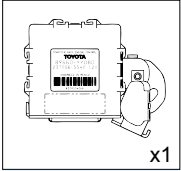
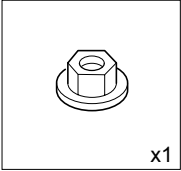
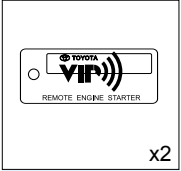
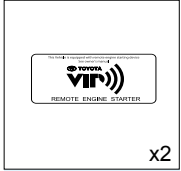
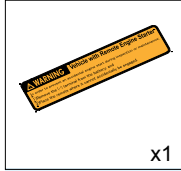
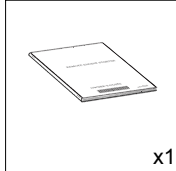


Part #: PT398-07130

Conflicts:

Will not program with Techstream Lite.

Kit Contents

| | | | | | |
|--|---|---|--|---|--|
| <p>RES ECU w/ Bracket</p>  <p>x1</p> <p>89660-YY080</p> | <p>M6 Nut</p>  <p>x1</p> | <p>Key Tag</p>  <p>x2</p> <p>PT398-4209E</p> | <p>Window Label</p>  <p>x2</p> <p>08192-07810</p> | <p>Engine Room Label</p>  <p>x1</p> <p>PT398-00070-EL</p> | <p>Owner's Guide</p>  <p>x1</p> |
|--|---|---|--|---|--|

Service Part #'s

Additional Items

(may be required)

| Item# | Description |
|-------|-------------|
| | |
| | |
| | |
| | |
| | |

Recommended Sequence of Application

| Item# | Description |
|-------|--------------------------------|
| 1 | V4 Remote Engine Starter (RES) |
| 2 | V2 Glass Breakage Sensor (GBS) |
| | |
| | |
| | |









Recommended Tools

| Personal & Vehicle Protection | Description |
|-------------------------------|--|
| Safety Glasses | |
| Safety Gloves | (Optional) |
| Vehicle Protection | Blankets, Parts Boxes |
| Special Tools | |
| Techstream | Use latest version on TIS (Do not use Techstream Lite) |
| Installation Tools | |
| Screwdriver | #2 Phillips, Flat Blade Jeweler's, Phillips Jeweler's |
| Nylon Panel Removal Tool | e.g. Panel Pry Tool #1 Toyota SST# 00002-06001-01 |
| Torque Wrench | Battery: 61 in•lbf (6.9 N•m), Passenger's Knee Airbag: 88.5 in•lbf (10 N•m) |
| Tape | Clear, Electrical |
| Socket | 10mm, Extension |
| Pliers | Needle Nose |
| Special Chemicals | |
| Cleaner | VDC Approved Cleaner |
| Glass Cleaner | Household Glass Cleaner |

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Legend

-  Do not proceed until process has been completed.
-  Follow steps carefully to avoid damaging the Vehicle or Accessory
-  Use caution to avoid injury.
-  Used in Figures to call attention to specific tools recommended for the process.
-  Highlights a change in installation with respect to previous issue.
-  Indicates that torque is related to safety.
-  Video available; click to play.
-  Wire Tie location and number.

Accessory Installation Practice (read before installation)

Care must be taken when installing this accessory to ensure damage does not occur to the vehicle. The installation of this accessory should follow approved guidelines to ensure a quality installation.

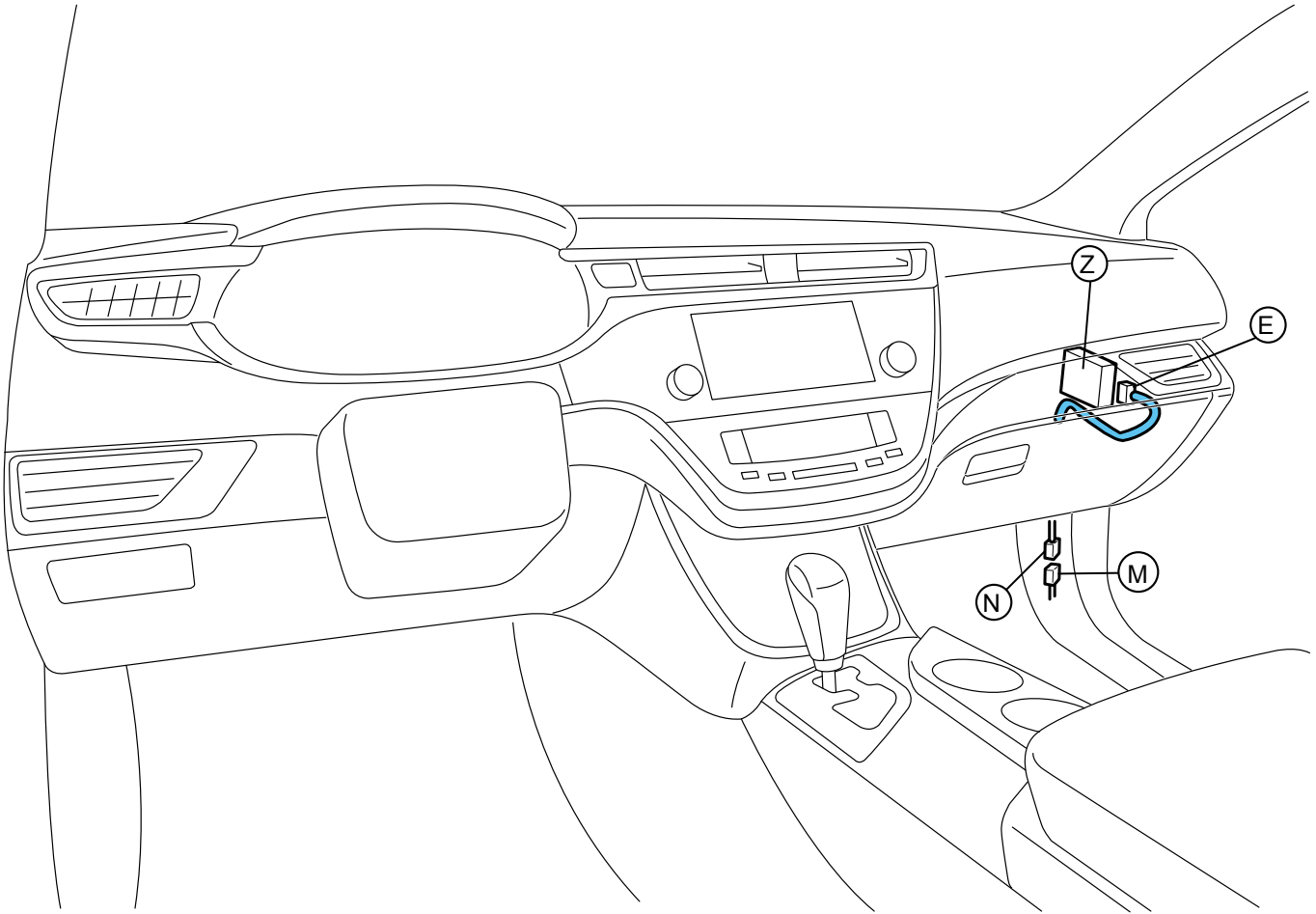
These guidelines can be found in the “Accessory Installation Practices” document.

