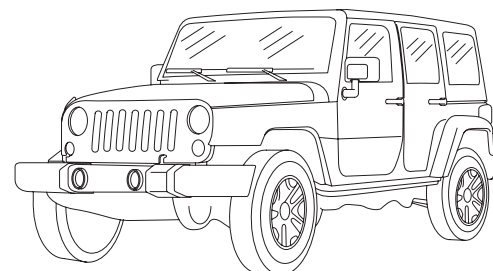


Jeep Wrangler

PSS-20WRA Sound System

Installation Manual

- Model: Wrangler Unlimited
- Model Year: 2007 – 2014



*Not compatible with factory amplified systems

Jeep	Model	Year
	Wrangler Unlimited	2007 - 2014

* The specified vehicles have been tested and have met compatibility specs at the time of testing. Compatibility is not guaranteed if the manufacturer has made production changes to the listed vehicles above.

⚠ Warning: Before you begin wiring, remove the ground wire from the **NEGATIVE (-)** terminal of the battery. Failing to do so can lead to electric shock, injury or damage to equipment.

Introduction

- Congratulations on purchasing the PSS-20WRA. This installation manual is designed to take you through the step-by-step installation of the PSS-20WRA into a 2007 - 2014 Jeep Wrangler Unlimited. Please familiarize yourself with the owners manual and if you still have additional questions please call 1-800-TECH-101.

Note

- Design and specifications are subject to change without notice for improvement.

To Ensure Safe Use, Always Follow These Precautions

- The installation of this product requires specialized skills and experience. We recommend that you have the product installed by an Alpine authorized dealer.
- Before you use this product, be sure to carefully read this installation manual and the separate user's manual so that you can use the product correctly. Alpine Electronics bears no responsibility for problems that arise as a result of failure to follow the instructions in the manuals.
- This manual includes a number of symbols that are intended to help you use the product safely, to prevent harm to you and others, and to protect against damage to property. These symbols and their meanings are listed below. Make sure you fully understand these symbols before you begin reading the main text.

Explanations of Injury and Damage That May Result from Incorrect Use

 Warning	Ignoring the content marked by this indication and using the product incorrectly may lead to death or serious injury.
 Caution	Ignoring the content marked by this indication and using the product incorrectly may lead to injury or property damage.

Types of Precautions

 Forbidden	Indicates actions that are forbidden (must not be performed)	 Mandatory	Indicates actions that are mandatory (must be performed)
 Forbidden	Indicates that disassembly is forbidden.		Marks content that should receive your full attention.

 Warning

Do not disassemble or modify the product. Doing so could lead to an accident, fire, or electric shock.



Forbidden

Store screws and other small objects where small children cannot reach them. If one of these small objects is swallowed, consult with a doctor immediately.



When replacing fuses, be sure to use fuses with the specified current rating. Failing to do so could lead to an accident or fire.



Forbidden



Mandatory

Only connect the product to a 12 VDC negative ground car. Failing to do so could lead to an accident or fire.



Mandatory

Before you begin wiring, remove the ground wire from the negative terminal of the battery. Failing to do so could lead to electric shock or injury.



Do not cut the insulation on a cord and take power from another device. Doing so could lead to fire or electric shock.



Forbidden

Do not install the product in a location where it will obstruct the driver's forward view; interfere with the operation of the steering wheel, gearshift, or the like; or pose a threat to passengers. Doing so could lead to an accident or injury.



Forbidden

When making a hole in the vehicle body, be careful to avoid damaging pipes, the fuel tank, electrical wiring, and the like. This kind of damage could lead to an accident or fire.



When installing and grounding the product, do not use any of the bolts or nuts of the steering wheel, brakes, fuel tank, or the like. Doing so could make the brakes stop working or lead to fire.



Forbidden

Do not install the product near the passenger-side airbag. Doing so could interfere with the operation of the airbag and lead to an accident or injury.



Forbidden

Bundle cords so that they don't interfere with driving. Wrapping cords around the steering wheel, gearshift, brake pedal, or the like, could lead to an accident or damage equipment.



Caution

Connect the product properly according to the instructions. Failing to do so could lead to fire or an accident.



Forbidden

Do not sandwich cords between the seat railing or allow them to touch protrusions. Resulting breaks or shorts could lead to electric shock or fire.



Do not block vents or heat sinks. Doing so could lead to fire or damage equipment.



Use the accessories according to the instructions, and attach them securely. Failing to do so could lead to an accident or damage equipment.



Forbidden

Do not install the product where it may be exposed to water or in a place with high levels of humidity or dust. Doing so could lead to fire or damage equipment.

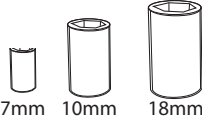
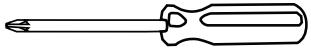
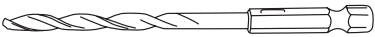
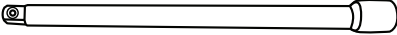
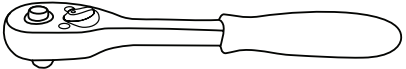
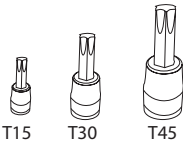
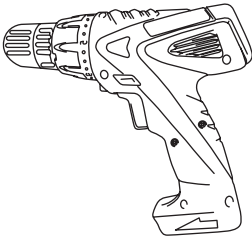
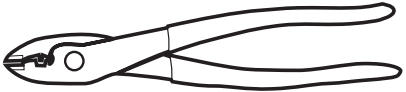


Forbidden

The installation and wiring of this product requires specialized skills and experience. Have the product installed by an Alpine authorized dealer.

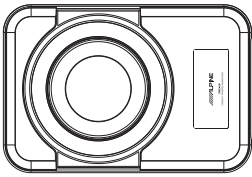
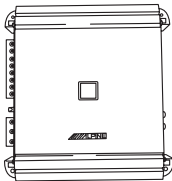
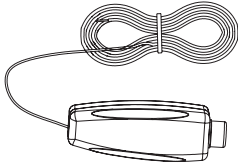
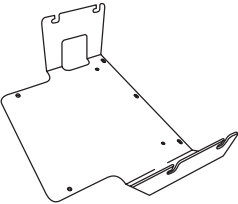
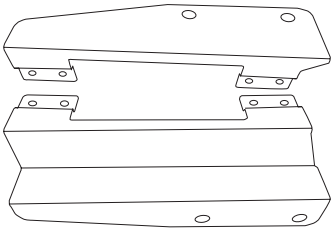
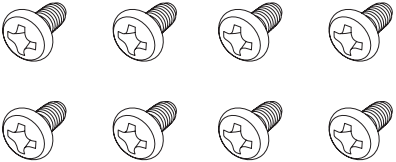
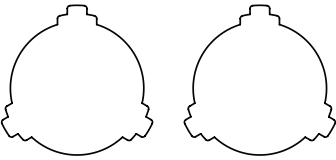
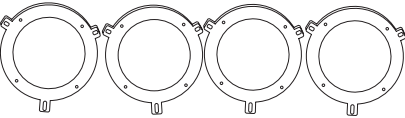
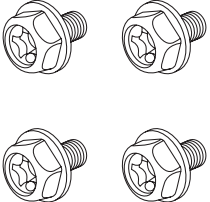


Tools Required

Panel Removal Tool	Sockets	#2 Phillips Screwdriver
	 7mm 10mm 18mm	
9/32" Drill Bit	Extension	Ratchet
		
Torx	Power Drill	Wire Cutters
 T15 T30 T45		

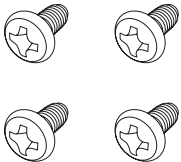
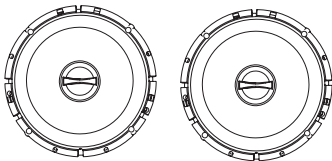
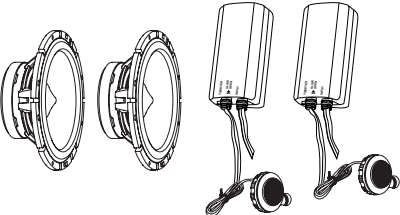
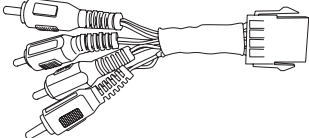
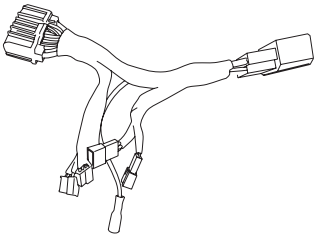
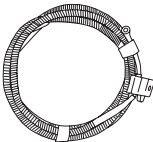
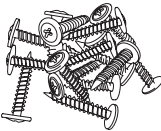
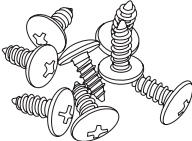
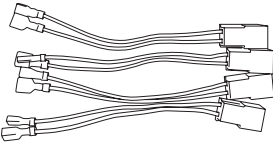
Accessory List

