

**Part Number: PT296-00140, PT296-00142  
or PT296-00151  
(Extension Box w/AHA)**

**Kit Contents**

Item #	Quantity Req.	Description
1	1	Extension Module w/BT cable
2	1	DA/Ext Harness
3	1	GPS Antenna kit
4	4	Screws (M5x8)

**Hardware Bag Contents**

Item #	Quantity Req.	Description
1	1	GPS Antenna
2	3	Wire clips
3	1	GPS Plate
4	5	Wire ties
5	1	Foam pad w/ Adhesive

**Additional Items Required For Installation**

Item #	Quantity Req.	Description
1	1	Clamp bracket P/N: PT591-00140.
2	1	Base Audio DA P/N: PT546-00140 or P/N: PT546-00140-BU (*Not required for DIO if pre-installed.)

**Conflicts**

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**Recommended Tools**

<b>Personal &amp; Vehicle Protection</b>	<b>Notes</b>
Vehicle protection	Blankets
<b>Special Tools</b>	<b>Notes</b>
USB Flash Drive Media	Must contain MP3 songs
<b>Installation Tools</b>	<b>Notes</b>
Panel Clip Removal Tool	e.g. Toyota SST P/N:- 00002-06002-01
Socket Wrench	
Socket	10mm
Socket extension	6"
Screwdriver	Phillips, #2
Screwdriver	Phillips, Stubby
Torque Wrench	5.4 N•m. (48 in•lbf)
Masking tape	
Electrical Tape	
Diagonal cutters	
<b>Special Chemicals</b>	<b>Notes</b>
VDC approved cleaner	

**General Applicability**

All Scion FR-S models, including 10 Year Anniversary Edition
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**Recommended Sequence of Application**

Item #	Accessory
1	Premium Audio Upgrade (Extension Box)
2	Base Audio

\*Mandatory

**Vehicle Service Parts** (may be required for reassembly)

Item #	Quantity Req.	Description

**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.

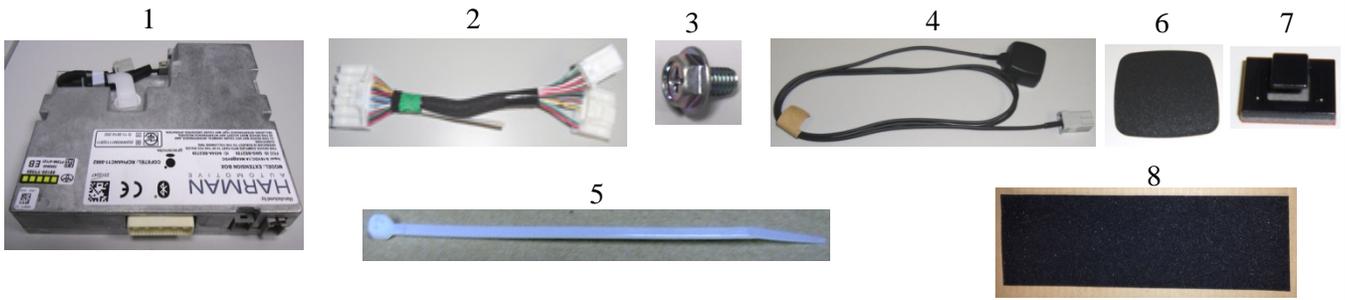
 **CAUTION:** A process that must be carefully observed in order to reduce the risk of damage to the accessory/vehicle and to ensure a quality installation.

 **TOOLS & EQUIPMENT:** Used in Figures calls out the specific tools and equipment recommended for this process.

 **REVISION MARK:** This mark highlights a change in installation with respect to previous issue.

 **SAFETY TORQUE:** This mark indicates that torque is related to safety.

Parts Description of Extension Module Kit (PT296-00140, PT296-00142 or PT296-00151)



Item #	Parts Name	Parts No.	Qty
1	Extension Module	PT296-00140-AA or PT296-00142-AA	1
2	Harness	PT296-47120-AB	1
3	Screw (M5 x 8)	90153-W0001	4
4	GPS Antenna	PT296-00141-AA	1
5	Cable Ties		5
6	GPS Plate		1
7	Wire Clip		3
8	Foam Adhesive Pad (25cm x 8cm)		1

Not included in kit but REQUIRED for installation:

Receiver Assembly Radio Unit (PT546-00140 or PT546-00140-BU) (\*Not required for DIO if pre-installed.)



Item #	Parts Name	Parts No.	Qty
1	Receiver Assembly Radio Unit	PT546-00140 or PT546-00140-BU	1
2	Screw (M5x8)		8

Not included in kit but REQUIRED for installation: Clamp Brackets (PT591-00140)



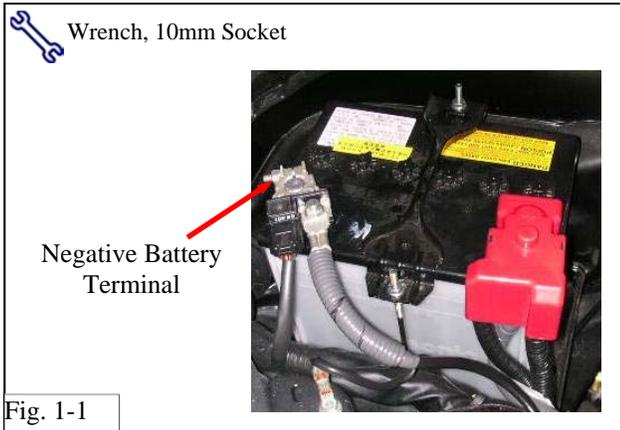
Item #	Parts Name	Parts No.	Qty
1	Clamp Brackets	PT591-00140.	1 Set

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, rechecking torque procedure, etc.).
- Vehicle Disassembly/Reassembly (panel removal, part storage, etc.).
- Electrical Component Disassembly/Reassembly (battery disconnection, connector removal, etc.).

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



**1. Vehicle Protection.**

- (a) Remove the negative battery cable (Fig. 1-1).
- (1) Protect the fender before starting.
- (2) Do not touch the positive terminal with any tool when removing cable.
- (b) Check kit contents.



**2. Disassembly of Vehicle.**



**NOTE:** Place all removed parts on a protected Surface.



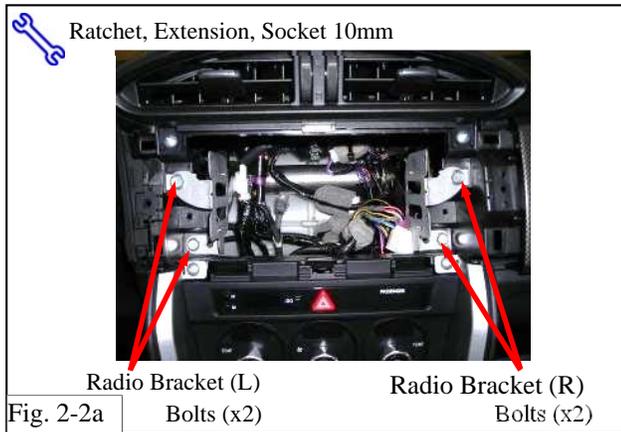
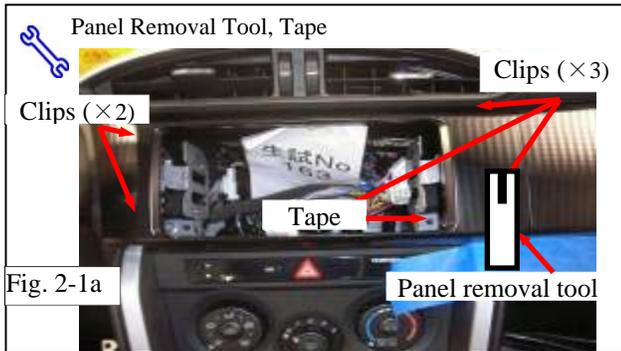
**NOTE:** When disconnecting wiring connectors do NOT pull on the wiring, pull on the connector only.



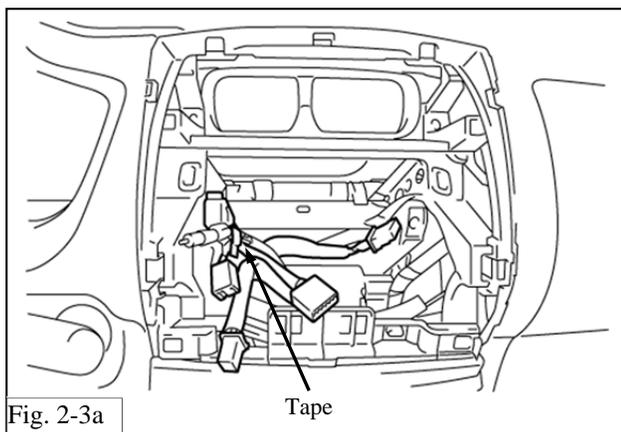
**NOTE:** Engage the parking brake while working.