This document covers such items as:

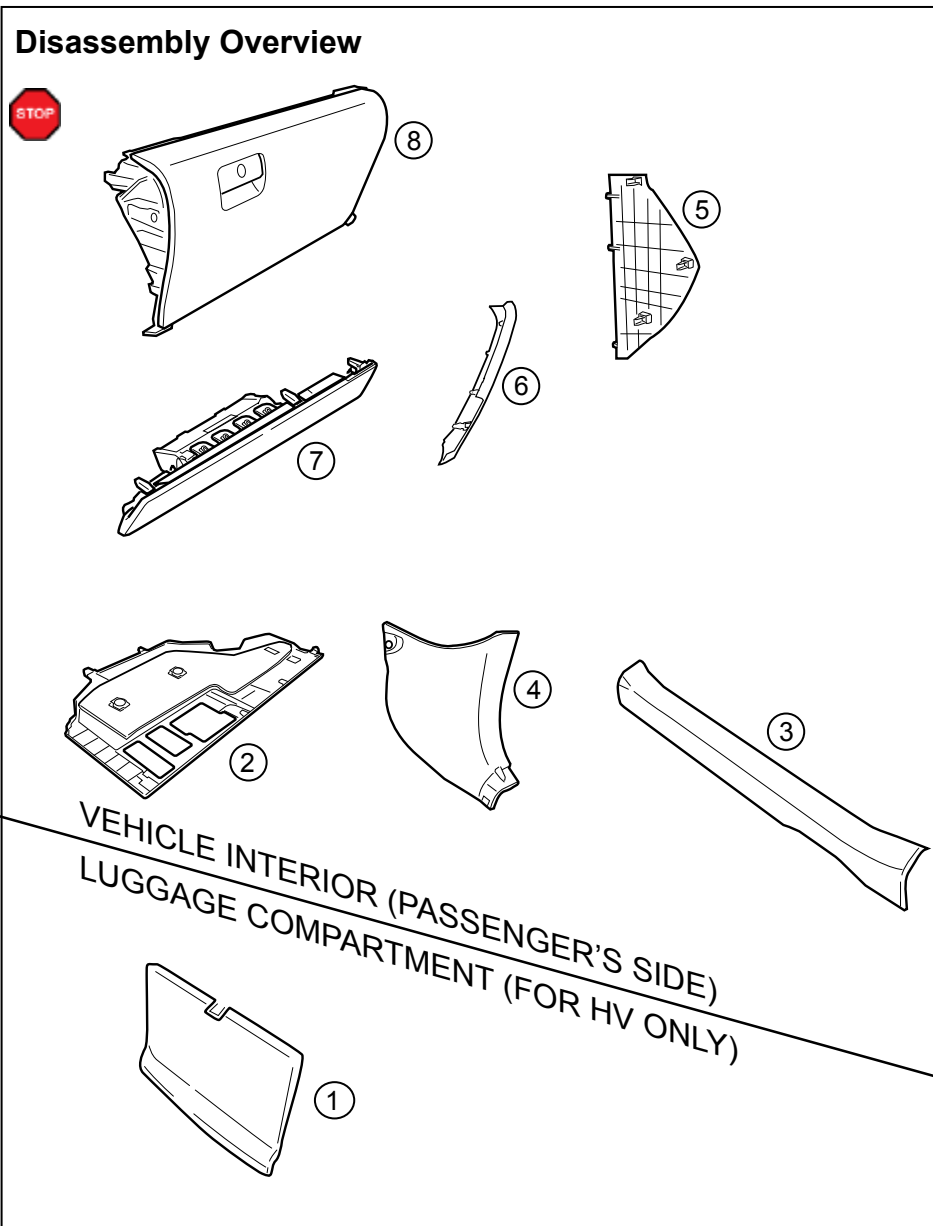
- Vehicle Protection (use of covers and blankets, cleaning chemicals, etc.)
- Safety (eye protection, checking torque procedure, etc.)
- Vehicle Disassembly/Reassembly (panel removal, part storage, etc.)
- Electrical Component Disassembly/Reassembly (battery disconnection, connector removal, etc.)

Please see your TOYOTA dealer for a copy of this document.

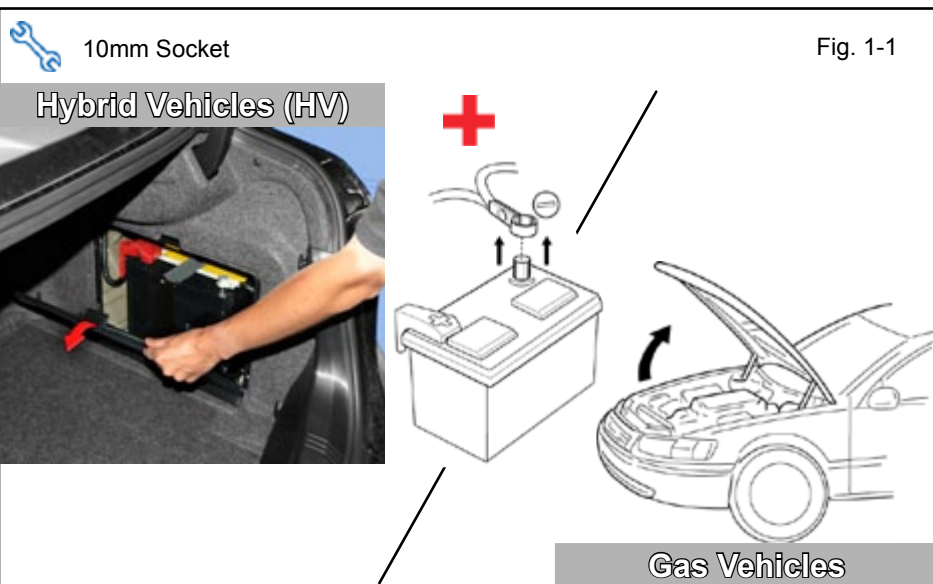
AVALON RES
 Installation Overview



| TVIP | Vehicle | Description |
|------|---------|---|
| E | | 24P White Vehicle Pre-Connector |
| M | | 1P White Vehicle Pre-Connector (for Registration) |
| N | | 1P White Vehicle Pre-Connector (for Registration) |
| Z | — | RES ECU |
| | | |
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| | |
|---|---|
| 1 | Battery Cover <i>(For HV only)</i> |
| 2 | Glove Box Under Cover |
| 3 | PS Step Cover |
| 4 | PS Cowl Cover |
| 5 | PS Dash Side Cover |
| 6 | Glove Box Trim |
| 7 | PS Knee Airbag <i>(Do not disconnect connector)</i> |
| 8 | Glove Box |
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| | |
| | Disconnect all Corresponding Connectors. |



- 1. Vehicle Disassembly.**
- a. Place the Vehicle in Park with the Parking Brake set.
 - For Hybrid Vehicles the battery is in the trunk.**
 - b. Remove the Battery Cover. *(for Hybrid Vehicles only)*
 - For Gas Vehicles the battery is in the Engine Compartment.**
 - c. Disconnect the Negative Battery Terminal.
 - Note the Battery Cable Position as it will be re-installed in the same position.
- CAUTION:** Do not touch the Positive Terminal.

d. Dislodge the Glove Box Under Cover.

e. Remove the Passenger's Side Step Cover.

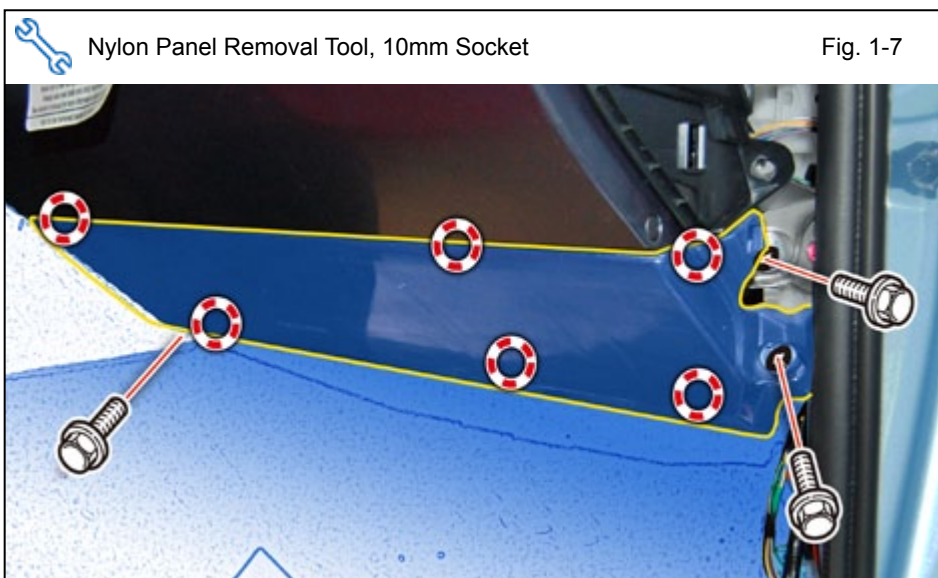
f. Remove the Passenger's Side Cowl Cover.
• Remove 1 Nut.



