</u> - Press the unlock button on the factory Smart Key transmitter. Open the driver's door, pull the hood release lever to release the hood and close the driver's door.</p> <p>Attempt to activate the remote engine start.</p>	<p>The hazard lights will flash two (2) times to indicate that the vehicle is disarmed and unlock the driver's door only.</p> <p>The horn will beep two (2) times and the remote start will not attempt to start the vehicle since it detects the hood is open.</p>
 <p><u>Pre-start shut down (Trunk)</u> - Close the hood and proceed to the rear of the vehicle with a factory Smart Key transmitter.</p> <p>Open the trunk using the trunk release button located above the license plate area and attempt to activate the remote engine start.</p>	<p>The horn will beep five (5) times and the remote start will not attempt to start the vehicle since it detects the trunk is open.</p>
 <p><u>Pre-start shut down (Door)</u> - Close the trunk and press the unlock button on the factory Smart Key transmitter.</p> <p>Open the driver's door and attempt to activate the remote engine start.</p>	<p>The hazard lights will flash two (2) times to indicate that the vehicle is disarmed and unlock the driver's door only.</p> <p>The horn will beep six (6) times and the remote start will not attempt to start the vehicle since it detects a door is open.</p>
 <p><u>Remote Engine Start / Take Over</u> - Exit the vehicle and ensure the engine hood, all doors and trunk are closed. Activate the remote start by pressing the start button two (2) times within three (3) seconds.</p> <p>Press the unlock button on the factory Smart Key transmitter one (1) time.</p> <p>Open the driver's door and enter the vehicle with a factory Smart Key transmitter.</p> <p>Wait for the "Key Out" light to turn OFF on the instrument cluster.</p> <p>Press the brake pedal.</p> <p>Press the start button on the dashboard to turn off the engine.</p>	<p>The doors will lock, the parking lights will flash and the horn will beep one (1) time, then the vehicle will crank and start. Once started, the parking lights will turn on and stay on signifying the engine is running.</p> <p>The hazard lights will flash two (2) times to indicate that the vehicle is disarmed and unlock the driver's door only.</p> <p>The "Key Out" light on the instrument cluster will flash.</p> <p>The "Key Out" light on the instrument cluster turns OFF.</p> <p>The parking lights will turn off and the vehicle will remain running.</p> <p>The engine will turn off immediately.</p>

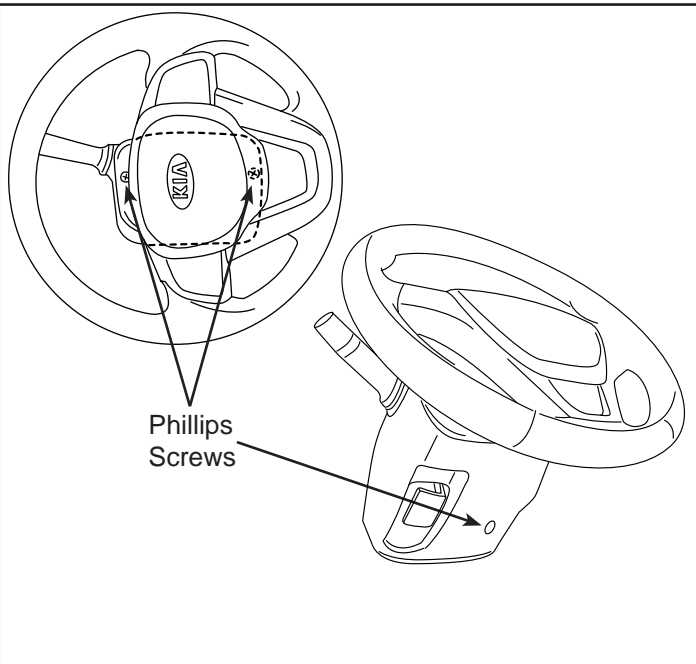


29

- NOTE**
1. Install one (1) provided tether clip, in the closed position, into the "A" pillar trim panel. Rotate clockwise until it locks into place.
 2. Reinstall the driver's side "A" pillar trim by engaging the two (2) retaining clips, one (1) tether clip and two (2) pressure clips.
 3. Reinstall the weatherstrip near the driver's side "A" pillar.



CAUTION! Do not lose the two (2) pressure clips or damage any airbag components.



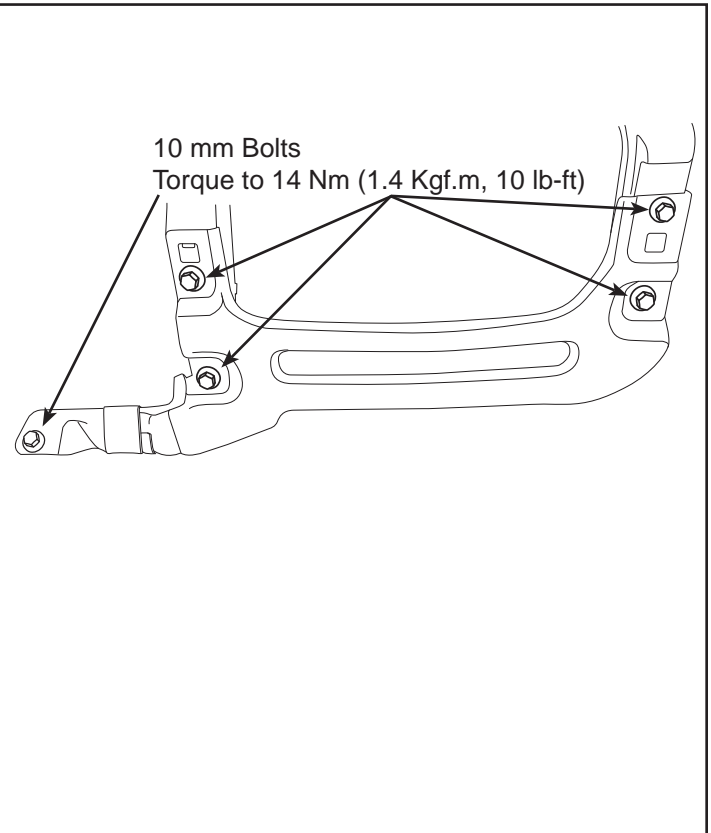
#2 Phillips Screwdriver

30

- NOTE**
1. Reinstall the lower steering column shroud around the steering column.
 2. Reinstall the three (3) #2 phillips screws securing the steering column shroud (one (1) underneath and two (2) behind the steering wheel). Turn the steering wheel for access, as shown above.



