Preparation

Part Number: Mounting Kit: PT546-34090 Tuner Assy: 86180-0W031

Tuner Assy Kit Contents (86180-0W031)

_	<u> </u>		,
I	Item #	Quantity Reqd.	Description
Ī	1	1	Tuner Assy, Stereo Component
I			

Mounting Kit Contents (PT546-34090)			
Item#	Quantity Reqd.	Description	
1	1	Ground Cable	
2	1	Wire, To Radio Installation	
3	2	Tuner Bracket	
4	2	Base Bracket	
5 1		Template (sheet)	
6	4	Cushion A (Butyl)	
7	1	Antenna	
8 3 H		Hardware Bags	
9	1	XM Satellite Radio Brochure	

Hardware Bag Contents - 1 (PT546-34090)

		- 0	,
	Item #	Quantity Reqd.	Description
ı	1	4	Screw (M5 x L8)
	2	4	Nut (M6)

Hardware Bag Contents – 2 (PT546-34090)

Item #	Quantity Reqd.	Description
1	12	Lock Tie A
2	4	Cushion Tape
		(135mm x 80mm)

Hardware Bag Contents – 3 (PT546-34090)

Item #	Quantity Reqd.	Description
1	1	HFC Connector Housing
2	7	Sheet Tape (30mm x 30mm)
3	7	Lock Tie B
4	1	Cable Rail (10mm)
5	2	Protective Sheet (20mm x 40mm)
6	1	Adhesive Sheet
		(15mm x 15mm)

Additional Items Required For Installation

Item #	Quantity Reqd.	Description

Conflicts

iPOD Interface Kit

General Applicability

Premium Audio

Vehicle Service Parts (may be required for reassembly)

			(
	Item #	Quantity Reqd.	Description
	1		

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

Recommended Tools

Personal & Vehicle	Notes
Protection	
Safety Goggles	
Seat Protectors	
Floor Protectors	
Protective Tape	Masking Tape
Protective Blanket	
Special Tools	Notes
Arch (Carpet) Punch	5/16" Hole Diameter
Installation Tools	Notes
Ratchet	
Extensions	
Sockets	10mm, 10mm deep well, 14mm
Torque Wrench	4 N•m (3 lbf•ft), 36 N•m (27 lbf•ft)
Screwdriver	#2 Phillips
Nylon Removal Tool	e.g. Panel Pry Tool #1 Toyota SST # 00002-06001-01
Felt Tip Marker	
Utility Knife, Scissors	
Side Cutters	
Mallet	
Puncture Tool	
Special Chemicals	Notes
Cleaner	VDC approved cleaner
Silicon Glue	

Recommended Sequence of Application

Item #	Accessory
1	TVIP
2	RES
3	Satellite Radio

*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.



<u>CAUTION:</u> 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.



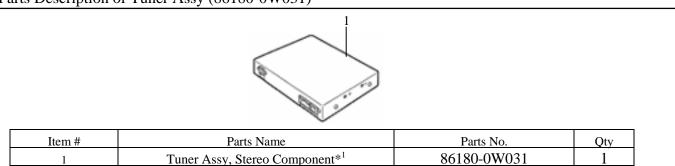
<u>REVISION MARK:</u> This mark highlights a change in installation with respect to previous issue.



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

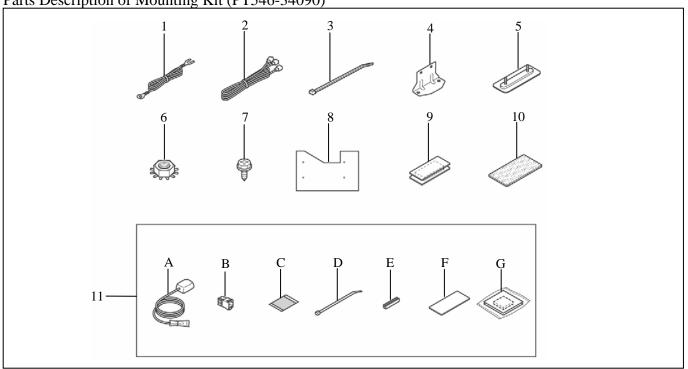
Parts Description of Tuner Assy (86180-0W031)

TUNDRA



*1: In the installation instructions and figures, this is referred to as "Tuner".

Parts Description of Mounting Kit (PT546-34090)



Item#		Parts Name	Qty
1		Ground Cable	1
2		Wire, To Radio Installation* ²	1
	3	Lock Tie A	12
	4	Tuner Bracket	2
	5	Base Bracket	2
	6	Nut (M6)	4
	7	Screw (M5 x L8)	4
	8	Template (to locate base bracket)	1
	9	Cushion A (Butyl)	4
1	10	Cushion Tape (135mm x 80mm)	4
	Α	Antenna	1
	В	HFC Connector Housing	1
	C	Sheet Tape (30mm x 30mm)	7
11	D	Lock Tie B	7
	Е	Cable Rail (10mm)	1
	F	Protective Sheet (20mm x 40mm)	2
	G	Adhesive Sheet (15mm x 15mm)	

^{*2:} In the installation instructions and figures, this is referred to as "Tuner Cable".