NOTE: If the clips stays in the vehicle, make sure to remove and re-attach to the Cowl Cover.

- g. Remove the Passenger's Side Dash Cover.

- h. Remove Glove Box Trim.



- i. Dislodge the Passenger's Knee Airbag carefully.
 - Pry out the 3 Top Clips.
 - Remove 3 Bolts.



CAUTION: Do not disconnect the Airbag's Connector.

- j. Wrap the Airbag in a Blanket or the like as shown.
- k. Place the Airbag on top of the TVIP box.



CAUTION: Prevent stress on the Airbag Harness.

- l. Remove 2 Screws from the bottom of the Glove Box.

- m. Open the Glove Box.



- n. Dislodge the Center Cluster Trim Panel.

- Apply Protective Tape to Center Console Area.
- Dislodge the 3 Clips only and do not remove the Center Cluster Trim Panel.

- o. Remove 3 Screws.
- p. Dislodge the Glove Box.

- q. Remove the Vehicle's clamp on the top left side of the Glove Box.
- r. Disconnect the Vehicle Connectors.
- s. Remove the Glove Box Light by rotating counterclockwise.

2. Vehicle's 24P White Pre-connector Preparation.

- a. Locate the Vehicle's 24P White Pre-Connector behind the IP Reinforcement in the Glove Box Area.



- b. Pull on the Vehicle's Harness to break the tape securing the 24P White Pre-Connector.
- c. Route the 24P Pre-Connector over the I/P Reinforcement, making sure it doesn't get snagged by the Bracket.



CAUTION: Sharp metal edges.

3. RES ECU Installation.

V4 ONLY

- a. Install the RES ECU using the supplied Nut.



NOTE: Make sure the Guide Pin is seated correctly and Verify that the Nut is tightened securely.

- b. Secure Vehicle's V4 Harness Clip onto RES ECU Bracket.

- c. Connect the Vehicle's 24P White Pre-Connector to the RES ECU.

Proceed to Section 4 (page 13).

V4 Add-on to V2 ONLY

- d. Disconnect the 8P Connector from GBS ECU.
- e. Remove and discard the Nut securing the GBS ECU.

- f. Dislodge the RES ECU combination bracket.
 - Do not discard the Bolt.
- g. Discard the Other bracket.

- h. Combine the RES ECU with the GBS ECU using the same Bolt.



NOTE: Make sure to tighten the Bolt securely with the RES ECU aligned Parallel to the GBS ECU.

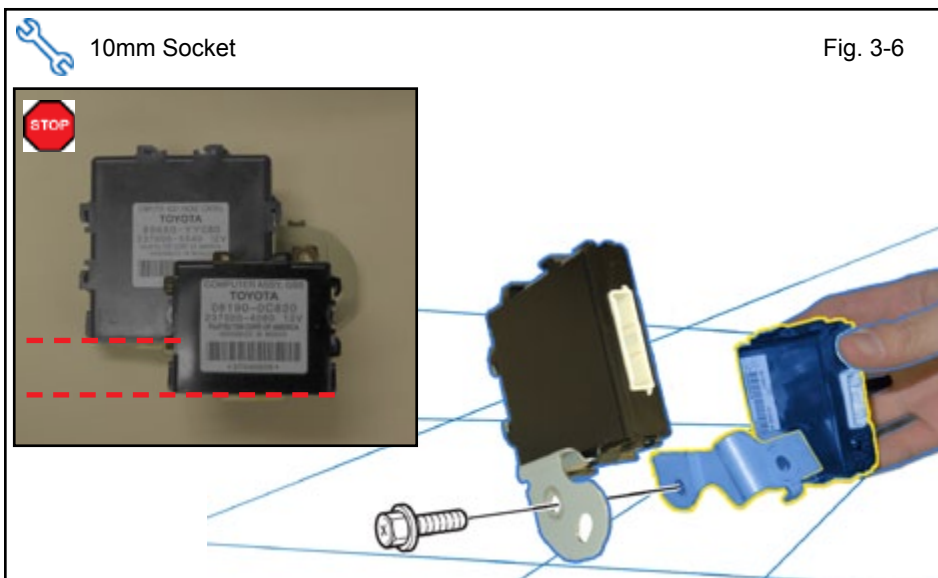


Fig. 3-6

10mm Socket

- i. Install the RES-GBS ECU combination using the supplied nut.



NOTE: Make sure the Guide Pin is seated correctly and Verify that the Nut is tightened securely.

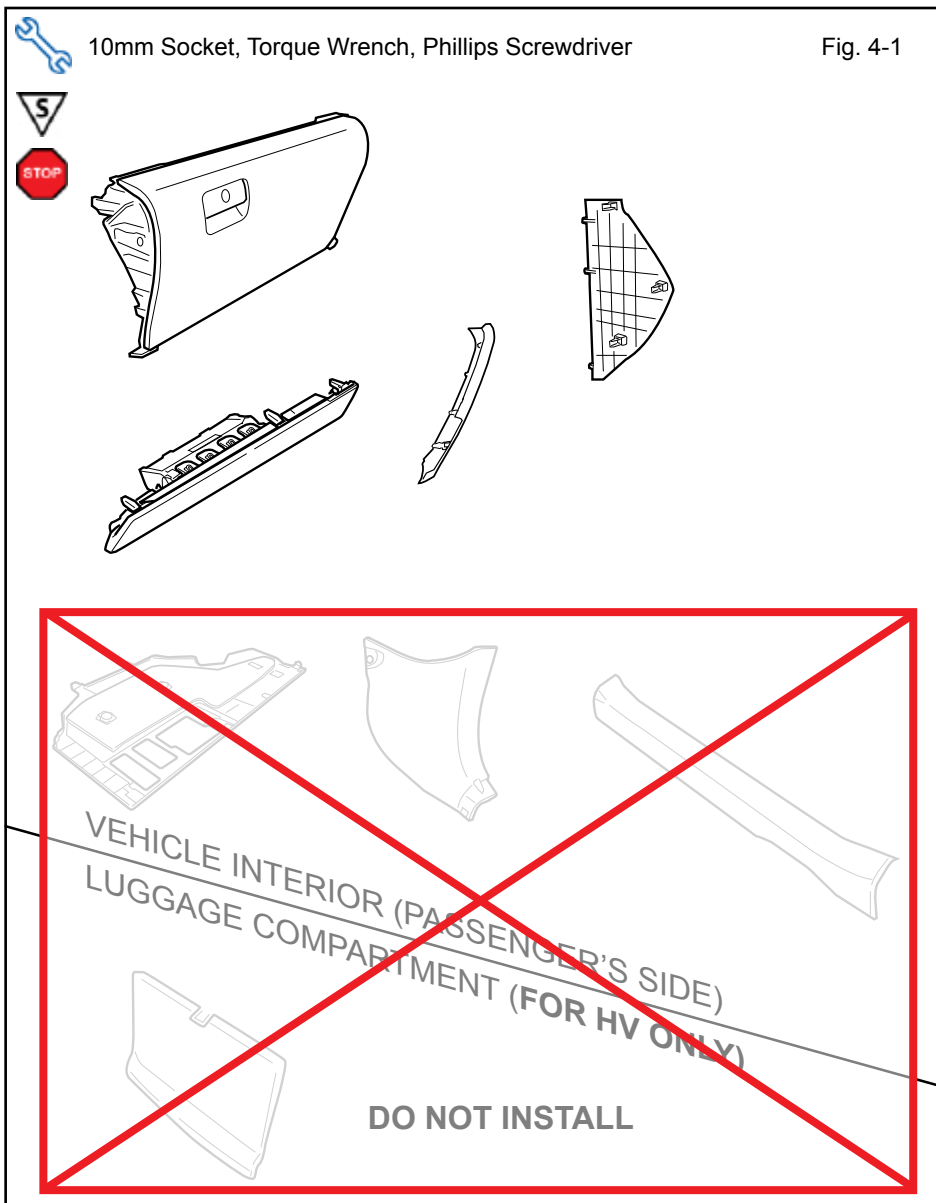
- j. Secure the Vehicle's V4 24P Pre-Connector's Harness Clip to the RES ECU Bracket.

- k. Connect the Vehicle's 24P White Pre-Connector to the RES ECU.



