

Part Number: 08586-06990

Section I - Installation Preparation

Kit Contents

Item #	Quantity Req'd.	Description
1	1	Wire Harness
2	1	Microphone
3	1	V5 Security ECU
4	1	GBS ECU
5	1	Security ECU Mounting Bracket
6	1	GBS ECU Mounting Bracket
7	1	Status Monitor

Hardware Bag Contents

Item #	Quantity Req'd.	Description
1	1	Large Foam Tape Strip (2/strip)
2	3	Small Foam Tape Strip (1/strip)
3	6 (bundles)	Medium Wire Tie (5/bundle)
4	2 (bundles)	Large Wire Tie (5/bundle)
4	1	Bolt, 12 mm
5	1	Flat Washer
5	1	Bolt, 18 mm
6	2	Warning Labels
7	1	Owner's Manual
8	1	Warranty Card
9	1	Splicing Connector

Additional Items Required For Installation

Item #	Quantity Req'd.	Description

Conflicts

Note: Must not be installed in vehicles with factory TDS.

Recommended Tools

Safety Tools	
Safety Glasses	
Safety Gloves	Optional
Vehicle Protection	Blankets, Part Boxes
Special Tools	
None	
Installation Tools	
Screwdriver	Phillips Head, #2 or tip
Screwdriver	Flat Blade, Small
Socket	10 mm, 12 mm
Power Screwdriver	Pneumatic/Electric Wrench
Wrench	10 mm
Extension	6 "
Torque Wrench	36 lbf _{ft} in
Pick	

Nylon Panel Removal Tool	e.g. Panel Pry Tool #1 Toyota SST # 00002-06001-01
Side Cutters	
Pliers	
Cloth	Lint-Free
Special Chemicals	
Cleaner	3M™ Prep Solvent-70
Glass Cleaner	Household Windex

General Applicability






Note: Solara with factory keyless entry system, *only*.

Recommended Sequence of Application

Item #	Accessory	
1	TVIP V5	
2	EC Mirror	
3	Sub Woofer	

*Mandatory

Legend

	STOP: Damage to the vehicle may occur. Do not proceed until process has been complied with.
	OPERATOR SAFETY: Use caution to avoid risk of injury.
	CRITICAL PROCESS: Proceed with caution to ensure a quality installation.
	GENERAL PROCESS: This highlights specific processes to ensure a quality installation.
	TOOLS & EQUIPMENT: Calls out the specific tools and equipment recommended for this process.

Section II - Installation Procedure

A. Vehicle Disassembly.

FOR VEHICLES WITH AUTOMATIC TRANSMISSION. (Step A. 1.)

1. For vehicles equipped with automatic transmission, place the shifter in low gear and set the parking brake prior to disconnecting the battery.

2. Remove the negative battery cable. (Fig. A-1)



- i. Protect the fender before starting.
- ii. Be careful not to touch the positive terminal.

3. Loosen the front edge of the driver side step cover. Do not remove the side step cover. (Fig. A-2)



- i. Protect the seat and floor with blankets before starting.
- ii. Ensure the clips are not dislodged from the door sill.

4. Lift the front edge of the step cover slightly and remove the driver cowl cover. (Fig. A-2)

- i. Remove the nut securing the cowl cover.

5. Remove the hood release lever cable. (Fig. A-3)

- i. Remove the cable lock and pull the wire upward.

6. Remove the driver's lower dash cover. (Fig. A-4)

- i. Open the screw cover of the lower dash cover.
- ii. Remove the bolt and screw securing the lower dash cover.

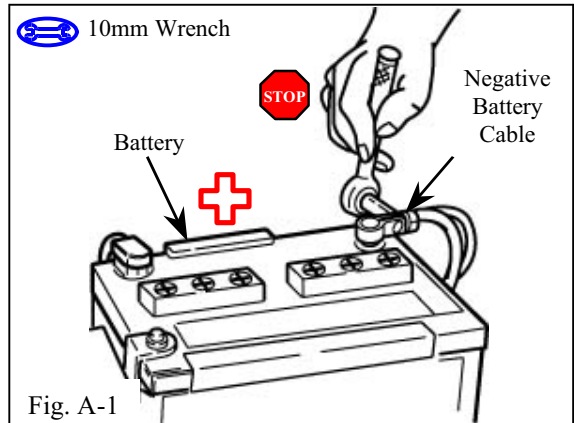


Fig. A-1

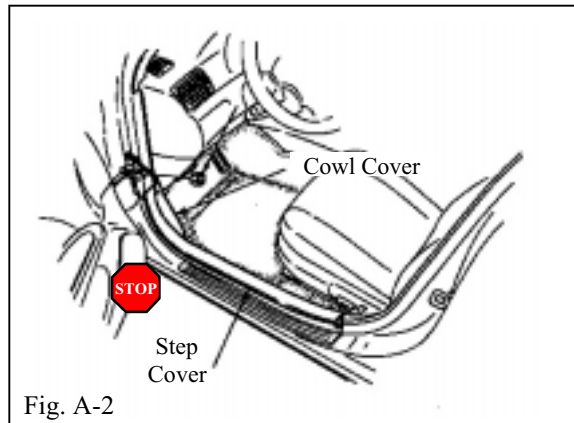


Fig. A-2

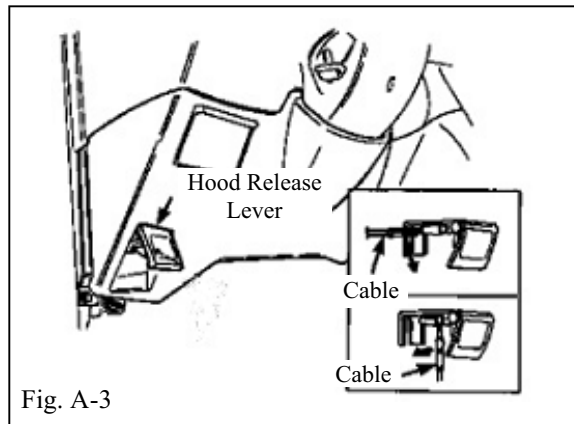


Fig. A-3

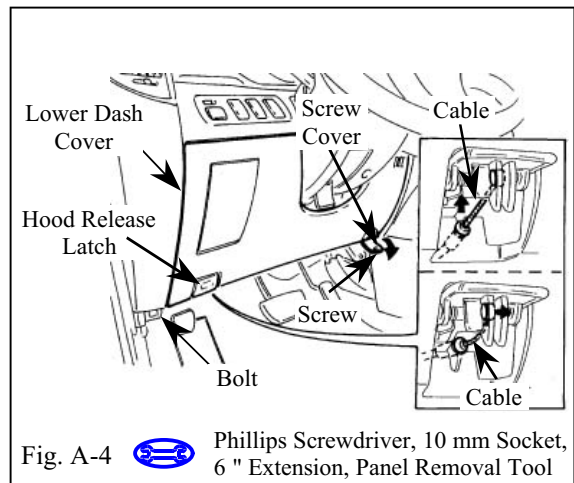


Fig. A-4

Phillips Screwdriver, 10 mm Socket, 6 " Extension, Panel Removal Tool

iii. Disconnect all connectors.

7. Remove the metal substructure. (Fig. A-5)

i. Remove the five bolts securing the substructure.



ii. Do not bend the metal tabs holding the substructure in place.



iii. Remove the diagnostic connector from the substructure.