**PPO Disassembly, DIO Disassembly (\*If Base DA not pre-installed)**

- (a) Using protective tape to protect the trim panel from the pry tool, remove the audio cluster using the panel pry tool (Fig.2-1a).
  - (1) Pull the cluster forward, and disengage the clips at 5 locations.



- (b) Remove the 4 bolts and remove the radio brackets (R) and (L) from the interior panel. Set brackets aside for later install re-use (Fig. 2-2a).



- (c) Remove the tape on the harness for the radio unit and the antenna (Fig.2-3a).

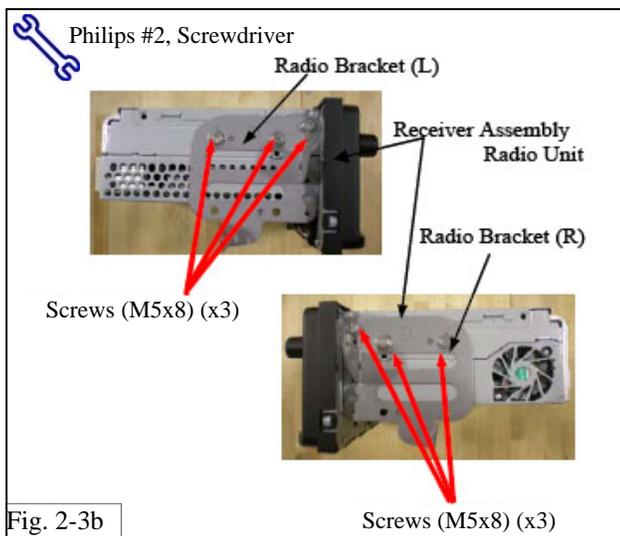


**DIO Disassembly (\*If Base DA pre-installed)**

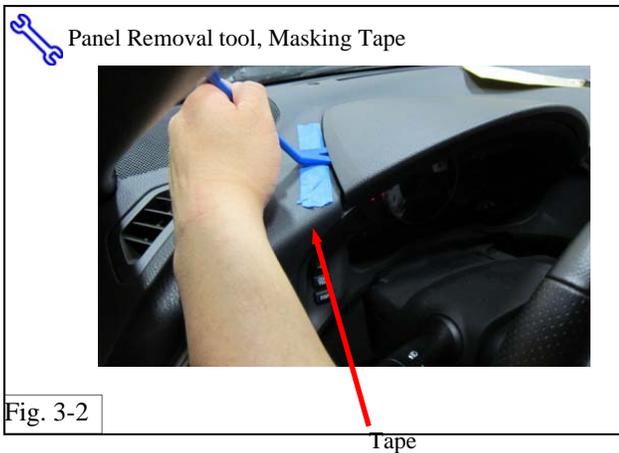
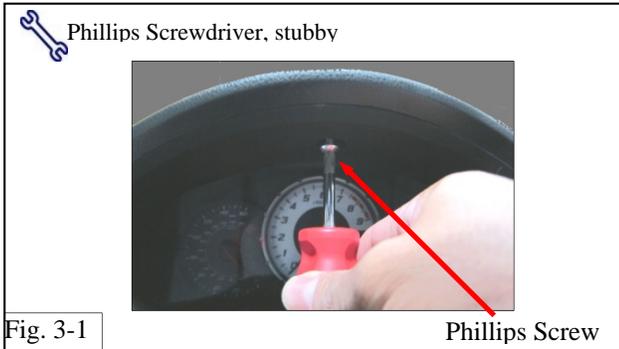
- (a) Using protective tape to protect the trim panel from the pry tool, remove the audio cluster using the panel pry tool (Fig.2-1b).
  - (1) Pull the cluster forward, and disengage the clips at 5 locations.



- (b) Remove the 4 screws, disconnect all electrical connectors from back of radio and then remove the radio (Fig. 2-2b).



- (c) Unfasten (M5x8) screws (6). Remove radio mounting brackets (RH) and (LH) from the DA radio. Set brackets and screws aside for installation re-use (Fig. 2-3b).



### 3. Remove top instrument cluster cover.

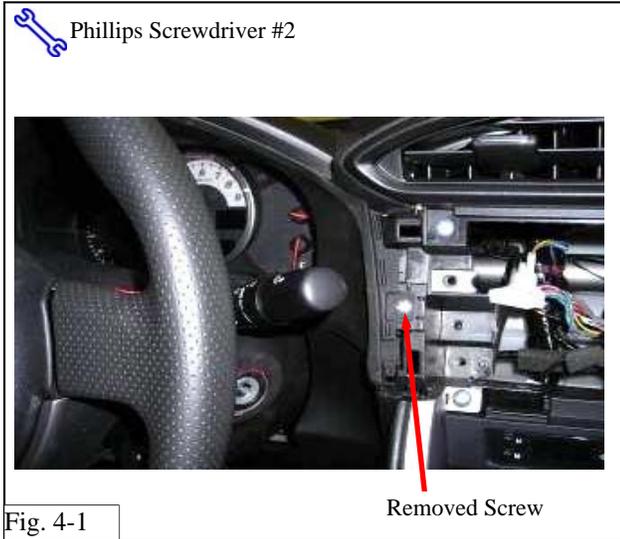
(a) Using a Phillips screwdriver, remove the screw which fastens the bezel above the instrument panel (Fig.3-1).



(b) Place masking tape to the left edge of the instrument cluster top bezel to prevent damage to dash trim pieces (Fig. 3-2).

Gently insert panel removal tool between trim pieces as shown and pry upward with panel removal tool (Fig. 3-2). Insert your fingers under the cover edge that was lifted, and work your hand around clockwise to unsecure the top trim piece.

(c) Remove top instrument cluster cover and set in a safe place (Fig. 3-3).



**4. Remove Instrument cluster bezel.**

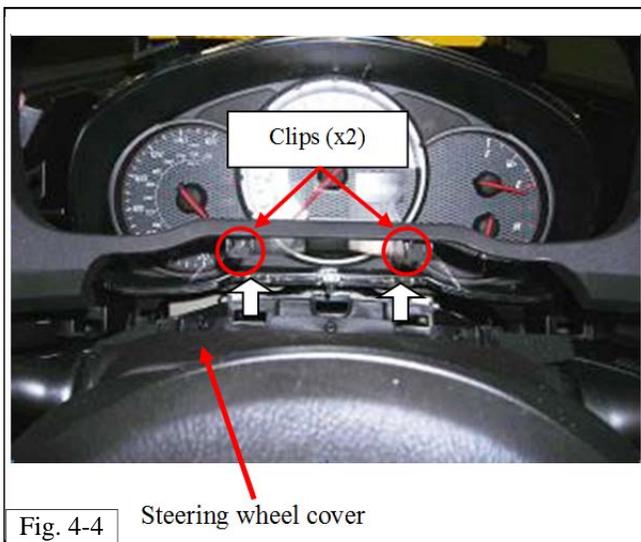
- (a) Using a Phillips head screwdriver remove the screw in the location shown (Fig. 4-1 and 4-2).



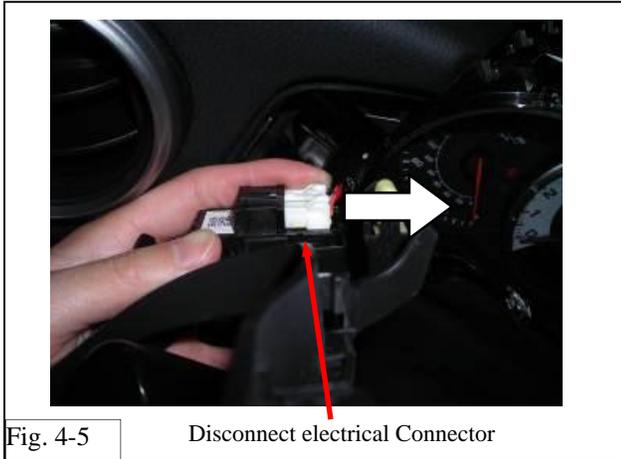
**NOTE:** The screw is different from other screws. Make sure to use this screw for re-installation.



- (b) Pull the instrument cluster bezel out towards you so that it is loose from the instrument cluster (Fig. 4-3).