NOTE: Be careful not to rotate RES ECU when connecting.

- l. Reconnect the 8P Connector to the GBS ECU.



4. Registration Preparation.

- a. Reassemble the Vehicle except for the parts indicated on Fig. 4-1.



NOTE: When reinstalling Knee Airbag, make sure to tighten the Bolts to 88.5 in•lbf (10 N•m).

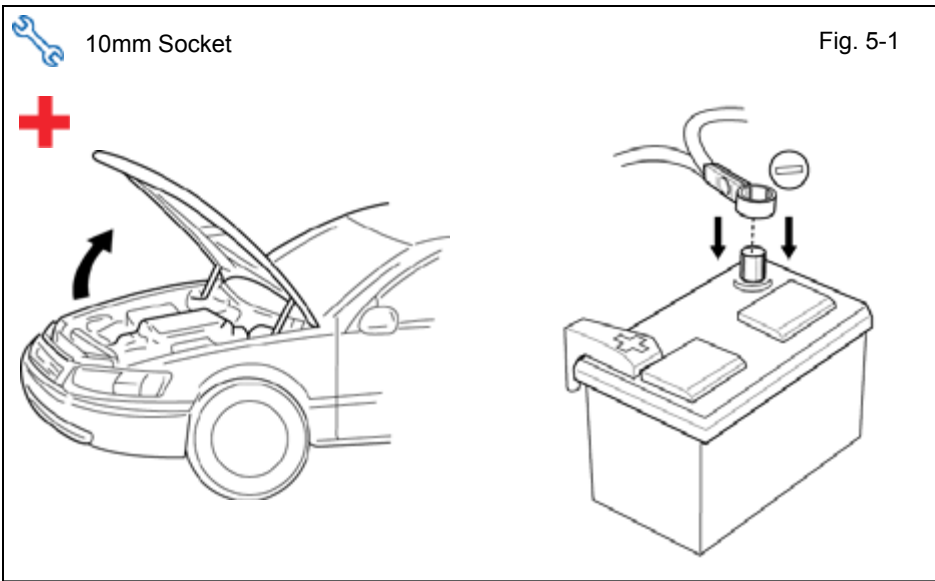


VERIFY: That all Connectors are plugged in.



VERIFY: That panels fit together properly, with no uneven gaps.

- b. Verify that the Short Pin is installed.
 - If not, install now.



5. Registration.

- a. Open the Hood.

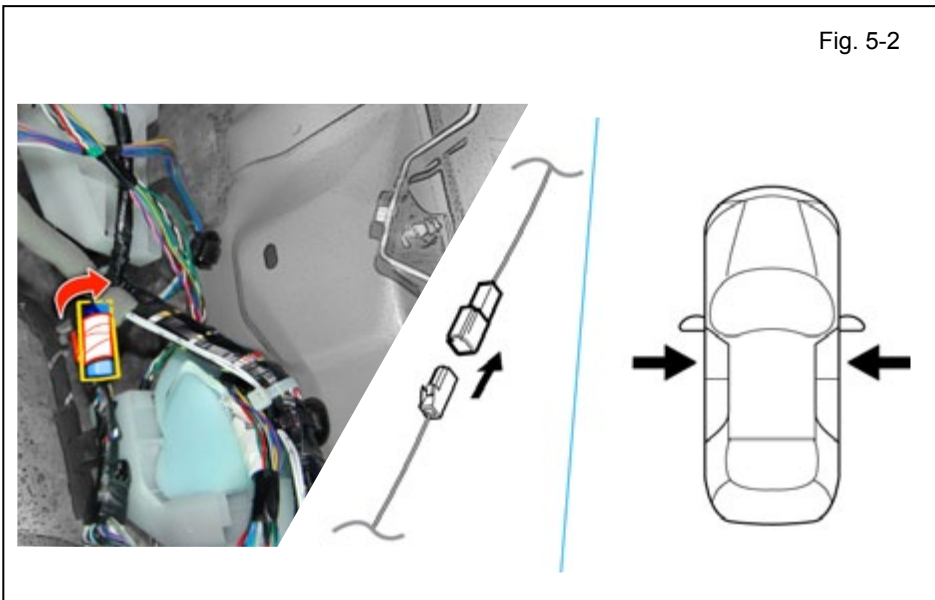


NOTE: Do not close the Hood throughout the Registration Procedure. (Steps b-z)

- b. Temporarily reconnect the Negative Battery Cable.



CAUTION: Do not touch the Positive Terminal.

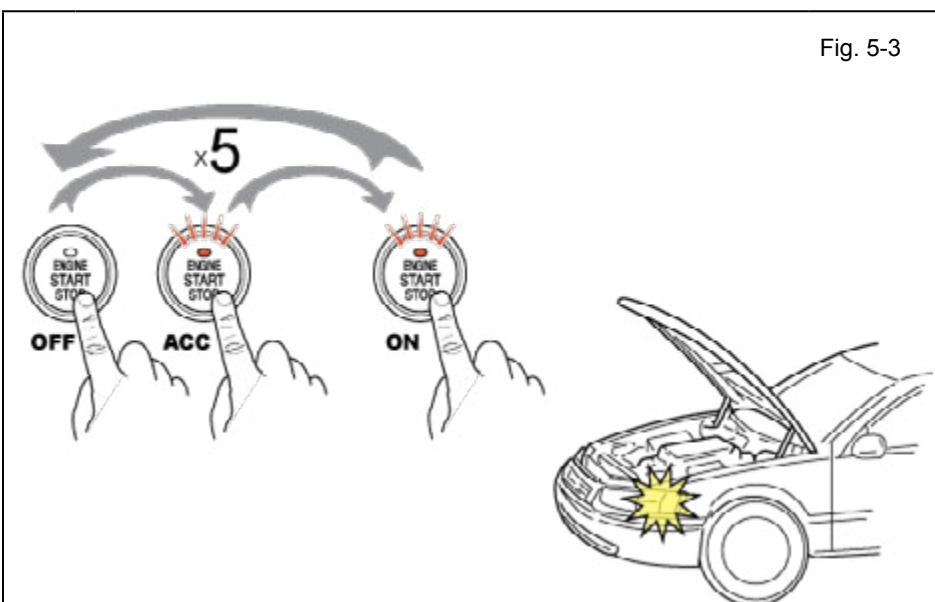


- c. Locate and remove the Tape securing the Vehicle's 1P Diagnostic Pre-connectors in the PS Cowl Area.

- d. Connect the 2 Vehicle's 1P Diagnostic Pre-connectors.

NOTE: Once connected you will have 10 minutes to complete this section, steps f–ab.

- e. Close all doors.



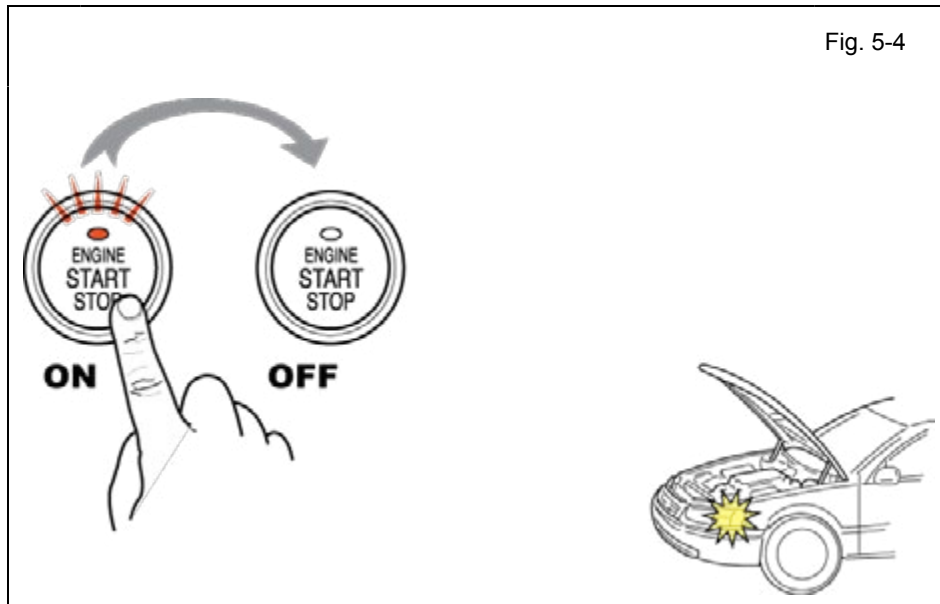
- f. Place the Vehicle in Park (P) position.