Parts List

Subwoofer	Amplifier	Subwoofer Level Remote
		
Amplifier Mounting Bracket	R/L Subwoofer Mounting Brackets	(8) M4 Screws
		
(2) Dash Tweeter Mounting Caps	(4) 6.5" Speaker Adapters	(4) M6 Screws
		

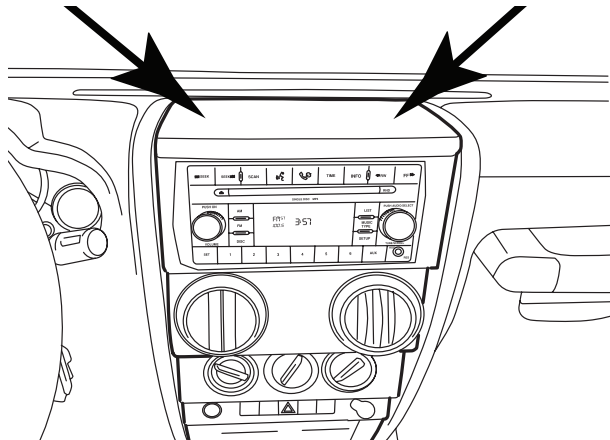
Accessory List

Parts List

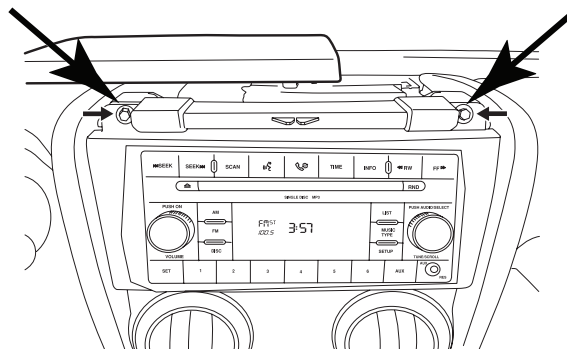
(4) 8/32" Phillips Screws	(4) 12" X 12" Polyfill fiber sheets	Main Wiring Harness
		
SPT-70C Rear Component Speakers	SPT-71C Front Component Speaker	Hi/Lo RCA Adapter
		
OEM T-Harness Adapter	Power Cable	(4) RCA Adapters
		
(10) Cable Ties	(8) 1" Truss-Head Phillips Screws	(8) 1/2" Truss-Head Phillips Screws
	 NOTE: Please align them as top left image	 NOTE: Please align them as top left image
Anti-Vibration Foam	Velcro	(4) 6.5" Speaker Wiring Adapters
		

Factory Unit Disassembly Process (2007-2010 Only)

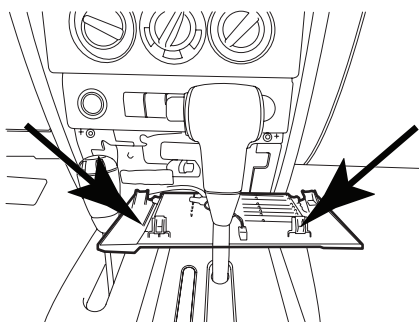
- 1** Remove top panel by releasing (2) clips on the rear of the top panel and then pull panel forward.



- 2** Remove (2) 7mm screws from the top of the radio bezel.



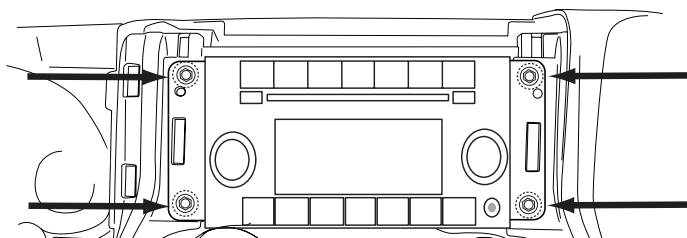
- 3** Release (2) clips on the top of the bottom panel. This will expose (2) 7mm screws. Remove using a 7mm socket with ratchet & extension.



- 4** Use panel removal tool to remove dash panel by releasing (6) clips (3 per side).

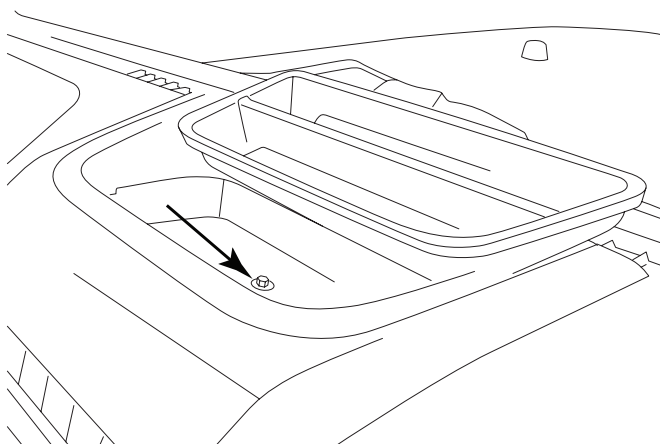


- 5** Extract (4) 7mm screws and remove the factory radio.

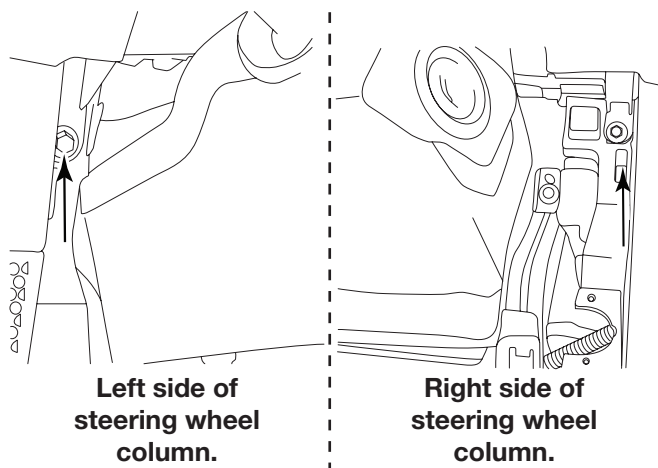


Factory Radio Removal (2011 – 2014)

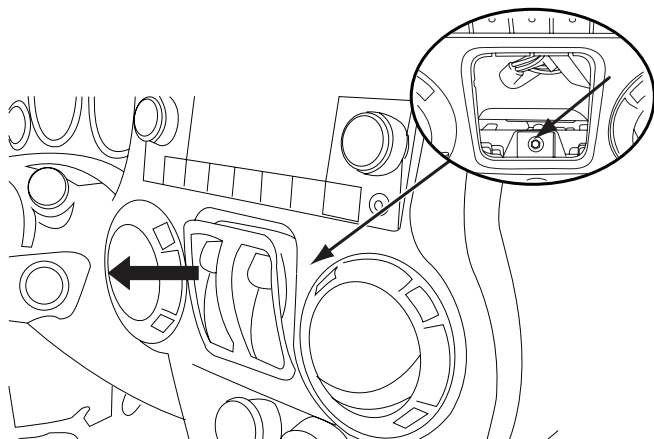
- 1** Remove the rubber cover from the top storage area and extract (1) 7mm screw.



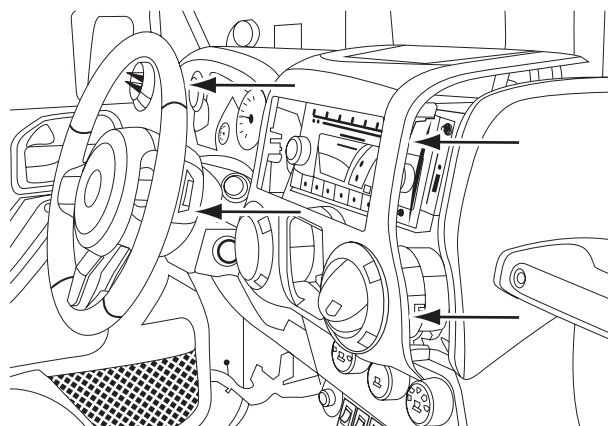
- 2** Remove the knee cover panel and extract (2) 7mm screws located to the right and left sides of the steering wheel column.