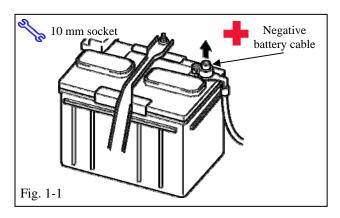
Care must be taken when installing this accessory to ensure that damage does not occur to the vehicle. The installation of this accessory should follow approved guidelines to ensure a quality installation.

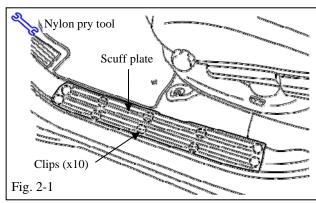
These guidelines can be found in the Accessory Installation Practices document.

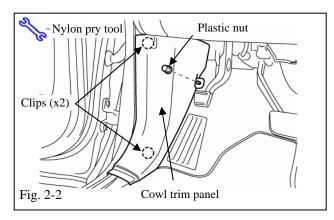
The Accessory Installation Practices document covers such items as:

- 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 the Accessory Installation Practices document.







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

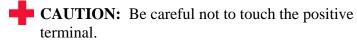
(a) Place Driver's seat in middle position.



(b) Protect fender before starting.

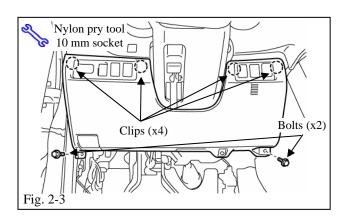


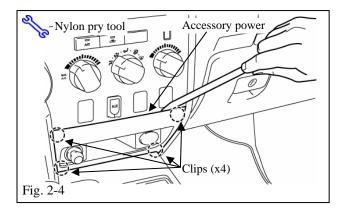
- (c) Place removed vehicle components on protective blanket.
- (d) Remove the negative (–) battery cable.

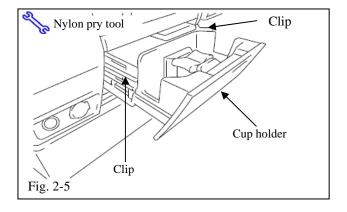


2. Vehicle Disassembly

- (a) Remove driver side front scuff plate. (Fig. 2-1)
 - Using nylon pry tool, disengage ten
 clips and remove the driver
 side front scuff plate.
- (b) Remove driver side cowl trim panel. (Fig. 2-2)
 - (1) Remove plastic nut.
 - (2) Use nylon pry tool to disengage the two (2) clips; then remove the cowl trim panel.



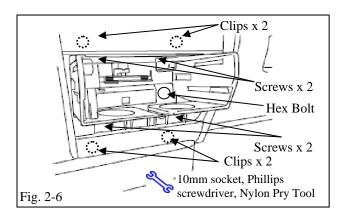


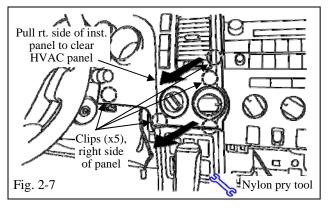


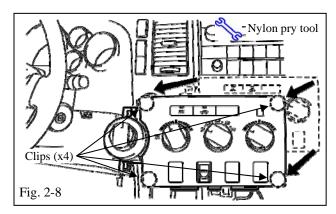
- (c) Remove driver side lower dash panel. (Fig. 2-3)
 - (1) Apply masking tape around driver side lower dash panel. (Fig. 2-3)
 - (2) Remove two (2) bolts from the lower dash panel as shown.
 - (3) Using nylon pry tool, disengage four (4) clips and remove driver side lower dash panel.
 - (4) Disconnect electrical connectors and hood release latch from lower dash panel.
- (d) Remove cigarette lighter/accessory power panel. (Fig 2-4)
 - (1) Apply masking tape around cigarette lighter/accessory power panel. (Fig. 2-4)
 - (2) Using a nylon pry tool, disengage four (4) clips and remove the cigarette lighter/accessory power panel.
- (e) Disconnect electrical connectors from cigarette lighter/accessory power panel.

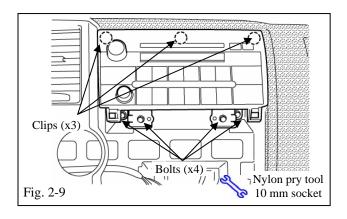
FOR VEHICLES EQUIPPED WITH 3 PASSENGER FRONT SEAT

- (f) If not equipped with 3 passenger front seat proceed to step 2(j).
- (g) Remove cup holder from center cluster. (Fig. 2-5)
 - (1) Using nylon pry tool, press in two (2) plastic clips.
 - (2) Remove cup holder.