- g. Cycle the Power Button from "OFF" to "ON" 5 times.

NOTE: One cycle consists of: OFF → Accessory → ON. This is equivalent to pressing the Power Button 14 times.

Note: Do not apply Brake Pedal.

LOOK: For the Hazard Lights to Flash Once.



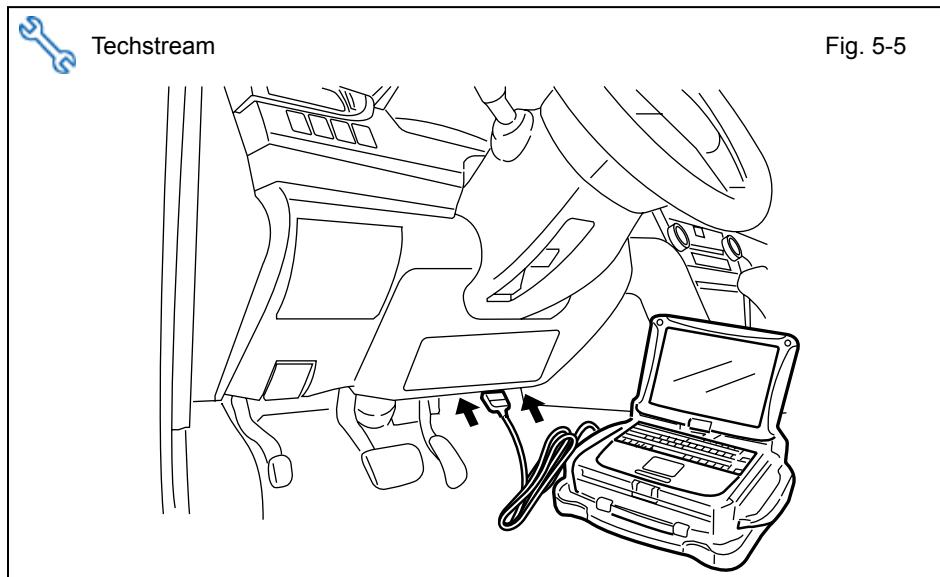
- h. Start the Engine.
- i. After 10 seconds stop the Engine.

LOOK: For the Hazard Lights to Flash Once.

IF THIS PROCEDURE FAILED

The Hazard Lights flash Three Times.

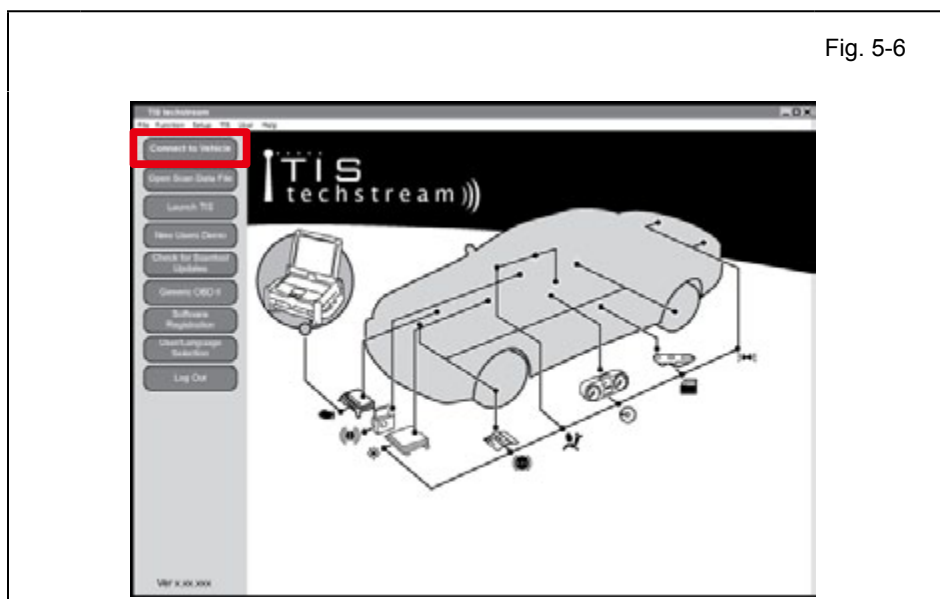
- Disconnect the Vehicle's 1P RES Diagnostic Pre-Connectors.
- Start again from step d.



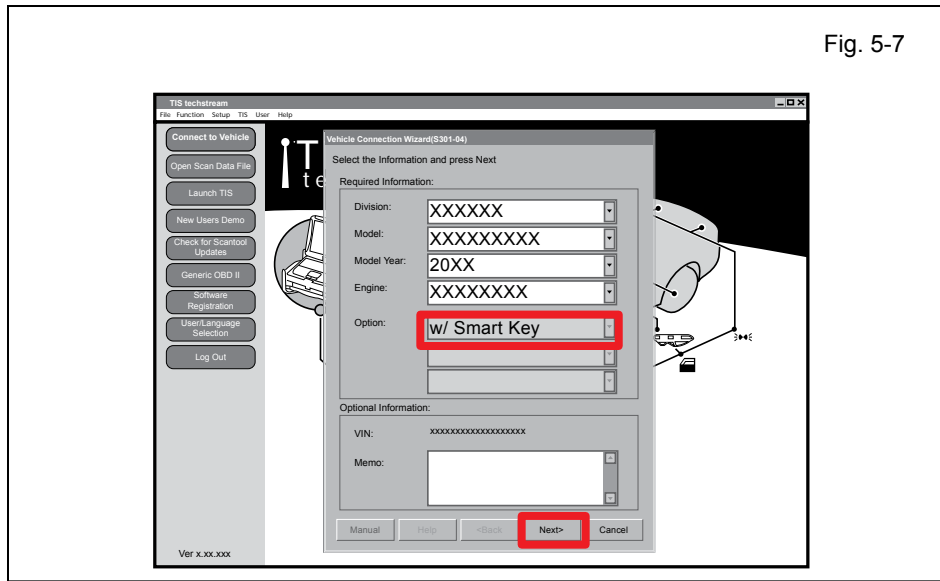
CAUTION: Techstream Lite will not work for this section, use the Techstream Notebook ONLY.

- j. Connect the Techstream Notebook to the Vehicle's Diagnostic Port.
- k. With the Smart Key in your possession, press the Power Button twice to select the Ignition "ON" position.

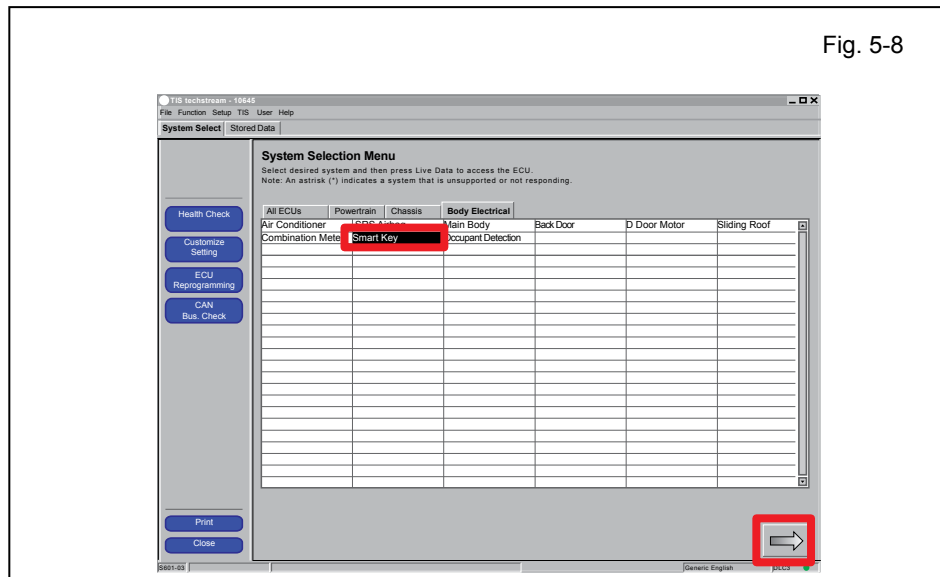
Note: Do not apply Brake Pedal.