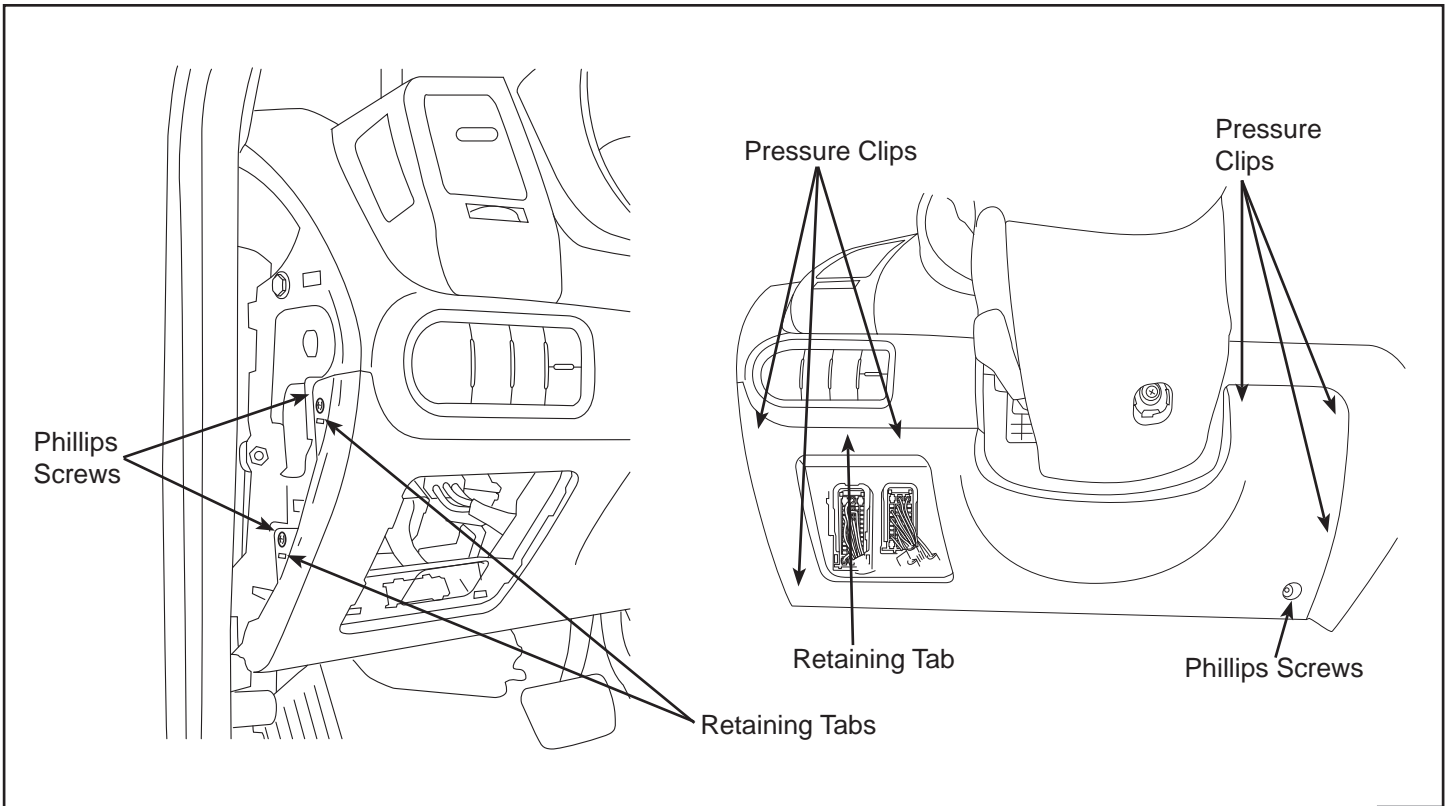
Use care when securing the steering column shroud to avoid misalignment, which could cause unwanted noises when turning the steering wheel.



Ratchet, Extension, 10 mm Socket and Torque Wrench

31

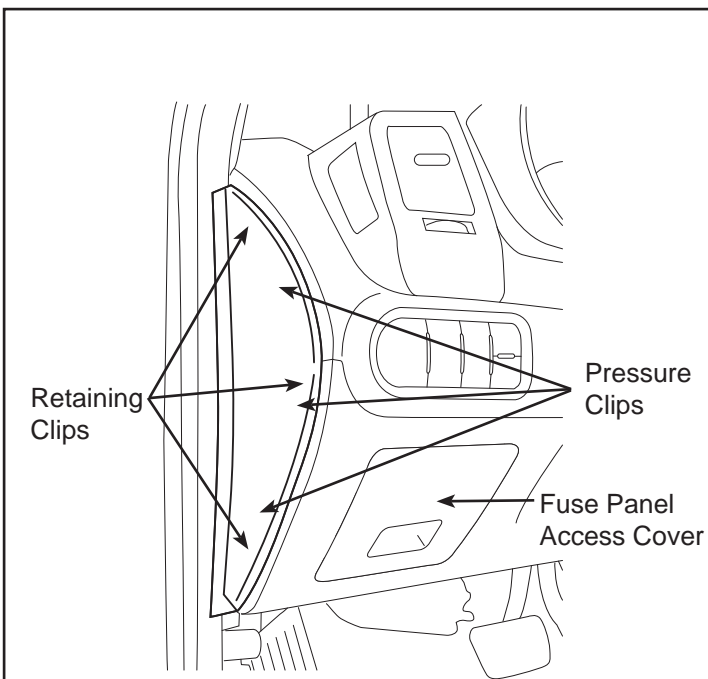
- NOTE**
1. Reinstall the five (5) 10 mm bolts securing the steel knee bolster panel. Torque bolts to 14 Nm (1.4 Kgf.m, 10 lb-ft).



 #2 Phillips Screwdriver

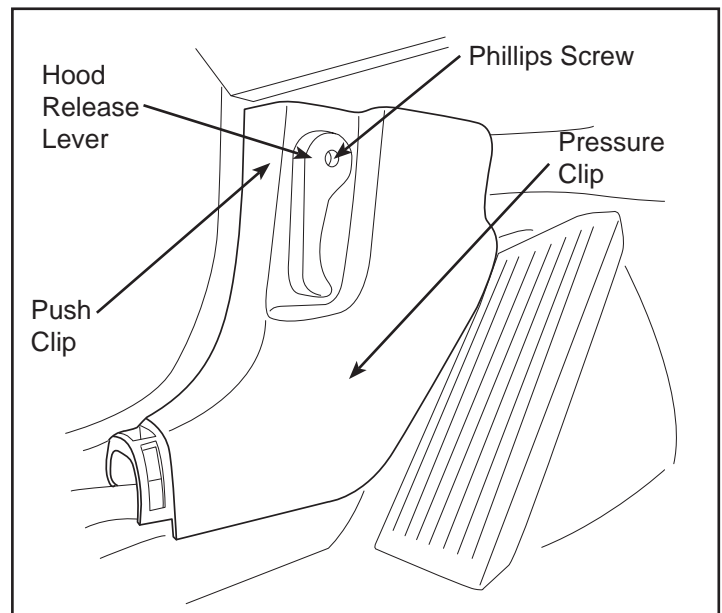
32

- N O T E**
1. Reinstall any connectors, including the OBDII connector that may have been removed from the lower dash finish panel.
 2. Reinstall the lower dash finish panel by engaging the six (6) pressure clips, three (3) retaining tabs and three (3) #2 phillips screws.



