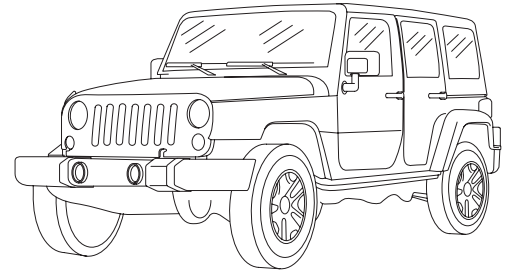


Jeep Wrangler PSS-21WRA Sound System Installation Manual



- Model: Wrangler Unlimited
- Model Year: 2015 – 2017

*Not compatible with factory amplified systems

Jeep	Model	Year
	Wrangler Unlimited	2015 - 2017

* 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-21WRA. This installation manual is designed to take you through the step-by-step installation of the PSS-21WRA into a 2015 - 2017 Jeep Wrangler. 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.	 Warning	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.


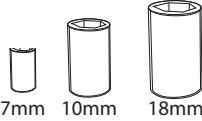
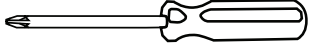
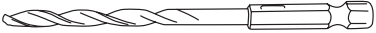
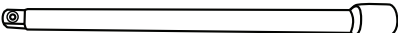
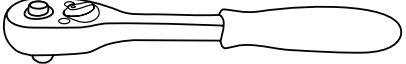
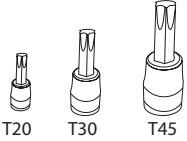
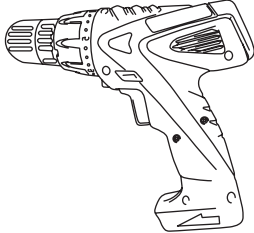
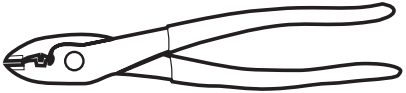


Forbidden

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

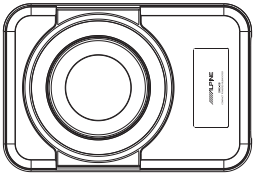
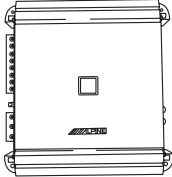
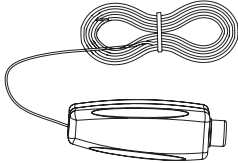
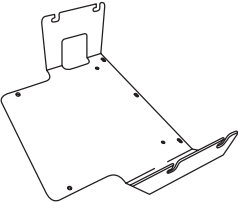
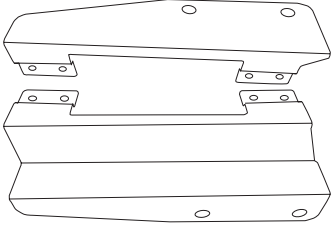
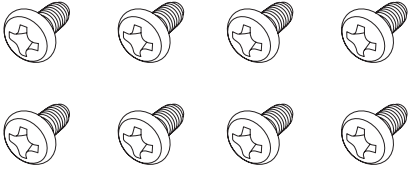
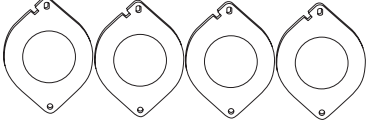
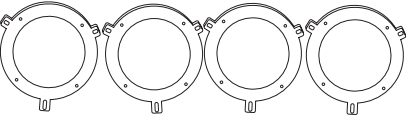
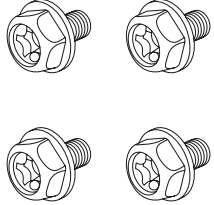


Tools Required

<p>Panel Removing Tool</p> 	<p>Sockets</p>  <p>7mm 10mm 18mm</p>	<p>#2 Phillips Screwdriver</p> 
<p>9/32" Drill Bit</p> 	<p>Extension</p> 	<p>Ratchet</p> 
<p>Torx</p>  <p>T20 T30 T45</p>	<p>Power Drill</p> 	<p>Wire Cutters</p> 




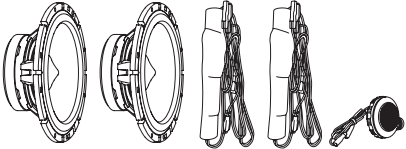
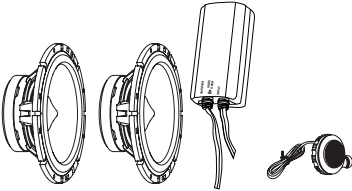
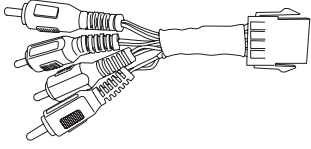
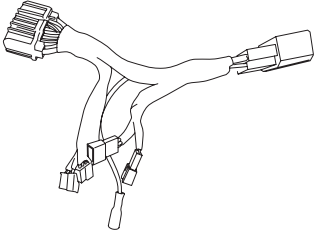
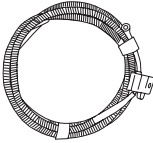
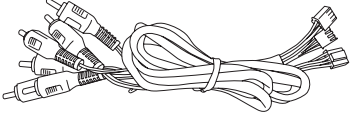

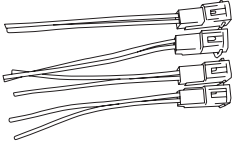
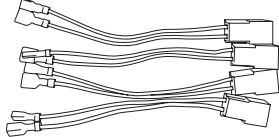

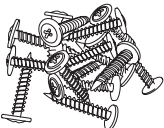

Accessory List

Parts List

<p>Subwoofer</p> 	<p>Amplifier</p> 	<p>Subwoofer Level Remote</p> 
<p>Amplifier Mounting Bracket</p> 	<p>Subwoofer Mounting Brackets</p> 	<p>(8) M4 Screws</p> 
<p>(4) Tweeter Adapters</p> 	<p>(4) 6.5" Speaker Adapters</p> 	<p>(4) M6 Screws</p> 