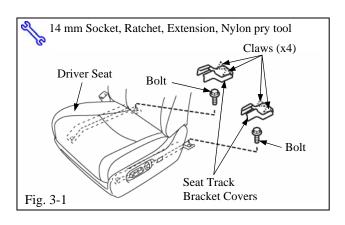




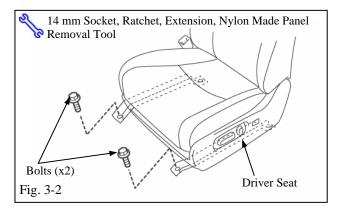
- (h) Remove center cluster cup holder tray and trim panel. (Fig 2-6)
 - (1) Remove four (4) screws and one (1) hex bolt as shown.
 - (2) Disengage four (4) clips and remove cup holder tray and trim panel.
- (i) Remove the HVAC control panel.
 - (1) Apply masking tape around upper instrument panel on the right. (Fig. 2-7)
 - (2) Disengage five (5) clips and pull right side of upper instrument panel toward you to provide adequate clearance to remove the HVAC control panel. (Fig 2-7)
 - (3) Apply masking tape around HVAC control panel. (Fig. 2-8)
 - (4) Using nylon pry tool, disengage four (4) clips and remove the HVAC control panel. (Fig. 2-8)
 - (5) Remove electrical connectors from HVAC control panel.

NOTE: When removing electrical connectors, always pull on the connector, not the wire.

- (j) Remove the head unit. (Fig. 2-9)
 - (1) Apply masking tape around head unit. (Fig. 2-9)
 - (2) Remove four (4) bolts from the head unit as shown.
 - (3) Using a nylon pry tool, disengage three clips and remove the head unit.



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(4) Remove electrical connectors on back of head unit.

3. Remove Driver Seat

(a) Disassemble the driver seat as follows:

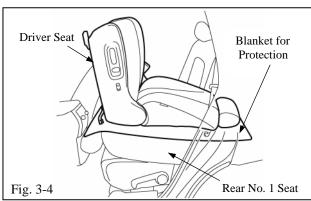


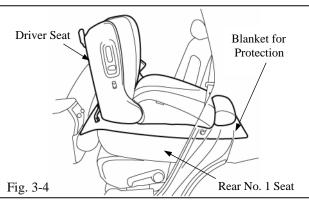
- (1) Protect the center console, floor, and rear No. 1 seat area.
- (2) On the power seat model, connect the negative battery cable.
- (3) Slide the driver seat forward.
- (4) Disengage the four (4) claws, and then remove the seat track bracket covers on the rear side. (Fig. 3-1)
- (5) Remove the two (2) bolts on the rear side. (Fig. 3-1)
- (6) Slide the driver seat rearward.
- (7) Remove the two (2) bolts on the front side. (Fig. 3-2)
- (8) On the power seat model, disconnect the negative battery cable.

PPO

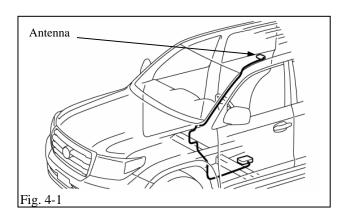


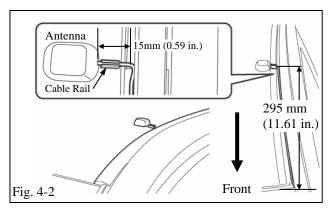
NOTE: Do not remove seat from vehicle. Tilt seat backwards. Do not remove electrical connectors.





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- (b) Model with Crew Max
 - (1) Fold down the seat back of the left side rear No.1 seat.
 - (2) Move the driver seat onto the rear No. 1 seat. (Fig. 3-4)
- (c) Model with Regular cab and Double cab
 - (1) Remove the driver seat.

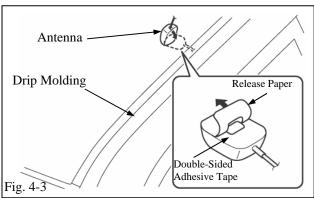


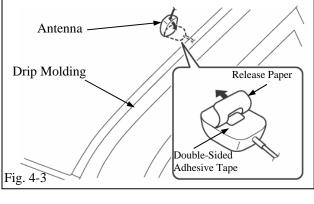
NOTE: Two people must perform these tasks. Be careful not to damage the seat or other vehicle parts when moving the driver seat.