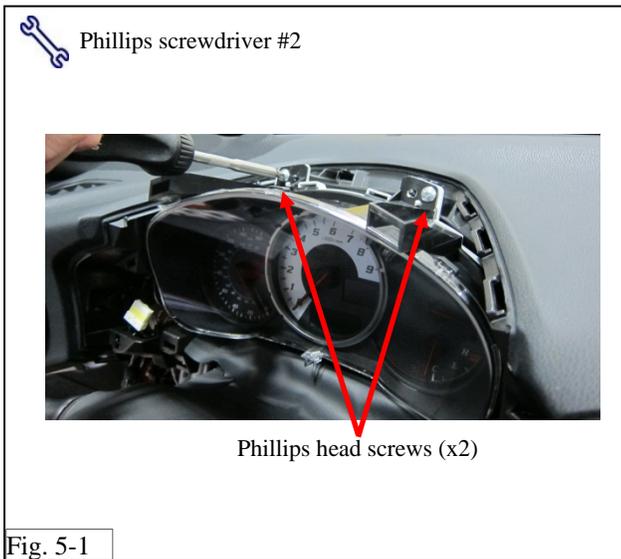


- (c) Separate the 2 clips between the instrument cluster bezel and the upper steering wheel cover to remove the instrument cluster bezel (Fig. 4-4).

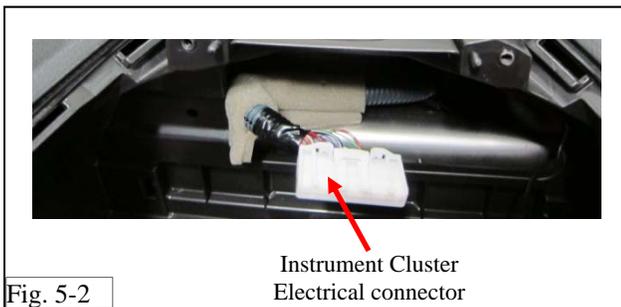


- (d) Tilt the top of the bezel forward, reach behind the bezel and disconnect the electrical connector from the bezel. (Fig. 4-5).

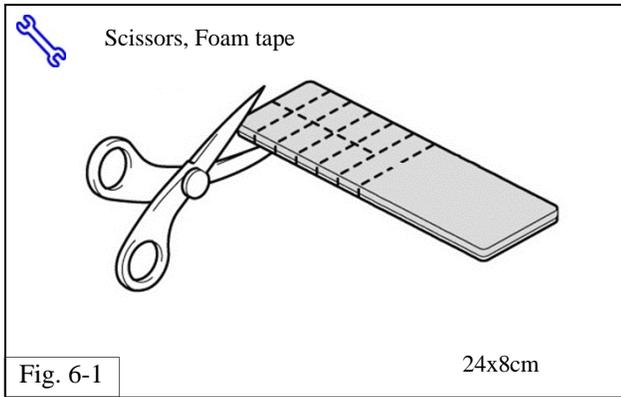
**5. Remove Instrument Cluster.**



- (a) Using a Phillips head screwdriver remove the 2 screws securing the instrument cluster in place (Fig. 5-1).



- (b) Pull the instrument cluster forward and disconnect the electrical connector (Fig. 5-2). Remove the instrument cluster.



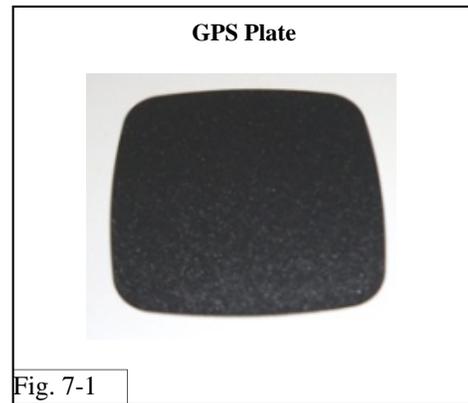
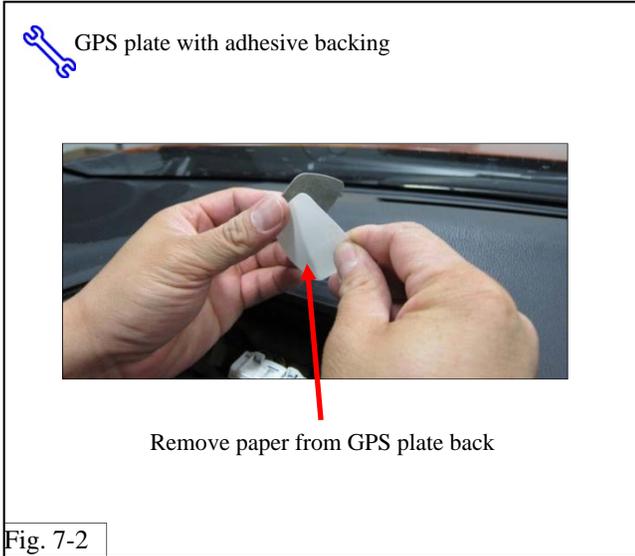
## 6. Preparation before installation

- (a) Cut foam tape in half. Cut one of the halves into 10 small pieces (2x4cm) and one large piece (2x8cm) as shown (Fig. 6-1). You may not need all pieces for the installation.

**7. GPS Antenna Installation.**

**⚠ NOTE:** Before attaching the GPS plate, clean the mounting surface with VDC approved cleaner.

(a) Remove the GPS plate (Fig. 7-1) from the parts bag kit. Remove paper off the back of the GPS plate, to expose the adhesive backing of the plate (Fig.7-2).



(b) With the adhesive side facing downward (Fig. 7-3), secure the GPS plate into the mounting position shown (Fig. 7-4).

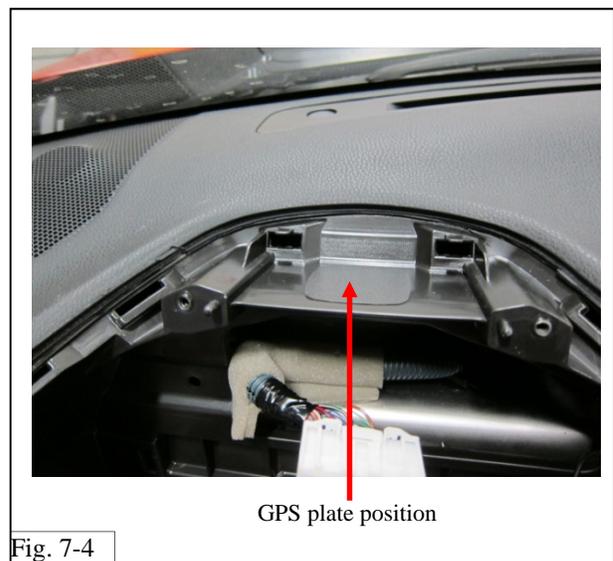




Fig. 7-5

(c) Apply a small piece (2x4cm) of foam tape along the edge of the trim as protection for the GPS antenna to be placed (Fig. 7-5).

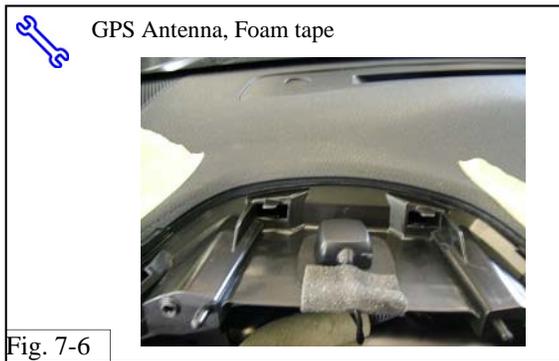


Fig. 7-6

(d) Remove the GPS antenna from the kit bag. Place the GPS antenna on top of the magnetic GPS plate. Apply another small piece of foam tape to secure the placement of the GPS antenna (Fig. 7-6).