 **33**

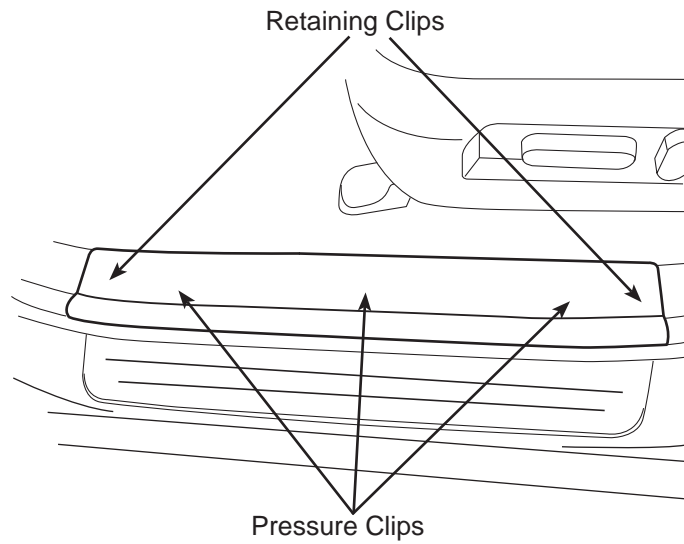
- N O T E**
1. Reinstall the driver's side dash end cap by engaging the three (3) pressure clips and the three (3) retaining clips.
 2. Reinstall the fuse panel access cover.



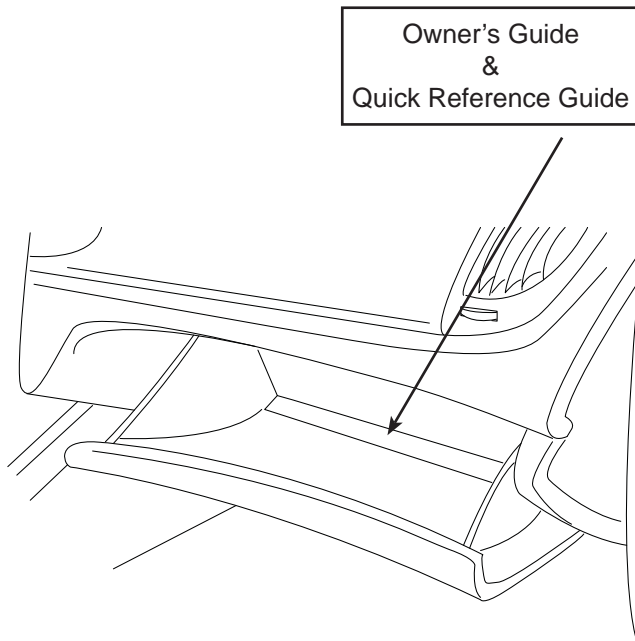
 #2 Phillips Screwdriver

34

- N O T E**
1. Remove the hood release lever.
 2. Reinstall the driver's side kick panel. Secure with one (1) push clip and one (1) pressure clip.
 3. Reinstall the hood release lever by engaging the one (1) #2 phillips screw.
 4. Reinstall the weatherstrip near the driver's side kick panel.



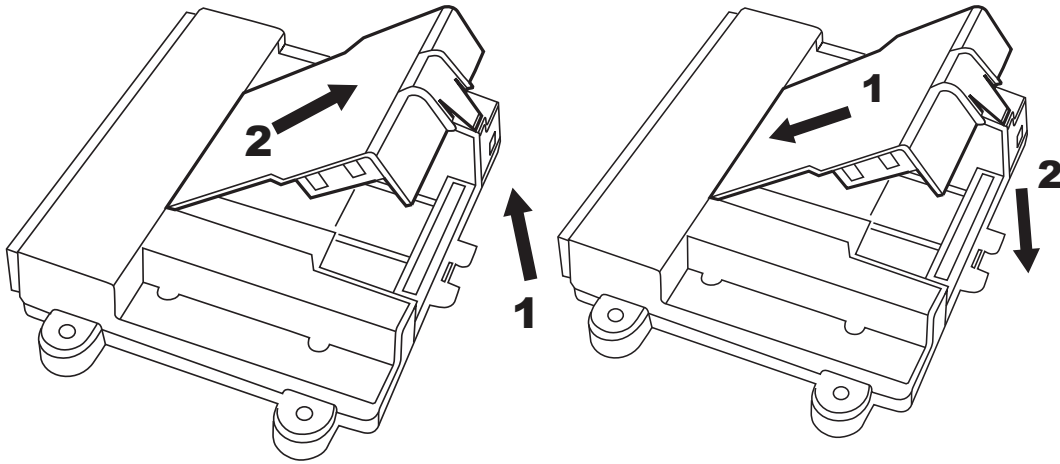
- NOTE** 1. Reinstall the driver's side front door step sill trim panel by engaging the three (3) pressure clips and two (2) retaining clips.



- NOTE** 1. Place the Owner's Guide and the Quick Reference Guide into the vehicle's glove box.