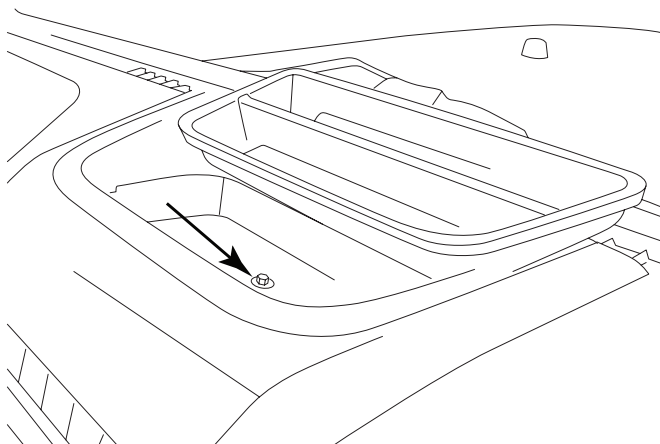
Accessory List

Parts List

<p>(4) 8/32" Phillips Screws</p>	<p>(4) 12" X 12" Polyfill fiber sheets</p>	<p>Main Wiring Harness</p>
		
<p>SPT-70C Rear Component Speakers</p>	<p>SPT-71C Front Component Speaker</p>	<p>Hi/Lo RCA Adapter</p>
		
<p>OEM T-Harness Adapter</p>	<p>Power Cable</p>	<p>RCA Adapters</p>
		
<p>(10) Cable Ties</p>	<p>(4) Tweeter Wiring Adapters</p>	<p>(4) 6.5" Speaker Wiring Adapters</p>
		
<p>Anti-Vibration Foam</p>	<p>(16) Truss-Head Phillips Screws</p>	<p>Velcro</p>
		

Factory Radio Removal

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



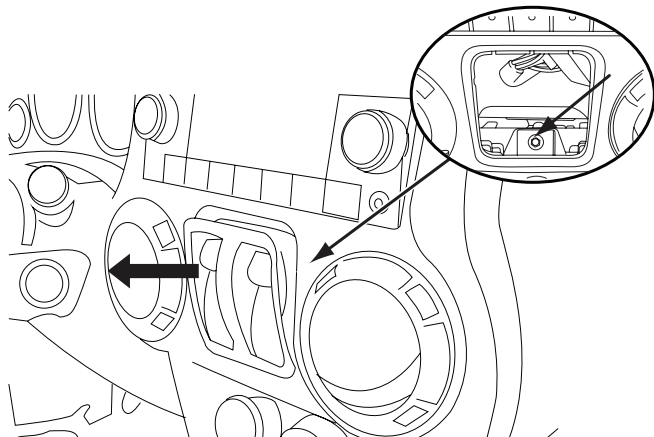
- 2** Remove the knee cover panel and extract (2) 7mm screws located to the right and left sides of the steering wheel column.



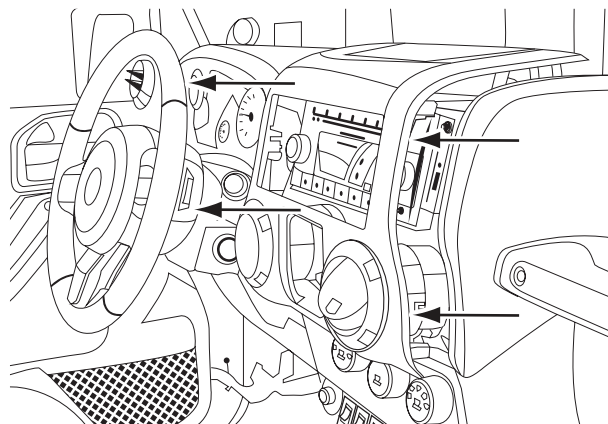
Left side of steering wheel column.

Right side of steering wheel column.

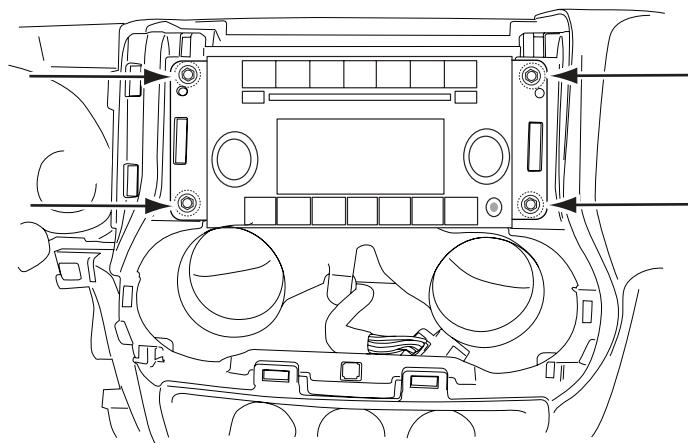
- 3** Remove the window switch pod using a panel removing tool and extract (1) 7mm screw.



- 4** Remove the dash panel.

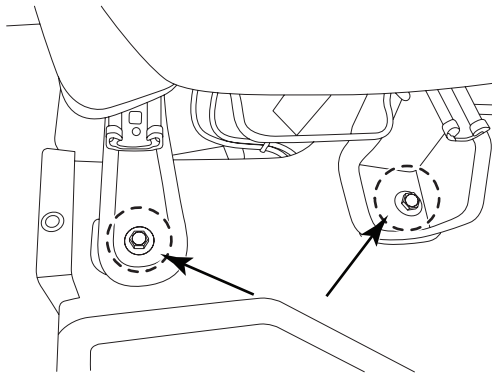


- 5** Extract (4) 7mm screws and remove the factory radio.