8. Remove the two screws located behind the steering wheel, securing the bottom steering column cover. (Fig. A-6)



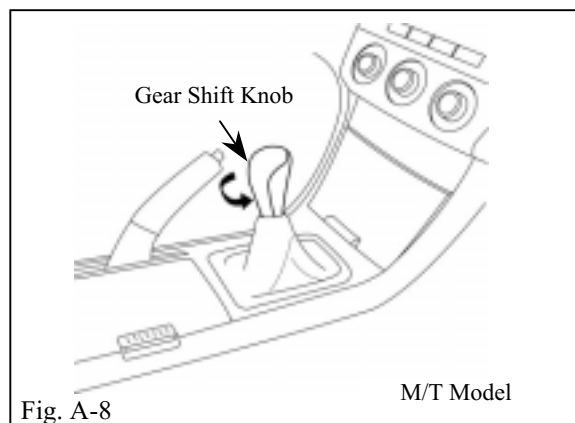
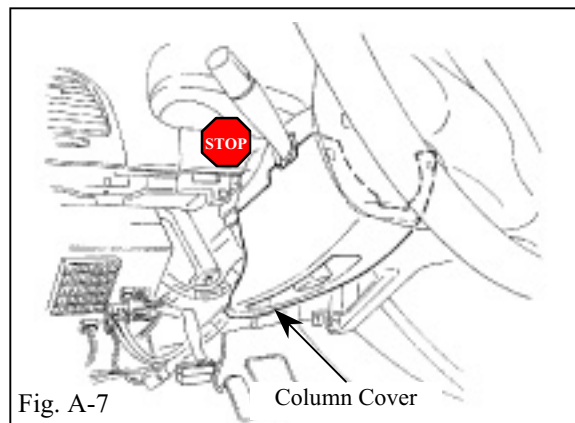
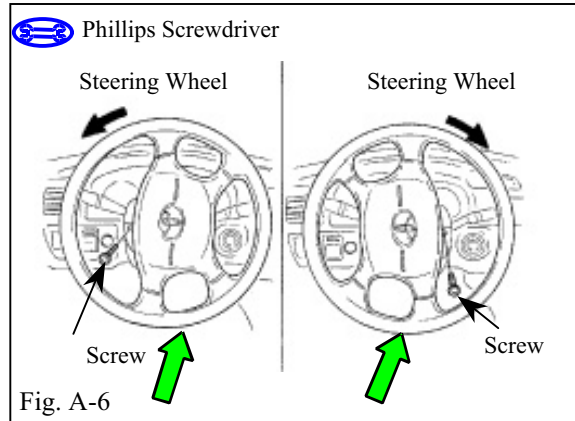
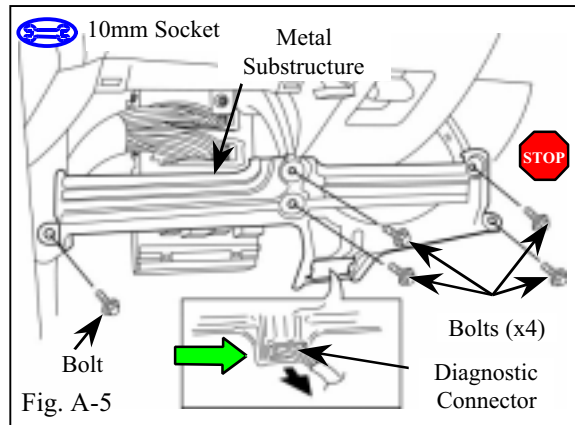
i. Insert the key into the ignition switch and turn it to ON, then turn the steering wheel left or right to gain access to the screws.

9. Remove the lower steering column cover. (Fig. A-7)

FOR VEHICLES WITH MANUAL TRANSMISSION. (Step A. 10.)

10. Remove the transmission (gear) shift knob (M/T vehicles). (Fig. A-8)

i. Place the shifter in 2nd gear and set the parking brake.



11. For all vehicles, remove the center console's rear section. (Fig. A-9)

- i. Leave the cup holder in the center console's rear section.
- ii. Carefully separate the rear section from the vehicle by lifting the front edge first.



NOTE: Leave the shift surround panel in place for A/T vehicles.

12. Remove the upper console assembly. (Fig. A-10)

- i. Disconnect the connectors secured to the 12V socket in the back of the upper console assembly.
- ii. Release the four clips securing the upper console assembly.

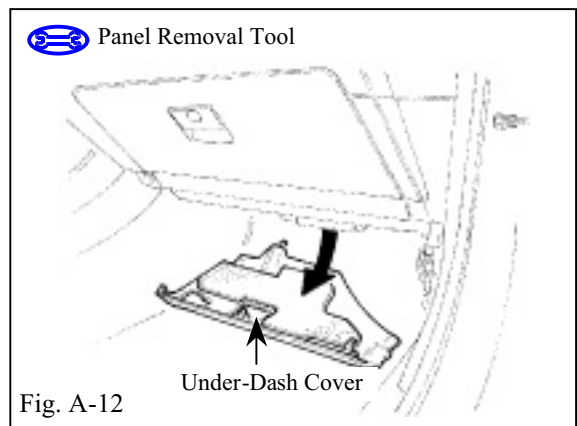
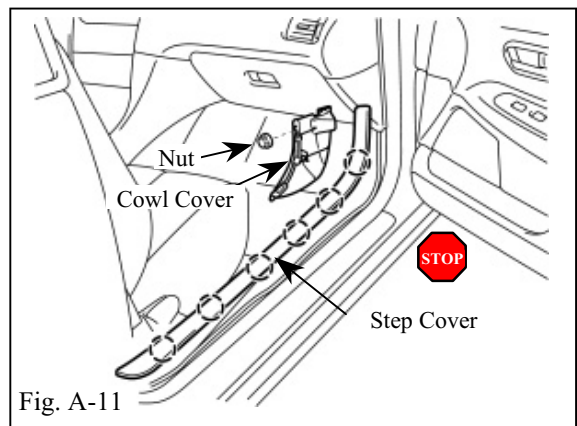
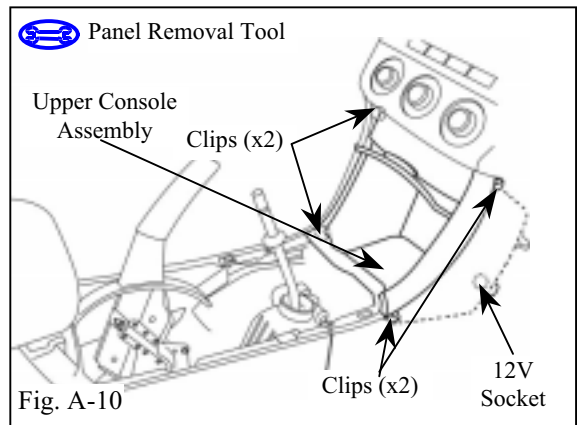
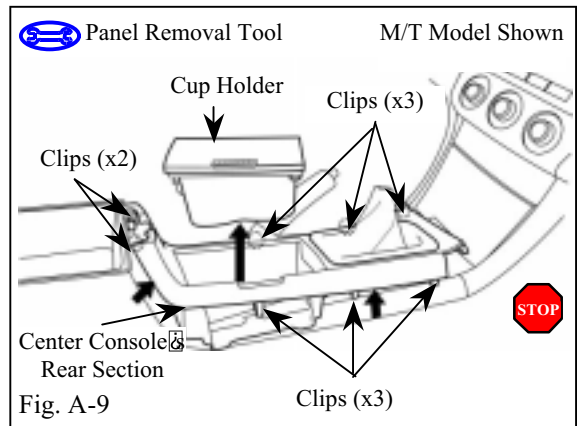
13. Loosen the front edge of the passenger's step cover. Do not remove the step cover. (Fig. A-11)

- i. Protect the seat and the floor with blankets before starting.
- ii. Ensure the clips are not dislodged from the door sill.

14. Lift the front edge of the step cover slightly and remove the passenger's cowl cover. (Fig. A-11)

- i. Remove the nut securing the cover.

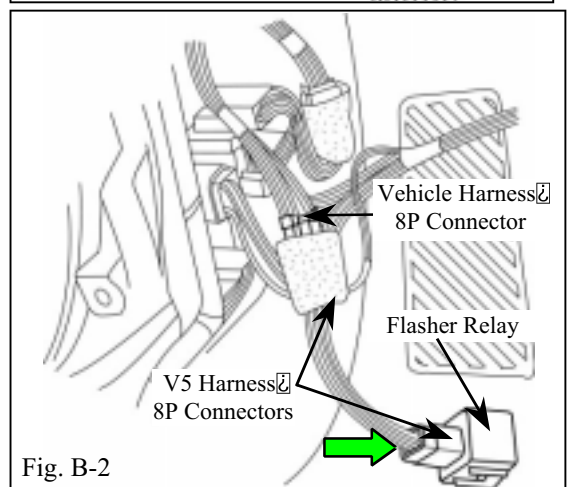
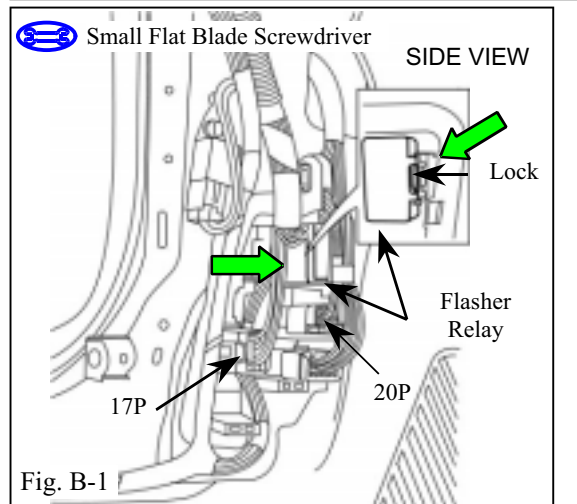
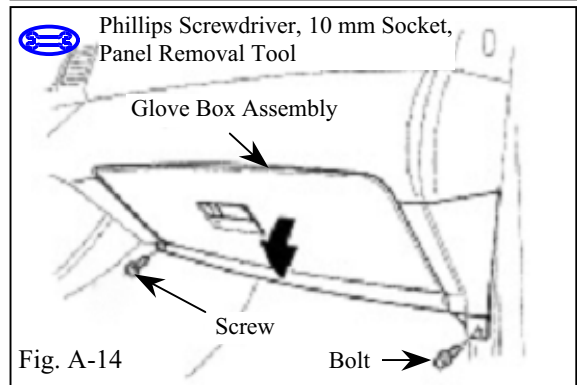
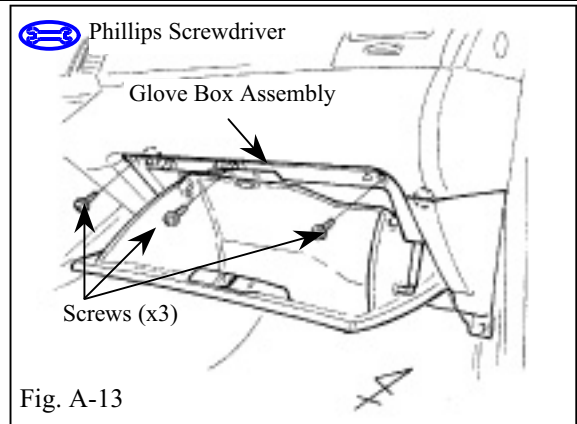
15. Remove the under dash cover. (Fig. A-12)