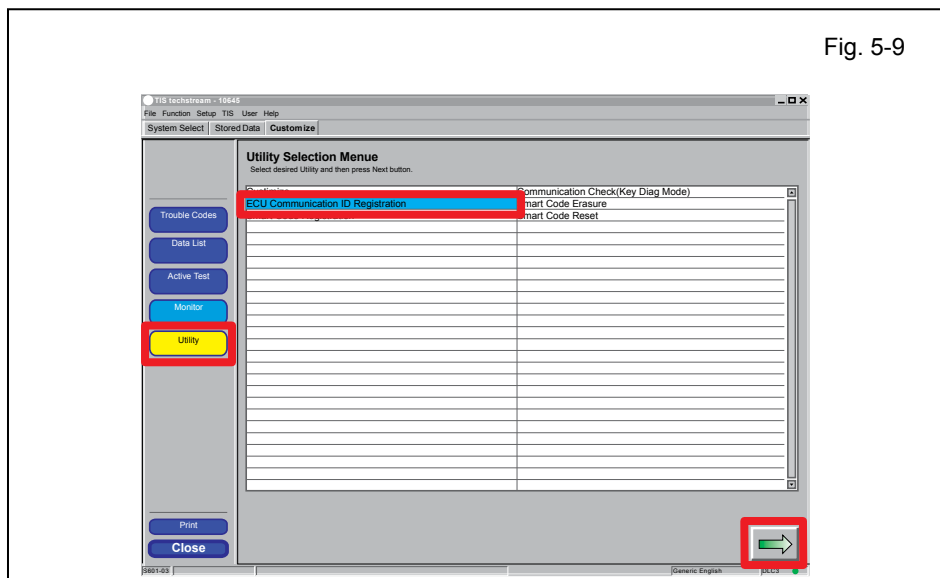
- l. Start the TIS Techstream Application by clicking on the shortcut located on the Desktop.
- m. Click "Connect to Vehicle."




- n. Confirm that the information displayed on the Vehicle Connection Wizard is correct for the vehicle. If not verify that the Techstream is properly connected.
- o. Select “w/ Smart Key.”
- p. Click “Next>.”



- q. Select “Smart Key.”
- r. Click .



- s. Click on “Utility.”
- t. Select “ECU Communication ID Registration.”
- u. Click .

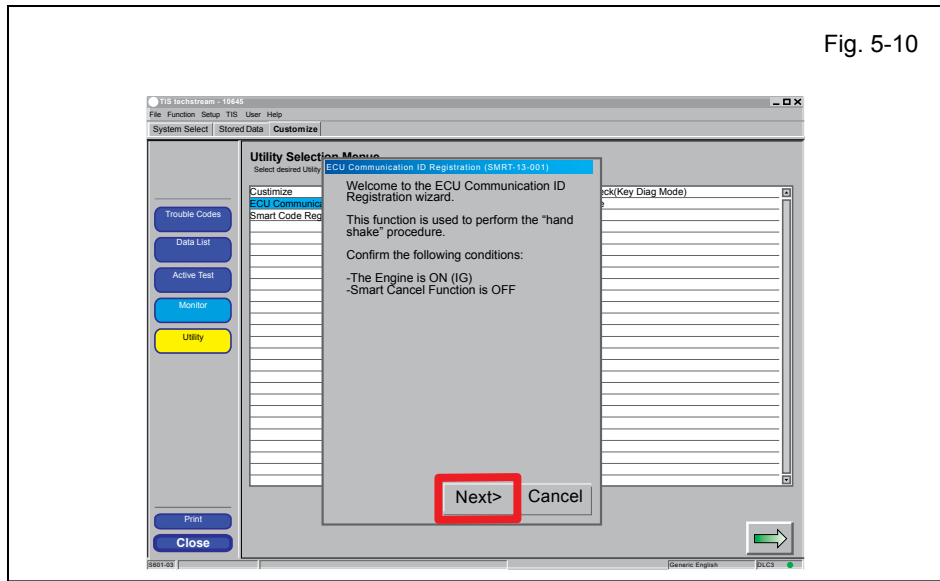


Fig. 5-10

v. Click "Next>."

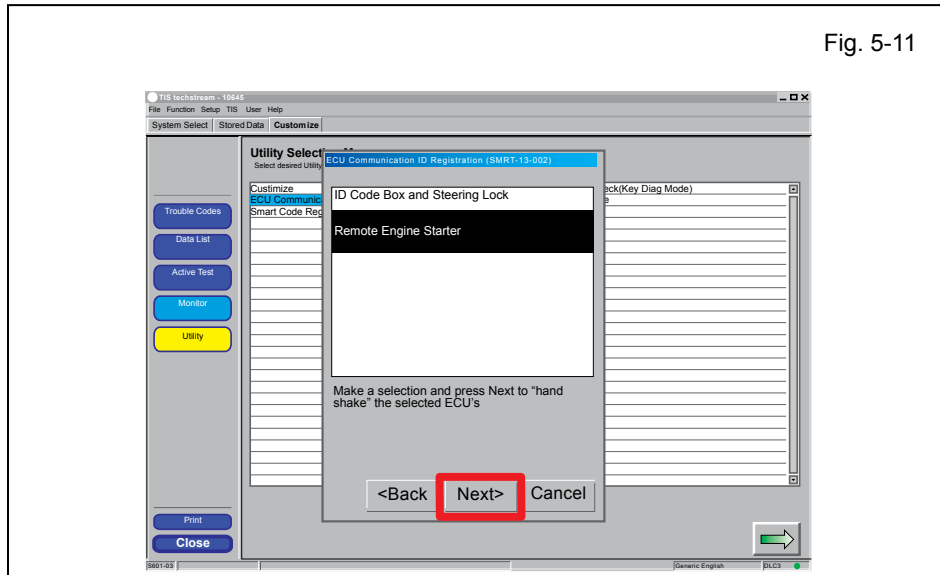


Fig. 5-11

w. Select "Remote Engine Starter."

x. Click "Next>."

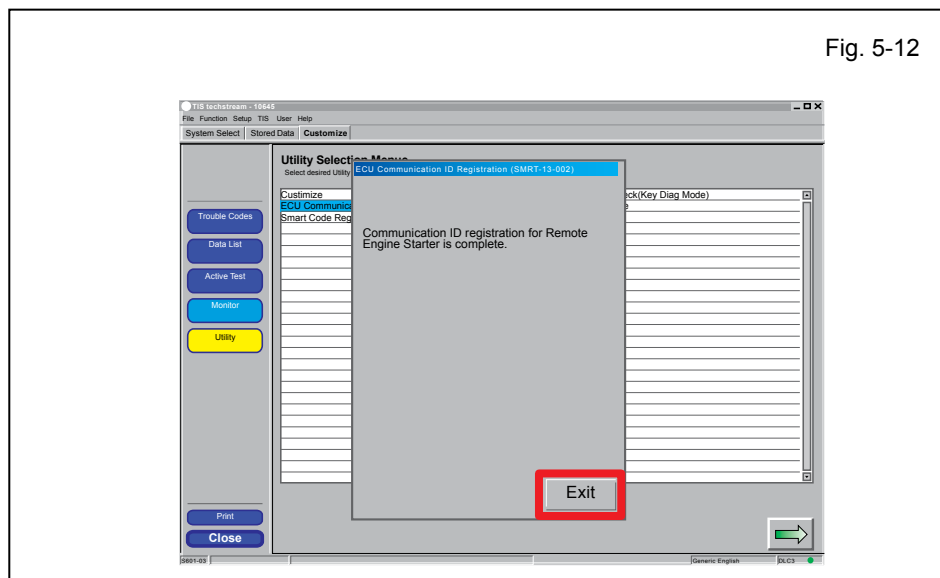
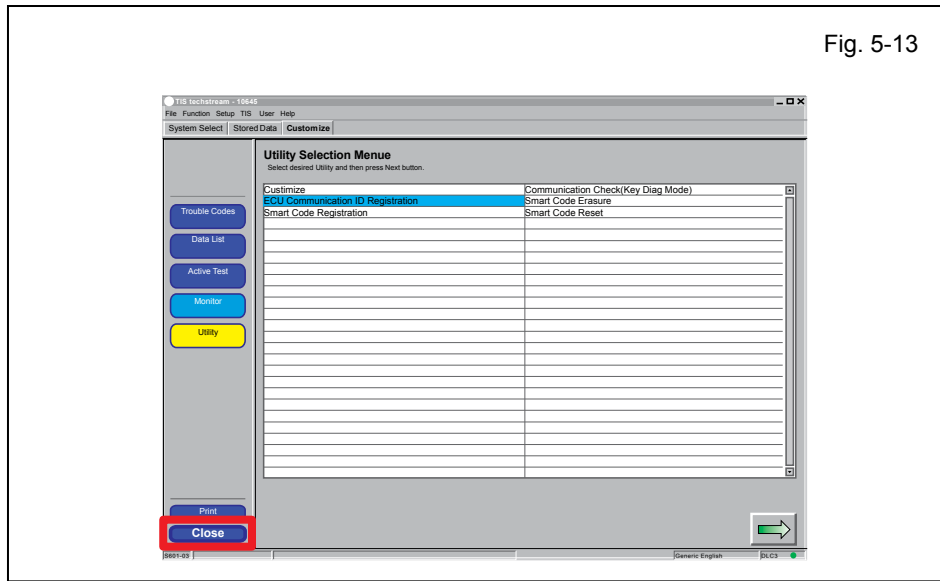