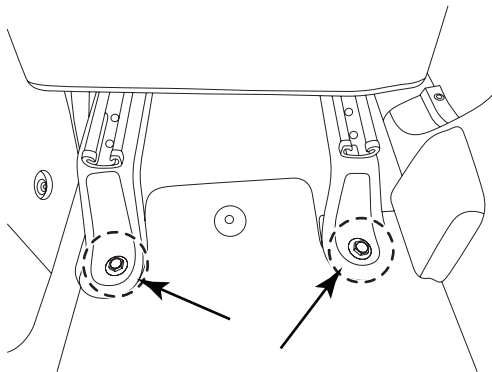


Passenger Seat Removal

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

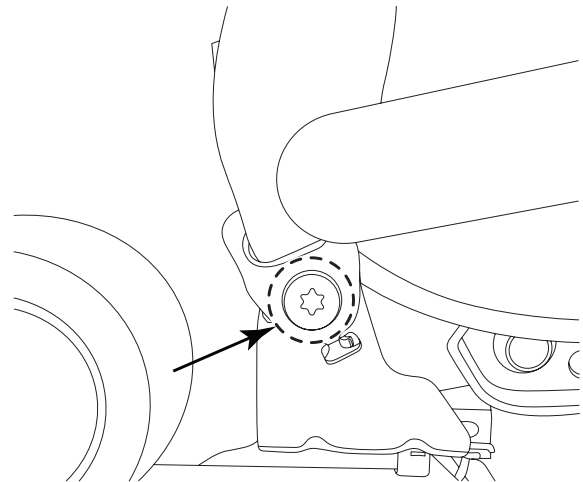


Front view



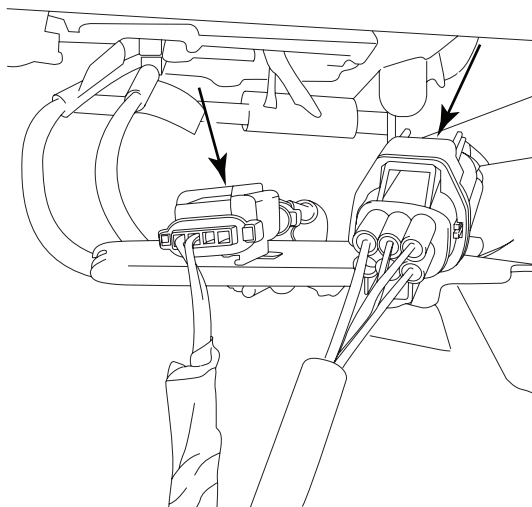
Rear view

- 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 Tilt the drivers seat backwards to locate the two connectors.

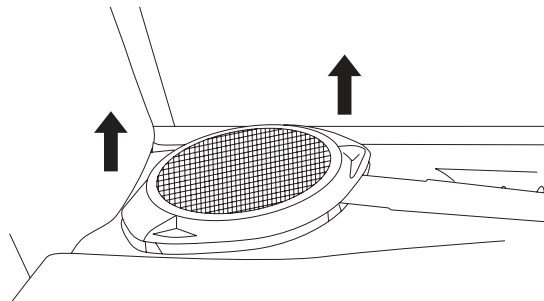


- 4 Remove the passenger seat from the vehicle.

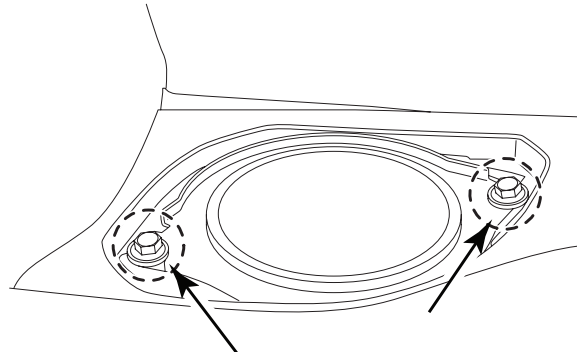
- ⚠ Use caution when removing the seat

Top Dash Speaker Removal

- 1 Remove top dash speaker grill using a panel removal tool.

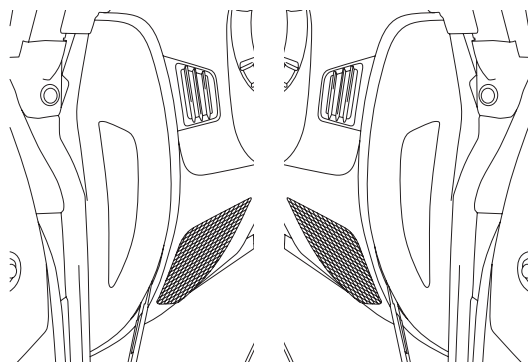


- 2 Using a 7mm socket remove (2) 7mm screws, disconnect and remove the factory speaker.



Front Speakers Removal (continued)

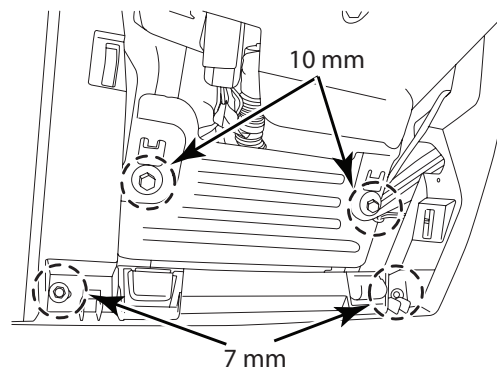
- 1 Using a panel removing tool, remove the dash side covers by each door.



Driver Side

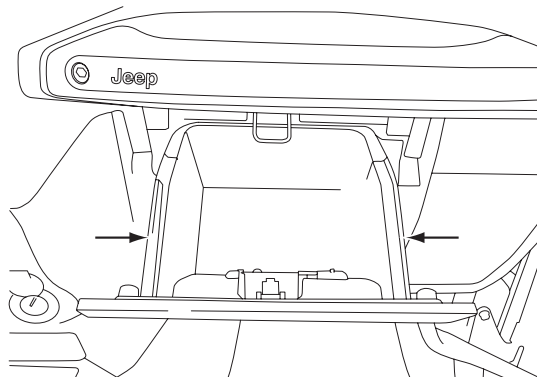
Passenger Side

- 2 Extract (2) 10mm screws from the metal steering column cover and remove it.

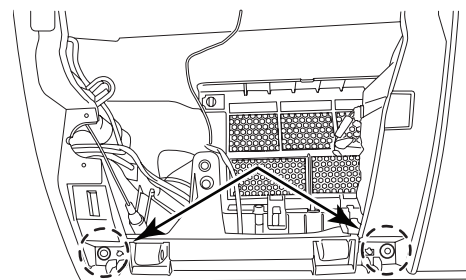


Driver Side

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



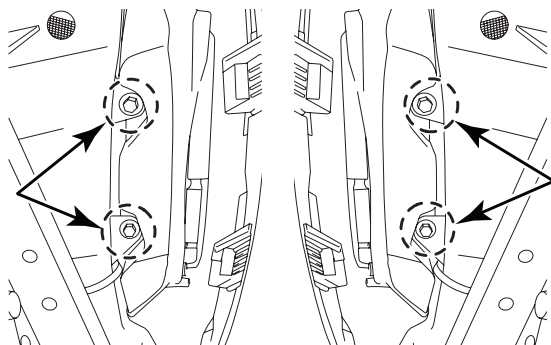
- 4 Extract (2) 7mm screws from both the driver and passenger side located on the lower dash section as shown below.



Passenger Side

Front Speakers Removal

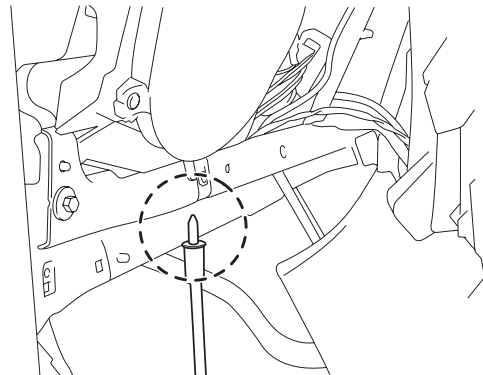
- 5 Extract (2) 7mm screws from the side of each respective dash enclosure.



