

Part Number: Mounting Kit: PT546-42070
Tuner Assy: 86180-0W030

Tuner Assy Kit Contents (86180-0W030)

| Item # | Quantity Req'd. | Description |
|--------|-----------------|------------------------------|
| 1 | 1 | Tuner Assy; Stereo-Component |

Mounting Kit Contents (PT546-42070)

| Item # | Quantity Req'd. | Description |
|--------|-----------------|-----------------------------|
| 1 | 1 | Ground Cable |
| 2 | 1 | Wire, To Radio Installation |
| 3 | 2 | Tuner Bracket |
| 4 | 2 | Base Bracket |
| 5 | 1 | Template |
| 6 | 1 | Cushion |
| 7 | 1 | Antenna |
| 8 | 3 | Hardware Bags |
| 9 | 1 | XM Satellite Radio Brochure |
| 10 | 1 | SAT Sticker |
| 11 | 1 | Owner's Manual |

Hardware Bag Contents – 1 (PT546-42070)

| Item # | Quantity Req'd. | Description |
|--------|-----------------|-----------------|
| 1 | 4 | Screw (M5 x L8) |
| 2 | 4 | Nut (M6) |

Hardware Bag Contents – 1 (PT546-42070)

| Item # | Quantity Req'd. | Description |
|--------|-----------------|-------------|
| 1 | 7 | Lock Tie |

Hardware Bag Contents – 1 (PT546-42070)

| Item # | Quantity Req'd. | Description |
|--------|-----------------|--------------------------|
| 1 | 1 | Ground Plate |
| 2 | 1 | Cord Rail |
| 3 | 1 | Cushion Tape A (30 x 30) |
| 4 | 1 | Cushion Tape B (40 x 80) |

Additional Items Required For Installation

| Item # | Quantity Req'd. | Description |
|--------|-----------------|-------------|
| 1 | | |

Conflicts

| |
|--|
| |
|--|

NOTE: Part number of this accessory may not be the same as the part number shown.

Recommended Tools

| Personal & Vehicle Protection | Notes |
|-------------------------------|---|
| Safety Goggles | |
| Seat Protectors | |
| Floor Protectors | |
| Protective Tape | Masking Tape |
| Protective Blanket | |
| Special Tools | Notes |
| None | |
| Installation Tools | Notes |
| Ratchet | |
| Extensions | |
| Sockets | 10mm, 12mm, 14mm |
| Torque Wrench | 4 N•m (3 lb•ft), 36 N•m (27 lb•ft) |
| Screwdriver | #2 Phillips |
| Nylon Removal Tool | e.g. Panel Pry Tool #1 Toyota SST #00002-06001-0 |
| Needle Nose Pliers | |
| Carpet Punch | 7mm (5/16 inch) |
| Special Chemicals | Notes |
| Cleaner | 3M™ Prep Solvent-70 |

General Applicability

| |
|--|
| |
|--|

Recommended Sequence of Application

| Item # | Accessory |
|--------|-----------|
| 1 | |

*Mandatory

Vehicle Service Parts (may be required for reassembly)

| Item # | Quantity Req'd. | Description |
|--------|-----------------|-------------|
| 1 | | |

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.

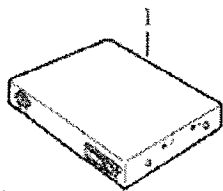


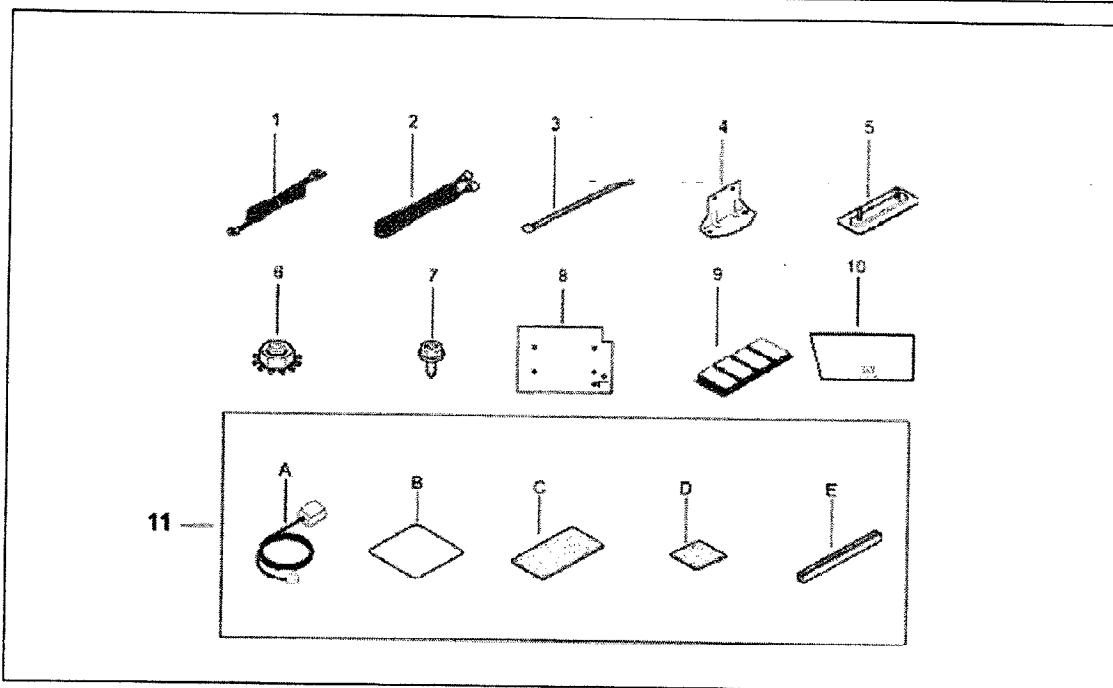
CAUTION: A process that must be carefully observed in order to reduce the risk of damage to the accessory/vehicle and to ensure a quality installation.