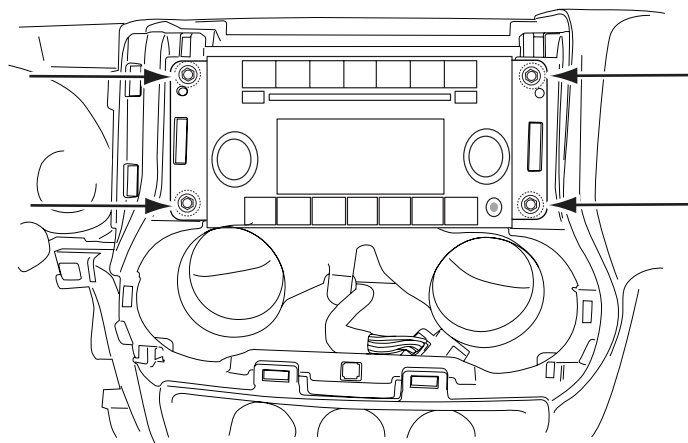
- 3** Remove the window switch pod using a Panel Removal Tool and extract (1) 7mm screw.



- 4** Remove the dash panel.

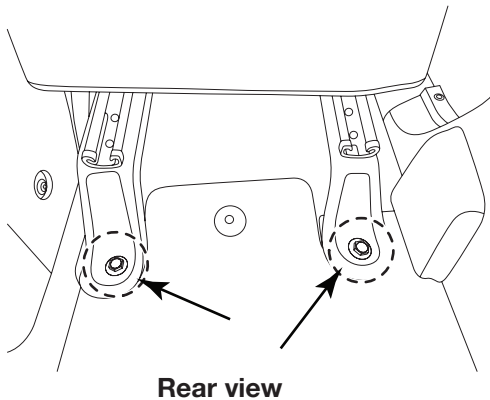
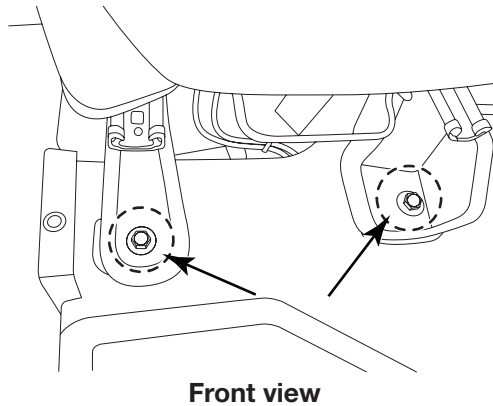


- 5** Extract (4) 7mm screws and remove the factory radio.

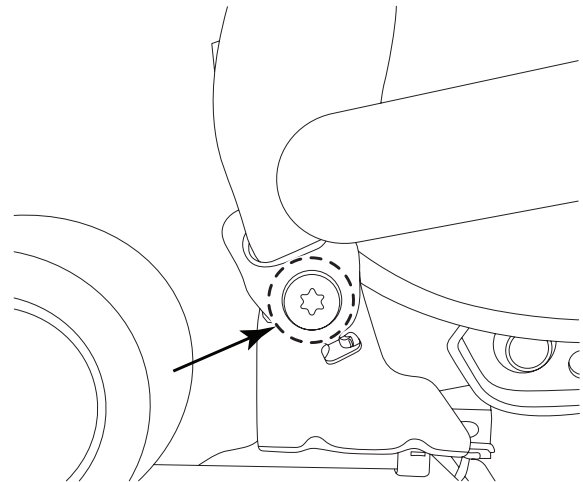


Passenger Seat Removal

- 1** Using an 18mm socket, extract the (4) seat bolts from the passenger side seat.

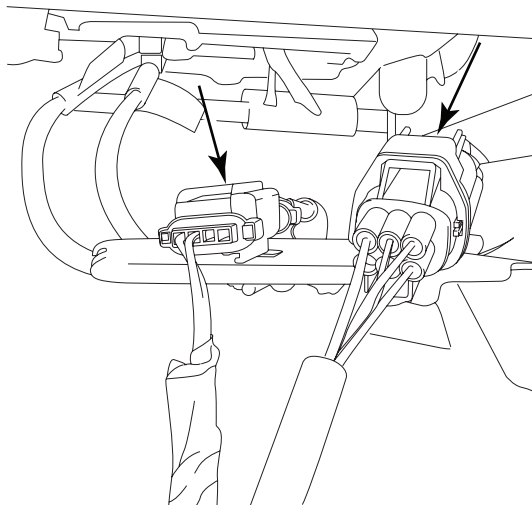


- 2** Using a T45 Torx extract (1) bolt from the seat belt anchor.



⚠ Confirm that the Battery has been disconnected before continuing to step 3.

- 3** Unplug the two connectors and unclip them from the base. (2011-2014 Only)

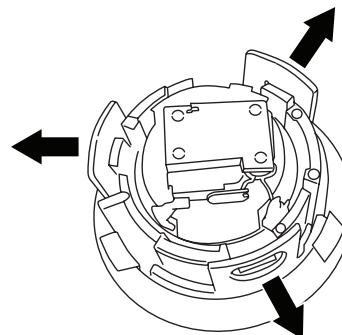
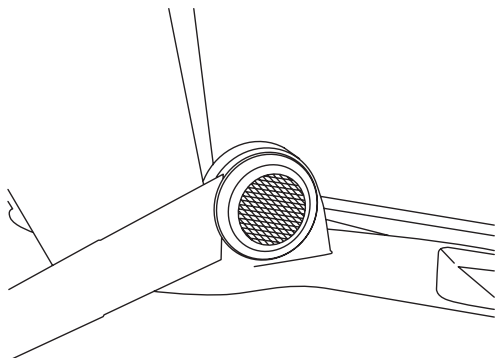


- 4** Remove the passenger seat from the vehicle.

⚠ Use caution when removing the seat.

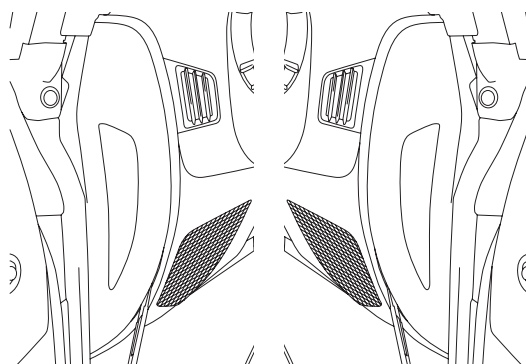
Top Dash Tweeter Removal

- 1 Remove top dash speaker grill using a panel removal tool.
- 2 Gently open the (3) lock tabs to release the factory tweeter.



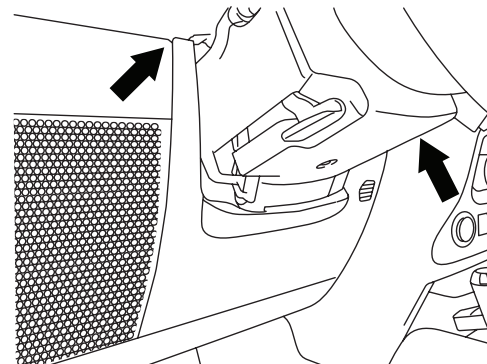
Front Speakers Removal

- 1 Using a Panel Removal Tool, remove the dash side covers by each door.
- 2 Remove the driver side knee cover by releasing the (2) top clips.