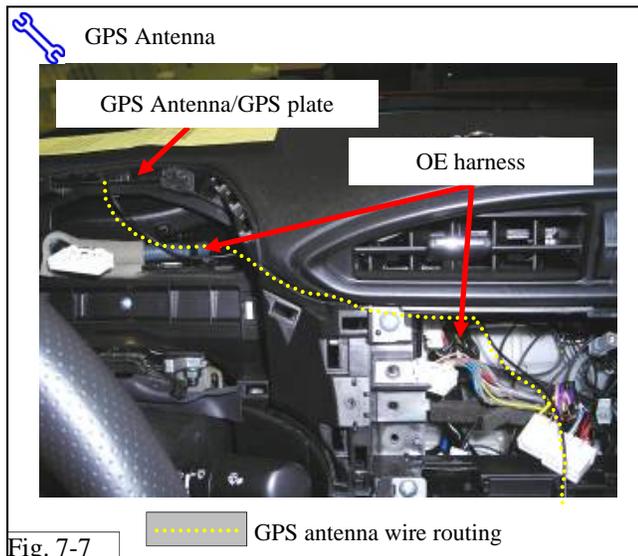
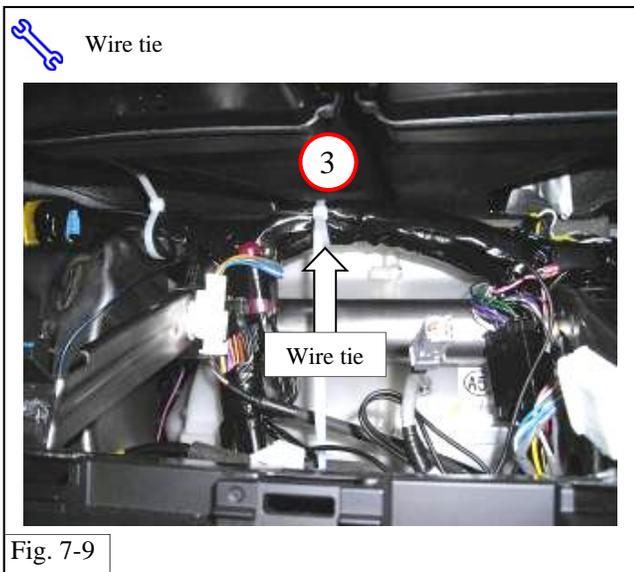
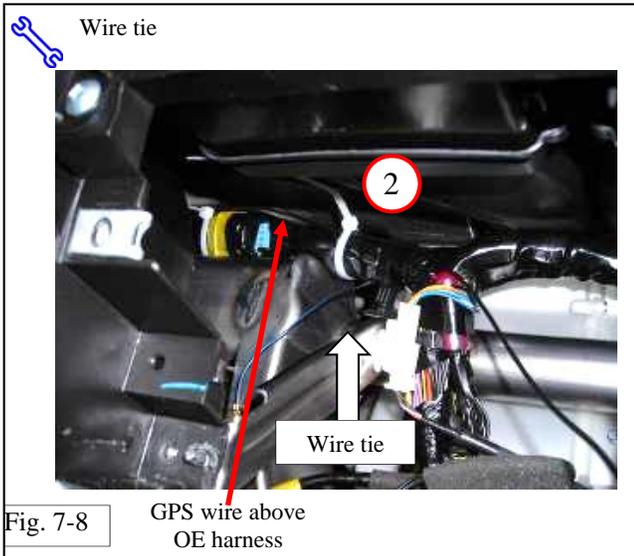
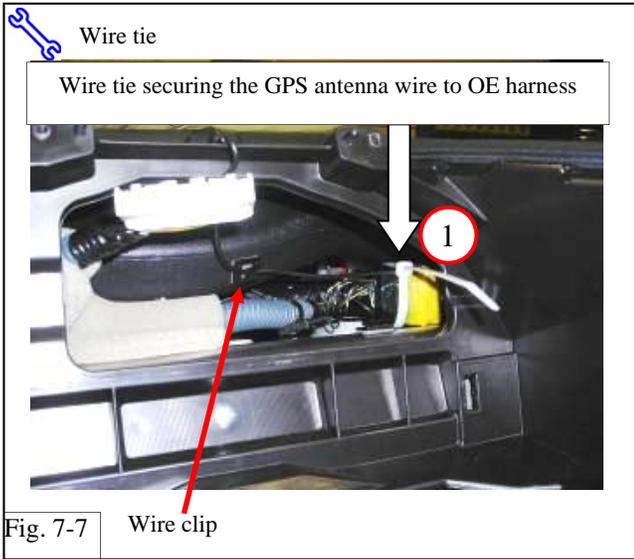


Fig. 7-7

(e) Route the GPS antenna wire from the mounting location, along the OE harness to the audio unit opening (Fig. 7-7).



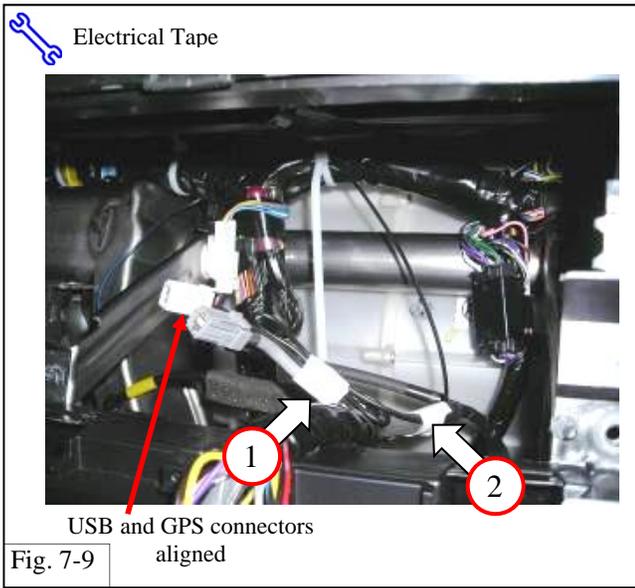
- (f) Remove the paper from the back of the wire clip to expose the adhesive backing and mount the clip in the location shown (Fig. 7-7).



**NOTE:** Before attaching the wire clip, clean the mounting surface with VDC approved cleaner.

- (g) Secure the GPS wire to the wire clip, keeping about 1 inch of wire slack so the wire is not pulled taut (Fig. 7-7).
- (h) Secure the GPS wire to the OE harness using a wire tie (#1) as shown (Fig. 7-7).
- (i) In the audio unit opening area, make sure the GPS wire sits above the OE harness and that it does not contact any sharp edges. Using a wire tie (#2), secure the GPS wire to the OE harness as shown (Fig. 7-8).

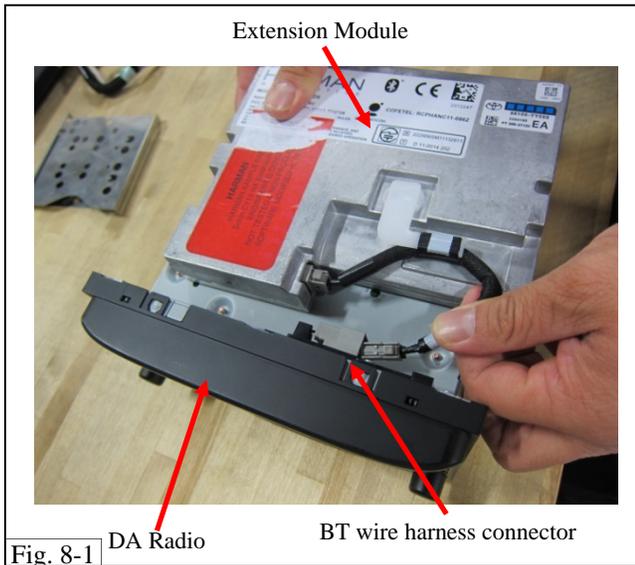
- (j) Continue to route the GPS wire above the OE harness. Secure the GPS wire to the OE harness with a wire tie (#3) in the location shown (Fig. 7-9).



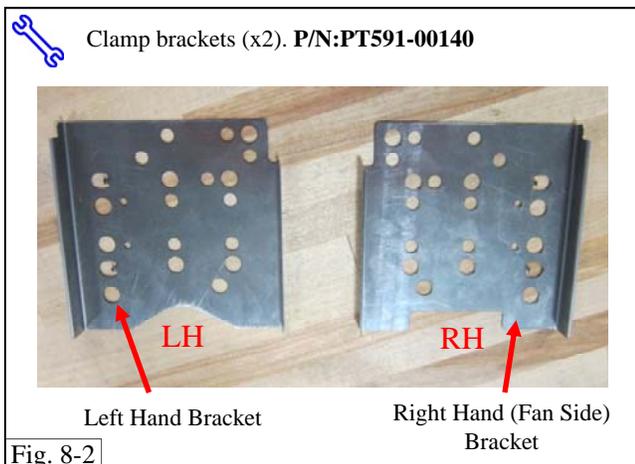
- (k) Route the GPS wire along the USB cable so the USB cable and GPS antenna connectors align. Secure the GPS wire to the USB Cable with electrical tape at location “1” (Fig. 7-9).
  
- (l) Secure and bundle any excess GPS wire to the USB cable with electrical tape at location “2” (Fig. 7-9).