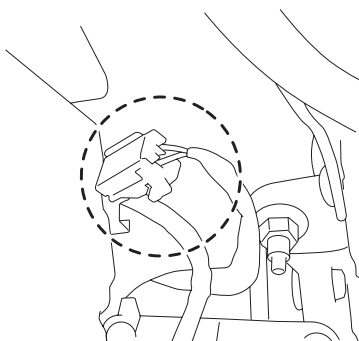
Driver Side

Passenger Side

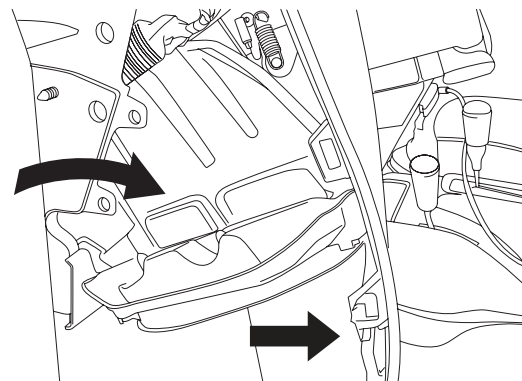
- 6 Remove (1) 10mm screws from under the each enclosure.



- 7 Disconnect the speaker enclosure (connector located on the back)

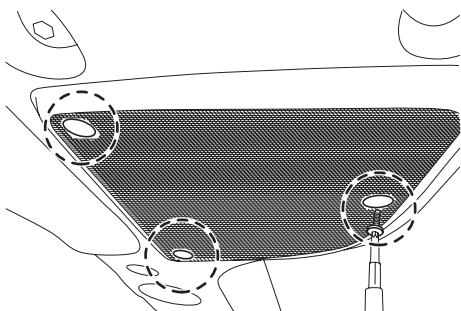


- 8 Pull the dash towards the back of the vehicle and remove the enclosure by turning towards the back.

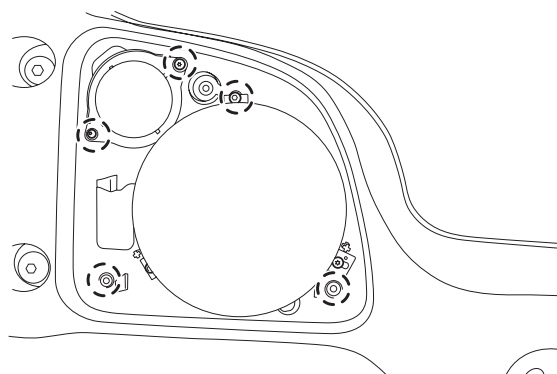


Sound Bar Speaker Removal

- 1 Remove (3) T20 Torx screws from the speaker grills.



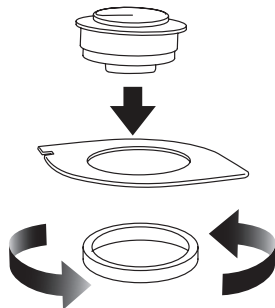
- 2 Remove (5) T20 Torx screws, disconnect and remove both speakers.



Speaker Mounting Adapters

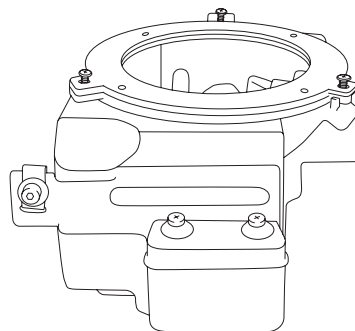
Tweeters

Mount the Front (SPT-71C) and (SPT-70C) tweeters on the tweeter adapters using the plastic mounting nut and turn until fully tighten.



6.5" Speakers

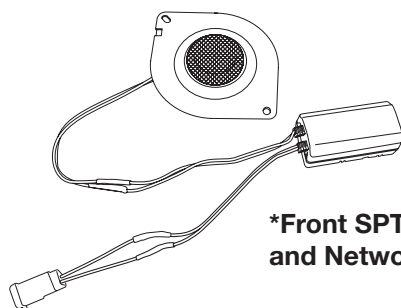
Attach the 6.5" Speakers adapters to the enclosure and sound bar using the factory screws.



Wiring Speaker Adapters

Tweeters

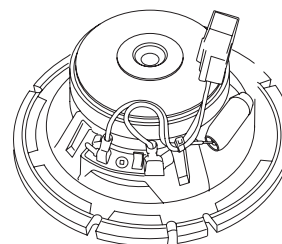
Connect the tweeters to the X-Over network and tweeter wiring adapters. (soldering is recommended) Connect BLACK to BLACK STRIPE and WHITE to CLEAR.



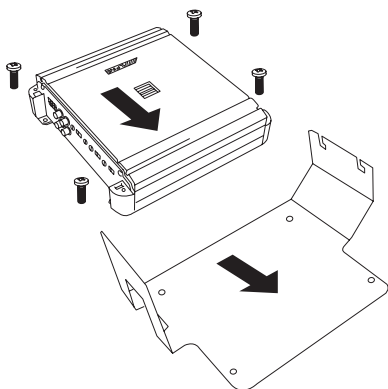
*Front SPT-71C Tweeter and Network as shown.

6.5" Speakers

Connect the Speaker wiring adapter as shown below. Connect the WHITE to Positive (+) Terminal and BLACK to Negative (-) terminal.



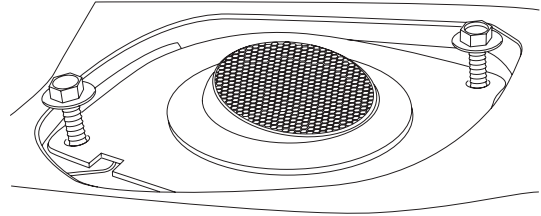
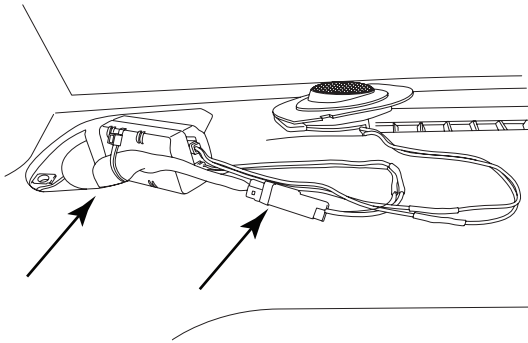
Amplifier Mounting Bracket



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

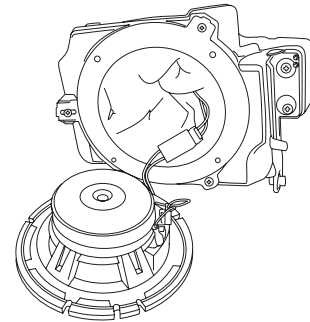
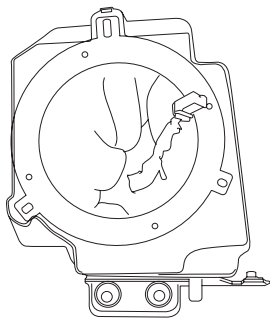
- 1 Connect the front (SPT-71C) tweeters to the factory harness and mount X-Over network using a cable tie as shown below.
- 2 Mount the front (SPT-71C) tweeters using the factory screws.