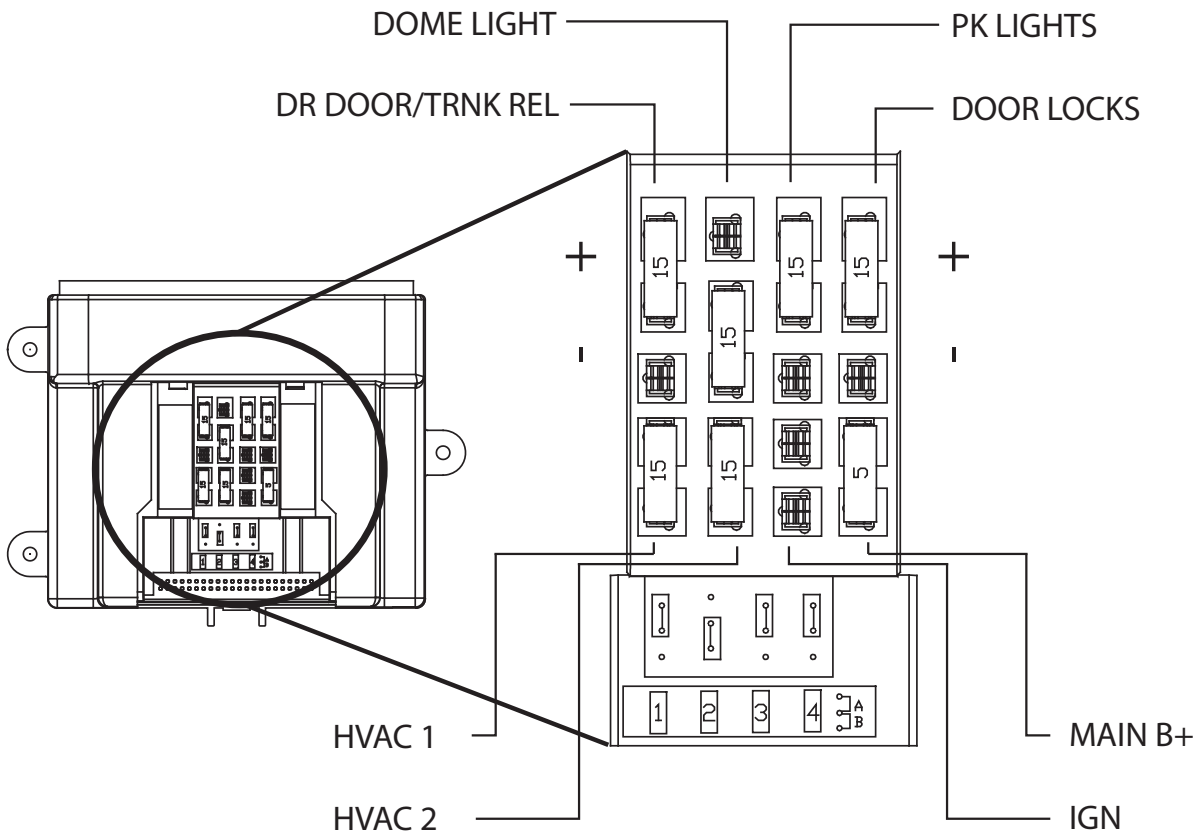
KIA Genuine Accessories Troubleshooting

Accessing the DNA Card










*Verify that both rows of multi-pin connectors are aligned and seated properly.









Correct Fuse and Jumper Positions






KIA Genuine Accessories Troubleshooting

Issue / Concern	Items To Be Checked	
 System does not respond to transmitter.	Instruction Ref.	*Verify that the antenna is plugged into the back of the remote start module (Step 15). *Refer to Page 28 for Transmitter Programming and Battery Test Procedure.
	Step 15	
 Poor operating range.	Instruction Ref.	*Verify that the antenna is mounted and routed in the correct location (Step 12, 13 & 14). *Verify that the antenna is plugged into the back of the remote start module (Step 15).
	Steps 12, 13, 14 & 15	
 Vehicle will not lock/unlock using the factory Smart Key transmitter during remote start mode.	Instruction Ref.	*Verify that the 24-pin male and female M13-A connectors at the Smart Key module are connected properly (Step 26). *Verify that the fuse located under the DNA case top labeled "DOOR LOCKS" is good and installed properly per the Fuse and Jumper diagram in Troubleshooting. *Verify all four (4) connectors at the remote start CAN module are connected properly (Step 21). *Verify proper DNA installation into module.
	Steps 21 & 26	
 Vehicle's dome light does not turn on after pressing unlock on the factory Smart Key transmitter.	Instruction Ref.	*Verify that the correct remote start harness wire was connected properly to the correct vehicle wire at the MF11 connector (Step 20). *Verify that the 24-pin male and female M13-A connectors at the Smart Key module are connected properly (Step 26). *Verify that the fuse located under the DNA case top labeled "DOME LIGHT" is good and installed properly per the Fuse and Jumper diagram in Troubleshooting. *Verify all four (4) connectors at the remote start CAN module are connected properly (Step 21). *Verify proper DNA installation into module.
	Steps 20, 21 & 26	
 Vehicle's parking lights do not flash.	Instruction Ref.	*Verify that the correct remote start harness wires were connected properly to the correct vehicle wires at the I/P-B connector (Step 19). *Verify that the fuses located under the DNA case top labeled "PK LIGHTS" and "DR DOOR/TRNK REL" are good and installed properly per the Fuse and Jumper diagram in Troubleshooting. *Verify proper DNA installation into module.
	Step 19	
 Vehicle's horn does not beep when activating the car find or the panic feature.	Instruction Ref.	*Verify that the correct remote start harness wire was connected properly to the correct vehicle wire at the EM11 connector (Step 20). *Verify proper DNA installation into module.
	Step 20	
 Rear defroster does not work.	Instruction Ref.	*Verify that the correct remote start harness wire was connected properly to the correct vehicle wire at the I/P-B connector (Step 19).
	Step 19	