16. Remove the three screws securing the glove box assembly.
17. Remove the glove box assembly. (Fig. A-13)
 - i. Remove the one screw and one bolt from the glove box assembly. (Fig. A-14)

B. V5 Harness Installation.

- ➡ 1. Using small flat blade screwdriver, remove the flasher relay, then disconnect the black 8P connector from the relay. (Fig. B-1)
2. Plug in the V5 harness' black 8P connectors between the vehicle harness' black 8P connector and the flasher relay, then refit the flasher relay. (Fig. B-2)
 - ➡ i. Verify the connectors are plugged in securely.



3. Locate and disconnect the 17P connector and 20P connector from the driver side cowl area. (Fig. B-3)

4. Plug in the V5 harness' 17P connectors between the vehicle harness' 17P connector and the driver side cowl area. (Fig. B-3)

➔ i. Verify the connectors are plugged in securely.

5. Plug in the V5 harness' 20P connectors between the vehicle harness' 20P connector and the driver side cowl area. (Fig. B-3)

➔ i. Verify the connectors are plugged in securely.

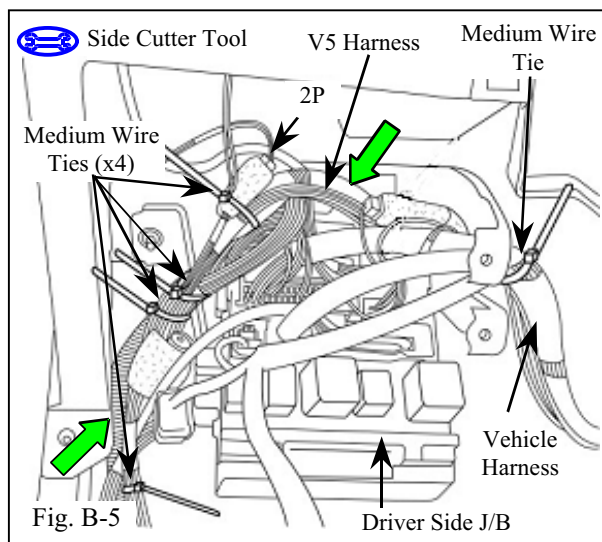
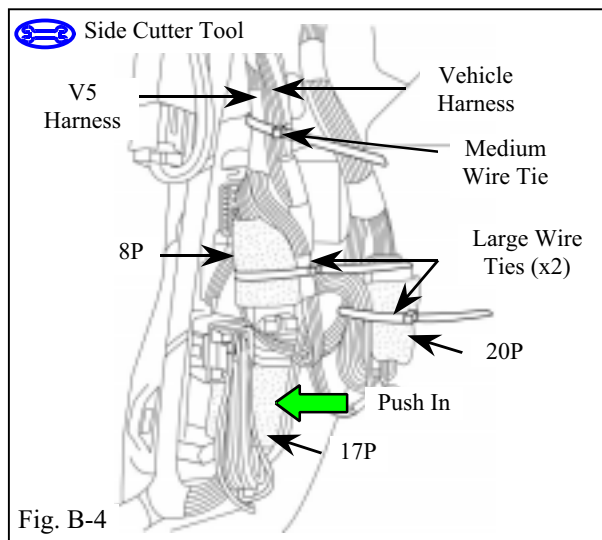
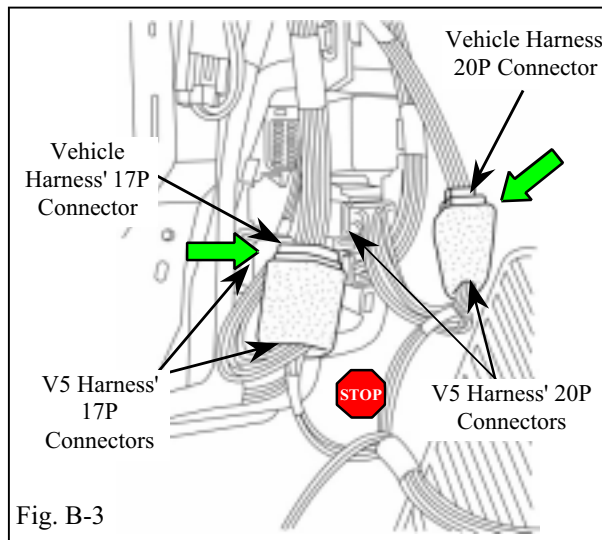
6. Secure the black 8P connector to the vehicle harness with one (1) large wire tie. (Fig. B-4)

➔ 7. Place the 17P connector into the opening below the 8P connector, adjacent to the 20P connector in the driver side cowl area. (Fig. B-4)

➔ 8. Secure the 20P connector to the vehicle harness with one (1) large wire tie. (Fig. B-4)

➔ 9. Route the V5 harness up toward the driver side J/B, then secure it to the vehicle harness with one (1) medium wire tie. (Fig. B 4)

➔ 10. Route the V5 harness to the driver side J/B area, then secure it to the vehicle harness with five (5) medium wire ties. (Fig. B-5)



FOR VEHICLES WITH IMMOBILIZER SYSTEM ONLY. (Steps B.11. & B. 12.)

11. Locate and disconnect the 2P connector from the security indicator next to the outside mirror switch. (Fig. B 6)

12. Connect the V5 harness' 2P connectors to the vehicle harness' 2P connectors and security indicator. Secure the 2P connector and the V5 harness to the vehicle harness with one (1) medium wire tie. (Fig. B-6)

➔ i. Verify the connectors are plugged in securely.

FOR VEHICLES WITHOUT IMMOBILIZER SYSTEM ONLY. (Steps B. 13. & B. 14.)

➔ 13. Remove the knockout cover right next to the outside mirror switch. (Fig. B-6)

14. Install and connect the status monitor, supplied in the kit, to the V5 harness' 2P connector. Secure the open V5 harness' 2P connector and the V5 harness to the vehicle harness with one (1) medium wire tie. (Fig. B-6)

➔ i. Verify the connectors are plugged in securely.

➔ 15. Locate and disconnect the 30P and 12P connectors from the front of the driver side J/B. (Fig. B-7)

16. Locate the 30P connector wire in the bottom row, tenth space from the left, and attach the V5 harness' RED/ BLACK wire with one splicing connector. (Fig. B-7)

NOTE: For the splice, the tape on the vehicle harness may need to be sliced open 20 mm with the Side Cutter Tool in order to gain access to the splicing wire from the vehicle harness.