Front Speaker Installation

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

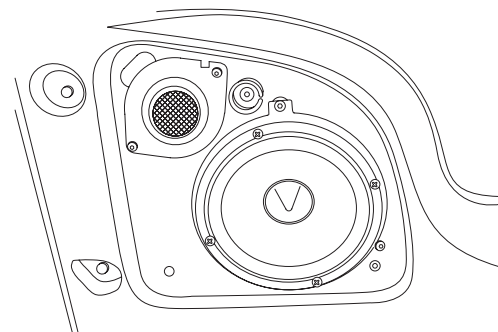
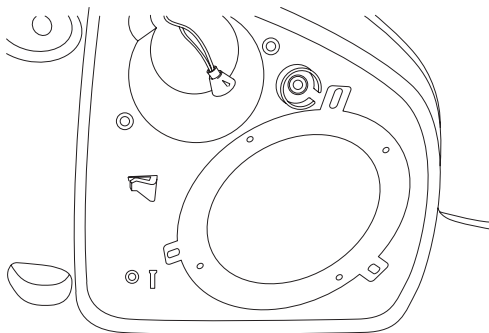
- 1 Stuff the speaker enclosure with the supplied polyfill fiber. Separate the center creating an opening and pass the speaker cable through.
- 2 Connect and mount 6.5" speakers using the provided Truss-head Phillips screws.



Sound Bar Speaker Installation

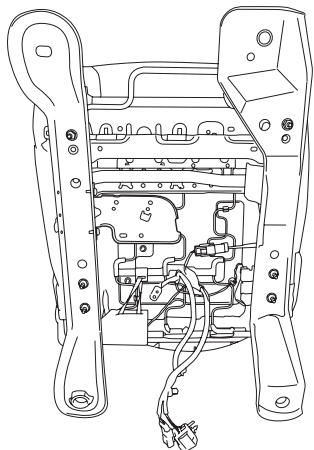
NOTE: Polyfill installation is critical to the sound quality of the system, please do not skip this step

- 1 Stuff the speaker cavity with the supplied polyfill fiber. Separate the center creating an opening and pass the speaker cable through.
- 2 Connect and mount both rear (SPT-70C) tweeters and 6.5" Speaker adapters using the factory Torx screws. Mount the rear (SPT-70C) 6.5" speakers using the provided Truss-head Phillips screws.

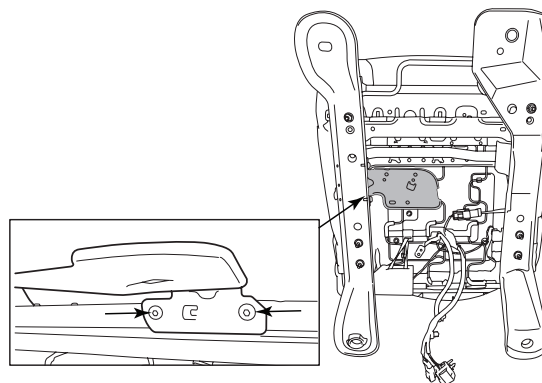


Subwoofer Installation

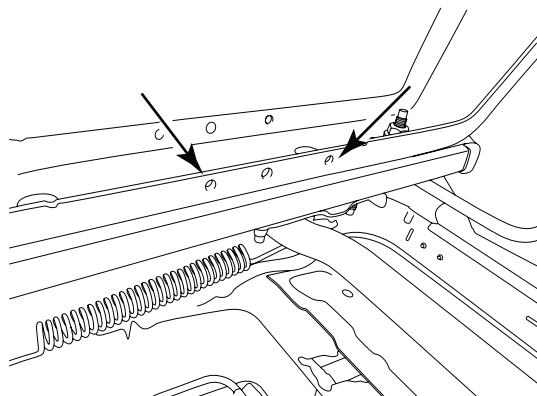
- 1** Position the seat in a secure manner to gain access to the bottom of the seat.



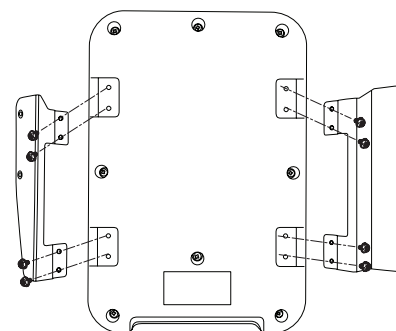
- 2** Using a T30 Torx, remove the OEM harness mounting plate as shown below. Use a panel removal tool to remove the two plugs from the mounting plate.



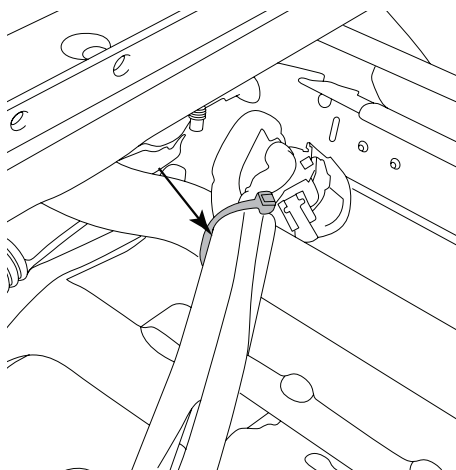
- 3** On the left seat bracket, use a 9/32" drill bit to enlarge the two outer mounting holes of the OEM harness mounting plate.