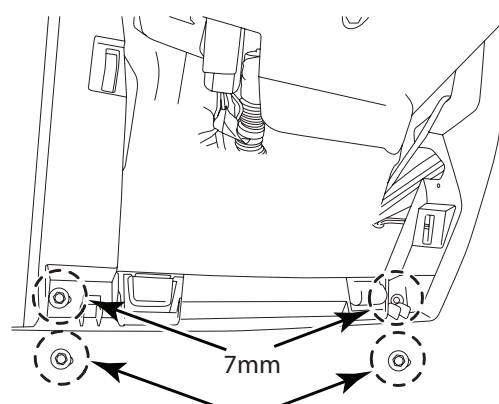
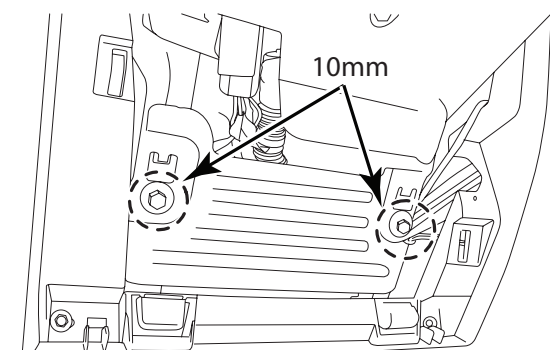
Driver Side

Passenger Side



Driver Side

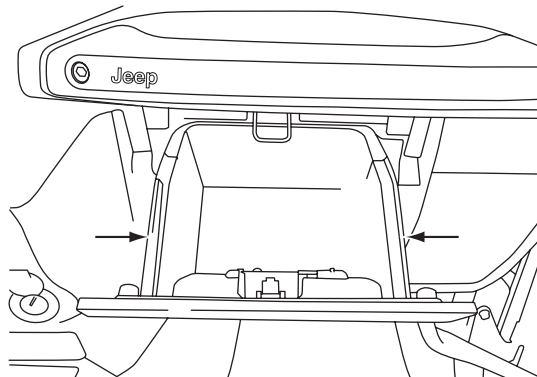
- 3 Extract (2) 10mm screws from the metal steering wheel column cover and remove it.
- 4 Extract (2) 7mm screws from the lower dash. '07 - '11 Models have (4) screws.



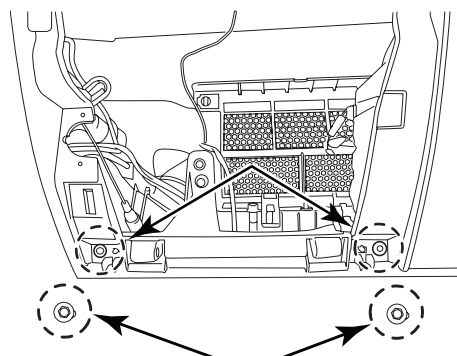
'07-'11 Models have (2) additional screws

Front Speakers Removal

- 5 Remove glove box by pushing both left and right sides inwards.

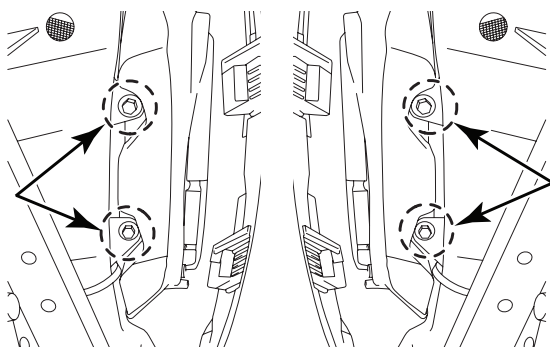


- 6 Extract (2) 7mm screws from the lower dash. '07-'11 Models have (4) screws.



'07-'11 Models have (2) additional screws

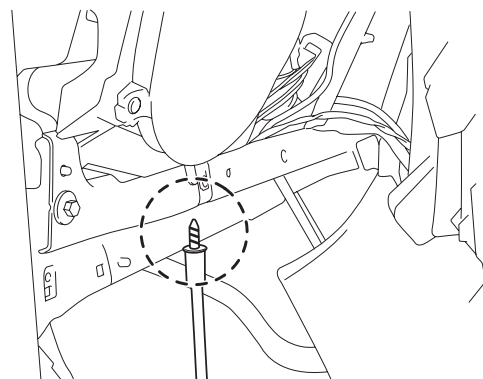
- 7 Extract (2) 7mm screws from the side of each respective dash enclosure.



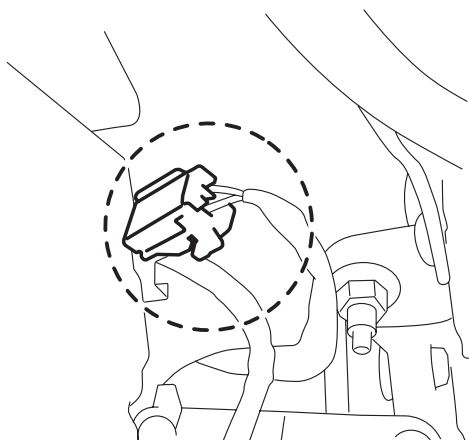
Driver Side

Passenger Side

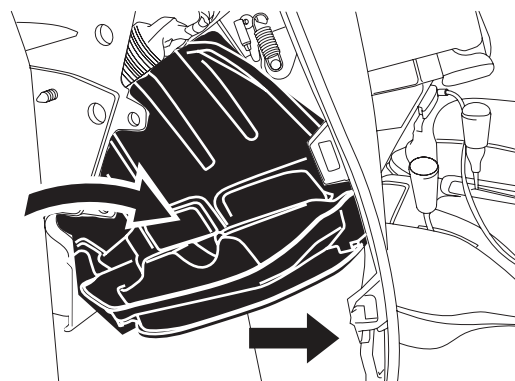
- 8 Remove (1) 10mm screws from under the each enclosure.



- 9 Disconnect the speaker enclosure (connector located on the back).

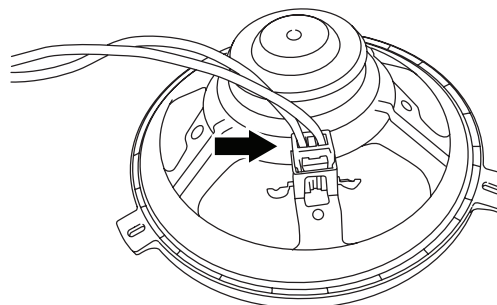
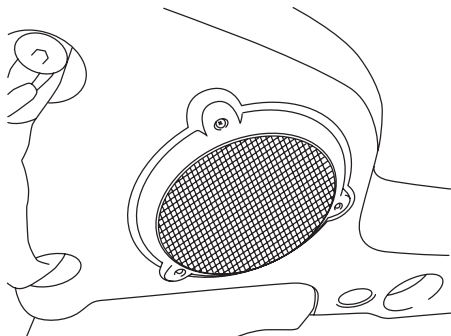


- 10 Pull the dash towards the back of the vehicle and remove the enclosure by turning towards the back.



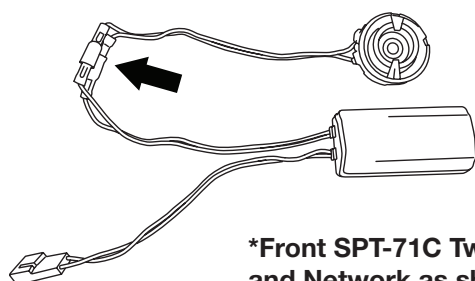
Sound Bar Speaker Removal

- 1 Remove (3) T15 Torx screws from the speaker grills.
- 2 Disconnect and remove the factory speaker.

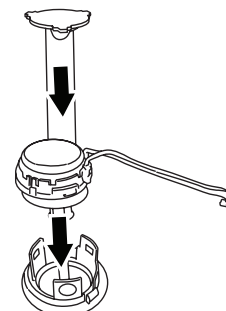


Tweeter Assembly

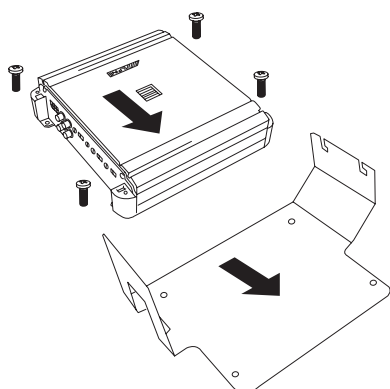
- 1 Connect the tweeter to the X-Over network.
- 2 Insert the SPT-10WRA tweeter into the factory tweeter grill. Insert the mounting cap to secure the tweeter.



*Front SPT-71C Tweeter and Network as shown.



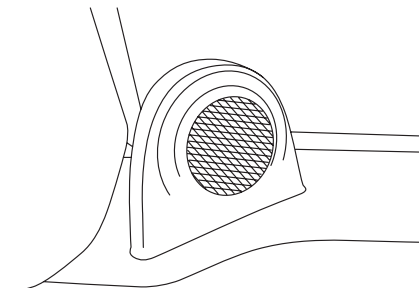
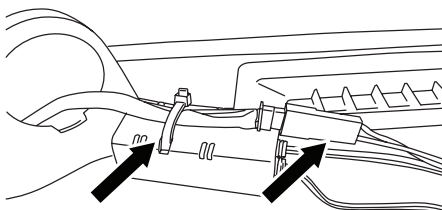
Amplifier Mounting Bracket



Use the (4) 8/32" Phillips screws to attach the amplifier to the mounting bracket. Face the RCA connectors towards the open tab as shown.