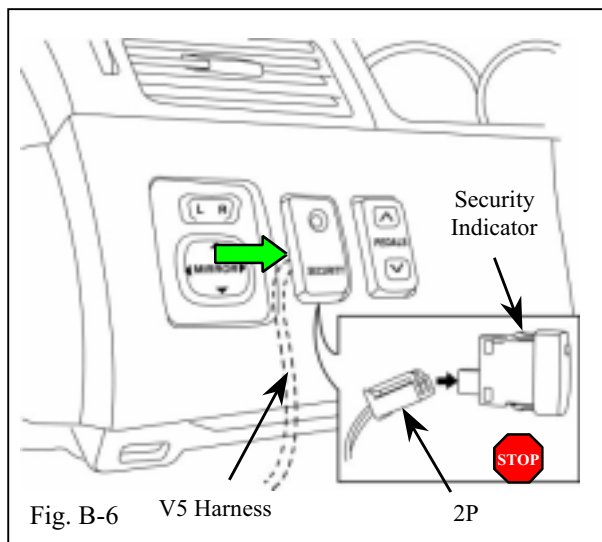


Fig. B-6

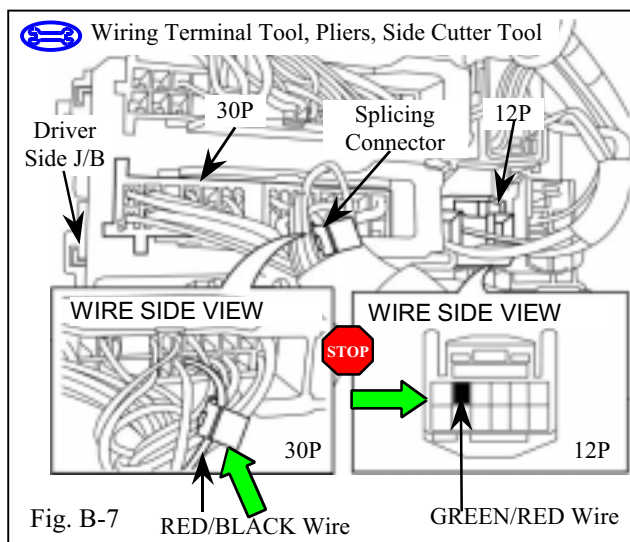


Fig. B-7



i. Turn the connector so the wires face you and the tab is on top.



ii. Verify the correct wire is chosen for splicing.

iii. Make sure the splicing connector is applied properly.

17. Reconnect the 30P connector. (Fig. B-7)



i. Verify the connector is plugged in securely.



18. Locate the 12P connector's GREEN/ RED wire in the top row, second space from the left. Using a pick, release and pull out the terminal for the GREEN/ RED wire. (Fig. B-7)



19. Locate the GREEN/RED pin-insert wire on the V5 harness and insert into the vehicle harness' 12P connector space where the GREEN/ RED wire was removed. Insert the vehicle's GREEN/RED wire into the V5 harness' 2P connector as shown. (Fig. B-8)

20. Reconnect the 12P connector. (Fig. B-7)



i. Verify the connectors are plugged in securely.

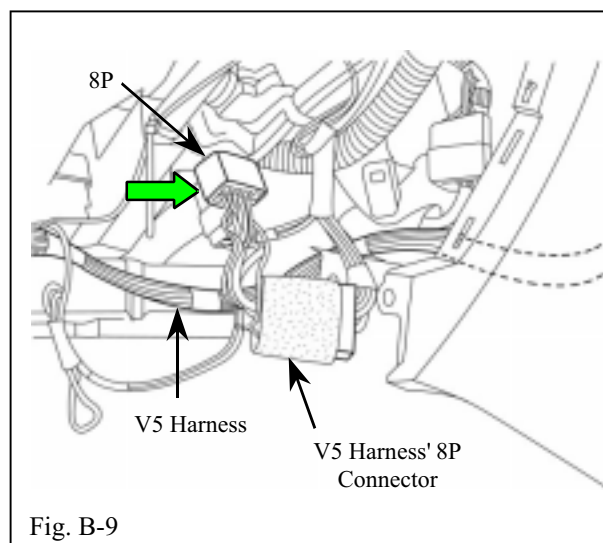
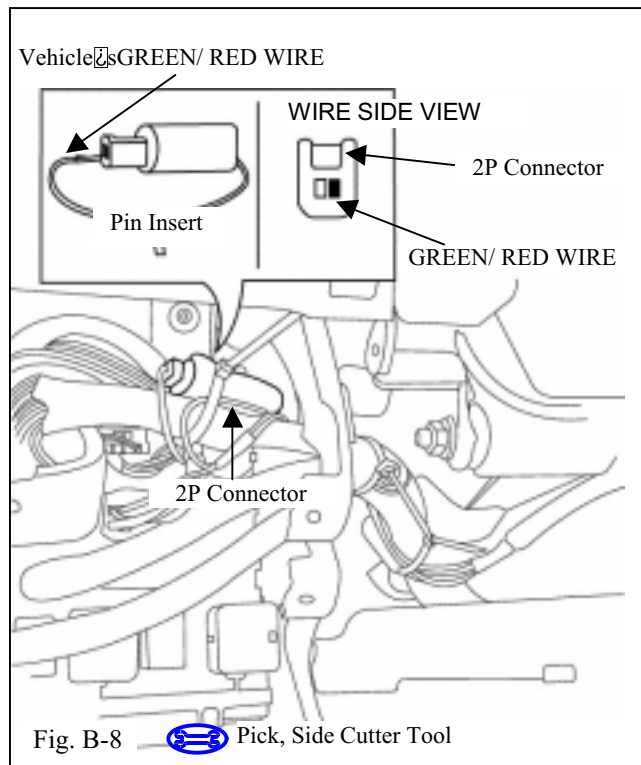
21. Secure the 2P connector to the vehicle harness with one (1) medium wire tie. (Fig. B-8)

22. Locate and disconnect the 8P connector from the ignition switch. (Fig. B 9)

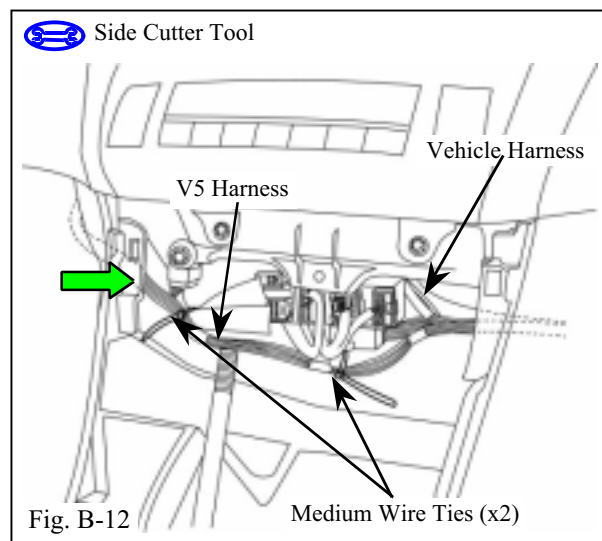
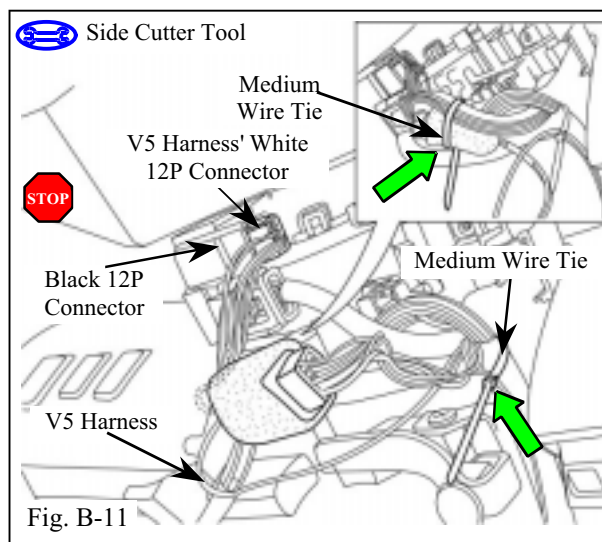
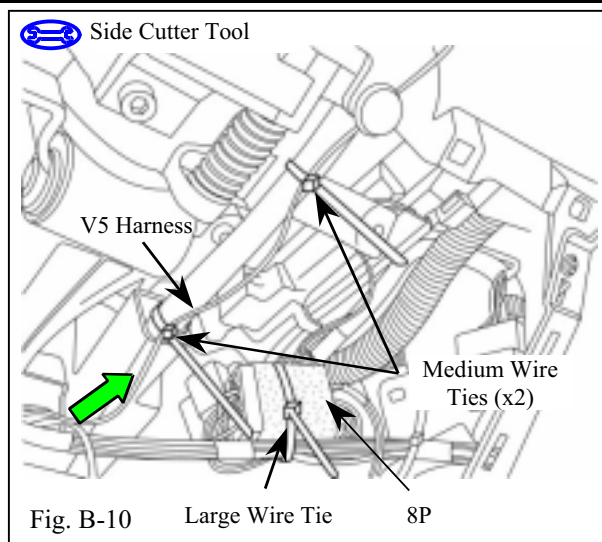
23. Plug in the V5 harness' 8P connectors between the vehicle harness' 8P connector and the ignition switch. (Fig. B-9)



i. Verify the connector is plugged in securely.