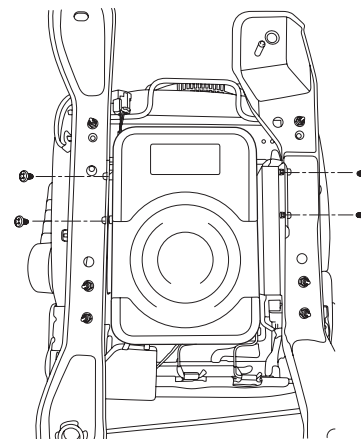
- 4** Use a #2 Phillips screw driver to attach the mounting brackets to the subwoofer with the M4 screws.



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

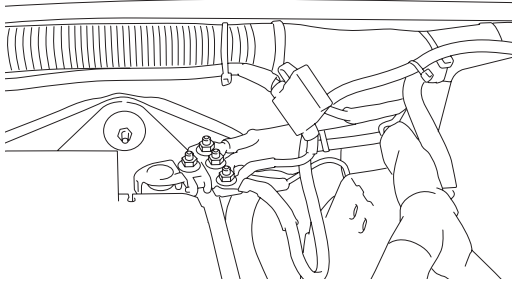


- 6** Attach the subwoofer to the seat using the M6 screws. Do not tighten until the seat is inside the vehicle and the amplifier mount is attached.

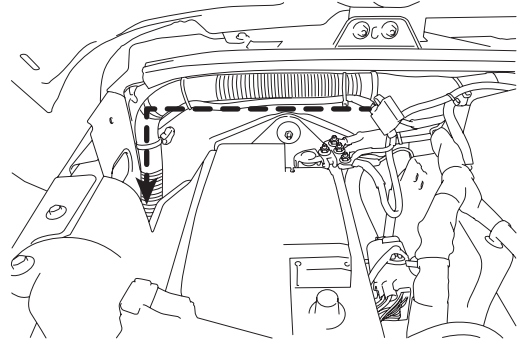


Amplifier Installation

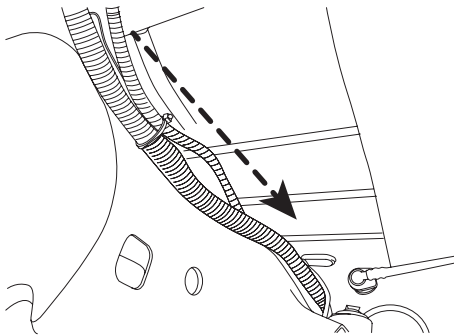
- 1** Use a 10mm socket to connect the power cable to the POSITIVE (+) battery terminal. Note: The NEGATIVE terminal should remain disconnected until the installation is completed.



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

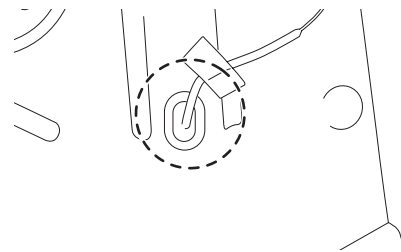


- 3** Route the power cable along the vehicle's frame following the OEM harness towards the back until reaching the rubber grommet under of the passenger side seat.

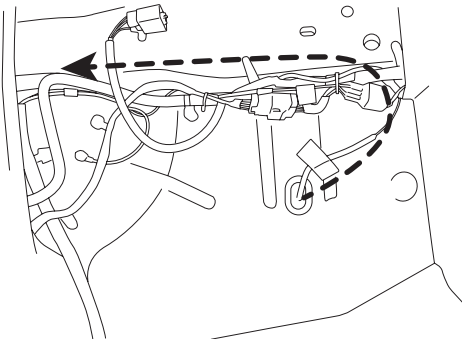


View from passenger underside of vehicle

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

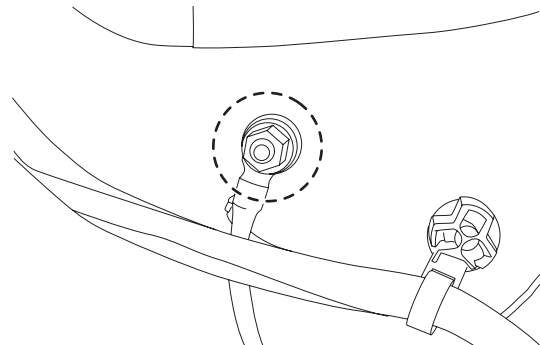


- 5** Route and secure the power cable along the factory harness using the supplied cable ties as shown below.



View from cabin. Passenger seat area.

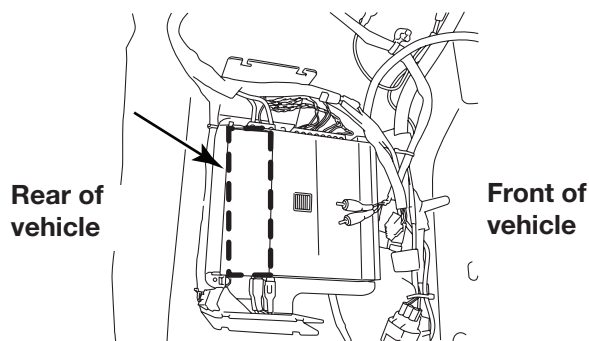
- 6** Using a 10mm socket attach the (black) NEGATIVE (-) ground cable to the factory ground point under the seat.



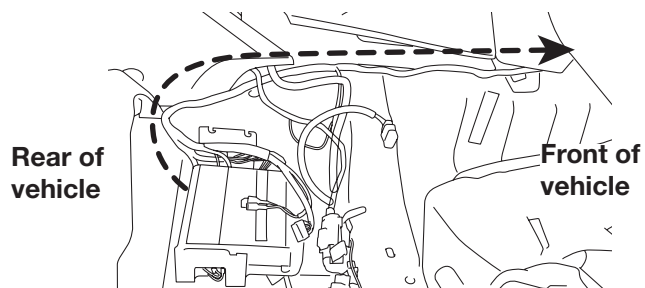
View from inside cabin. Passenger side seat area.

Amplifier Installation

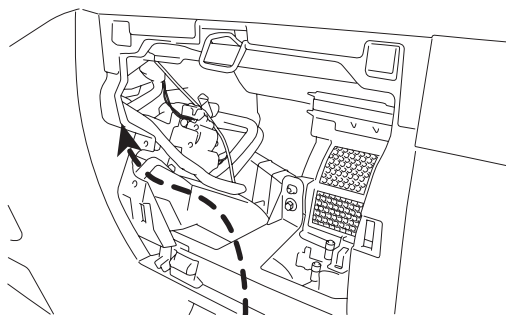
- 7 Attach the anti-vibration foam to the amplifier, make all the necessary connections following the corresponding wiring diagram. See pages 16, 17 or 18.