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

Parts Description of Tuner Assy (86180-0W030)

|  | | | |
|---|------------|-------------|-----|
| Item # | Parts Name | Parts No. | Qty |
| 1 | Tuner | 86180-0W030 | 1 |



Parts Description of Mounting Kit (PT546-42070)

| Item # | Parts Name | Qty |
|--------|------------------------------|-----|
| 1 | Ground Cable | 1 |
| 2 | Wire, To Radio Installation | 1 |
| 3 | Lock Tie (AVC-LAN) | 7 |
| 4 | Tuner Bracket | 2 |
| 5 | Base Bracket | 2 |
| 6 | Nut (M6) | 4 |
| 7 | Screw (M5 x L8) | 4 |
| 8 | Template (to locate bracket) | 1 |
| 9 | Cushion (Butyl) | 1 |
| 10 | SAT Sticker | 1 |
| 11 | A Antenna | 1 |
| | B Ground Plate | 1 |
| | C Cushion Tape B (40 x 80) | 1 |
| | D Cushion Tape A (30 x 30) | 1 |
| | E Cord Rail A (20 mm) | 1 |

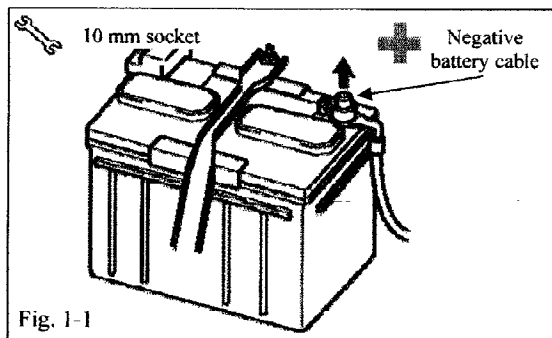
Care must be taken when installing this accessory to ensure damage does not occur to the vehicle. The installation of this accessory should follow approved guidelines to ensure a quality installation.

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

This document covers such items as:-

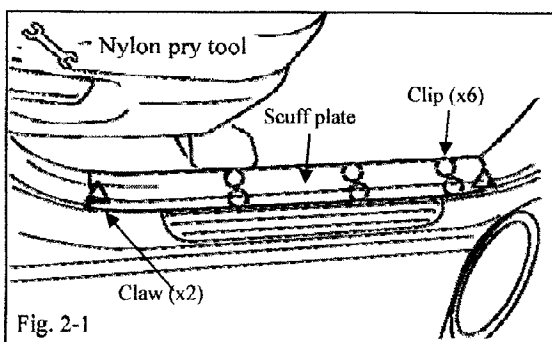
- Vehicle Protection (use of covers and blankets, cleaning chemicals, etc.).
- Safety (eye protection, rechecking torque procedure, etc.).
- Vehicle Disassembly/Reassembly (panel removal, part storage, etc.).
- Electrical Component Disassembly/Reassembly (battery disconnection, connector removal, etc.).

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



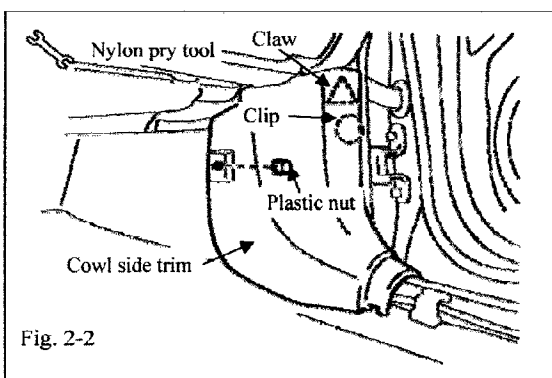
1. Remove the negative (-) battery cable (Fig. 1-1)

- (a) Protect fender before starting.
 - (b) Place removed vehicle components on protective blanket.
 - (c) Remove the negative (-) battery cable.
- CAUTION:** Do not touch the positive terminal with any tool during removal.