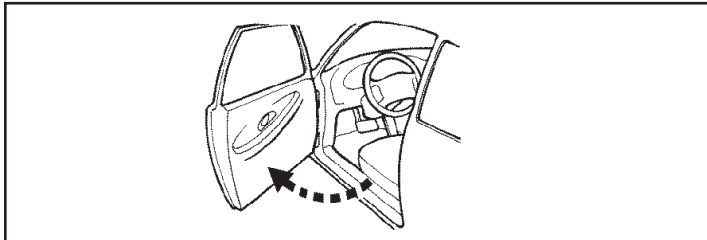
KIA Genuine Accessories Troubleshooting

Issue / Concern	Items To Be Checked	
 Headlights do not turn off, thirty (30) seconds after deactivating the remote start (Headlight switch must be in the AUTO or ON position).	Instruction Ref.	*Verify that the 32-pin male and female I/P-D connectors are connected properly (Step 18).
	Step 18	
 Vehicle starts but the factory security system was triggered.	Instruction Ref.	*Verify that the 32-pin male and female I/P-D connectors are connected properly (Step 18).
	Step 18	
 Vehicle's air conditioning/heater does not operate during remote start mode.	Instruction Ref.	*Verify that the fuses located under the DNA case top labeled "HVAC1" and "HVAC2" are good and installed properly per the Fuse and Jumper diagram in Troubleshooting. *Verify proper DNA installation into module.
 Vehicle starts, but does not remain running (may retry up to three (3) times).	Instruction Ref.	*Verify that the correct remote start harness wire was connected properly to the correct vehicle wire (Alternator Wire) at the EM11 connector (Step 20). *Verify all four (4) connectors at the remote start CAN module are connected properly (Step 21). *Verify proper DNA installation into module. Note: Ensure that the T-Tap and spade terminal are connected properly. Refer to Page 3 for T-Tap Installation Procedure.
	Steps 20 & 21	
 Horn beeps two (2) times and vehicle does not start. Brake switch / Hood switch safety input activated.	Instruction Ref.	*Verify that the 4-pin male and female E18 brake switch connectors at the brake switch are connected properly (Step 22). *Verify that the 24-pin male and female M13-A connectors at the Smart Key module are connected properly (Step 26). *Verify all four (4) connectors at the remote start CAN module are connected properly.
	Steps 22 & 26	
 Horn beeps three (3) times and vehicle does not start. Valet mode activated.	Owner's Guide	*Verify that the Valet Mode is not engaged - Refer to the Remote Start System Owner's Guide.
	Page 7	
 Horn beeps five (5) times and vehicle does not start. Trunk switch safety input activated.	Instruction Ref.	*Verify that the 24-pin male and female M13-A connectors at the Smart Key module are connected properly (Step 26). *Verify all four (4) connectors at the remote start CAN module are connected properly (Step 21). *Verify proper DNA installation into module.
	Steps 21 & 26	
 Horn beeps six (6) times and vehicle does not start. Door switch safety input activated.	Instruction Ref.	*Verify that the 24-pin male and female M13-A connectors at the Smart Key module are connected properly (Step 26). *Verify all four (4) connectors at the remote start CAN module are connected properly (Step 21). *Verify proper DNA installation into module.
	Steps 21 & 26	

KIA Genuine Accessories Troubleshooting

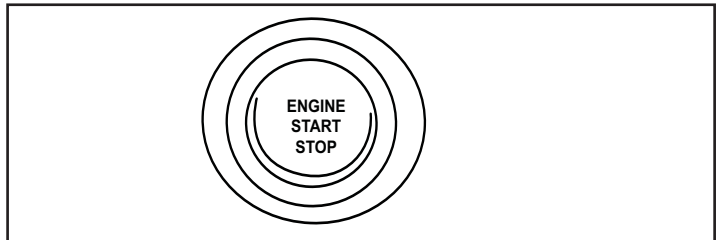
Issue / Concern	Items To Be Checked	
 System remote starts the vehicle, but does not perform a successful takeover.	Instruction Ref. Steps 21 & 26	<ul style="list-style-type: none"> *Verify a valid factory Smart Key is present during the takeover procedure and that the "Key Out" light turns off before pressing the brake pedal. *Verify that the 20-pin male and female M13-B connectors at the Smart Key module are connected properly (Step 26). *Verify all four (4) connectors at the remote start CAN module are connected properly (Step 21). *Verify proper DNA installation into module.
 System does not remote start the vehicle. <u>CAN Module LED status during a remote start attempt:</u> *LED flashes RED continuously.	Instruction Ref. Steps 21, 26 & 28	<ul style="list-style-type: none"> *Verify that the 24-pin male and female M13-A connectors at the Smart Key module are connected properly (Step 26). *Verify that the fuse located under the DNA case top labeled "DOOR LOCKS" is good and installed properly per the Fuse and Jumper diagram in Troubleshooting. *Verify all four (4) connectors at the remote start CAN module are connected properly (Step 21). *Verify proper DNA installation into module.
 System does not remote start the vehicle. <u>CAN Module LED status during a remote start attempt:</u> *LED is solid RED continuously.	Instruction Ref. Steps 21, 26 & 28	<ul style="list-style-type: none"> *Refer to Page 18 for Immobilizer Programming Procedure (Step 28). *Verify that the 24-pin male and female M13-A connectors at the Smart Key module are connected properly (Step 26). *Verify all four (4) connectors at the remote start CAN module are connected properly (Step 21). *Verify proper DNA installation into module.

KIA Genuine Accessories Transmitter Programming Procedure



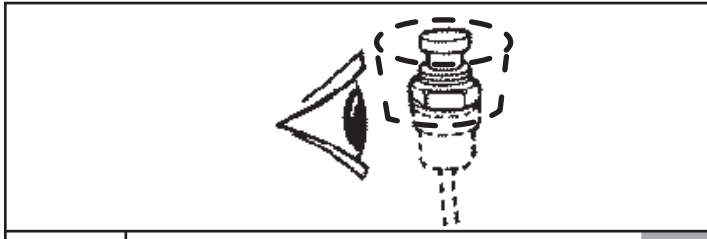
1

NOTE 1. Open the driver's door.



2

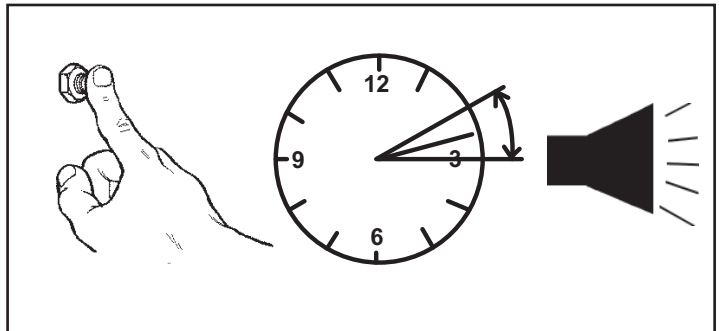
NOTE 1. With a valid factory Smart Key present, press the Engine Start/Stop button two (2) times to turn On the vehicle ignition.



3

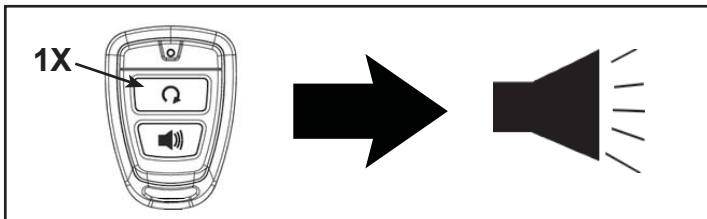
NOTE 1. Locate the programming button.

Note: The programming button is secured to the remote start wire harness, located behind the lower dash finish panel.



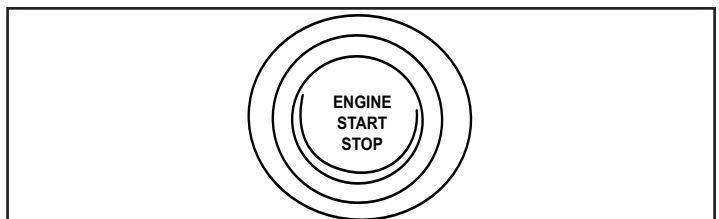
4

NOTE 1. Press and hold the programming button for ten (10) - fifteen (15) seconds, the horn will beep three (3) times.
2. Release the programming button.