Tweeter Installation

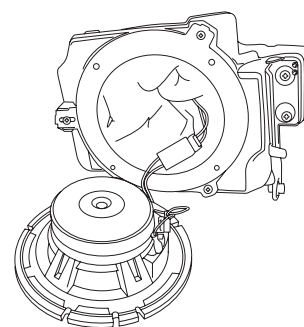
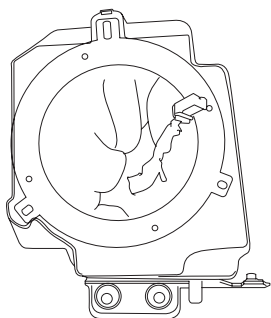
- 1 Connect the dash tweeters to the factory harness and mount X-Over network using a cable tie as shown below.
- 2 Push the X-Over through the tweeter opening and snap the tweeter into place.



Front Speaker Installation

NOTE: Polyfill installation is critical to the sound quality of the system, please do not skip this step

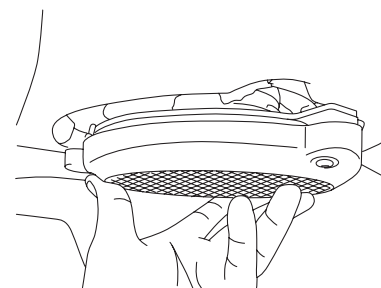
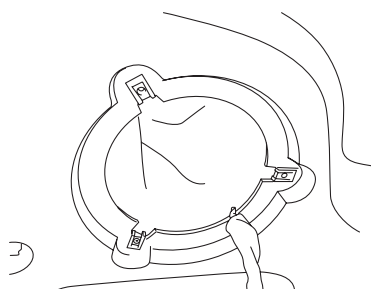
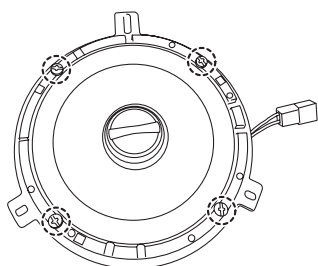
- 1 Mount the 6.5" speaker adapter using the factory screws.
- 2 Stuff the speaker enclosure with the supplied polyfill fiber. Separate the center creating an opening and pass the speaker cable through.
- 3 Connect the speaker and mount it using the provided (8) 1" Truss-head Phillips screws.



Sound Bar Speaker Installation

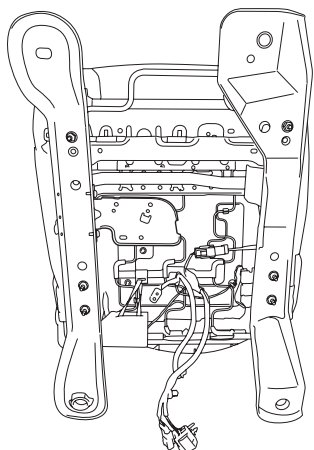
NOTE: Polyfill installation is critical to the sound quality of the system, please do not skip this step

- 1 Mount the speaker to the 6.5" speaker adapter using the (8) 1/2" Truss head screws.
- 2 Stuff the speaker cavity with the supplied polyfill fiber. Separate the center creating an opening and pass the speaker cable through.
- 3 Connect and mount the 6.5" coaxial speakers using the factory T15 Torx screws.

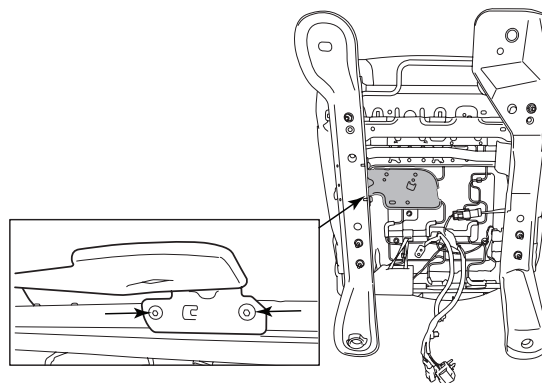


Subwoofer Installation (passenger side seat)

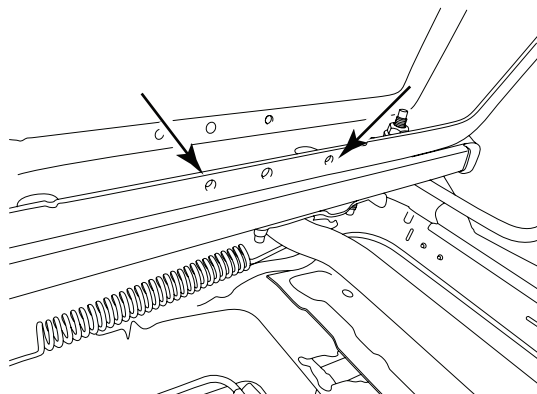
- 1** Position the seat in a secure manner to gain access to the bottom of the seat.



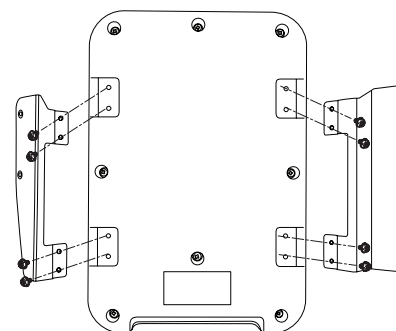
- 2** Using a T30 Torx, remove the OEM harness mounting plate as shown below. Use a panel removal tool to remove the two plugs from the mounting plate.



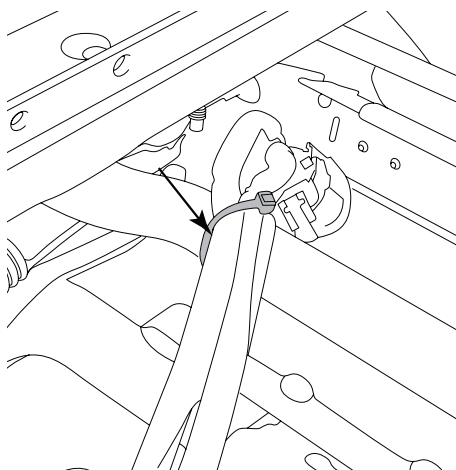
- 3** On the left seat bracket, use a 9/32" drill bit to enlarge the two outer mounting holes of the OEM harness mounting plate.



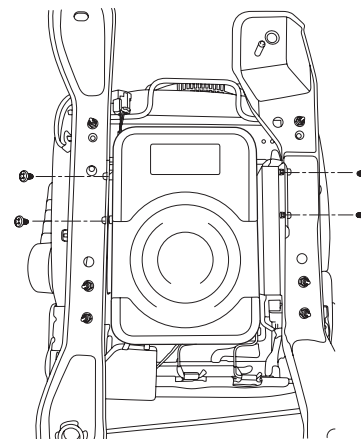
- 4** Use a #2 Phillips screw driver to attach the mounting brackets to the subwoofer with the M4 screws.



- 5** Secure the connector plugs using cable ties to the left side of the seat as shown below.

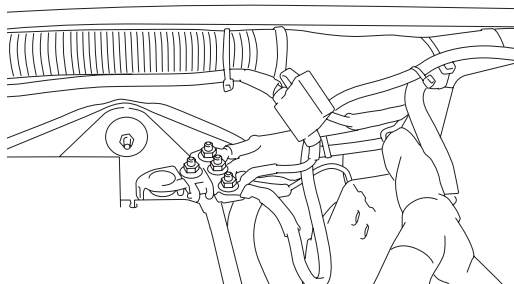


- 6** Attach the subwoofer to the seat using the M6 screws. Do not tighten until the seat is inside the vehicle and the amplifier mount is attached.

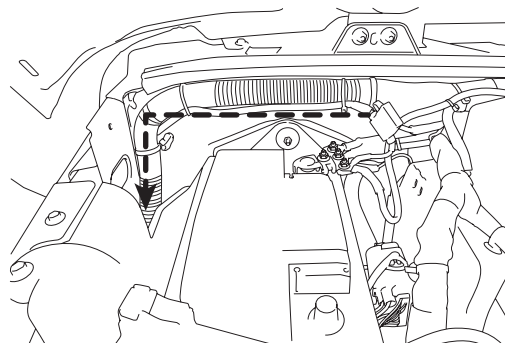


Amplifier Installation

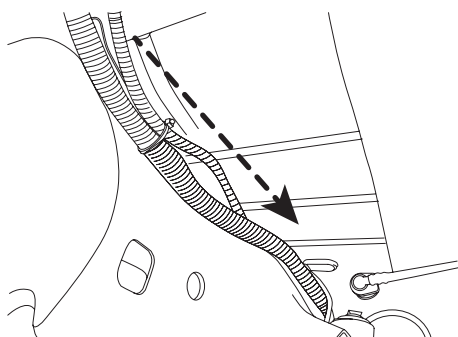
- 1** Use a 10mm socket to connect the power cable to the POSITIVE (+) battery terminal. Note: The NEGATIVE terminal should remain disconnected until the installation is completed.