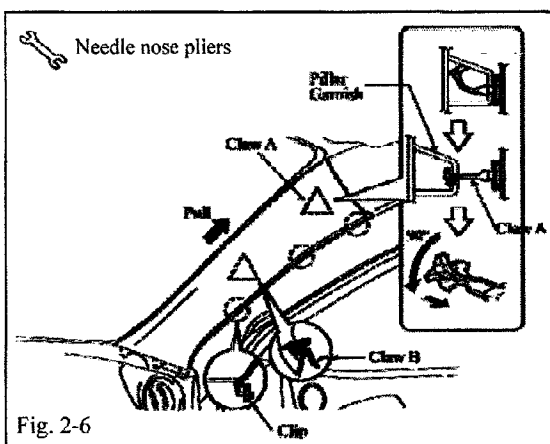
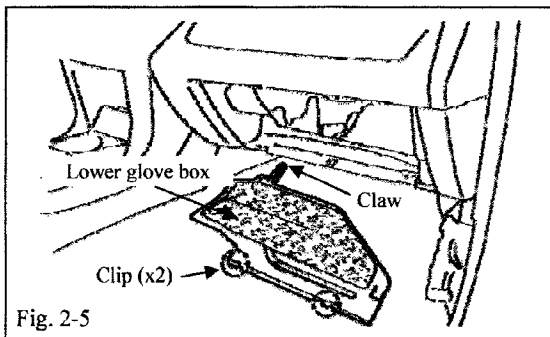
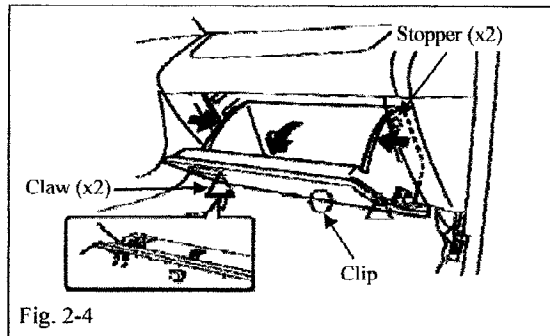
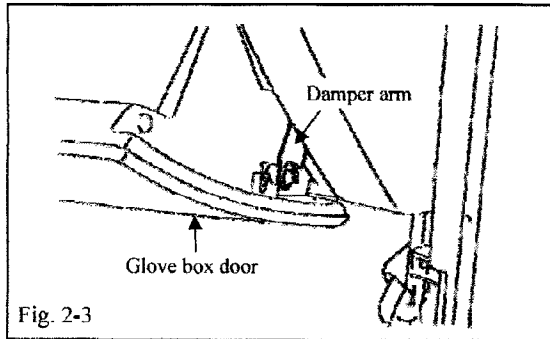


2. Vehicle Disassembly

- (a) Disengage two (2) claws and six (6) clips and remove the passenger side door scuff plate.
(Fig. 2-1)



- (b) Remove passenger cowl side trim. (Fig. 2-2)
 - (1) Remove plastic nut.
 - (2) Use a nylon pry tool to disengage the clip and the claw; then remove the cowl side trim.



(c) Remove glove box door as follows:

(1) Remove damper arm from glove box door. (Fig. 2-3)

(2) Release glove compartment stoppers by pressing both glove box side panels inward. (Fig. 2-4)

(3) Swing glove box toward you; then remove glove box from two (2) claws and the clip as shown. (Fig. 2-4)

(d) Remove lower glove box trim. (Fig. 2-5)

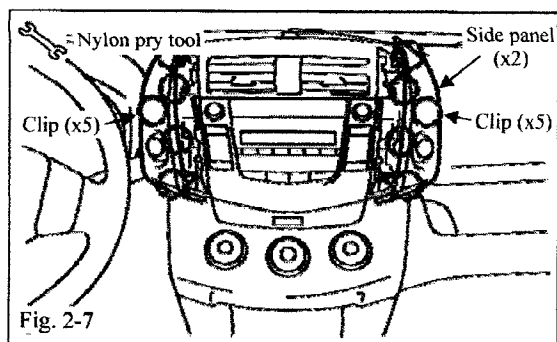
(1) Disengage the claw and two (2) clips to remove lower glove box trim.

(e) Remove A-Pillar trim garnish. (Fig. 2-6)

(1) Pull pillar garnish so base of Claw B detaches, base of Claw A detaches, and tip of Claw A locks in the pillar garnish hole.

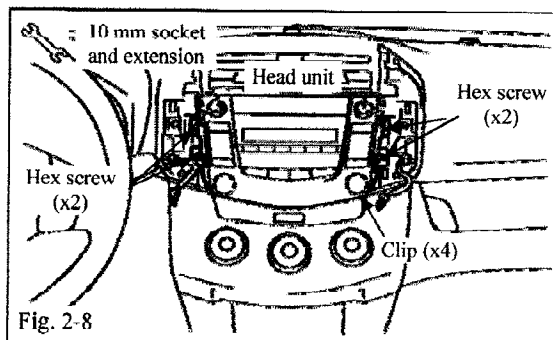
(2) Using needle-nose pliers, rotate Claw A 90°; then pull the pillar garnish to release tip of Claw A from pillar garnish.