### 8. Display Audio and Extension Module assembly.

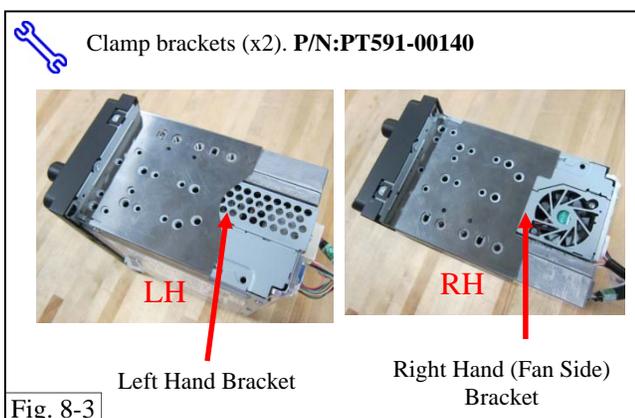
- (a) Lay the Display Audio (DA) radio on a flat surface with the bottom facing upward (Fig. 8-1).
- (b) Place the extension module on the bottom of the DA radio as shown (Fig. 8-1).
- (c) Remove break-away tape from Bluetooth cable harness. Plug the Bluetooth antenna wire harness into the connector on the DA radio (Fig. 8-1). Make sure both ends of the harness are securely seated between the extension module and the DA radio.

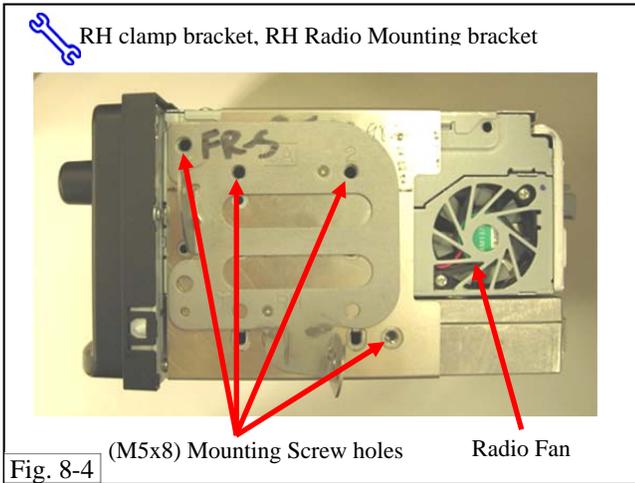


- (d) For the next step you will need the clamp brackets. (P/N: PT591-00140). Note the differences between the Right Hand (RH) and Left Hand (LH) bracket shapes (Fig. 8-2).

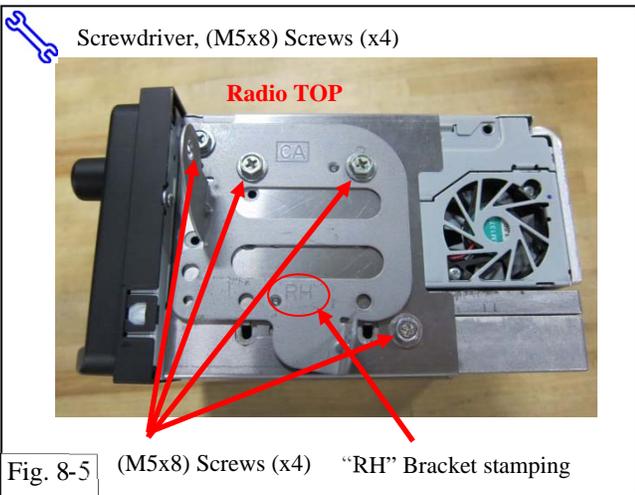


- (e) Fit the LH and RH clamp brackets into the positions shown (Fig. 8-3), to hold the DA radio and extension module together.





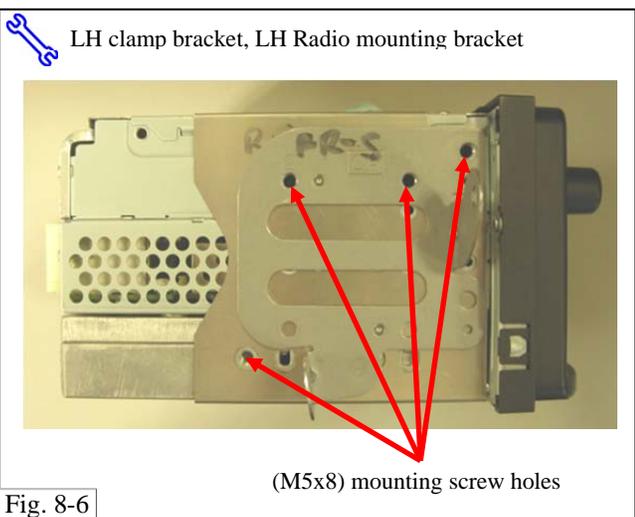
- (f) Set the DA radio and extension module on their side so that the radio fan is facing upward. Align the RH clamp bracket with the mounting screw holes, while ensuring it holds the radio and extension module together (Fig. 8-4).
- (g) Place the RH radio mounting bracket on top of the clamp bracket ensuring the mounting screw holes are aligned (Fig. 8-4).



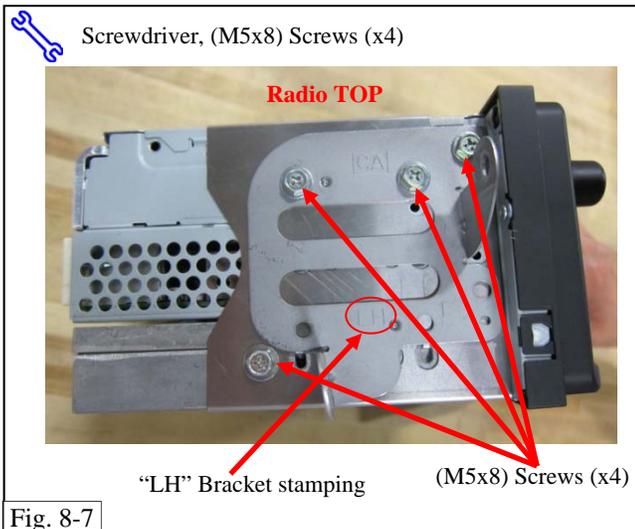
- (h) Fasten the RH mounting bracket to the radio with the screws (x4) (Fig. 8-5).



**NOTE:** Make sure the mounting bracket is flat against the clamp bracket before tightening screws.



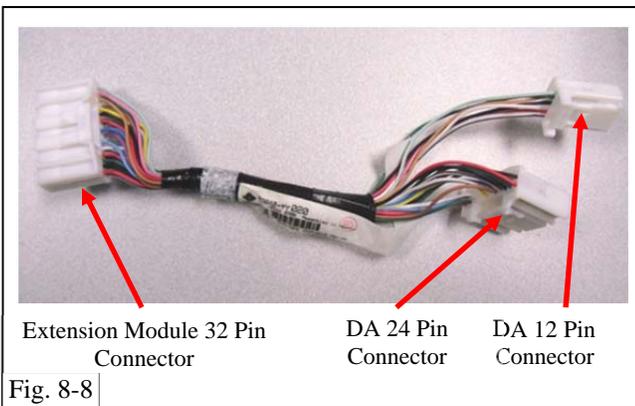
- (i) Set the DA radio and extension module on their side so the radio fan is facing down. Align the LH clamp bracket with the mounting screw holes, while ensuring it holds the radio and extension module together (Fig. 8-6).
- (j) Place the LH radio mounting bracket on top of the clamp bracket ensuring the mounting screw holes are aligned (Fig. 8-6).



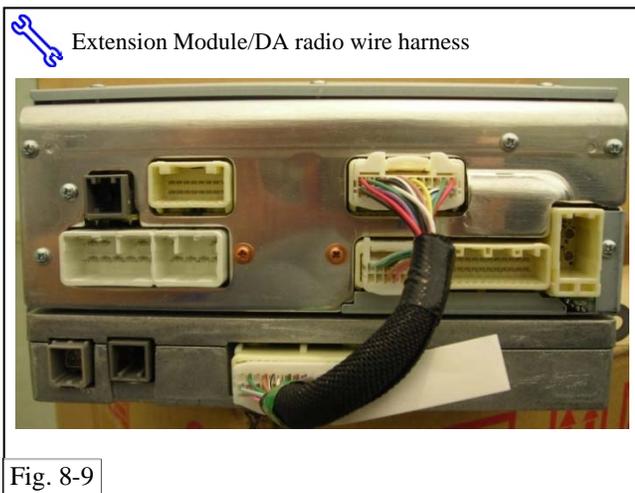
(k) Fasten the LH mounting bracket to the radio with the screws (x4) (Fig. 8-7).