- ➔ 24. Secure the 8P connectors to the vehicle harness with one (1) large wire tie. (Fig. B-10)
- ➔ 25. Route the V5 harness with white 12P connectors toward the steering column area, then secure it to the vehicle harness with two (2) medium wire ties. (Fig. B-10)
- ➔ 26. Route the V5 harness toward the steering wheel area, then secure it to the vehicle harness with one (1) medium wire tie. (Fig. B-11)
- 27. Locate and disconnect the black 12P connector from the steering column. (Fig. B-11)
- 28. Plug in the V5 harness' white 12P connectors between the vehicle harness' black 12P connector and the steering column. (Fig. B-11)
 - ➔ i. Verify the connectors are plugged in securely.
- ➔ 29. Secure the 12P connectors to the vehicle harness with one (1) medium wire tie. (Fig. B-11)
- ➔ 30. Route the V5 harness toward the center console area, then secure it to the vehicle harness with two (2) medium wire ties. (Fig. B-12)



C. GBS ECU Preparation and Installation.

- ➔ 1. Turn the GBS adjustment screw on the GBS ECU to the "8" position. (Fig. C-1)
- 2. Insert the GBS ECU mounting bracket into the indicated bracket slot on the GBS ECU. (Fig. C-2)
- ⊘ i. Insert the mounting bracket into the correct slot; you have only one chance to install it properly.
- ➔ 3. Locate and install the panel nut to the GBS ECU mounting bracket as shown. (Fig. C-3)
- ➔ 4. Attach one (1) strip of foam tape on the lower front edge of the GBS ECU and one (1) strip of foam tape on the rear side of the GBS ECU as shown. (Fig. C-4)

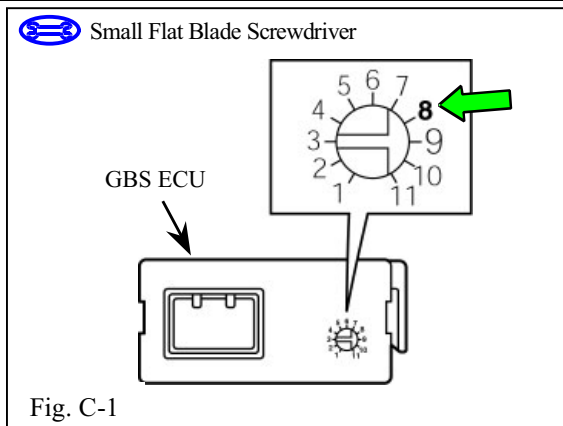


Fig. C-1

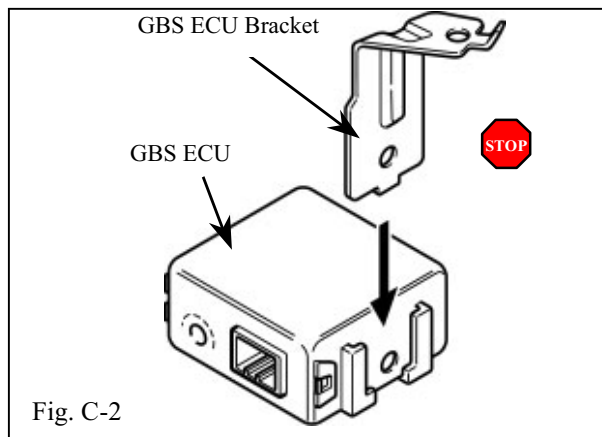


Fig. C-2

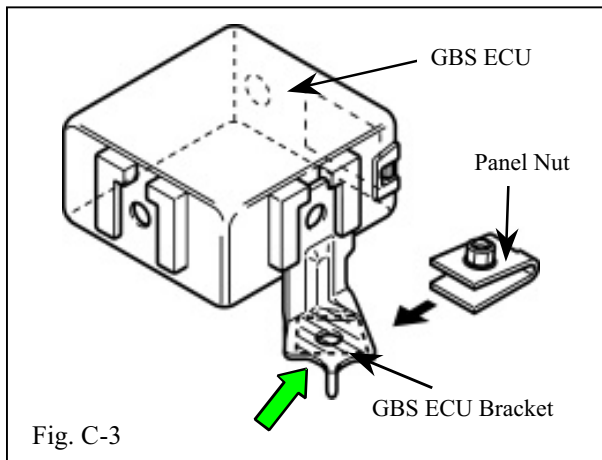


Fig. C-3

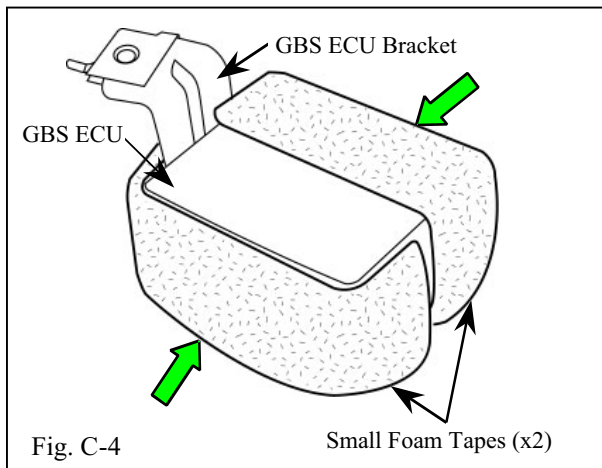


Fig. C-4

5. Locate the hole in the passenger side center brace. (Fig. C-5)
6. Using the 18 mm bolt and the flat washer supplied in the kit, secure the GBS ECU to the passenger side center brace in the center dash area. (Fig. C-5)



- i. Secure the GBS ECU as shown, with the flat washer between the GBS ECU bracket and the center brace.

D. V5 Harness Installation (continued).

1. Plug in the V5 harness' 8P connector to the GBS ECU. (Fig. D-1)



- i. Verify the connector is plugged in securely.



2. Wrap the metal brace on the passenger side of the center dash area with two (2) large strips of foam tape as shown. (Fig. D-1)



3. Route the V5 harness behind the vehicle brace, towards the glove box area, then secure it to the vehicle harness with two (2) medium wire ties. (Fig. D-1)



4. Secure the V5 harness to the GBS ECU mounting bracket with one (1) medium wire tie. (Fig. D-1)

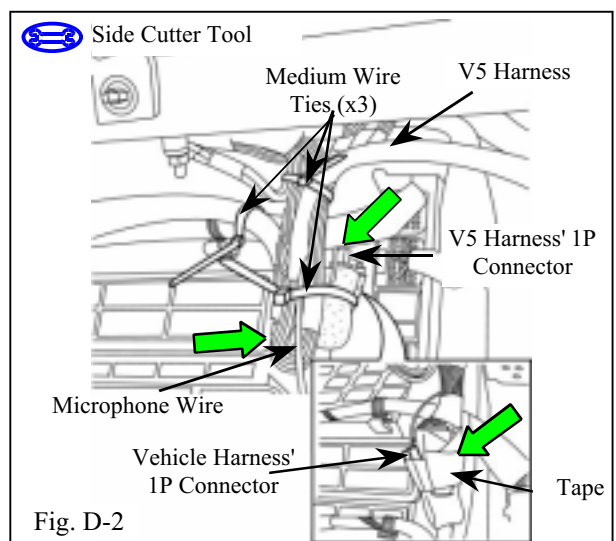
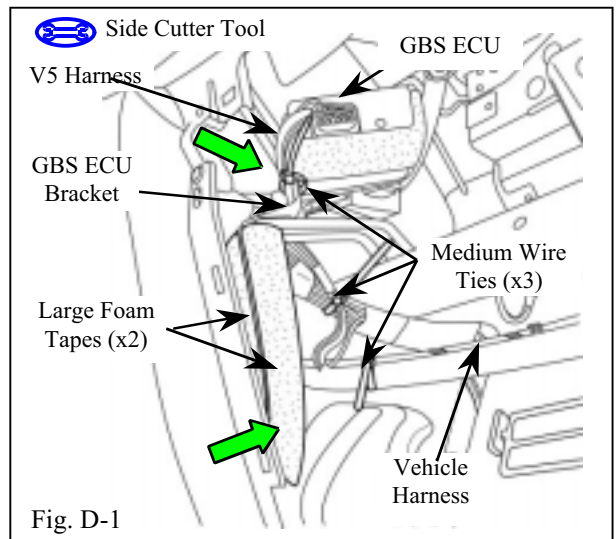
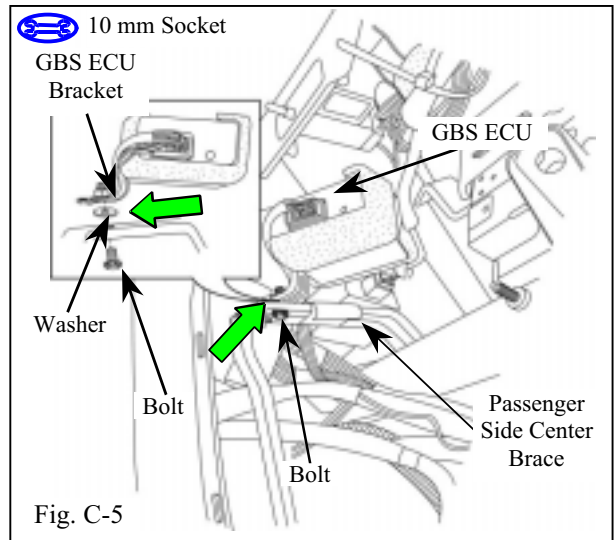