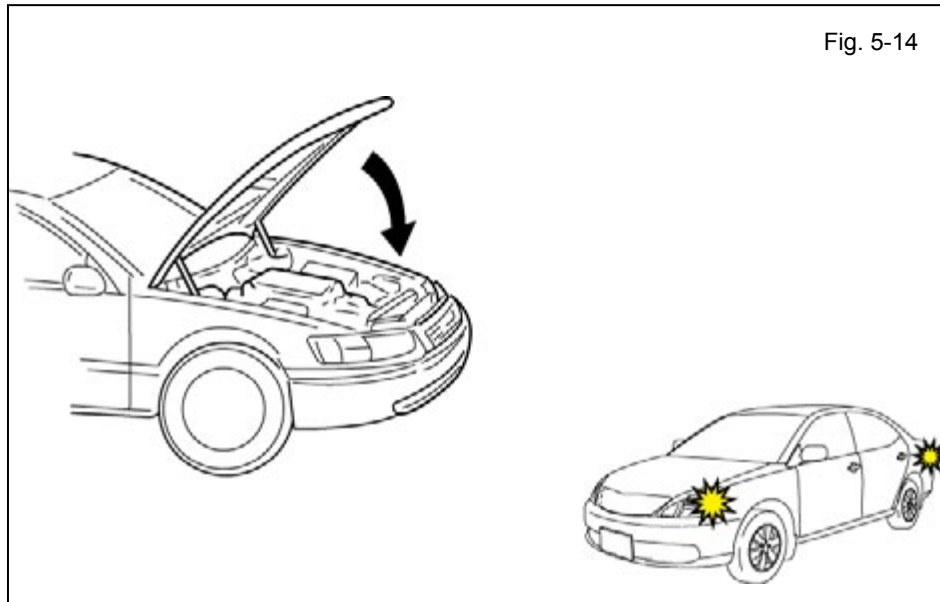
Fig. 5-12

CONFIRM: That the ECU Communication ID was completed successfully.

y. Click "Exit."



z. Click 



- aa. Exit the vehicle.
- ab. Close the Hood.
- ac. Look for the Hazards to flash 2 Times.

IF THIS PROCEDURE FAILED

The Hazard Lights wont flash or flashes 3 Times.

- Disconnect the Vehicle's 1P RES Diagnostic Pre-Connectors.
- Start again from step d.

- ad. After a successful Registration, disconnect the Vehicle's 1P Diagnostic Pre-Connectors.
- ae. Secure the 1P RES Diagnostic Pre-Connectors to the Vehicle Harness using Electrical Tape.

6. Complete the Installation.

- For Hybrid Vehicles the battery is in the trunk.
- For Gas Vehicles the battery is in the Engine Compartment.

- a. Position the Negative Battery Cable at the original factory position.



• Tighten the Nut to 61 in•lbf (6.9 N•m)



CAUTION: Do not touch the Positive Terminal.

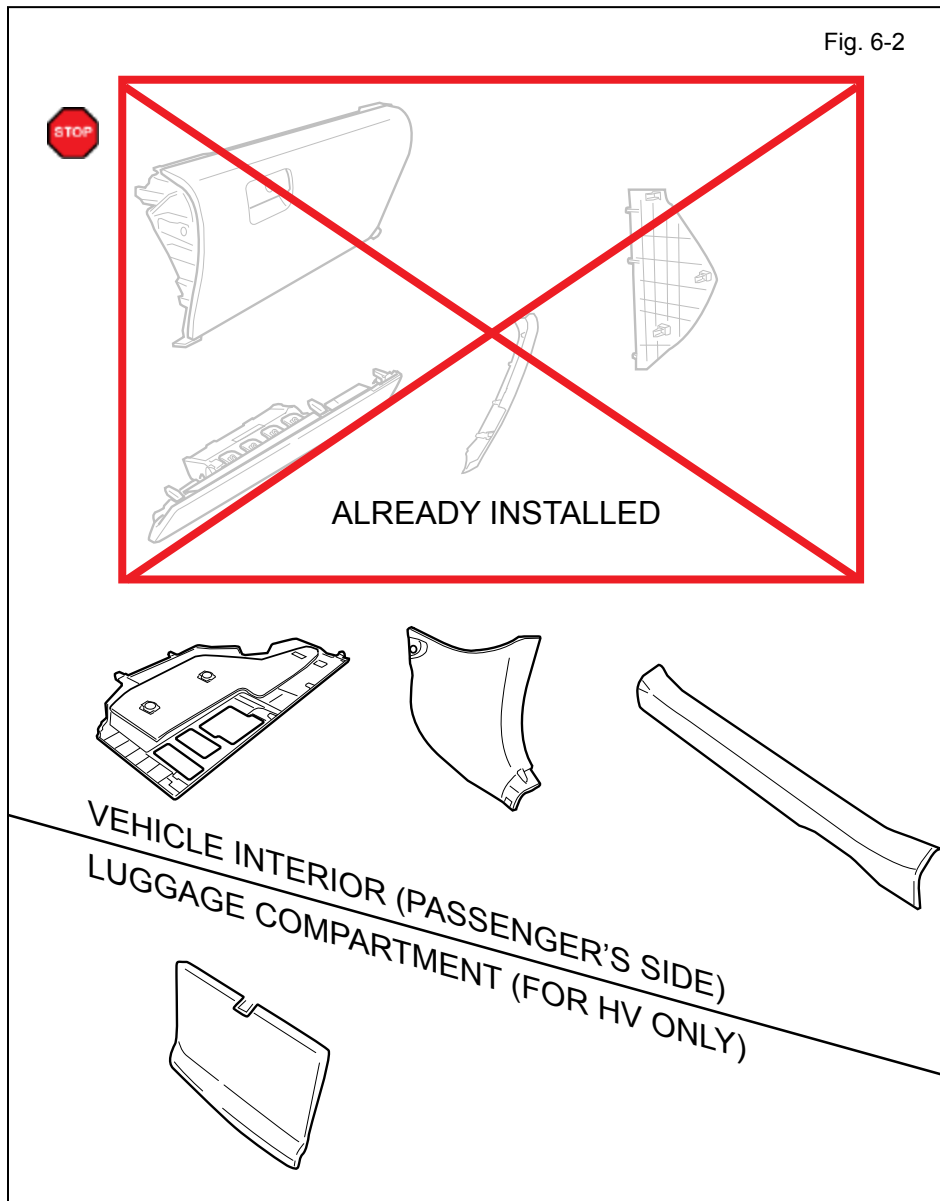


Fig. 6-2

- b. Finish reassembling the Vehicle.