**NOTE:** Make sure the mounting bracket is flat against the clamp bracket before tightening screws.



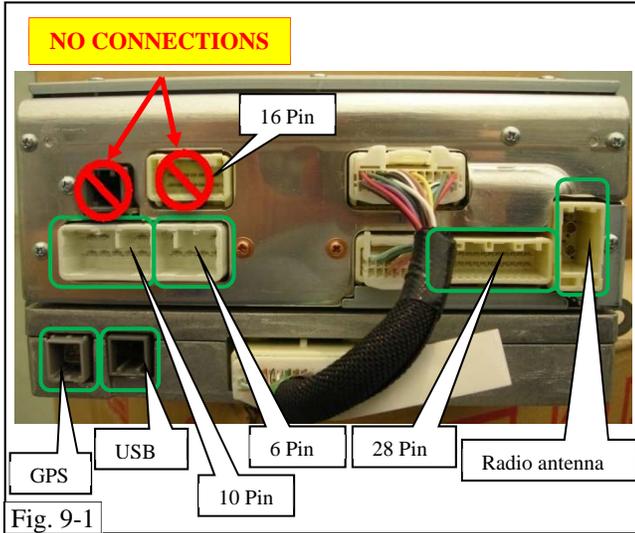
(l) For the next procedure you will need the Extension module/DA interface wire harness, which is included in the Extension module kit (Fig. 8-8).



(m) Connect the wire harness between the extension module and DA radio as shown (Fig. 8-9).

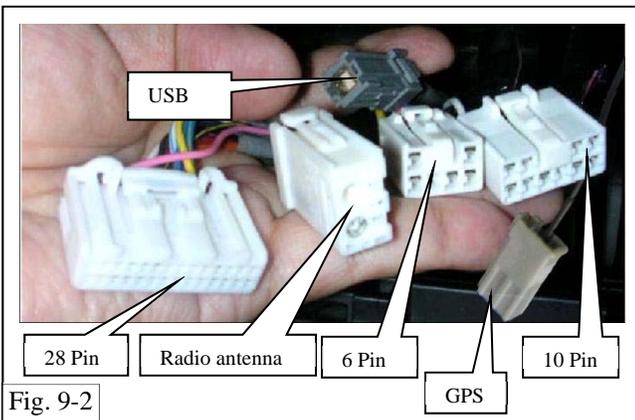
9. Install the Receiver Assembly Radio Unit (Wire harness connections).

- (a) Connect the radio antenna cable, 28 Pin, 6 Pin, and 10 pin harness connector cables to the DA radio (Fig. 9-1 and 9-2).
- (b) Connect the USB cable, and GPS antenna cable to the extension module (Fig. 9-1 and 9-2).

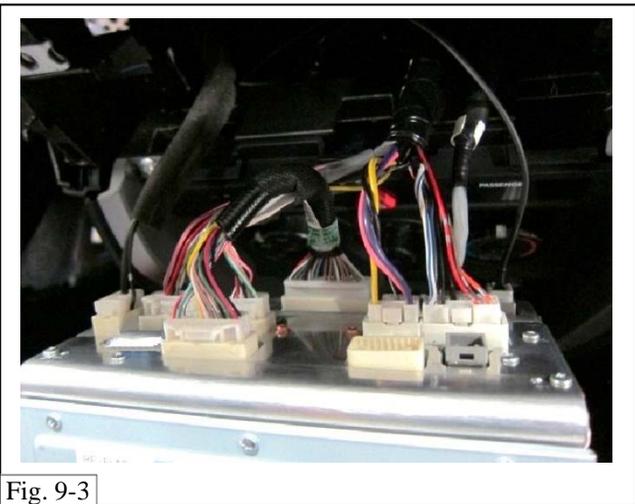


**Do not connect the USB cable to the DA radio. The USB cable must be connected to the extension module (Fig. 9-1).**

**No harness connection should be made to the 16 pin connector (Fig. 9-1).**

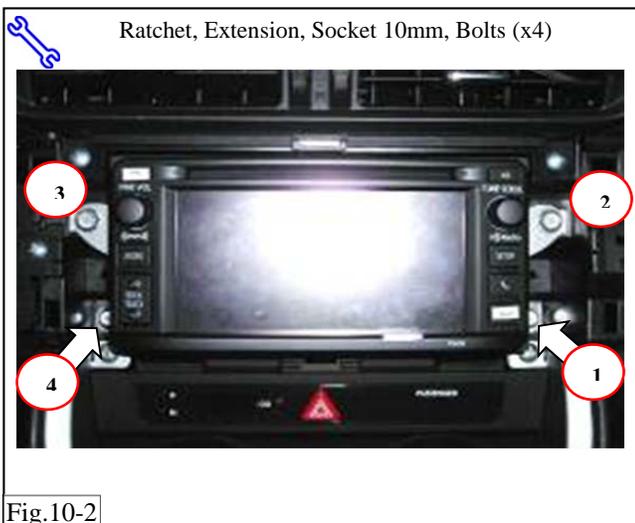


- (c) Confirm all harness connections are completed as shown (Fig. 9-3).



**10. Install the Receiver Assembly Radio Unit (Vehicle mounting).**

(a) Insert the radio into the dash (Fig. 10-1).



(b) In the sequence shown (1 to 4) (Fig. 10-2). Insert each bolt and hand start (Use the bolts removed in Section 2 “Disassembly of vehicle”).

(c) Fasten the receiver assembly radio unit with 4 bolts, using 10mm socket wrench.

**In Process Function Tests.**

- (d) Temporarily reconnect negative battery cable.
- (e) If required, install the 30A DCC fuse.
- (f) Turn ACC ON.

**11. Map Function Test.**

- (a) Press the “Map” hard key (H/K) (Fig. 11-1).



**WARNING:** If you are presented with the screen in (Fig. 11-4). Proceed to “Map trouble shooting” on the next page.



Fig. 11-1

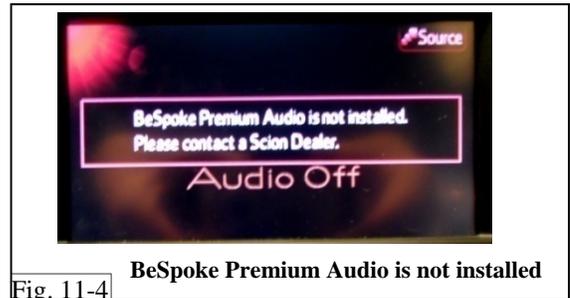


Fig. 11-4



Fig. 11-2

- (b) Press the “Confirm” button on the DA touch screen (Fig. 11-2).

**NOTE:** This screen automatically goes away after 5 seconds if the “Confirm” button is not pressed and will then take you to the Map Screen (Fig. 11-3).



Fig. 11-3

- (c) Confirm the Map screen is displayed (Fig. 11-3).

Proceed to “USB Function Test.”

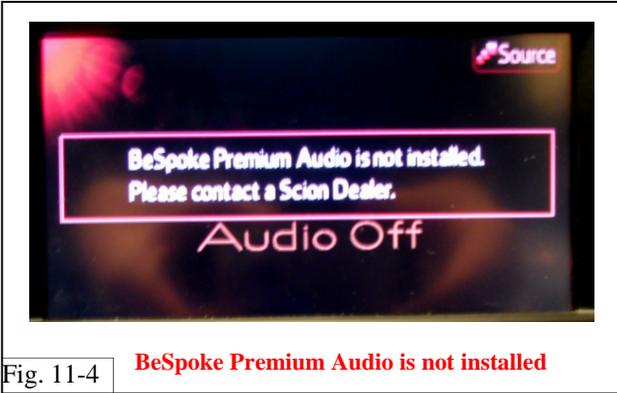


Fig. 11-4

### Map trouble shooting

If you are presented with the screen shown (Fig. 11-4), and the extension module has been properly installed, then perform the following procedure.



Fig. 11-5

- 1) While pressing and holding the "Audio" H/K, (Fig. 11-5) switch ON and OFF the headlights three consecutive times in quick succession.

ON>OFF>ON>OFF>ON>OFF

- 2) The Service Menu screen will appear (Fig. 11-6).

If the Service Menu screen does not appear, repeat steps 1 and 2.

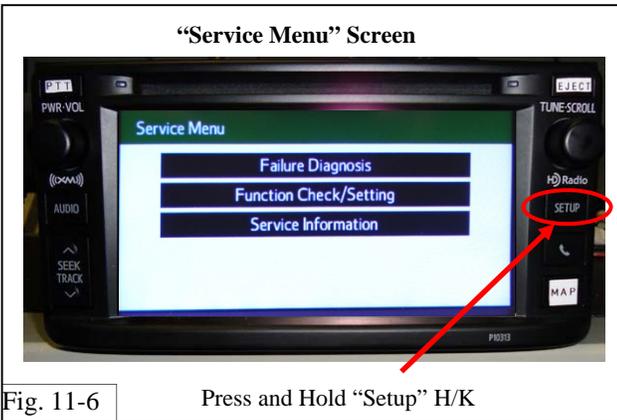


Fig. 11-6

- 3) With the Service Menu screen shown, press and hold the "SETUP" H/K (Fig. 11-6). Wait for the radio to restart, then release "SETUP" H/K.
- 4) Turn OFF Acc.
- 5) Turn ON Acc.
- 6) Go back and repeat "Map Function Test", in the "In Process Function Tests" section.