5. Route the V5 harness to the glove box area, then secure it to the vehicle harness with two (2) medium wire ties. (Fig. D-2)



- i. Bundle the excess V5 wire harness as shown, before securing the wire ties.
- ii. Ensure the V5 harness does not interfere with removal of HVAC filter element.

6. Unwrap the vehicle harness' 1P connector taped to the vehicle harness in the glove box area near the HVAC blower assembly. (Fig. D-2)



7. Plug in the V5 harness' 1P connector into the vehicle harness' 1P connector. (Fig. D-2)



i. Verify the connectors are plugged in securely.



8. Secure the 1P connectors, microphone wire and the V5 harness' excess bundle to the vehicle harness with one (1) medium wire tie. (Fig. D-2)

9. Route the V5 harness' 2P connector down toward the floor in the glove box area, then secure it to the vehicle harness with two (2) medium wire ties. (Fig. D-3)



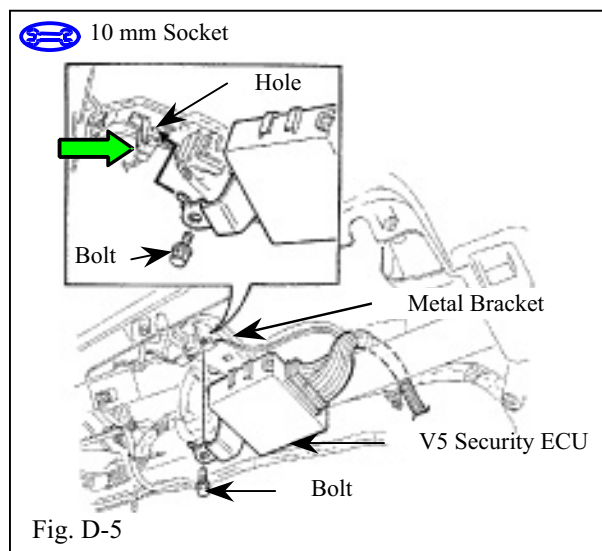
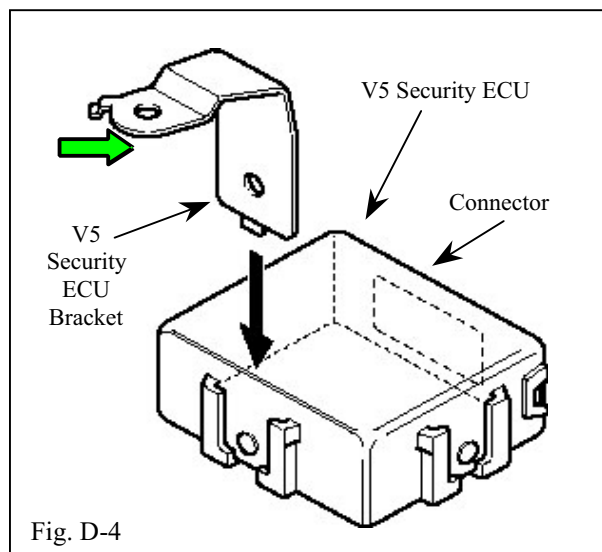
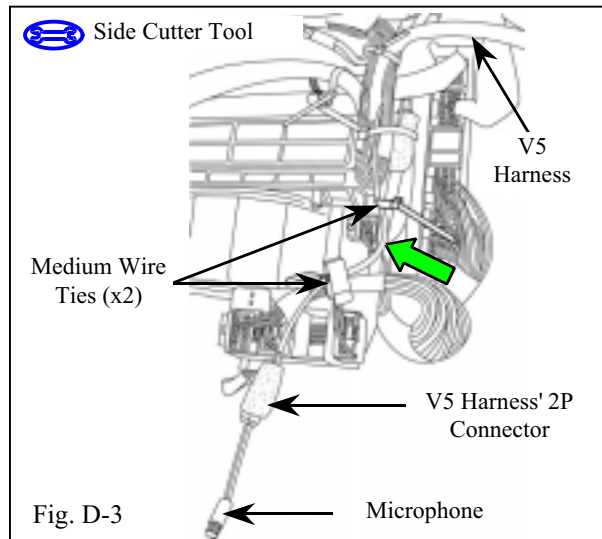
10. Insert the V5 Security ECU mounting bracket into the indicated bracket slot on the ECU. (Fig. D-4)

i. Insert the mounting bracket into the correct slot; you have only one chance to install it properly.

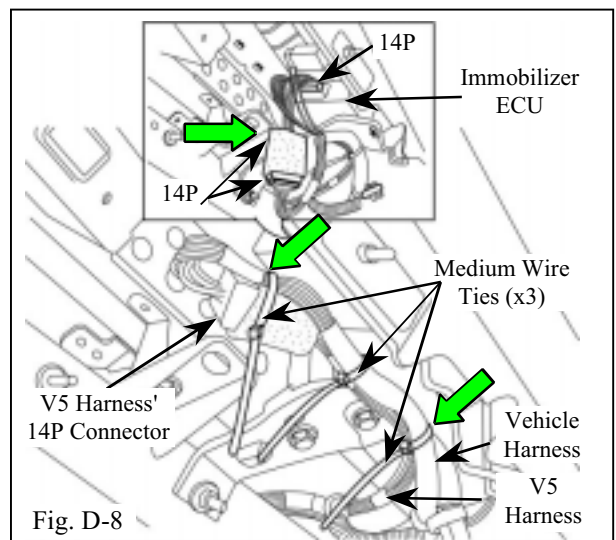
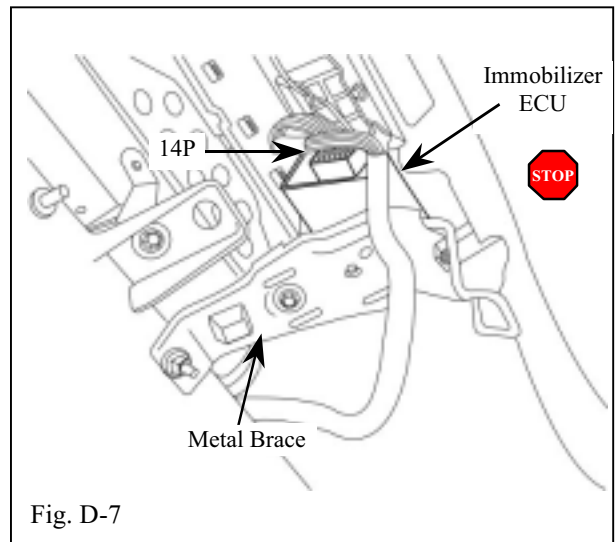
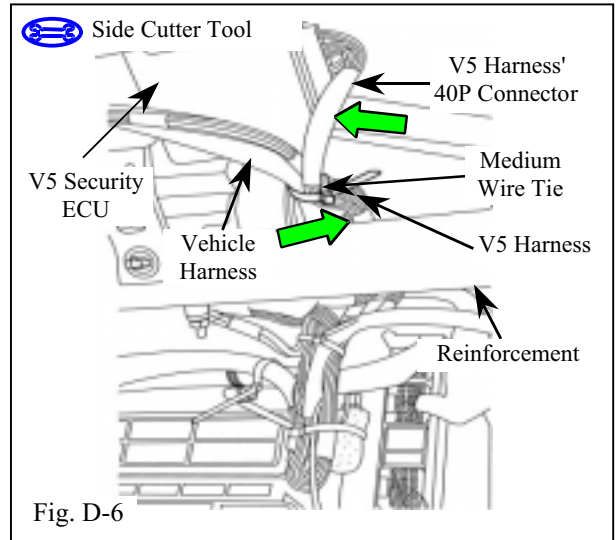
11. Using the supplied 12 mm bolt, mount the V5 security ECU to the metal bracket in the upper glove box area. (Fig. D-5)