- 2** Route the power cable following the OEM harness as shown below.

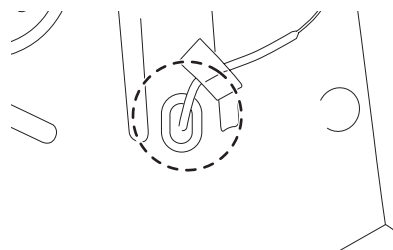


- 3** Route the power cable along the vehicle's frame following the OEM harness towards the back until reaching the rubber grommet under of the passenger side seat.

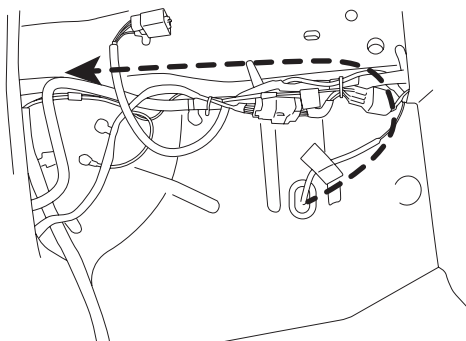


View from passenger underside of vehicle

- 4** Route the cable through the rubber grommet and seal with silicone. (silicone not supplied)

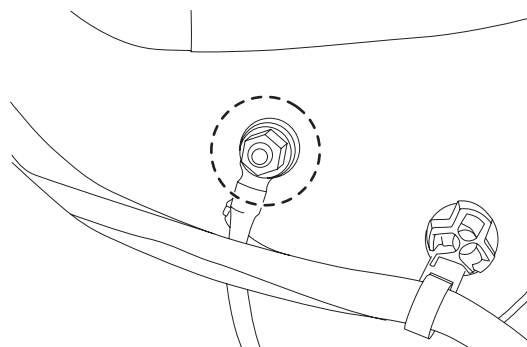


- 5** Route and secure the power cable along the factory harness using the supplied cable ties as shown below.



View from cabin. Passenger seat area.

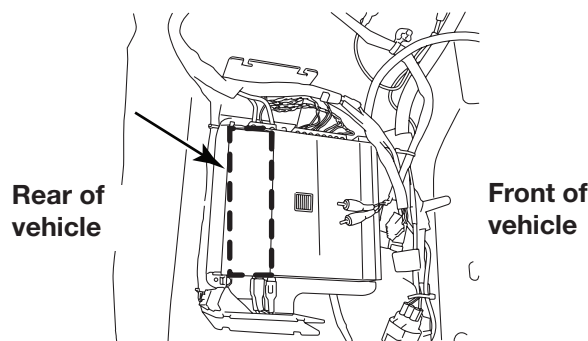
- 6** Using a 10mm socket attach the (black) NEGATIVE (-) ground cable to the factory ground point under the seat.



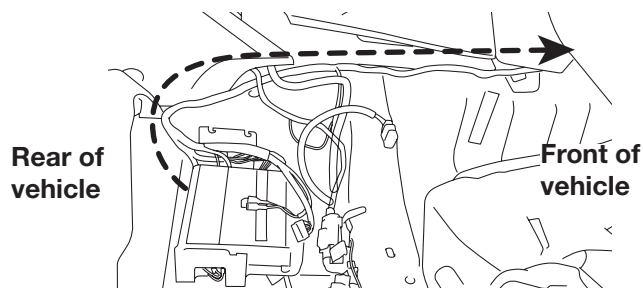
View from inside cabin. Passenger side seat area.

Amplifier Installation

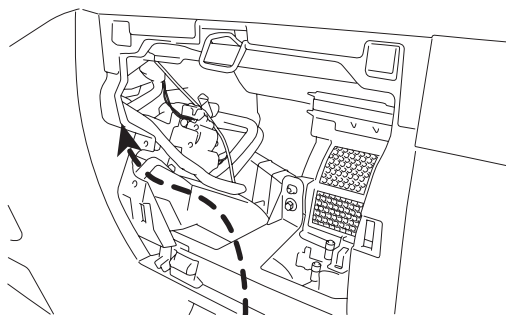
- 7 Attach the anti-vibration foam to the amplifier, make all the necessary connections following the corresponding wiring diagram. See pages 16, 17 or 18.



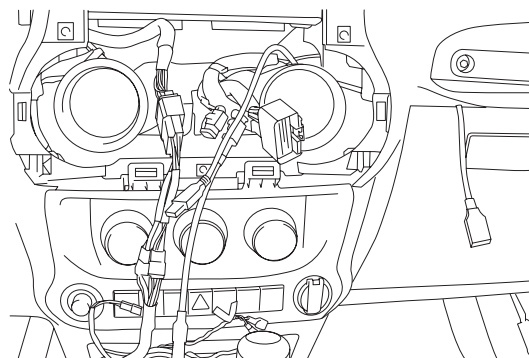
- 8 Route the main harness along the center console as shown below.



- 9 Route the main harness up to the headunit cavity as shown below.

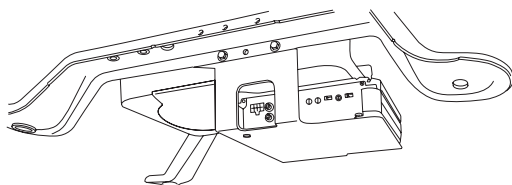


- 10 Make all the necessary connections to the headunit following the corresponding wiring diagram. See pages 16, 17 or 18.

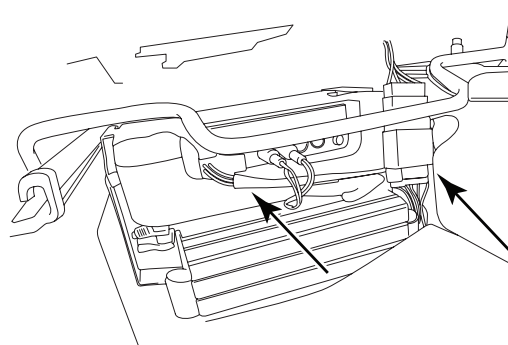


Be sure to make all sound adjustments to both the subwoofer and amplifier before proceeding to the next step. (refer to sound setting sheet or wiring diagram)

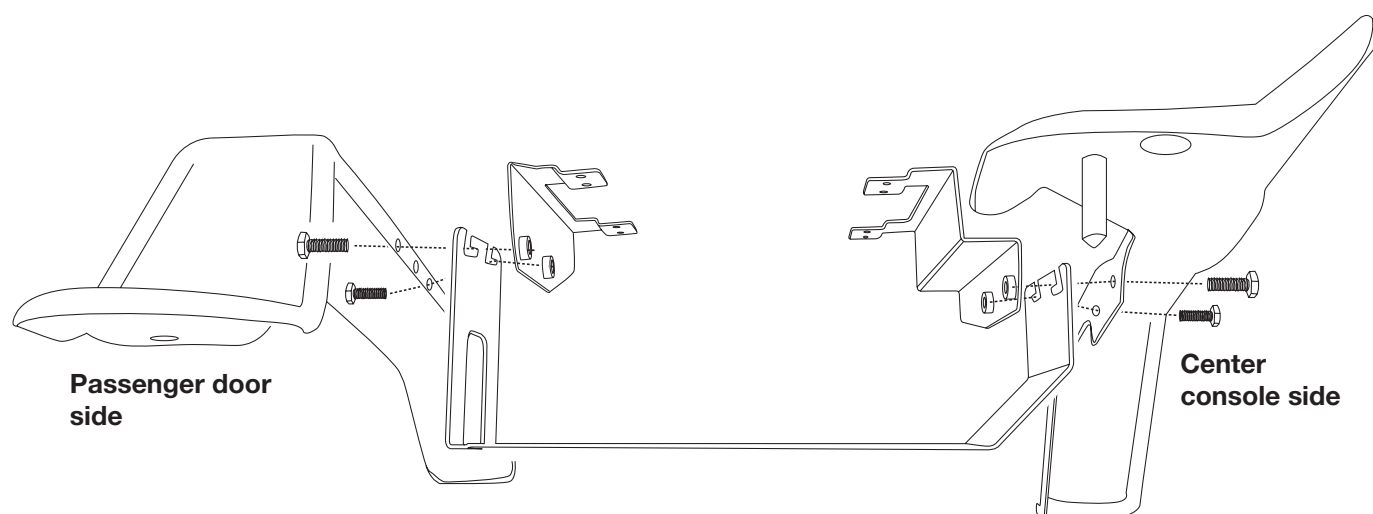
- 11 Return the passenger seat to into the vehicle and attach the amplifier bracket between the subwoofer and seat mounting brackets.