(3) Pull pillar garnish in the direction indicated by the arrow in the illustration to detach three (3) clips.



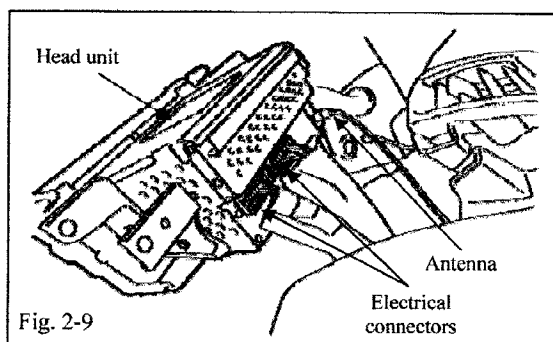
(f) Remove the side trim panels

- (1) Using a nylon pry tool, disengage five (5) clips on each side and remove the side trim panels. (Fig. 2-7)
- (2) Disconnect electrical connectors from each side trim panel.

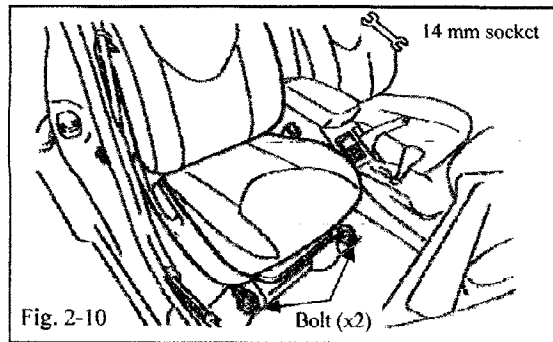


(g) Remove head unit

- (1) Remove four (4) head unit hex screws, disengage four (4) clips; then pull the head unit toward you to remove. (Fig. 2-8)

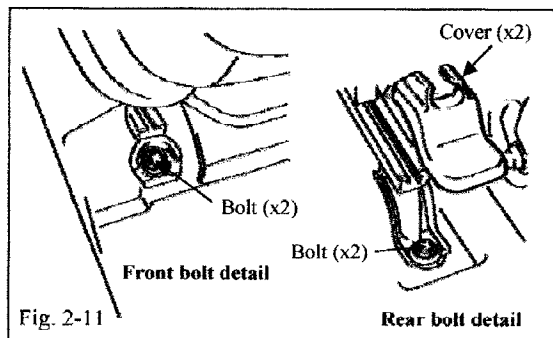


- (2) Remove the electrical connectors and antenna from rear of head unit. (Fig. 2-9)



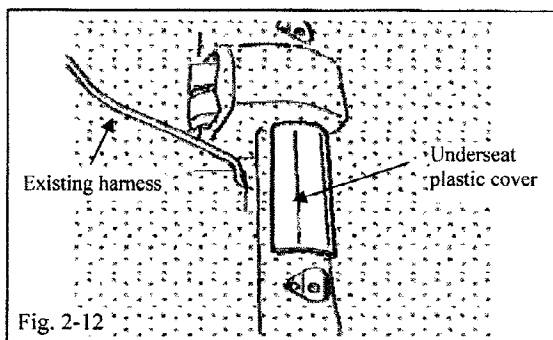
(h) Remove front passenger seat bolts.

- (1) Remove two (2) front seat bolts.
(Fig. 2-10)



- (2) Remove two (2) rear bolt covers and two (2) bolts. (Fig. 2-11)

NOTE: Do not remove seat. Tilt seat backwards. Do not remove electrical connectors.

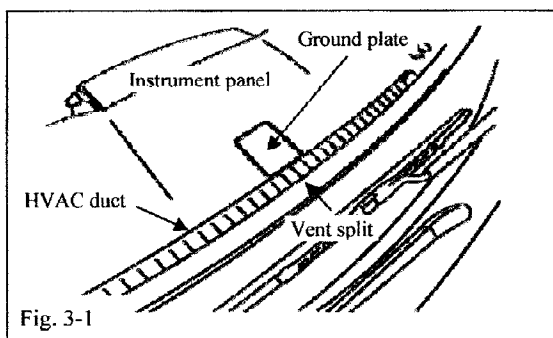


- (i) Remove the underseat plastic cover.
(Fig. 2-12)

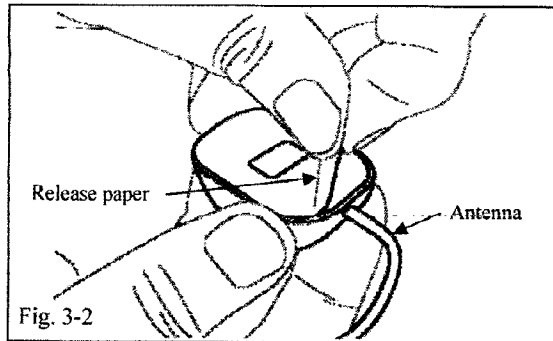
3. Antenna and Tuner Cable Installation

- (a) Install the antenna as follows:

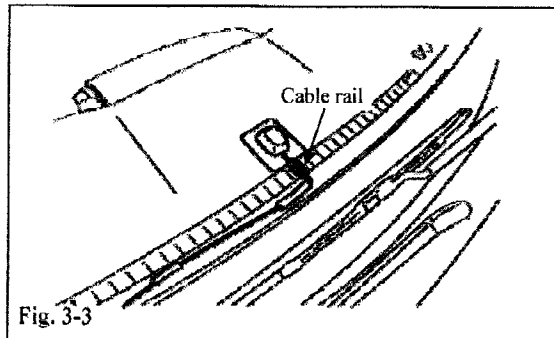
- NOTE:** (1) Line up the edge of the ground plate with the edge of the HVAC duct (front to back). Center on dash using windshield wiper and HVAC duct as reference (vent split should be at center of ground plate).
(2) Remove the release paper from the back of the ground plate; then install in the marked location. (Fig. 3-1)



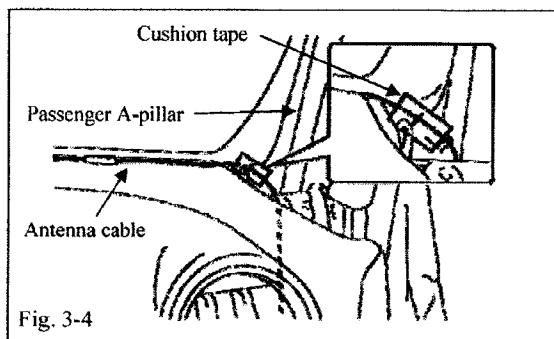
NOTE: Carefully clean the mounting surface for the template, antenna, tape, and cable rails (using 3M Prep solvent 70, or soap and water and High Performance Wipes).



- (3) Remove the release paper from the back of the antenna; then install the antenna onto the center of the ground plate. (Fig. 3-2)

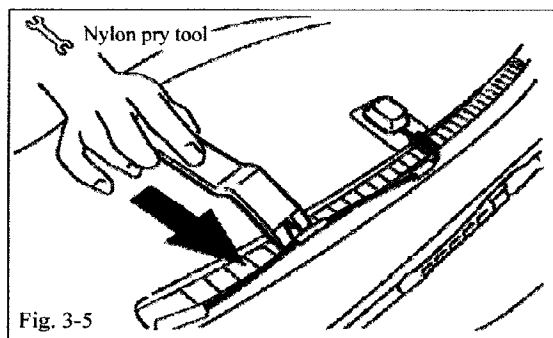


- (4) Install the cable rail in the center of the split of the two HVAC ducts (centered on ground plate). (Fig. 3-3)

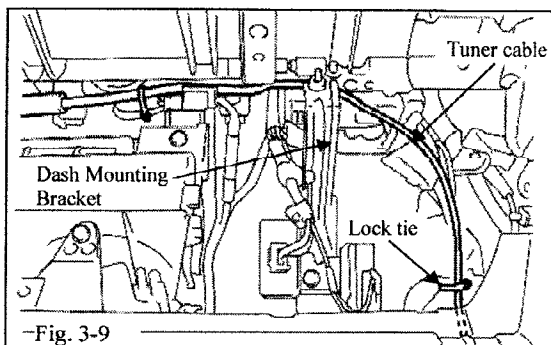
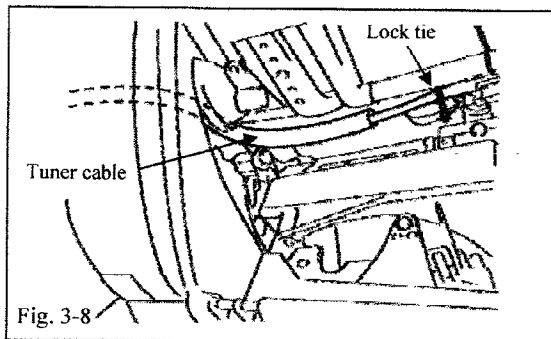
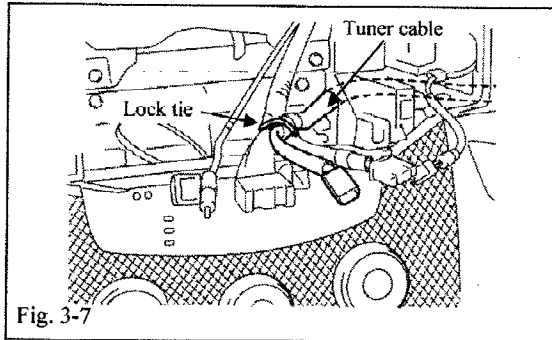
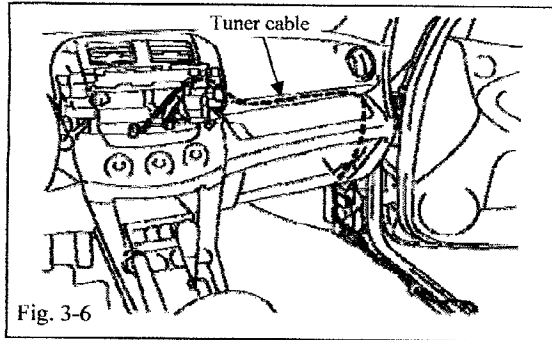