4. Install Antenna.

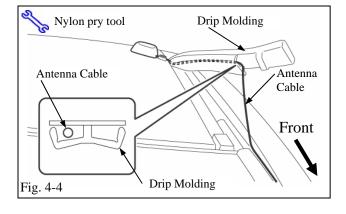
Antenna installation and wiring should be performed in the following steps. (Fig. 4-1)

- (a) Clean the antenna cord rail mounting area with 3MTM Prep Sol-70 and cleaning method. (Fig. 4-2)
- (b) When cleaning with 3MTM Prep Sol-70.
 - (1) Always use a clean (lint free scratch resistant) soft cloth (or wipe), and clean a small area at a time (~ 3 ft. x 3 ft. max.).
 - (2) Apply 3MTM Prep Sol-70 to cloth or wipe. Do not spray cleaning solution directly on any vehicle surfaces.
 - (3) Clean surface thoroughly and wipe dry immediately with a new clean cloth. Do not allow cleaner to air dry.
- (c) Temporarily place the antenna at the position as shown, and confirm the installation position. (Fig. 4-2)

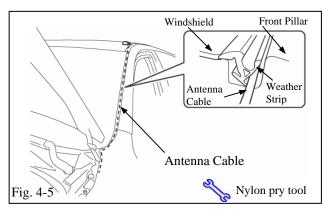




- (d) Attach the cable rail on the left front of the roof. (Fig. 4-2)
- (e) Remove the release paper from the back of antenna, and then install the antenna from the roof rail side as shown. (Fig. 4-3)



(f) Route the antenna cable through the drip molding as shown. (Fig. 4-4)

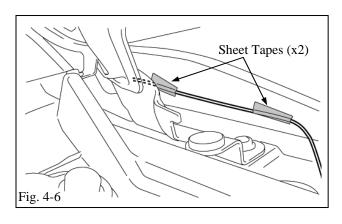


(g) Bury the antenna cable into the front windshield weather strip using the panel clip removal tool or equivalent. (Fig. 4-5)

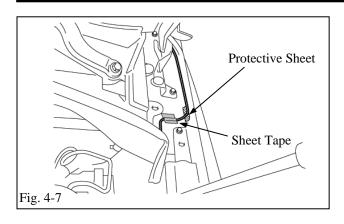


NOTE: Bury the antenna cable all the way into the weather strip.

NOTE: Check for any gaps between the weather strip and the windshield.

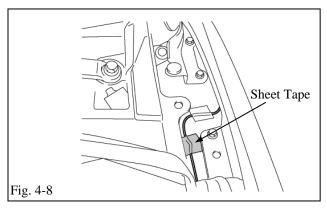


(h) Route the antenna cable as shown, and then secure with two (2) sheet tapes. (Fig. 4-6)

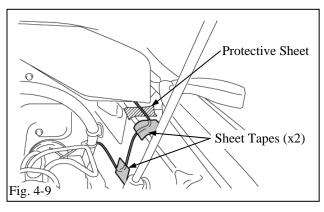


TUNDRA

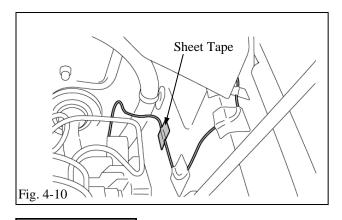
(i) Route the antenna cable as shown, and then apply one (1) sheet tape and one (1) protective sheet as shown in the figure. (Fig. 4-7)



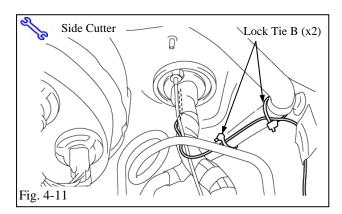
(j) Route the antenna cable as shown, and then apply one (1) sheet tape as shown in the figure. (Fig. 4-8)

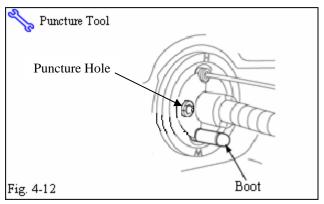


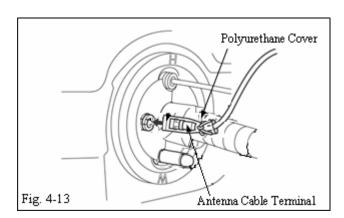
(k) Route the antenna cable as shown, and then apply two (2) sheet tapes and one (1) protective sheet as shown in the figure. (Fig. 4-9)

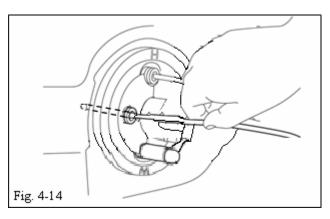


(1) Route the antenna cable back toward engine compartment and apply one (1) sheet tape as shown in the figure. (Fig. 4-10)









- (m) Secure the antenna cable to the vehicle wiring harness in the engine compartment with the two (2) lock ties B. (Fig. 4-11)
- (n) Use the side cutter to cut off the excess lock ties length.

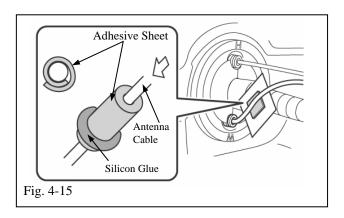
(o) Using puncture tool, carefully puncture the rubber boot as shown in the figure.