- 12 Connect the subwoofer and passenger seat connector.

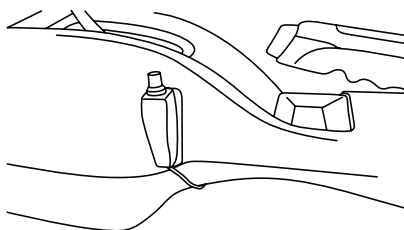


Exploded View

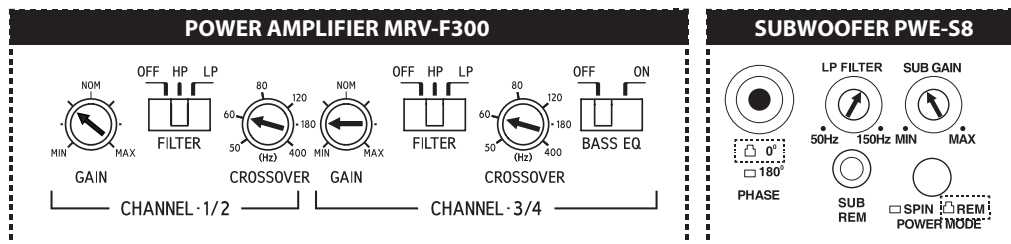
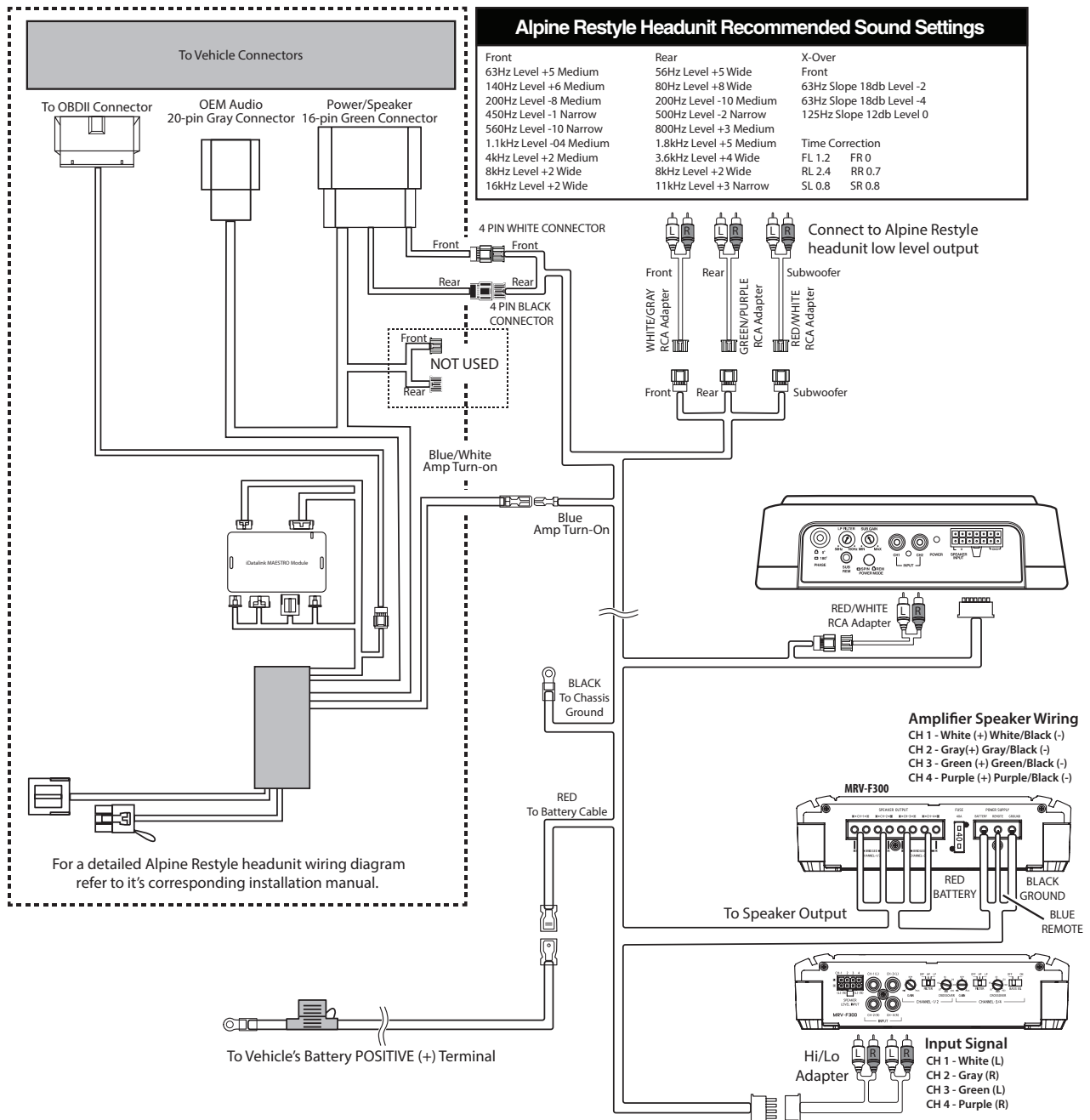


Bass Level Control Installation

Mount the bass level control to an easily accessible location. We recommend mounting the control on the center console as shown below using the Velcro provided.