- (5) Route the antenna cable toward the corner of the instrument panel near the A-pillar. (Fig. 3-3, 3-4)

- (6) Route the antenna cable downward to the cowl side area. (Fig. 3-4)



- (7) Push the antenna cable between the instrument panel and the windshield. (Fig. 3-5)
- (8) Secure the antenna wire to the base of the A-pillar with cushion tape. (Fig. 3-4)



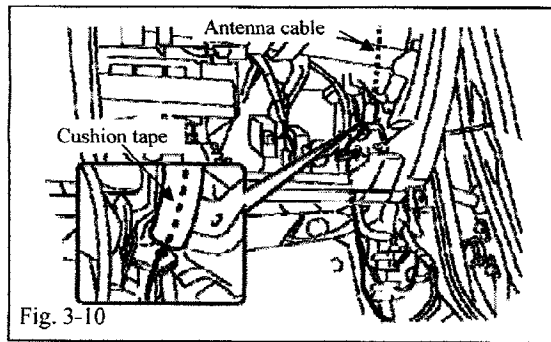
(b) Install tuner cable.

- (1) Install and route the tuner cable from the center cluster, along the reinforcement bar, over the dash mounting bracket, then downward toward the cowl side area.

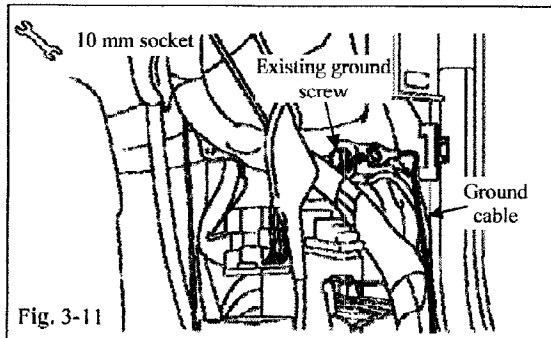
(Fig. 3-6, Fig. 3-9)

- (2) Provide approximately 6 in. cable slack near the tuner cable connector; then secure the tuner cable to the existing wire harness with a lock tie. (Fig. 3-7)

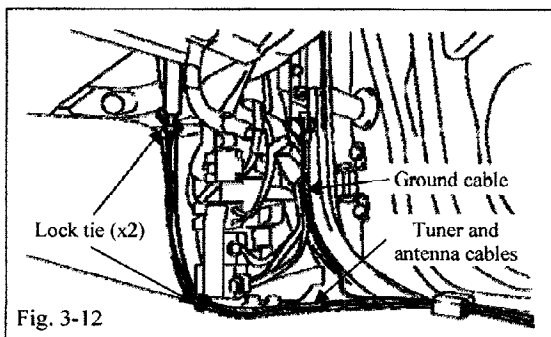
- (3) Secure the tuner cable in the glove box onto the existing harness using two (2) lock ties. (Fig. 3-8, Fig. 3-9)



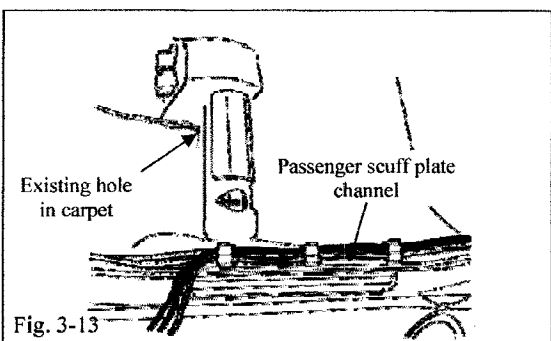
- (c) Secure the antenna cable onto the reinforcement bar end bracket with cushion tape. (Fig. 3-10)



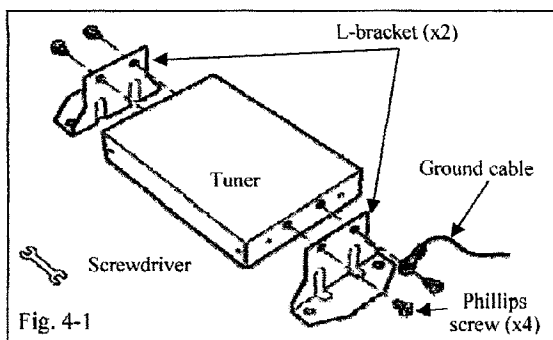
- (d) Install the ground cable.
- (1) Install the ground cable onto the existing ground screw; secure; then route the wire along the door sill. (Fig. 3-11)



- (e) Route tuner and antenna cables.
- (1) Route the tuner and antenna cables as shown; then install two (2) lock ties to secure them. (Fig. 3-12)

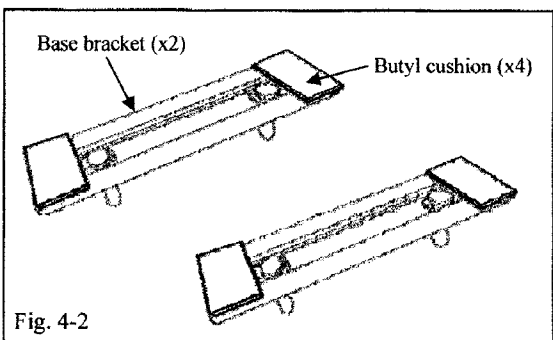


- (f) Route the tuner and antenna cables and the ground cable along the passenger scuff plate channel, then under the carpeting and through the existing hole in the carpet. (Fig. 3-13).