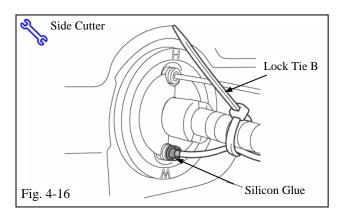
(Fig. 4-12)

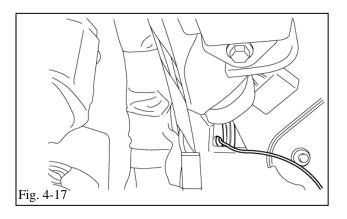


NOTE: Use soapy water as lubricant and then follow the steps of routing antenna cable through the hole into the cabin.

- (p) Insert the antenna cable terminal through the puncture hole with the polyurethane cover attached. (Fig. 4-13)
 - (1) When the antenna cable terminal passes through to the cabin, pull the antenna cable into the cabin.
- (q) Prevent water intrusion to the cabin.
 - (1) Pull the antenna cable a little back to the engine compartment, and then define the position to secure with slack in the antenna cable as shown. (Fig. 4-14)







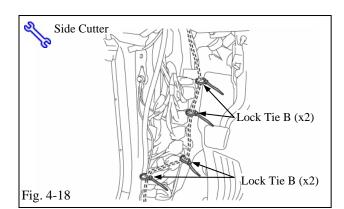
(2) Pull the antenna cable a little paying attention not to pull the antenna cable terminal back to the engine compartment. Then, wrap the adhesive sheet (15 x 15 mm, 0.59 x 0.59 in.) around the predefined position to secure.

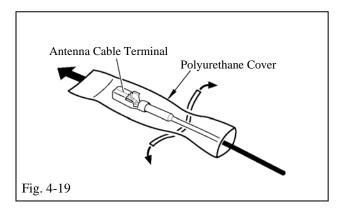
(Fig. 4-15)

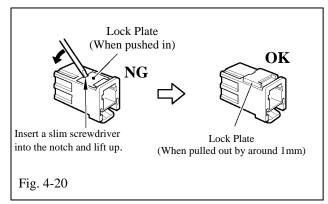
- (3) Apply the silicon glue on the outside of the adhesive sheet, and then insert the antenna cable into the boot again. (Fig. 4-15)
- (4) Apply more silicon glue from the outside to make the boot hole airtight. (Fig. 4-16)
- (5) Secure the antenna cable to the vehicle wiring harness in front of the boot with the one (1) lock tie B. (Fig. 4-16)
- (6) Use the side cutter to cut off the excess lock tie length.
- (r) Wiring in the cabin.
 - (1) Pull antenna wire into the interior of vehicle through rubber boot as shown.

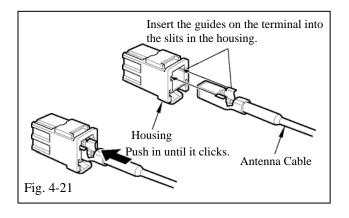
PPO

(Fig. 4-17)







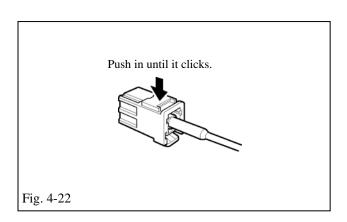


- (2) Route the antenna cable down to the cowl side trim adjacent to the floor carpet as shown. Secure antenna cable with four (4) lock ties. (Fig. 4-18)
- (3) Use the side cutter to cut off the excess lock ties length.
- (s) Attach housing to the antenna cable terminal.
 - (1) Remove the polyurethane cover from the terminal. (Fig. 4-19)

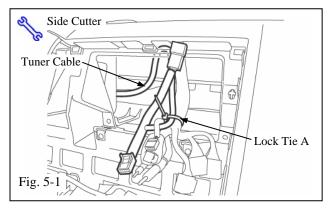
(2) If the lock plate of the housing is pushed in, pull it out. (Fig. 4-20)

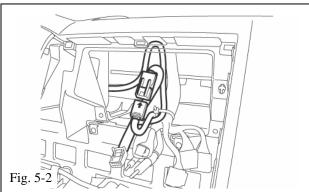
NOTE: This step is not required if the lock plate is already pulled out.