## 12. USB Function Test.

(a) Connect the USB flash drive media to the vehicle's USB/AUX connector (Fig. 12-1)

(b) Press the "Source" button on the touch display screen (Fig. 12-2).

(c) Select the USB mode button (Fig. 12-3)

(d) Confirm song plays

(e) Remove flash drive from USB port.

**13. RadioAntenna check.**

(a) Press the “Source” button (Fig. 13-1).



Fig. 13-1

(b) Press the FM source select button (Fig. 13-2).

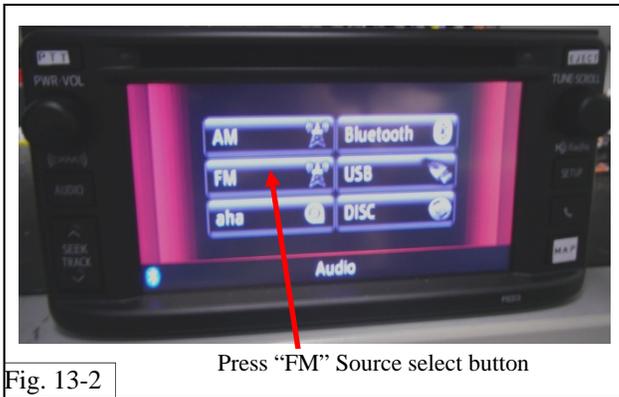


Fig. 13-2

(c) Press the SEEK/TRACK Up H/K button (Fig. 13-3). Confirm that the radio tunes to a FM radio station and sound is heard.



Fig. 13-3



Fig. 13-1 Press and Hold "Audio" H/K

**NOTE:** To perform the following function tests you will need to enter the DA Service Menu (Fig.13-2).

To access the Service Menu, do the following.

- 1) Turn ACC ON.
- 2) Once the DA radio is powered on, press and hold the "Audio" hard key (Fig. 13-1).
- 3) While holding the Audio H/K, switch ON and OFF the headlights three consecutive times in quick succession.  
ON>OFF>ON>OFF>ON>OFF
- 4) The Service Menu screen will appear (Fig. 13-2).
- 5) If the Service Menu screen does not appear, repeat steps 2 and 3.

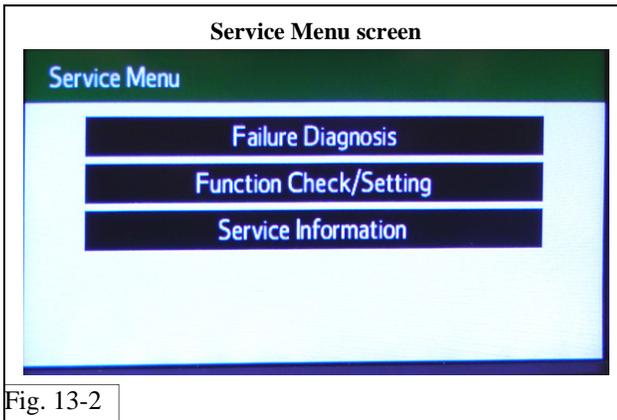


Fig. 13-2

**14. GPS Antenna and Bluetooth Antenna check.**

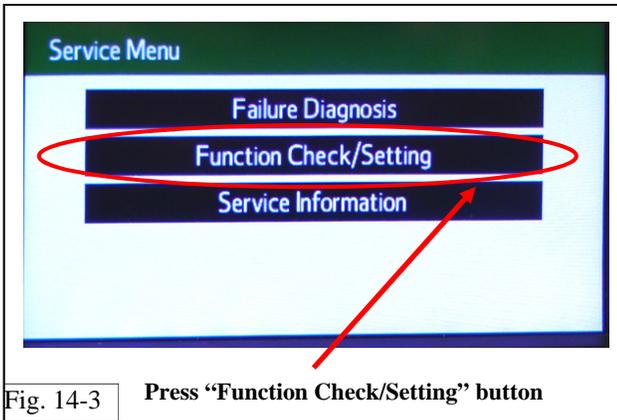


Fig. 14-3 Press "Function Check/Setting" button

- (a) Press the "Function Check/Setting" button (Fig. 14-3).

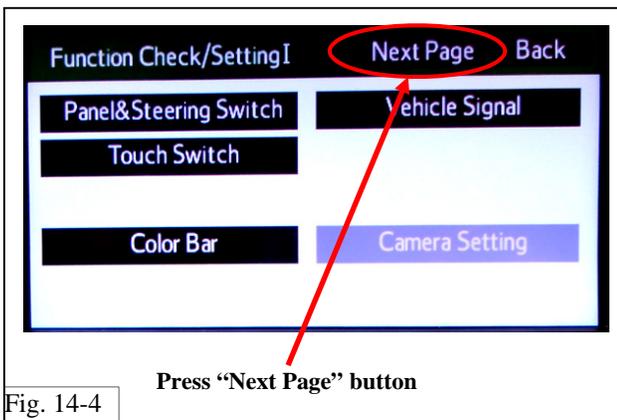


Fig. 14-4 Press "Next Page" button

- (b) Press the "Next Page" button (Fig. 14-4).

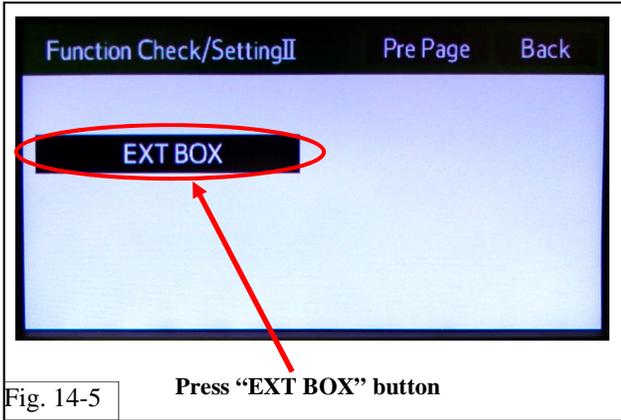


Fig. 14-5

Press "EXT BOX" button

(c) Press the "EXT BOX" button (Fig. 14-5).

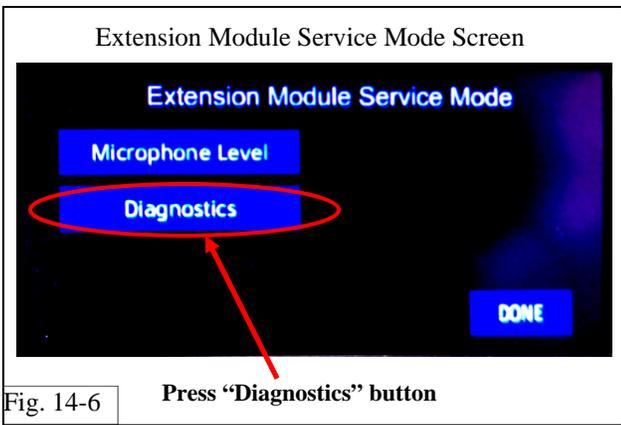


Fig. 14-6

Press "Diagnostics" button

(d) Press the "Diagnostics" button, on the "Extension Module Service Mode" screen (Fig. 14-6).