VERIFY: That all Connectors are plugged in.



VERIFY: That panels fit together properly, with no uneven gaps.

Fig. 7-1



7. Tags and Labels.

- a. Using VDC approved cleaner and cleaning method, clean the area indicated on the underside of the Hood.
- b. Attach the Engine Room Warning Label as shown.

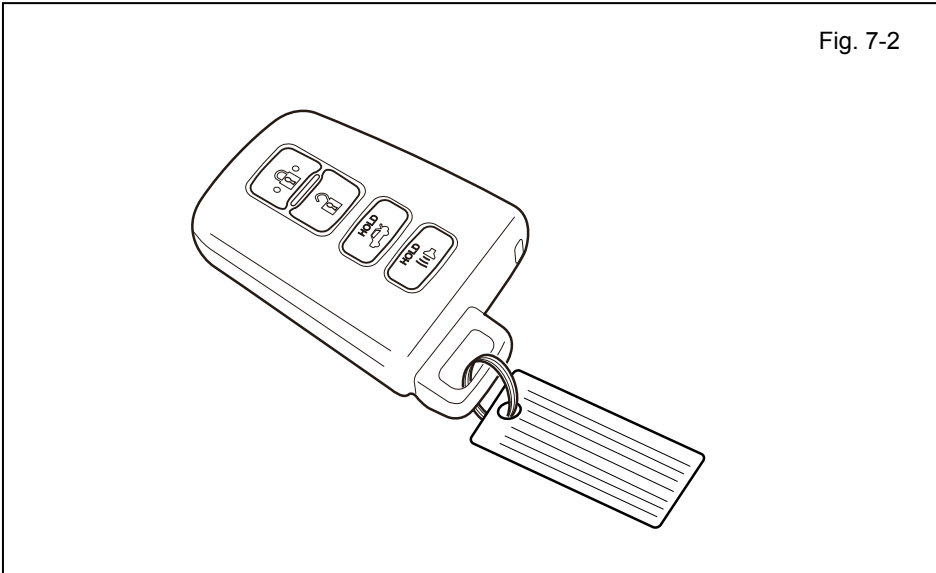


CAUTION: Do not touch the adhesive surface.

- c. Attach the Key Tag.

REPEAT: step c with the other Smart Key.

Fig. 7-2



- d. Use household glass cleaner to clean the area indicated on the inside of the Front Door Window.
- e. Use a piece of Clear Tape to lift the Window Label off its protective backing.



CAUTION: Do not touch the adhesive surface.

- f. Attach the Label as shown.



NOTE: Make sure to Align label according to Etching or Other Label.

REPEAT: steps d-f with the other Front Window.

Accessory Function Checks

Close the hood, enter the vehicle and close all doors. Place the shift lever in the “P” (Park) position, set the parking brake and make sure the Vehicle is off.

| Perform | | Look For |
|----------------|--|---|
| 1 | Press the remote control’s lock button twice within 2 seconds, then press and hold the lock button for 3 seconds. | The hazard lights flash after 3 seconds. The engine starts. The hazard lights flash repeatedly for 10 seconds. |
| 2 | With the engine running, pull the hood release handle. NOTE: <i>Some Vehicles may require you to exit the Vehicle and pull up on the Hood.</i> | The engine stops. The hazard lights flash once. The security alarm triggers. (Only if equipped with OE Factory Alarm, not Genuine Accessory alarm, and only if armed) |
| 3 | Move the shift lever out of “P” (Park). Attempt to start the Vehicle using the remote. | The engine does not start. |

Vehicle Appearance Check

| Perform | | Look For |
|--------------------------|--|---|
| <input type="checkbox"/> | After accessory installation and removal of protective cover(s), perform a visual inspection of the vehicle. | Ensure no damage (including scuffs and scratches) was caused during the installation process. (For PPO installations, refer to TMS Accessory Quality Shipping Standard.) |








Vehicle Function Checks

| Function | Function |
|----------|----------|
|----------|----------|

Enter the Vehicle

| | |
|---|---|
| <input type="checkbox"/> Dome/Courtesy Lights | <input type="checkbox"/> Steering Wheel Column Adjusts Without Interference |
| <input type="checkbox"/> Horn | |

Start the Vehicle

| | |
|---|---|
| <input type="checkbox"/> Starter | <input type="checkbox"/> Gauges |
| <input type="checkbox"/> Panel/Switch Illumination | <input type="checkbox"/> ABS Light (if equipped) <i>If the warning light remains on, it may indicate a system malfunction.</i>  |
| <input type="checkbox"/> Lamp Failure Sensor <i>If the warning light remains on, it may indicate a system malfunction.</i>  | <input type="checkbox"/> Track/Skid Control Light (if equipped) <i>If the warning light remains on, it may indicate a system malfunction.</i>  |
| <input type="checkbox"/> Seat Belt Warning Light <i>If the warning light remains on, it may indicate a system malfunction.</i>  | <input type="checkbox"/> Tire Pressure Monitoring System (TPMS) <i>Prior to TPMS activation and Pre-delivery Service (PDS) of the Vehicle the TPMS light will blink when IG is turned on.</i> <i>After TPMS activation and PDS of the Vehicle the TPMS light will illuminate for a few seconds and go off when IG is turned on.</i>  |
| <input type="checkbox"/> Air Bag Warning Light <i>If the warning light remains on, it may indicate a system malfunction.</i>  | |
| <input type="checkbox"/> Cruise Control Light (if equipped)  | |

Using a Mirror or Assistant check the following.

| | |
|--|---|
| <input type="checkbox"/> Trunk/Tailgate/Bed Lights (if equipped) | <input type="checkbox"/> Tail Lights |
| <input type="checkbox"/> Brake Lights | <input type="checkbox"/> Daytime Running Lights (if equipped) |
| <input type="checkbox"/> Backup Lights | <input type="checkbox"/> Marker Lights |
| <input type="checkbox"/> Clearance Sonar (if equipped) | |

Stop the Engine, Place the Vehicle's IG in the ON position.

| | |
|---|--|
| <input type="checkbox"/> Hazard Lights | <input type="checkbox"/> Turn Signal Lights |
| <input type="checkbox"/> Head Lights | <input type="checkbox"/> Fog Lights (if equipped) |
| <input type="checkbox"/> High Beams | <input type="checkbox"/> Accessory Controls/Illumination (if equipped) |
| <input type="checkbox"/> Power Side Mirrors (if equipped) | <input type="checkbox"/> Convenience Memory Settings (if equipped) |
| <input type="checkbox"/> Power Sliding Door (if equipped) | <input type="checkbox"/> Rear Sunshade (if equipped) |

| Function | | Function | |
|--------------------------|--|--------------------------|---|
| <input type="checkbox"/> | Front Wiper/Washer | <input type="checkbox"/> | Rear Wiper/Washer (if equipped) |
| <input type="checkbox"/> | Power Sun/Moon Roof (if equipped) | <input type="checkbox"/> | Rollover Side Curtain Air Bag Switch (RSCA) (if equipped) |
| <input type="checkbox"/> | Clock (if equipped) | <input type="checkbox"/> | Navigation System (if equipped) |
| <input type="checkbox"/> | Audio/Video (if equipped) | <input type="checkbox"/> | USB Connections (if equipped) |
| <input type="checkbox"/> | Steering Wheel Audio Control (if equipped) | <input type="checkbox"/> | HVAC |
| <input type="checkbox"/> | Front Windshield Defogger (if equipped) | <input type="checkbox"/> | Rear Window Defogger (if equipped) |
| <input type="checkbox"/> | Side Mirror Defogger (if equipped) | <input type="checkbox"/> | Accessory Power Socket (if equipped) |
| <input type="checkbox"/> | Massage Seats (if equipped) | <input type="checkbox"/> | Heated/Vented Seats (if equipped) |
| | | | |
| <input type="checkbox"/> | Glove Box Light (if equipped) | <input type="checkbox"/> | Trunk Cancel Switch (if equipped) |
| | | | |
| <input type="checkbox"/> | Power Locks (if equipped) | <input type="checkbox"/> | Power Windows (if equipped) |
| <input type="checkbox"/> | Power Seats (if equipped) | <input type="checkbox"/> | Key Sensor Buzzer |