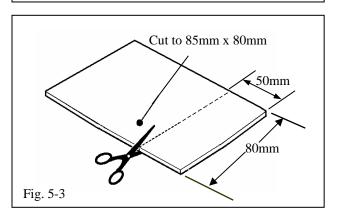
(3) Push the terminal into the housing.(Fig. 4-21)



(4) Push the lock plate in. (Fig. 4-22)



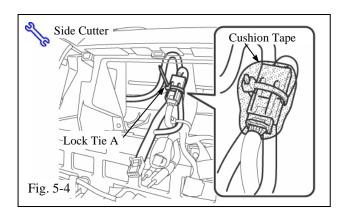


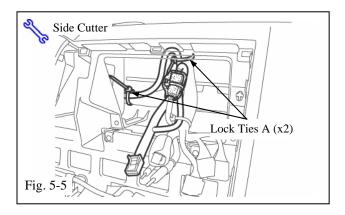


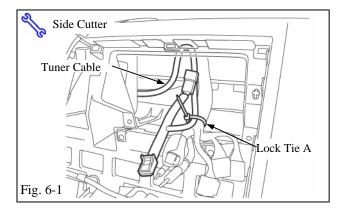
5. Tuner Cable Wiring of Center Cluster Area (Model with Navigation Display)

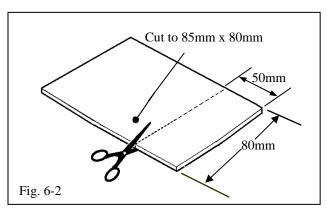
NOTE: For the model without the navigation display, see step 6.

- (a) Secure the tuner cable with the one (1) lock tie A. (Fig.5-1)
- (b) Use the side cutter to cut off the excess lock tie length.
- (c) Bend the female connector of the tuner cable wire harness as shown, and connect to the black 12-pin connector of the vehicle wire harness. (Fig.5-2)
- (d) Cut the two (2) cushion tapes as shown. (Fig 5-3)
 - (1) Use the two (2) 85mm x 80 mm pieces of cushion tapes in step 7(a).
 - (2) The remaining pieces should be 50mm x 80mm, these pieces will be used in step 5 (g) and step 9 (p).









- (e) Secure the tuner cable connector to the radio harness of the body with one (1) lock tie A. (Fig. 5-4)
- (f) Use the side cutter to cut off the excess lock tie length.
- (g) Roll up the cushion tape on the secured connector fixed to the wire harness of the body. (Fig. 5-4)
- (h) Secure the tuner cable with two (2) lock ties A. (Fig. 5-5)
- (i) Use the side cutter to cut off the excess lock ties length.

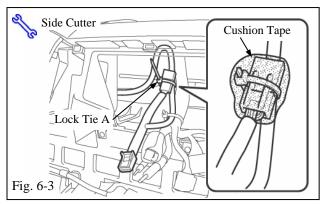
NOTE: For the rest of the procedure, see step 7.

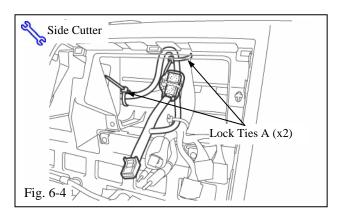
6. Tuner Cable Wiring of Center Cluster Area (Model without Navigation Display)

NOTE: For the model with the navigation display, see step 5.

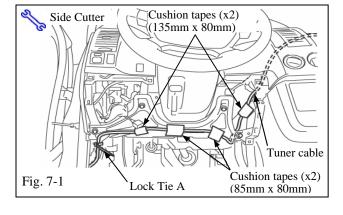
- (a) Secure the tuner cable with the one (1) lock tie A. (Fig.6-1)
- (b) Use the side cutter to cut off the excess lock tie length.
- (c) Cut the two (2) cushion tapes as shown (Fig. 6-2)
 - (1) Use the two (2) 85mm x 80 mm pieces of cushion tapes in step 7(a).
 - (2) The remaining piece should be 50mm x 80mm, this piece will be used in step 6 (f) and step 9 (p).







- (d) Secure the female connector of tuner cable with the one (1) lock tie A. (Fig. 6-3)
- (e) Use the side cutter to cut off the excess lock tie length.
- (f) Roll up the cushion tape on the secured connector fixed to the wire harness of the body. (Fig. 6-3)
- (g) Secure the tuner cable with the two (2) lock ties A. (Fig. 6-4)
- (h) Use the side cutter to cut off the excess lock ties length.



7. Tuner Cable Wiring of Left Side Area



NOTE: An additional airbag was added for MY10. Refer to additional steps 7d & 7e for MY10 vehicles.

- (a) Install four (4) cushion tapes vertically as shown. The two (2) 80mm x 85mm cushion tapes is used on the middle of the under dash bracket. (Fig. 7-1)
- (b) Secure the tuner cable with the one (1) lock tie A. (Fig. 7-1)
- (c) Use the side cutter to cut off the excess lock tie length.