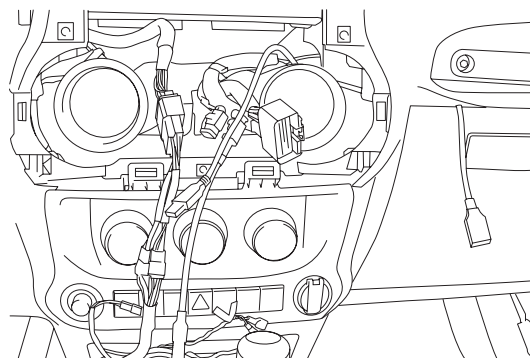
- 8 Route the main harness along the center console as shown below.



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

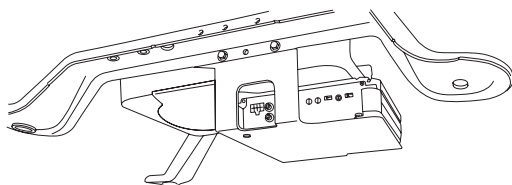


- 10 Make all the necessary connections to the headunit following the corresponding wiring diagram. See pages 16, 17 or 18.

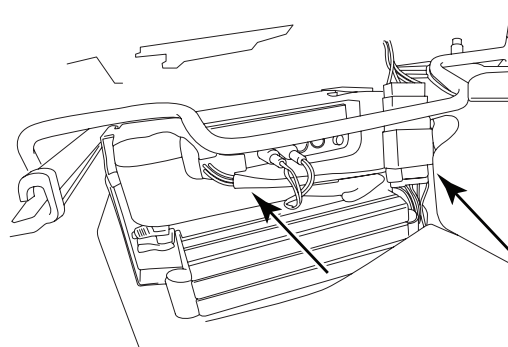


Be sure to make all sound adjustments to both the subwoofer and amplifier before proceeding to the next step. (refer to sound setting sheet or wiring diagram)

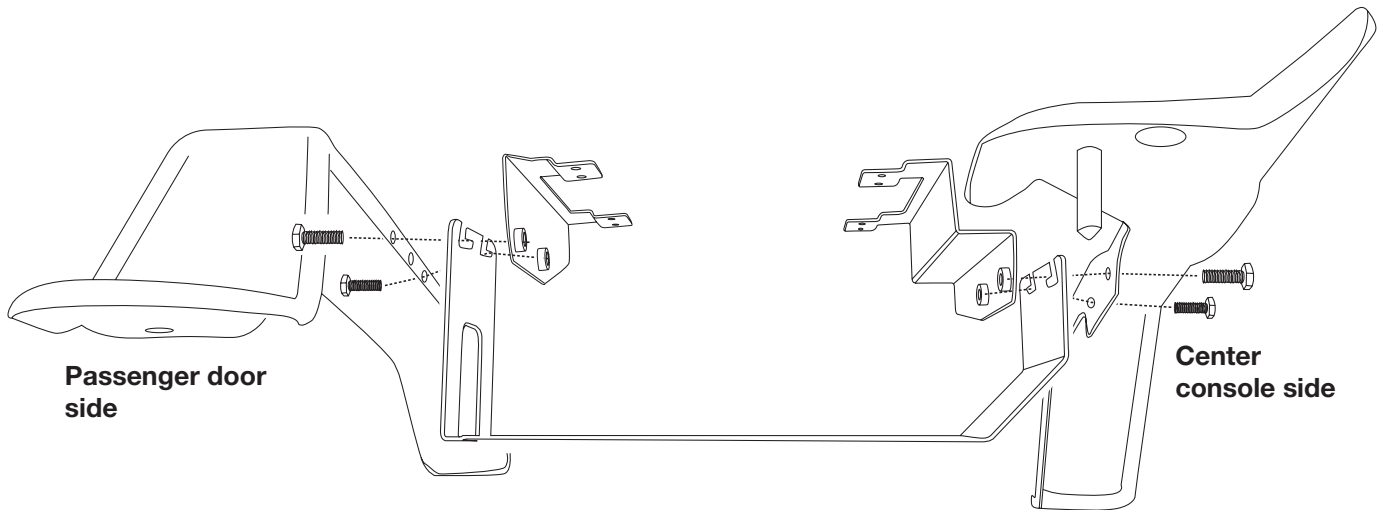
- 11 Return the passenger seat to into the vehicle and attach the amplifier bracket between the subwoofer and seat mounting brackets.



- 12 Connect the subwoofer and passenger seat connector.