5

NOTE 1. Press the START button one (1) time, the horn will beep one (1) time indicating that the transmitter code has been learned.
2. Repeat this process for each additional transmitter.



6

NOTE 1. Press the Engine Start/Stop button one (1) time to turn Off the vehicle ignition.

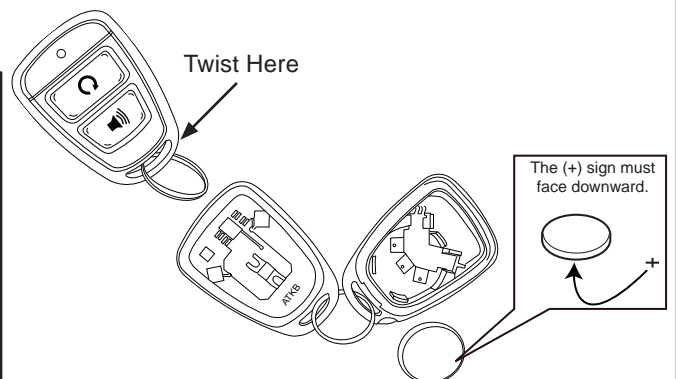
KIA Genuine Accessories Transmitter Battery Test Procedure

Recycle or dispose of the old battery according to your local laws or regulations.



1

NOTE 1. Insert a flat screwdriver or coin into the slot on the bottom, right of the transmitter.
2. Twist the screwdriver or coin to separate the halves apart.
3. Remove the battery from the transmitter.
4. Using a DMM, check the voltage on the battery.
5. If the voltage is less than 3 volts, replace the depleted battery with (P/N: CR2032).



2014 ~ KIA FORTE REMOTE START WIRING DIAGRAM

24-PIN MAIN HARNESS

CAV CIRCUIT NAME	CIRCUIT DESCRIPTION	GA COLOR
1	PARK LT	20 BR
2	FLX PWR	22 BR/VT
3	DOOR LOCK OUTPUT	20 BK/VT
4	DOOR LOCK OUTPUT	20 BK/VT
5	BATTERY	16 BK
6	GR/UND	16 BK
7	STARTER INTERRUPT (KEY SIDE)	16 BK/VT
8	IGNITION 1 INPUT/OUTPUT	16 BK/VT
9	STARTER INTERRUPT (MOTOR SIDE)	16 BK/VT
10	DOOR IN	22 BR
11	DOOR IN	22 BR
12	ARM INPUT	20 VT
13	UNLOCK SWITCH SENSE INPUT	20 BK
14	PARK RT	20 BK
15	TRUNK REL/DRY PR UNLK REL OUTPUT	20 BK
16	DATA	22 GV/RD
17	PL	20 BK
18	PROGRAMMING/OVERRIDE BUTTON	20 BK
19	HOOD OPEN SWITCH INPUT	22 BR/BK
20	DOOR AJAR SWITCH INPUT	22 BR/BK
21	HORN	20 VT
22	LED	22 RD
23	LED	22 BK
24	---	---

TO RES MODULE

CAV CIRCUIT NAME	CIRCUIT DESCRIPTION	GA COLOR
6	---	---
5	---	---
4	---	---
3	---	---
2	---	---
1	---	---

10-PIN CAR START HARNESS

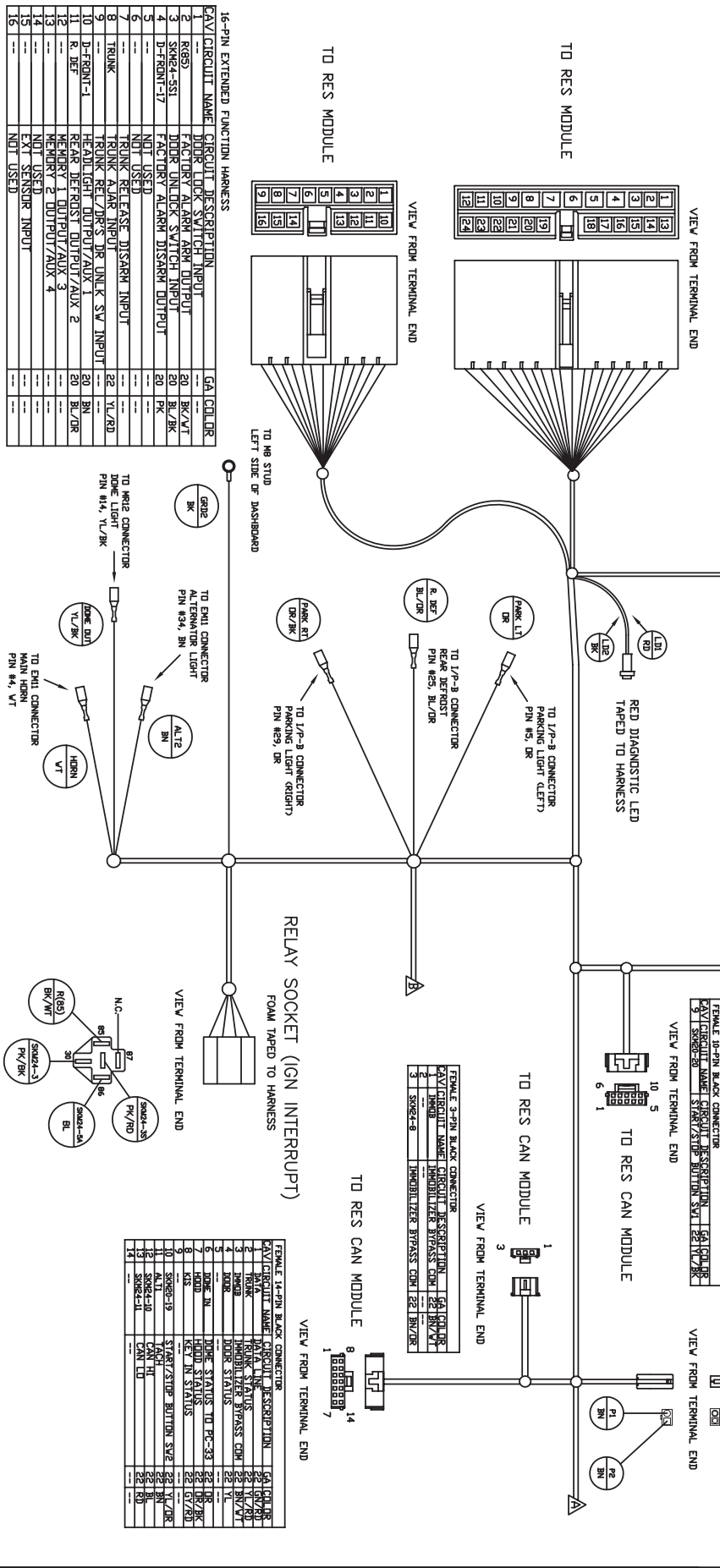
CAV CIRCUIT NAME	CIRCUIT DESCRIPTION	GA COLOR
1	BRK 2A	20 BK/VT
2	BRK 2B	16 BK/VT
3	IGNITION 5/0	16 BR/BK
4	HVAC 1 OUTPUT	16 BK
5	SKWD-4	16 BK
6	SKWD-4	16 BK
7	NOT USED	---
8	KEY-IN-SENSE INPUT	22 GV/RD
9	TACH SENSE INPUT	22 BK/VT
10	ACTIVE OUTPUT	22 BK/VT