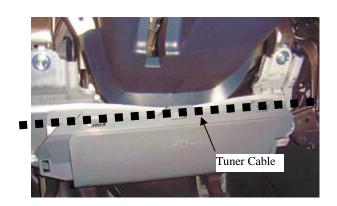
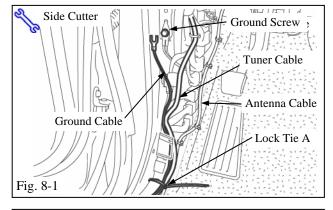
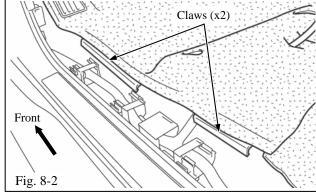
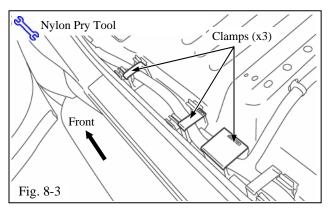


Fig 7-2





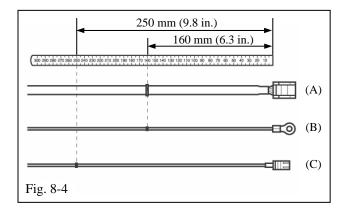


- (d) The tuner cable needs to be routed behind the bracket, above the air bag module to prevent interference.

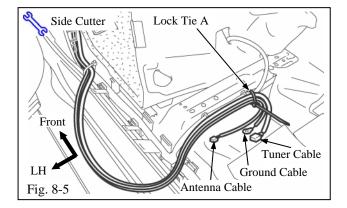
 (Fig. 7-2)
- (e) Tuner cable should be tucked behind the flange on the upper back side of the air bag. Cushion tape count and location to be the same as before. (Fig. 7-1)

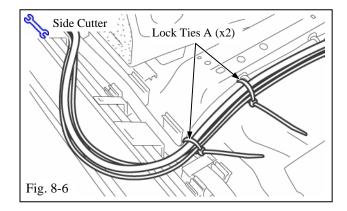
8. Route Tuner Cable, Antenna Cable and Tuner Ground Cable

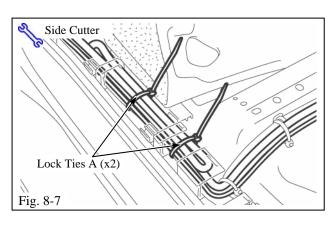
- (a) Install the ground cable. (Fig. 8-1)
 - (1) Loosen the existing ground screw.
 - (2) Route the ground cable into the kick panel area; then secure the ground cable terminal with the ground screw.
- (b) Secure the tuner cable, the antenna cable and the tuner ground cable all together with the one (1) lock tie A. (Fig. 8-1)
- (c) Use the side cutter to cut off the excess lock tie length.
- (d) Disengage the two (2) claws, and pull up the floor carpet on the left side. (Fig. 8-2)
- (e) Disengage the three (3) clamps. (Fig. 8-3)



TUNDRA

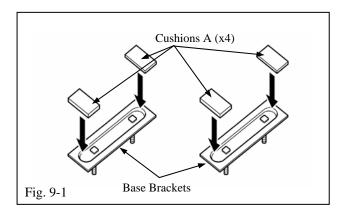


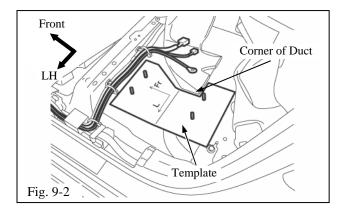


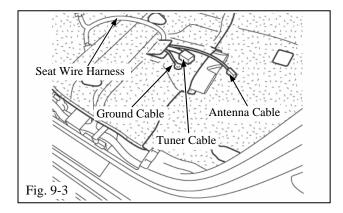


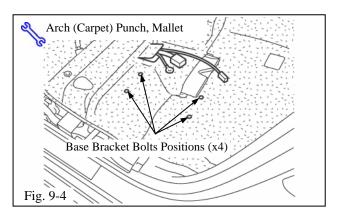
- (f) Mark each the cable as shown in the figure. (Fig. 8-4)
 - (A) Tuner cable: 160 mm (6.3 in.)
 - (B) Ground cable: 160 mm (6.3 in.)
 - (C) Antenna cable: 250 mm (9.8 in.)
- (g) Secure the marked areas of the tuner cable, antenna cable, ground cable to the wire harness with the one (1) lock tie A. (Fig. 8-5)
- (h) Use the side cutter to cut off the excess lock tie length.
- (i) Route the tuner cable, antenna cable, and ground cable as shown, and then secure them with the two (2) lock ties A. (Fig. 8-6)
- (j) Use the side cutter to cut off the excess lock ties length.
- (k) Even out the length of the cables and secure the tuner cable, antenna cable, and ground cable with the two (2) lock ties A. (Fig. 8-7)
- (1) Use the side cutter to cut off the excess lock ties length.