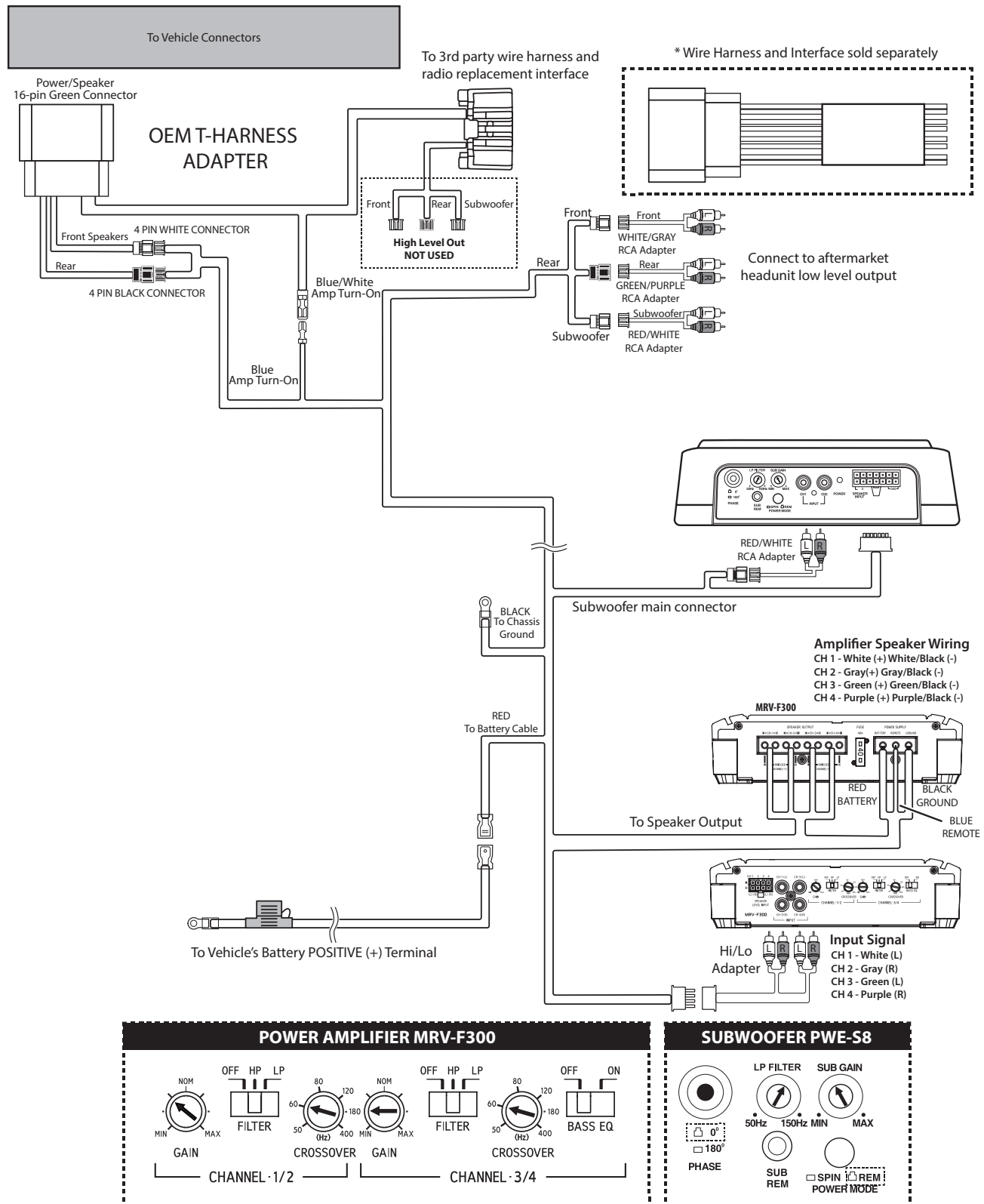


PSS-20WRA Wiring Diagram For Alpine Restyle Headunit



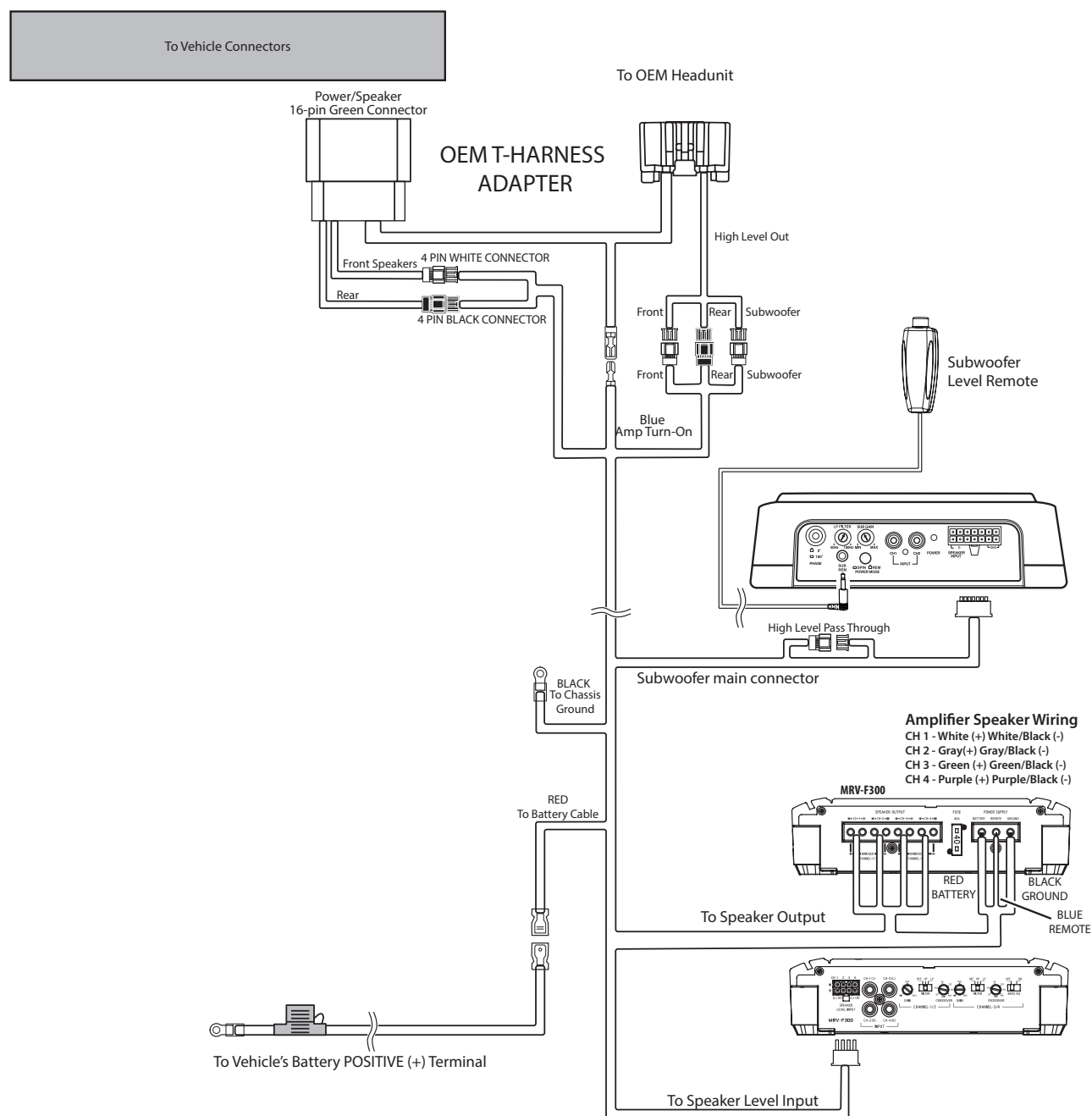
NOTE: FOR BEST PERFORMANCE SET AMPLIFIER AND SUBWOOFER TO RECOMMENDED SETTINGS AS SHOWN ABOVE

PSS-20WRA Wiring Diagram Aftermarket Headunit

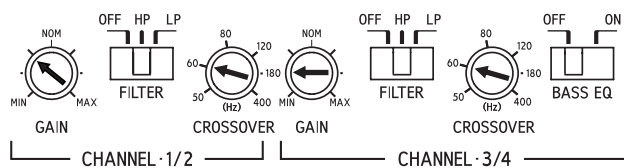


NOTE: FOR BEST PERFORMANCE SET AMPLIFIER AND SUBWOOFER TO RECOMMENDED SETTINGS AS SHOWN ABOVE

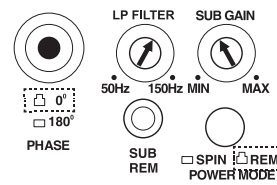
PSS-20WRA Wiring Diagram For Factory Headunit



POWER AMPLIFIER MRV-F300



SUBWOOFER PWE-S8



NOTE: FOR BEST PERFORMANCE SET AMPLIFIER AND SUBWOOFER TO RECOMMENDED SETTINGS AS SHOWN ABOVE

Troubleshooting Guide

Symptom	Possible Cause	Remedy
1	System will not turn on	Missing or blown fuse at the battery
	Radio's Remote Turn-On wire may be disconnected.	Insert or replace fuse Verify that Remote Turn-On wire is connected.
2	Volume is too loud with aftermarket headunit.	Speaker level out is connected at the T-Harness.
	Amplifiers gain control has not been properly adjusted.	Ensure that the low level RCA adapters are used in aftermarket headunit system (refer to the corresponding wiring diagram). Refer to the corresponding system diagram.
3	Subwoofer sounds very low.	Gain level may be down to the lowest setting.
	Audio Phase may be reversed.	Adjust level to recommended setting (refer to the corresponding wiring diagram). Ensure that the PHASE is set to 0°.
4	One of the speakers has no sound.	Disconnected pin or loose connection.
5	Airbag light is on	Check all connections to the speaker, loose pins, disconnected terminals etc..
6	System turns on only on radio source	Failed to disconnect the battery while working on the vehicle.
7	No Sound and amplifier light is blinking Red	Disconnect the battery and re-connect after 5 minutes. If problem is not solved, the vehicle will have to be taken to a Jeep dealer.
8	System turns on only on radio source	Aftermarket Power Antenna wire is connected to amp
9	No Sound and amplifier light is blinking Red	Connect the Remote Turn-On wire (Blue/ White) to the Blue wire on the amplifier harness.
10	No Sound and amplifier light is solid Red	Operating temperature is high.
11	No Sound and amplifier light is solid Red	Decrease the vehicle's interior temperature to a normal level. The indicator color changes to blue.
12	No Sound and amplifier light is solid Red	Amplifier circuits abnormal. An electrical short has occurred, or supply current is too high.
13	No Sound and amplifier light is solid Red	Turn off the power and correct the short. Then turn on the unit and verify that the indicator color has changed to Blue.