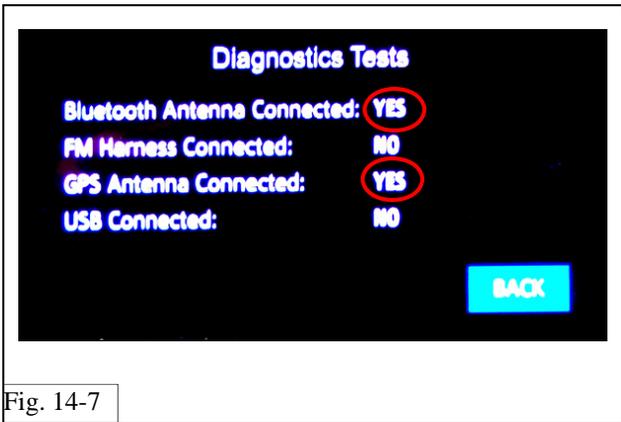
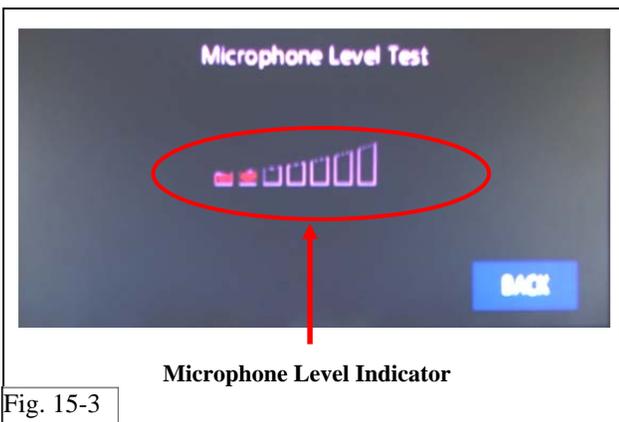
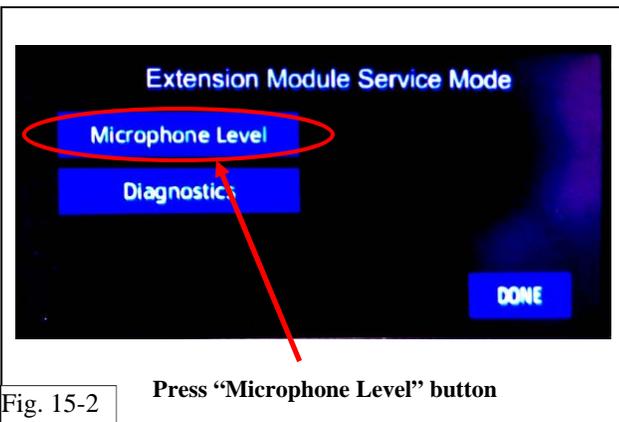
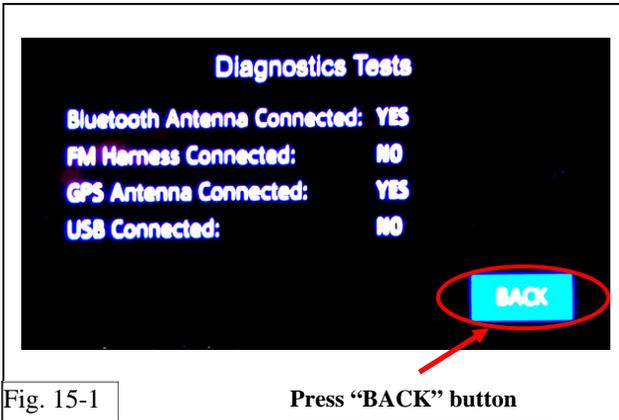


Fig. 14-7

(e) Confirm the following connections are displayed (Fig. 14-7).

Bluetooth Antenna Connection: "YES"

GPS Antenna Connected: "YES"



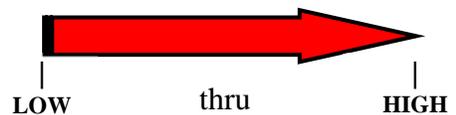
### 15. Hands Free Microphonecheck

(a) Press the "BACK" button (Fig. 15-1).

(b) Press the "Microphone Level" button (Fig.15-2).

(c) While sitting in the driver's seat, speak loud and clearly, preferably looking in direction of microphone location in the vehicle. Say, "**Check! Check! Test! Test!**" Watch the Microphone Level Indicator and confirm the level indicator is responding with your voice (Fig. 15-3).

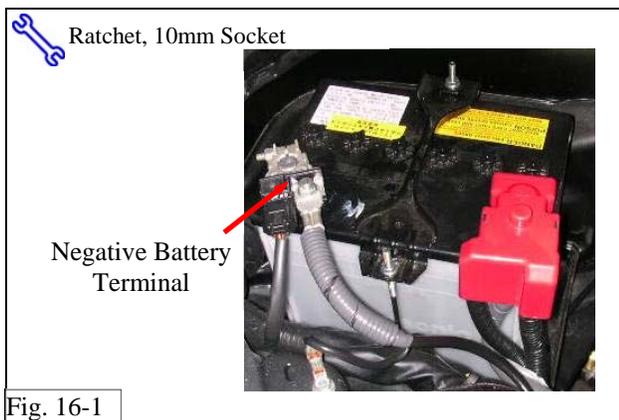
#### Microphone Level Indicator response



## 16. Completing the installation



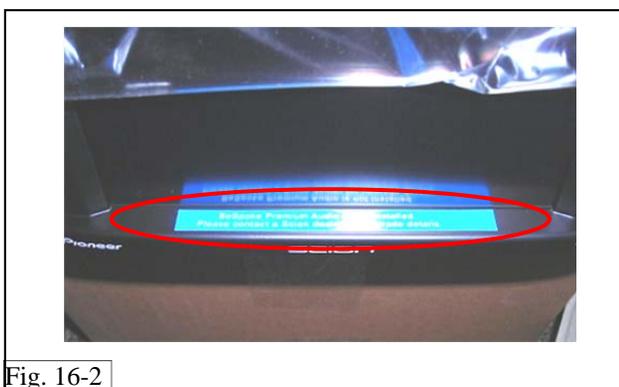
- (a) Turn OFF vehicle ignition.
- (b) Reconnect the electrical connector to the instrument cluster and reinstall the instrument cluster with the 2 screws.
- (c) Reconnect the electrical connector to the surrounding bezel of the instrument cluster, and clip back into place with 2 clips. Fasten with screw.
- (d) Reinstall the audio cluster.
- (e) Verify the panels fit together properly with no uneven gaps between them.
- (f) Clean up and remove any trash.
- (g) Reconnect the vehicle's negative battery cable (Fig. 16-1).



**Torque: 5.4 N•m (48 in•lbf)**



- (3) Do not touch the positive terminal with any tool when replacing the cable.
- (h) Perform functional checks.
- (i) If required, replace the 30A DCC fuse in its original position.
- (j) Remove sticker from front of radio (Fig. 16-2).



**17. For DIO installation, set the vehicle sound setting to the correct vehicle.**

- (a) Press the setup menu button (Fig. 17-1)
- (b) Press the system button (Fig. 17-2)
- (c) Under vehicle setting, select “FR-S” and press save (Fig. 17-3).



Fig. 17-1

Press the **SETUP** menu button

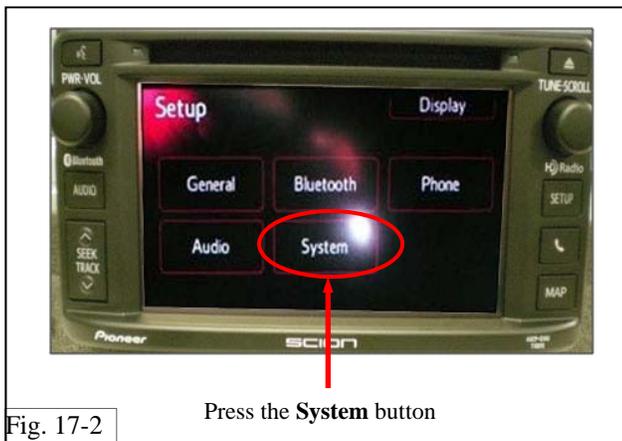


Fig. 17-2

Press the **System** button



Fig. 17-3

Select “**FR-S**”, then **SAVE**.

Checklist - these points **MUST** be checked to ensure a quality installation.

<u>Check:</u>	<u>Look For:</u>
<p><u>Accessory Function Checks</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Insert CD audio disc and confirm operation.</li> <li><input type="checkbox"/> Turn radio on and confirm operation.</li> <li><input type="checkbox"/> Antenna is functional.</li> <li><input type="checkbox"/> Fader</li> <li><input type="checkbox"/> Balance</li> <li><input type="checkbox"/> Illumination</li> </ul>	<ul style="list-style-type: none"> <li>Functioning CD player</li> <li>Radio functions properly</li> <li>Reception of AM/FM stations</li> <li>Functioning balance to front and rear speakers</li> <li>Functioning balance to left and right speakers</li> <li>Illumination should function properly</li> </ul>
<p><u>Vehicle Function Checks</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Rheostat</li> <li><input type="checkbox"/> Km/hr MPH unit switch</li> <li><input type="checkbox"/> ODO Trip</li> <li><input type="checkbox"/> DISP</li> <li><input type="checkbox"/> Combination meter</li> <li><input type="checkbox"/> Electroluminescent panel (if equipped)</li> <li><input type="checkbox"/> Battery cable torque</li> </ul>	<ul style="list-style-type: none"> <li>Functioning dimmer control</li> <li>Cycles Km/hr and MPH units</li> <li>Cycles Odometer</li> <li>Cycles Display</li> <li>Proper operation of combination meter</li> <li>EL panel should function properly</li> <li><b>5.4 N•m (48 in•lbf)</b></li> </ul>
<p><u>Vehicle Appearance Checks</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> After accessory installation and removal of protective covers(s), perform a visual inspection.</li> </ul>	<ul style="list-style-type: none"> <li>Ensure no damage (including scuffs and scratches) was caused during the installation process.</li> <li>Panels should fit and align properly.</li> <li>(For PPO installations, refer to TMS Accessory Quality Shipping Standard)</li> </ul>