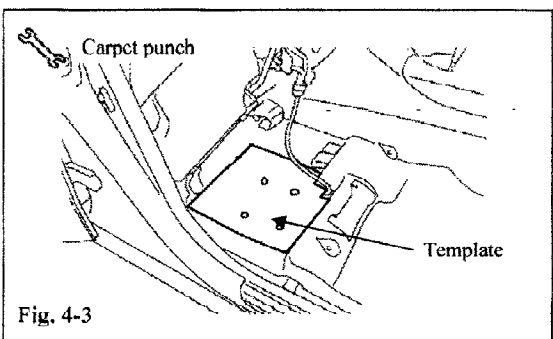


4. Install Tuner

- (a) Install the L-brackets onto the tuner using the supplied Phillips screws (M5 x L8). (Fig. 4-1)
- (b) Install the ground cable onto the tuner as shown. (Fig. 4-1)

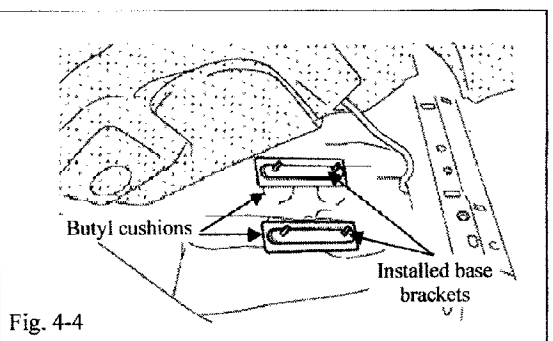


- (c) Install four (4) butyl cushions onto the base brackets. (Fig. 4-2)



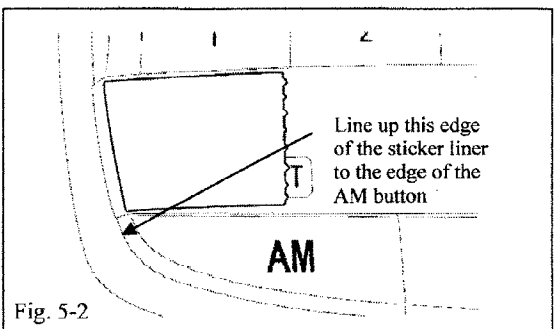
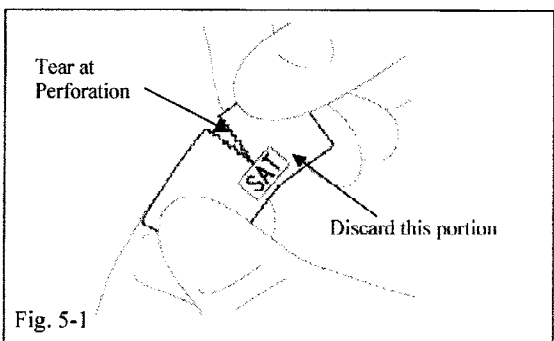
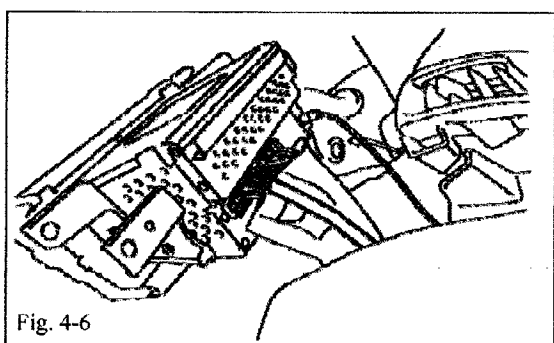
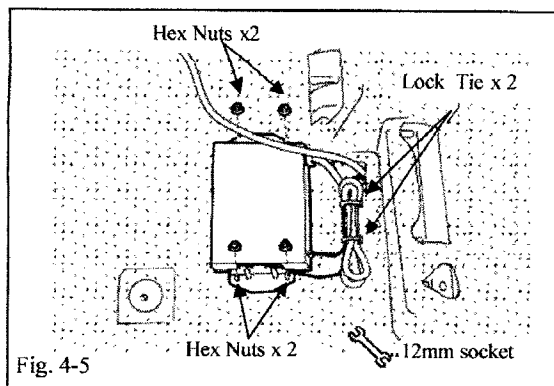
- (d) Position the template; then mark the carpet for the tuner bracket mounting holes. (Fig. 4-3)
- (e) Verify the location of the holes; then create four (4) through-holes in the carpet using a carpet punch.