PPO







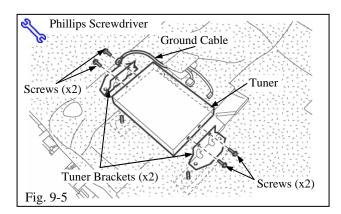


9. Install Tuner.

(a) Install the four (4) cushions A (butyl) onto the bottom of the base brackets. (Fig. 9-1)

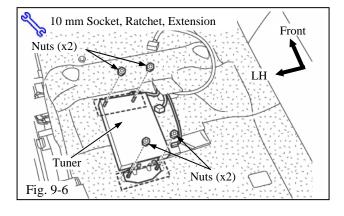
XM SATELLITE RADIO

- (b) Clean the bracket mounting surface of the vehicle floor pan with 3MTM Prep Sol-70.
- (c) Run the part of the bolts on the bracket through from the backside of the template, and apply the template to the brackets.
- (d) Place the edge of the template attached to the bracket to the corner of the duct. (Fig. 9-2)
- (e) Apply pressure on the base brackets from above.
- (f) Detach the template from the brackets.
- (g) Place the floor carpet to the original position.
- (h) Route the tuner cable, antenna cable, ground cable, and seat wire harness through the floor carpet hole, and then reinstall the floor carpet. (Fig. 9-3)
- (i) Verify the base bracket bolts positions. Transfer each bolt location onto the floor carpet using arch (carpet) punch and mallet to cut the four (4) holes in floor carpet. (Fig. 9-4)
- (j) Pass the base bracket bolts through the carpet.

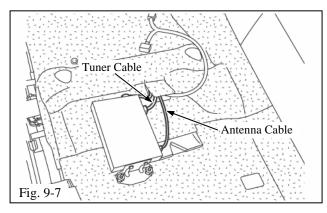


(k) Install the tuner brackets and ground cable onto the tuner so the connectors face toward the right of the vehicle. (Fig. 9-5)

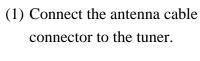
XM SATELLITE RADIO



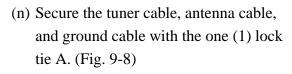
(1) Secure the tuner onto the base brackets. (Fig. 9-6)

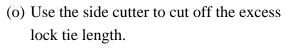


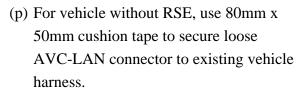
(m)Plug the tuner cable and antenna cable into the tuner. (Fig. 9-7)

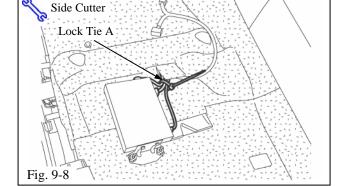


(2) Connect the tuner cable connector to the tuner.

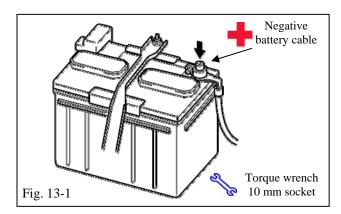








(q) For vehicle with AVN, insure the GPS antenna is reconnected.



10. Test SDARS Functionality

(a) Temporarily reconnect the negative battery cable. (Fig 13-1)



CAUTION: Be careful not to touch the positive terminal.

(b) Install short pin fuse.



(c) Test for SDARS functionality.



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

11. Vehicle Reassembly

- (a) Reinstall all removed vehicle components.
- (b) Reconnect any disconnected connectors.
- (c) Verify that panels fit together properly with no uneven gaps between them.



(d) Reinstall front seat:

Specified tightening torque:

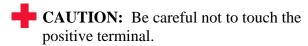
37 N·m (27 lbf-ft)



(e) Reinstall entry/exit assist handle: Specified tightening torque: 8.1 N·m (5.9 lbf-ft)



(f) Reinstall negative battery cable. Specified tightening torque: 4.1 N·m (36 lbf-in)



- (g) Place the XM brochure in the glove box.
- (h) Clean up and remove any trash.
 - (1) Clean Windshield
- (i) Proceed to Functional Verification.
- (j) Remove short pin fuse.

TOYOTA TUNDRA 2009 -

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

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Check: Look For: **Accessory Function Checks** *Verify the proper operation of the Satellite Satellite Radio Tuner. Radio Tuner. *Verify the proper operation of the Receiver/player Assembly. Receiver/player Assembly *For vehicle with AVN, Perform On Screen System Check Mode. *(Refer to the receiver assembly and radio owner's manuals.) **Vehicle Function Checks** Hazard switch. Verify proper operation of the hazard switch. Verify proper operation of the passenger's seat Passenger's seat belt reminder light. belt reminder light. Passenger airbag ON/OFF light Verify proper operation of passenger airbag light. Removed seat. Verify the removed seat is securely fastened. Proper operation of the removed seat lock Verify the proper operation of the removed seat mechanism. lock mechanism. HVAC (heating ventilation and air Verify proper operation of the air conditioning conditioning system. system. Cigarette lighter and accessory power panel Verify proper operation of cigarette lighter and 12V accessory power panel. Hood latch release mechanism Verify proper operation of hood latch release mechanism. Cargo light switch Verify proper operation of cargo light switch if equipped. Power rear window control switch Verify rear window power control if equipped. Verify proper operation of RSCA switch if RSCA switch equipped. 115VAC auxiliary switch Verify proper operation of 115VAC auxiliary switch if equipped. Traction control switch Verify proper operation of traction control switch if equipped.