VIEW FROM TERMINAL END

CAV CIRCUIT NAME	CIRCUIT DESCRIPTION	GA COLOR
1	---	---
2	---	---
3	---	---
4	---	---
5	---	---
6	---	---
7	---	---
8	---	---
9	---	---
10	---	---

VIEW FROM TERMINAL END

CAV CIRCUIT NAME	CIRCUIT DESCRIPTION	GA COLOR
1	---	---
2	---	---
3	---	---
4	---	---
5	---	---
6	---	---
7	---	---
8	---	---
9	---	---
10	---	---



16-PIN EXTENDED FUNCTION HARNESS

CAV CIRCUIT NAME	CIRCUIT DESCRIPTION	GA COLOR
1	DOOR LOCK SWITCH INPUT	20 BK/VT
2	DOOR LOCK SWITCH OUTPUT	20 BK/VT
3	FACTORY ALARM ARM OUTPUT	20 BK/VT
4	DOOR UNLOCK SWITCH INPUT	20 BK/VT
5	FACTORY ALARM DISARM OUTPUT	20 BK/VT
6	NOT USED	---
7	NOT USED	---
8	TRUNK	22 VT
9	TRUNK RELEASE DISARM INPUT	22 VT
10	TRUNK RELEASE DISARM SV INPUT	22 VT
11	TRUNK REL/DRY PR UNLK SV INPUT	22 VT
12	REAR DEFROST OUTPUT/AUX 2	20 BK/VT
13	REAR DEFROST OUTPUT/AUX 3	20 BK/VT
14	MEMORY 2 OUTPUT/AUX 4	---
15	EXT SENSOR INPUT	---
16	NOT USED	---

VIEW FROM TERMINAL END

CAV CIRCUIT NAME	CIRCUIT DESCRIPTION	GA COLOR
1	---	---
2	---	---
3	---	---
4	---	---
5	---	---
6	---	---
7	---	---
8	---	---
9	---	---
10	---	---
11	---	---
12	---	---
13	---	---
14	---	---
15	---	---
16	---	---

VIEW FROM TERMINAL END

CAV CIRCUIT NAME	CIRCUIT DESCRIPTION	GA COLOR
1	---	---
2	---	---
3	---	---
4	---	---
5	---	---
6	---	---
7	---	---
8	---	---
9	---	---
10	---	---
11	---	---
12	---	---
13	---	---
14	---	---
15	---	---
16	---	---

VIEW FROM TERMINAL END

CAV CIRCUIT NAME	CIRCUIT DESCRIPTION	GA COLOR
1	---	---
2	---	---
3	---	---
4	---	---
5	---	---
6	---	---
7	---	---
8	---	---
9	---	---
10	---	---
11	---	---
12	---	---
13	---	---
14	---	---
15	---	---
16	---	---

NOTE:
1. = CONTINUED ON NEXT DRAWING

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TABLE 24-PIN CONNECTOR (TO SMO)

WAV CIR NAME	CIRCUIT DESCRIPTION	GA COLOR
1	EXTRA CIRCUIT	RD
2	EXTRA CIRCUIT	RD
3	EXTRA CIRCUIT	RD
4	EXTRA CIRCUIT	RD
5	EXTRA CIRCUIT	RD
6	EXTRA CIRCUIT	RD
7	EXTRA CIRCUIT	RD
8	EXTRA CIRCUIT	RD
9	EXTRA CIRCUIT	RD
10	EXTRA CIRCUIT	RD
11	EXTRA CIRCUIT	RD
12	EXTRA CIRCUIT	RD
13	EXTRA CIRCUIT	RD
14	EXTRA CIRCUIT	RD
15	EXTRA CIRCUIT	RD
16	EXTRA CIRCUIT	RD
17	EXTRA CIRCUIT	RD
18	EXTRA CIRCUIT	RD
19	EXTRA CIRCUIT	RD
20	EXTRA CIRCUIT	RD
21	EXTRA CIRCUIT	RD
22	EXTRA CIRCUIT	RD
23	EXTRA CIRCUIT	RD
24	EXTRA CIRCUIT	RD

TABLE 24-PIN CONNECTOR (TO SMO HARNESS)

WAV CIR NAME	CIRCUIT DESCRIPTION	GA COLOR
1	EXTRA CIRCUIT	RD
2	EXTRA CIRCUIT	RD
3	EXTRA CIRCUIT	RD
4	EXTRA CIRCUIT	RD
5	EXTRA CIRCUIT	RD
6	EXTRA CIRCUIT	RD
7	EXTRA CIRCUIT	RD
8	EXTRA CIRCUIT	RD
9	EXTRA CIRCUIT	RD
10	EXTRA CIRCUIT	RD
11	EXTRA CIRCUIT	RD
12	EXTRA CIRCUIT	RD
13	EXTRA CIRCUIT	RD
14	EXTRA CIRCUIT	RD
15	EXTRA CIRCUIT	RD
16	EXTRA CIRCUIT	RD
17	EXTRA CIRCUIT	RD
18	EXTRA CIRCUIT	RD
19	EXTRA CIRCUIT	RD
20	EXTRA CIRCUIT	RD
21	EXTRA CIRCUIT	RD
22	EXTRA CIRCUIT	RD
23	EXTRA CIRCUIT	RD
24	EXTRA CIRCUIT	RD

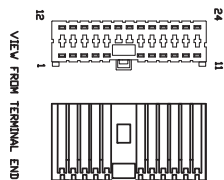


TABLE 20-PIN CONNECTOR (TO SMO HARNESS)