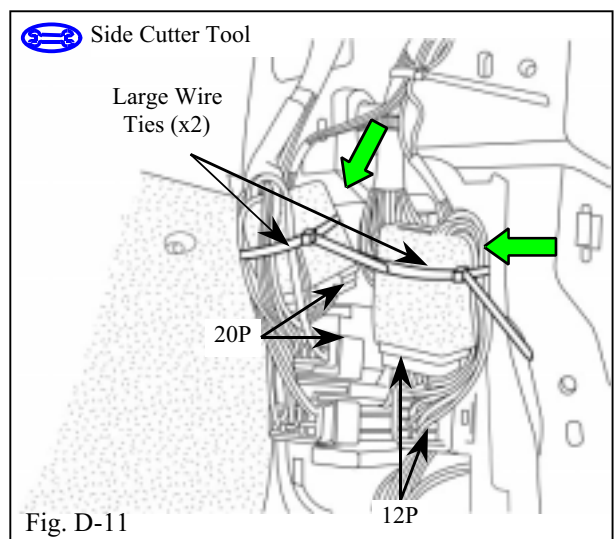
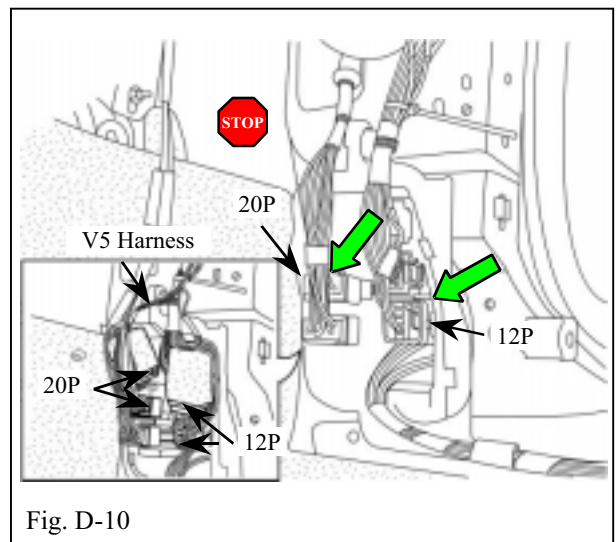
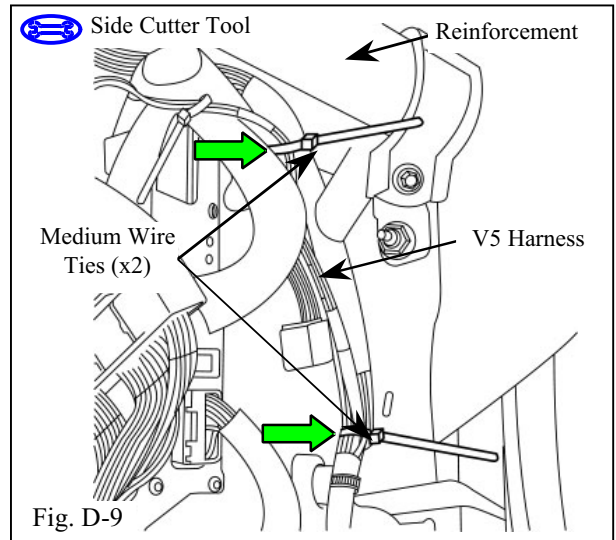
i. Mount the V5 security ECU as shown.



- ➔ 12. Route the V5 harness with 40P connector over the reinforcement to the glove box upper area. (Fig. D-6)
- 13. Plug the V5 harness' 40P connector to the V5 security ECU. (Fig. D-6)
- ➔ i. Verify the connector is plugged in securely.
- ➔ 14. Secure the V5 harness to the vehicle harness with one (1) medium wire tie. (Fig. D-6)
- 15. Locate the immobilizer ECU in the upper glove box area, then disconnect the 14P connector from the immobilizer ECU. (Fig. D-7)
- 16. Plug in the V5 harness' 14P connectors between the vehicle harness' 14P connector and immobilizer ECU. (Fig. D-8)
- ➔ i. Verify the connectors are plugged in securely.
- ➔ 17. Secure the V5 harness and 14P connectors to the vehicle harness with three (3) medium wire ties. (Fig. D-8)



- ➔ 18. Route the V5 harness down toward the passenger side cowl area, then secure it to the vehicle harness with two (2) medium wire ties. (Fig. D-9)
- 19. Locate and disconnect the 12P connector and 20P connector from the passenger side cowl area. (Fig. D-10)
- 20. Plug in the V5 harness' 12P connectors between the vehicle harness' 12P connector and passenger side cowl area. (Fig. D-10)
 - ➔ i. Verify the connectors are plugged in securely.
- 21. Plug in the V5 harness' 20P connectors between the vehicle harness' 20P connector and passenger side cowl area. (Fig. D-10)
 - ➔ i. Verify the connectors are plugged in securely.
- ➔ 22. Secure the 12P connectors and V5 harness to the vehicle harness with one (1) large wire tie. (Fig. D-11)
- ➔ 23. Secure the 20P connectors and V5 harness to the vehicle harness with one (1) large wire tie. (Fig. D-11)



E. Microphone Installation.

- ➡ 1. Using 3M™ Prep Solvent-70, clean the area indicated on the back side of the under-dash cover. (Fig. E-1)
- ➡ i. When cleaning with 3M™ Prep Solvent-70 follow the manufacturer's directions. Do not allow cleaner to air dry.
- 2. Remove the backing sheet and secure the microphone to the back side of the under-dash cover. (Fig. E-1)
- ➡ i. Secure the microphone as shown.
- ⊘ ii. Do not touch the adhesive surface of the microphone.
- ⊘ iii. Press the microphone to the under dash cover firmly.
- 3. Refit the glove box assembly. (Fig. E 2)
- 4. Plug in the microphone's 2P connector to the V2 harness' 2P connector. (Fig. E-2)
- ➡ i. Verify the connectors are plugged in securely.
- 5. Secure the microphone and 2P connectors with one small strip of foam tape. (Fig. E-3)
- ⊘ i. Do not cover the opening of the microphone with the foam tape.
- 6. Refit the under-dash panel.

F. Warning Label Installation.

- ➡ 1. Using 3M™ Prep Solvent-70 or Household Windex, clean the inside surface of the door's windows. (Fig. F-1)
- ➡ 2. When cleaning with 3M™ Prep Solvent-70 or Household Windex use method of Step E. 2..