NOTE: Always dry fit before cutting.



- (f) Insert the base bracket studs underneath the carpet and through the cut holes; remove the release paper from the butyl pads; then press the carpet downward to install the base brackets onto the floor. (Fig. 4-4)

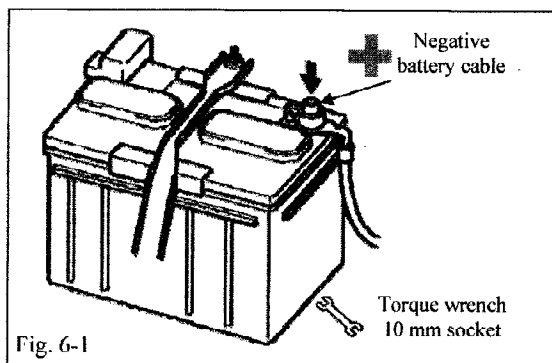
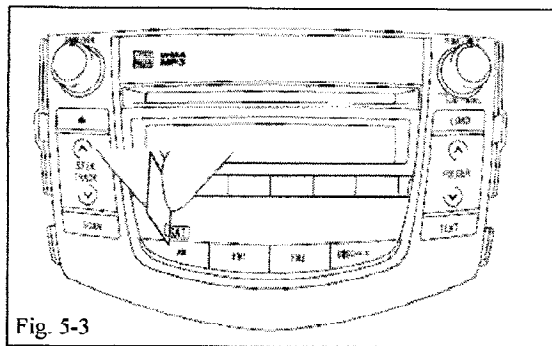
NOTE: Clean the base bracket mount area (using 3M Prepsolvent 70, or soap and water and High Performance Wipes).



- (g) Reinstall the carpet so the base bracket studs show through.
- (h) Plug the tuner and antenna connectors into the tuner.
- (i) Install the tuner onto the base brackets using the supplied nuts (M6 x4). (Fig. 4-5)
- (j) Bundle the excess tuner, antenna cables, and ground cable next to the tuner using a lock tie.
- (k) Plug the tuner cable into the head unit, reconnect the factory harness and antenna; then reinstall the audio head unit. (Fig. 4-6)

5. Apply SAT sticker to the Audio Head Unit.

- (a) Clean the area above the AM button on the audio head unit where the sticker is to be applied.
- (b) Tear the sticker liner at the perforation in the middle and discard the right portion as shown. (Fig. 5-1)
- (c) Line up the sticker liner with the AM button of the audio head unit and apply sticker as shown. (Fig. 5-2)



- (d) Remove the left half of the sticker liner and complete the application of the SAT sticker. (Fig. 5-3)

6. Test SDARS functionality

- (a) Temporarily reconnect the negative battery cable. (Fig. 6-1)



CAUTION: Do not touch the positive terminal with any tool.



- (b) Test for SDARS functionality.



- (c) After testing for SDARS functionality, disconnect the negative battery cable, then proceed to Vehicle Reassembly.

7. Vehicle Reassembly

- (a) Reconnect any disconnected connectors.
- (b) Verify that panels fit together properly with no uneven gaps between them.



- (c) Reinstall front seat:
Specified tightening torque:
37 N·m (27 lbf-ft)



- (d) Reinstall negative battery cable. (Fig 6-1)
Specified tightening torque:
4.1 N·m (36 lbf-in)



CAUTION: Do not touch the positive terminal with any tool.

- (e) Place the XM brochure in the glove box.
- (f) Place Owners manual with vehicle Owners Manual.
- (g) Clean up and remove any trash.
- (h) Proceed to Functional Verification.

TOYOTA RAV4 2007 - XM SATELLITE RADIO

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

| <u>Check:</u> | <u>Look For:</u> |
|---|---|
| <u>Accessory Function Checks</u> | |
| <input type="checkbox"/> Satellite Radio Tuner. | *Verify the proper operation of the Satellite Radio Tuner. |
| <input type="checkbox"/> Receiver/player Assembly. | *Verify the proper operation of the Receiver/player Assembly |
| | *(Refer to the receiver assembly and radio owner's manuals.) |
| <u>Vehicle Function Checks</u> | |
| <input type="checkbox"/> Hazard switch. | Proper operation of the hazard switch. |
| <input type="checkbox"/> Passenger's seat belt reminder light. | Proper operation of the passenger's seat belt reminder light. |
| <input type="checkbox"/> Removed seat. | Verify the removed seat is securely fastened. |
| <input type="checkbox"/> Proper operation of the removed seat lock mechanism. | Verify the proper operation of the removed seat lock mechanism. |
| <input type="checkbox"/> HVAC (heating ventilation and air conditioning system. | Verify proper operation of the air conditioning system. |
| <input type="checkbox"/> Electronic wheel lock mechanism | Verify proper operation of 4-wheel drive wheel lock mechanism. |