WAV CIR NAME	CIRCUIT DESCRIPTION	GA COLOR
1	EXTRA CIRCUIT	RD
2	EXTRA CIRCUIT	RD
3	EXTRA CIRCUIT	RD
4	EXTRA CIRCUIT	RD
5	EXTRA CIRCUIT	RD
6	EXTRA CIRCUIT	RD
7	EXTRA CIRCUIT	RD
8	EXTRA CIRCUIT	RD
9	EXTRA CIRCUIT	RD
10	EXTRA CIRCUIT	RD
11	EXTRA CIRCUIT	RD
12	EXTRA CIRCUIT	RD
13	EXTRA CIRCUIT	RD
14	EXTRA CIRCUIT	RD
15	EXTRA CIRCUIT	RD
16	EXTRA CIRCUIT	RD
17	EXTRA CIRCUIT	RD
18	EXTRA CIRCUIT	RD
19	EXTRA CIRCUIT	RD
20	EXTRA CIRCUIT	RD

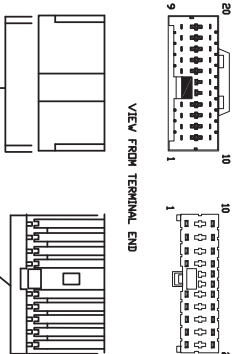


TABLE 20-PIN CONNECTOR (TO SMO)

WAV CIR NAME	CIRCUIT DESCRIPTION	GA COLOR
1	EXTRA CIRCUIT	RD
2	EXTRA CIRCUIT	RD
3	EXTRA CIRCUIT	RD
4	EXTRA CIRCUIT	RD
5	EXTRA CIRCUIT	RD
6	EXTRA CIRCUIT	RD
7	EXTRA CIRCUIT	RD
8	EXTRA CIRCUIT	RD
9	EXTRA CIRCUIT	RD
10	EXTRA CIRCUIT	RD
11	EXTRA CIRCUIT	RD
12	EXTRA CIRCUIT	RD
13	EXTRA CIRCUIT	RD
14	EXTRA CIRCUIT	RD
15	EXTRA CIRCUIT	RD
16	EXTRA CIRCUIT	RD
17	EXTRA CIRCUIT	RD
18	EXTRA CIRCUIT	RD
19	EXTRA CIRCUIT	RD
20	EXTRA CIRCUIT	RD

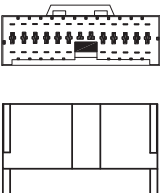


TABLE 12-PIN CONNECTOR (TO RES HARNESS MATE)

WAV CIR NAME	CIRCUIT DESCRIPTION	GA COLOR
1	EXTRA CIRCUIT	RD
2	EXTRA CIRCUIT	RD
3	EXTRA CIRCUIT	RD
4	EXTRA CIRCUIT	RD
5	EXTRA CIRCUIT	RD
6	EXTRA CIRCUIT	RD
7	EXTRA CIRCUIT	RD
8	EXTRA CIRCUIT	RD
9	EXTRA CIRCUIT	RD
10	EXTRA CIRCUIT	RD
11	EXTRA CIRCUIT	RD
12	EXTRA CIRCUIT	RD

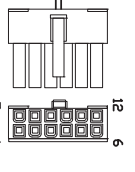


TABLE 6-PIN CONNECTOR (TO RES HARNESS MATE)

WAV CIR NAME	CIRCUIT DESCRIPTION	GA COLOR
1	EXTRA CIRCUIT	RD
2	EXTRA CIRCUIT	RD
3	EXTRA CIRCUIT	RD
4	EXTRA CIRCUIT	RD
5	EXTRA CIRCUIT	RD
6	EXTRA CIRCUIT	RD

TO RES HARNESS MATE

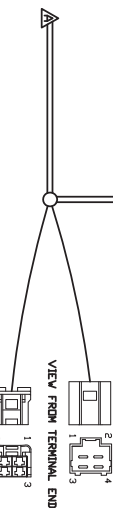


TABLE 4-PIN BRIDGE CONNECTOR

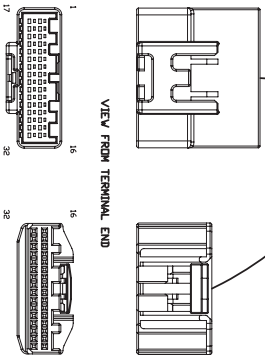
WAV CIR NAME	CIRCUIT DESCRIPTION	GA COLOR
1	EXTRA CIRCUIT	RD
2	EXTRA CIRCUIT	RD
3	EXTRA CIRCUIT	RD
4	EXTRA CIRCUIT	RD

TABLE 4-PIN BRIDGE CONNECTOR

WAV CIR NAME	CIRCUIT DESCRIPTION	GA COLOR
1	EXTRA CIRCUIT	RD
2	EXTRA CIRCUIT	RD
3	EXTRA CIRCUIT	RD
4	EXTRA CIRCUIT	RD

TABLE 20-PIN CONNECTOR (TO 15-PIN 30 ADDRESS)

WAV CIR NAME	CIRCUIT DESCRIPTION	GA COLOR
1	EXTRA CIRCUIT	RD
2	EXTRA CIRCUIT	RD
3	EXTRA CIRCUIT	RD
4	EXTRA CIRCUIT	RD
5	EXTRA CIRCUIT	RD
6	EXTRA CIRCUIT	RD
7	EXTRA CIRCUIT	RD
8	EXTRA CIRCUIT	RD
9	EXTRA CIRCUIT	RD
10	EXTRA CIRCUIT	RD
11	EXTRA CIRCUIT	RD
12	EXTRA CIRCUIT	RD
13	EXTRA CIRCUIT	RD
14	EXTRA CIRCUIT	RD
15	EXTRA CIRCUIT	RD
16	EXTRA CIRCUIT	RD
17	EXTRA CIRCUIT	RD
18	EXTRA CIRCUIT	RD
19	EXTRA CIRCUIT	RD
20	EXTRA CIRCUIT	RD



TO I/P-D CONNECTOR

TABLE 20-PIN CONNECTOR (TO 15-PIN 30)

WAV CIR NAME	CIRCUIT DESCRIPTION	GA COLOR
1	EXTRA CIRCUIT	RD
2	EXTRA CIRCUIT	RD
3	EXTRA CIRCUIT	RD
4	EXTRA CIRCUIT	RD
5	EXTRA CIRCUIT	RD
6	EXTRA CIRCUIT	RD
7	EXTRA CIRCUIT	RD
8	EXTRA CIRCUIT	RD
9	EXTRA CIRCUIT	RD
10	EXTRA CIRCUIT	RD
11	EXTRA CIRCUIT	RD
12	EXTRA CIRCUIT	RD
13	EXTRA CIRCUIT	RD
14	EXTRA CIRCUIT	RD
15	EXTRA CIRCUIT	RD
16	EXTRA CIRCUIT	RD
17	EXTRA CIRCUIT	RD
18	EXTRA CIRCUIT	RD
19	EXTRA CIRCUIT	RD
20	EXTRA CIRCUIT	RD