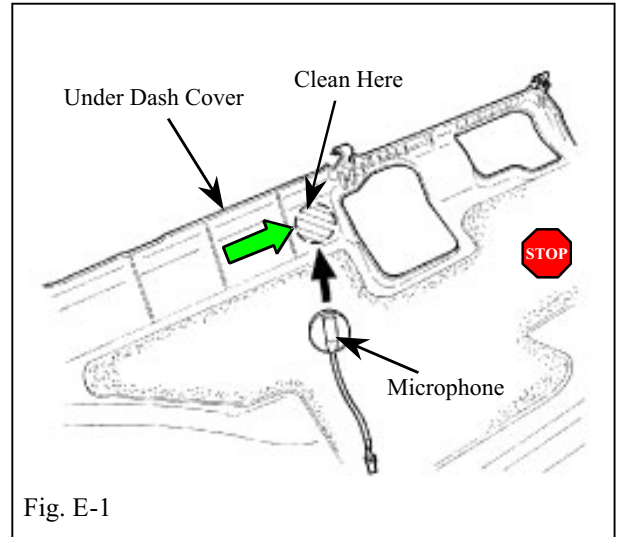


Fig. E-1

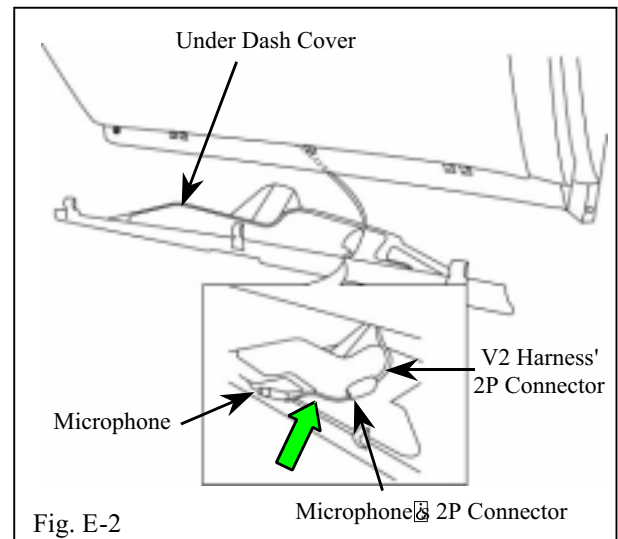


Fig. E-2

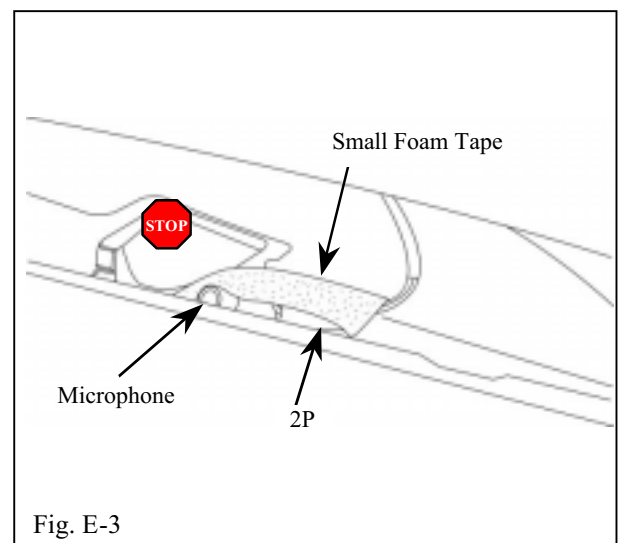







Fig. E-3

3. Place the warning label on the inside surface of the front door's window as shown. (Fig. F-1)

-  i. Use a piece of clear adhesive tape to lift the labels off their protective backing sheet.
-  ii. Do not touch the adhesive surface of the warning labels.
-  iii. Line up the labels properly and place them on the glass once; do not use a label that was pulled off of the glass.


G. Completing the Installation.


1. Complete the reassembly of the vehicle.


-  i. Reconnect any disconnected connector.
-  ii. Verify the panels fit together properly with no uneven gaps between them.


2. Clean up and remove any trash.

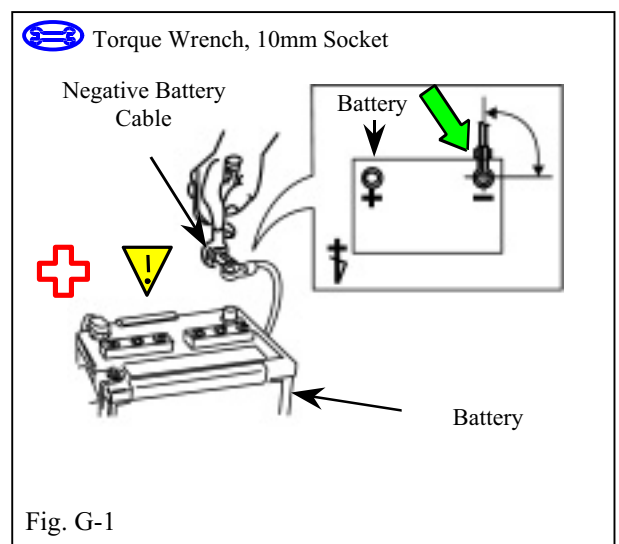
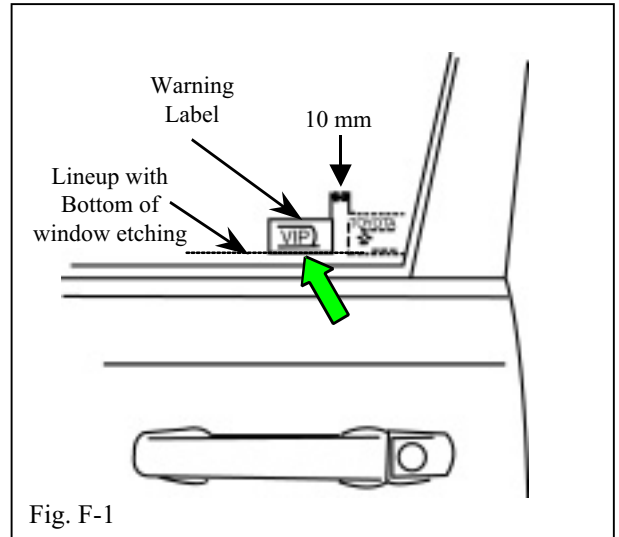
3. Reconnect the vehicle's negative battery cable. (Fig. G-1)

-  i. Position the negative terminal at an angle of 90°(±10°) to the battery as shown.

-  ii. Tighten the nut to 4.1N·m (36 lbf·in).

-  iii. Do not touch the positive terminal with any tool when replacing the cable.

-  4. Place the owner's manual, and warranty card, left in their protective bags, in the glove box.





Section III - Functional Verifications

Check: _____

Accessory Function Checks

Fit appropriate fuse before beginning.

- Press and release the remote control's lock button to start the system's arming process.

- Wait 30 seconds.

- Press and release the remote control's unlock button to disarm the system.

Open the driver's door, insert the key into the ignition switch and turn it to "ON".

Roll down all the windows, remove the key and exit the vehicle.

- Arm and disarm the system with the remote again, then wait 30 seconds.

- Press and release the remote control's unlock button again to stop the arming process.

- Insert the key into the driver's door key cylinder and turn it toward the front of the vehicle to start the arming process.

- Wait 30 seconds.

Look For: _____

1. The turn signal lights flash once.
The buzzer chirps once.
All doors lock.
The Status Monitor's LED or the Immobilizer System's LED lights up.

2. After 30 seconds, the LED starts flashing; the system is now armed.

3. The turn signal lights flash twice.
The buzzer chirps twice.
The driver's door unlocks.
The LED stops flashing.

4. The doors automatically relock.
The system automatically starts the arming process.

5. Refer to step number 3.

6. All doors lock.
The LED lights up.

7. After 30 seconds, the LED starts flashing; the system is now armed.



Section III - Functional Verifications

Check:

- Reach inside and manually unlock the driver's door to trigger an alarm.

- Manually unlock the driver's door again and *hold it unlocked*, open the door, then sit in the driver's seat.

- Insert the key into the ignition switch and turn it to "START" to stop the alarm.

Turn the key back to "LOCK" remove it, then exit the vehicle.

- With the door open, press the lock switch on the door to lock the doors, then close the door to start the system's arming process.

- Wait 30 seconds.

- Reach inside and manually unlock the front passenger's door to trigger an alarm.

- Press and release the remote control's unlock button to stop the alarm.

Look For:

- 8. The driver's door automatically relocks.
The horn sounds repeatedly.
The headlights flash repeatedly.
The turn signal lights flash repeatedly.
The LED lights up.

- 9. The driver's door lock attempts to lock repeatedly.
The horn continues to sound repeatedly.
The headlights, and turn signal lights continue flashing.
The LED remains on.

- 10. The horn stops sounding.
All the lights stop flashing and/ or turn off.
The LED turns off.
The starter cranks and the engine starts.

- 11. All doors lock.
The LED lights up.

- 12. After 30 seconds, the LED starts flashing; the system is now armed.

- 13. The front passenger's door automatically relocks.
The horn sounds repeatedly.
The headlights flash repeatedly.
The turn signal lights flash repeatedly.
The LED lights up.

- 14. The horn stops sounding.
All the lights stop flashing.
The LED turns off.



Section III - Functional Verifications

Check:

- Press and release the remove control's lock button to start the system's arming process.
- Go to the trunk, unlock, and open to stop the arming process.

Roll up all windows, remove the key and exit the vehicle.

- Press and release the remote control's lock button to start the arming process.
- Wait 30 seconds

Perform the following check in a temperature-controlled environment (50°-90° F)

- With moderate force, tap the center of the driver's doorwindow with the tip of a key to trigger the warn away alarm.

- Insert the key into the driver's door key cylinder and turn it toward the back of the vehicle to stop the alarm.

Look For:

- 15. Refer to step number 1.
- 16. The LED turns off.
- 17. Refer to number 1.
- 18. After 30 seconds, the LED starts flashing; the system is now armed.
- 19. The horn sounds repeatedly.
The headlights flash repeatedly.
The turn signal lights flash repeatedly.
The LED lights up.

NOTE: Adjust as necessary by increasing the GBS setting to the next level if the alarm does not trigger during the functional verifications.

NOTE: If you do not disarm the system, The alarm will last 20 seconds. *It is not Necessary to check the alarm duration.*

- 20. The horn stops sounding.
All the lights stop flashing and/ or turn off.
The security LED turns off.

Vehicle Function Checks

- Perform standard electrical system function checks.

Confirm electrical system is functioning correctly.