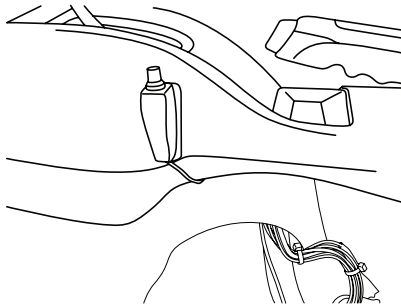


Exploded View

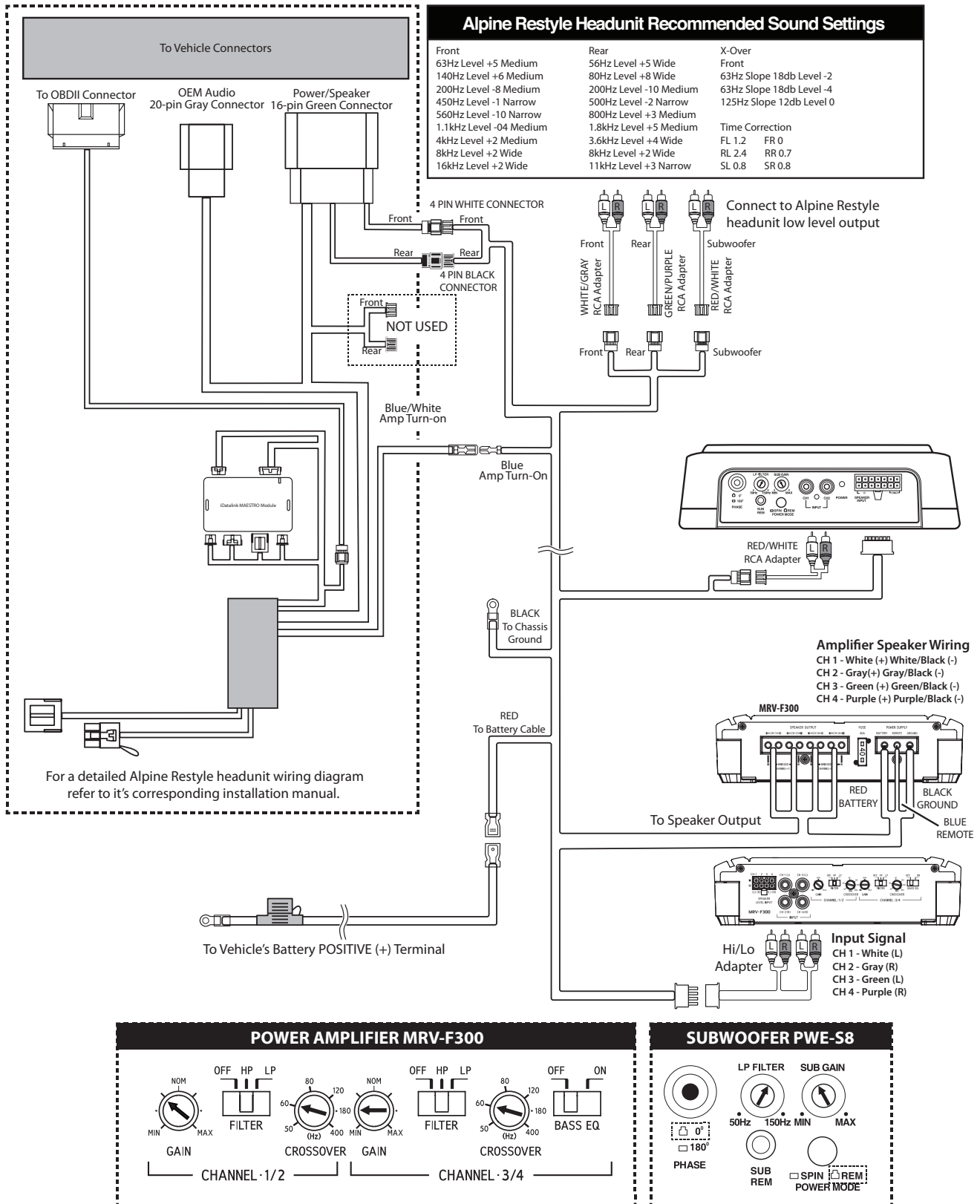


Bass Level Control Installation

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.

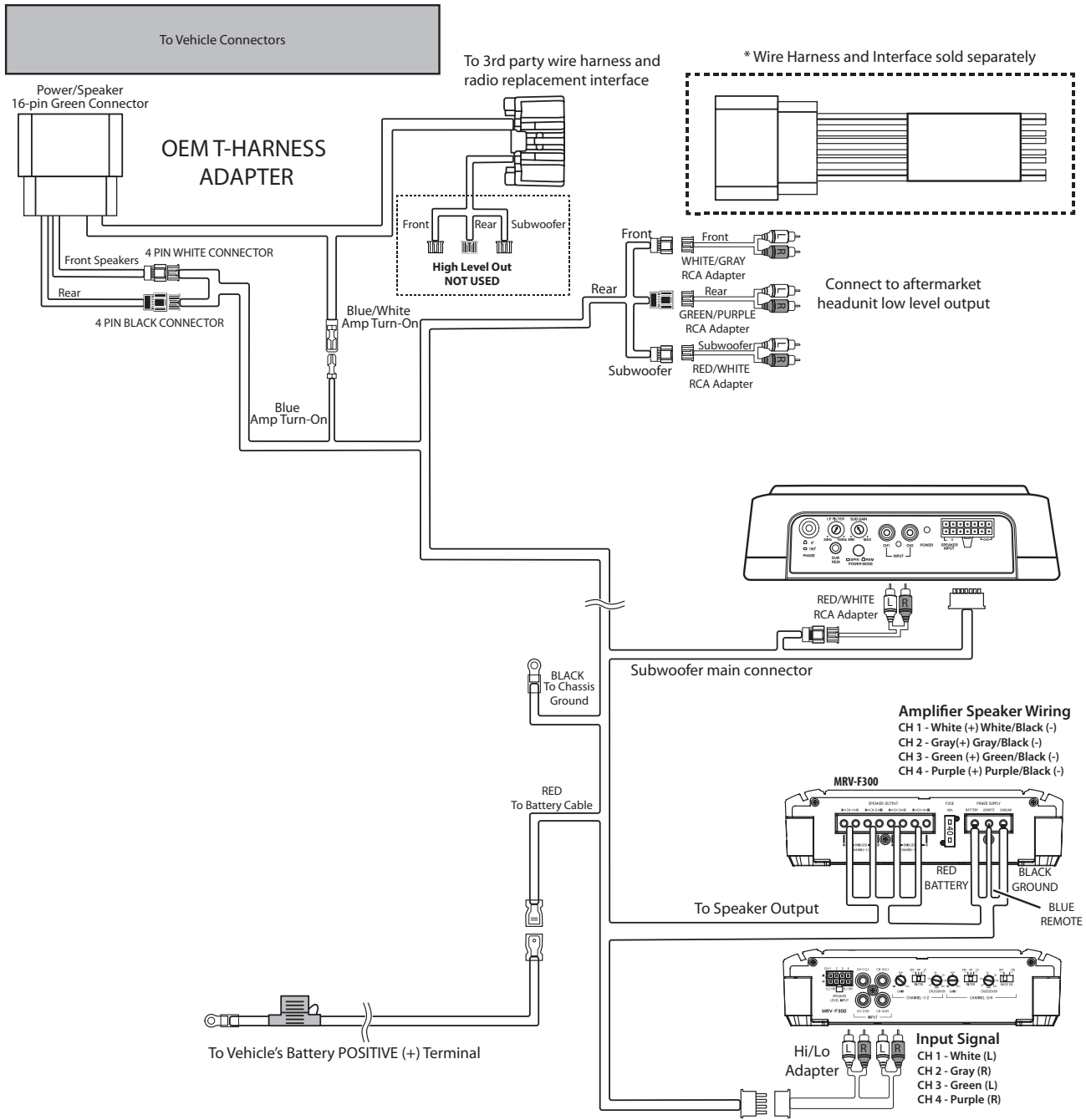


PSS-21WRA Wiring Diagram For Alpine Restyle Headunit



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

PSS-21WRA Wiring Diagram Aftermarket Headunit



POWER AMPLIFIER MRV-F300

Channel 1/2: GAIN (MIN to MAX), FILTER (OFF, HP, LP), CROSSOVER (50, 80, 120, 180 Hz), GAIN (MIN to MAX).

Channel 3/4: GAIN (MIN to MAX), FILTER (OFF, HP, LP), CROSSOVER (50, 80, 120, 180 Hz), BASS EQ (OFF, ON).

SUBWOOFER PWE-S8

LP FILTER: 50Hz, 150Hz.

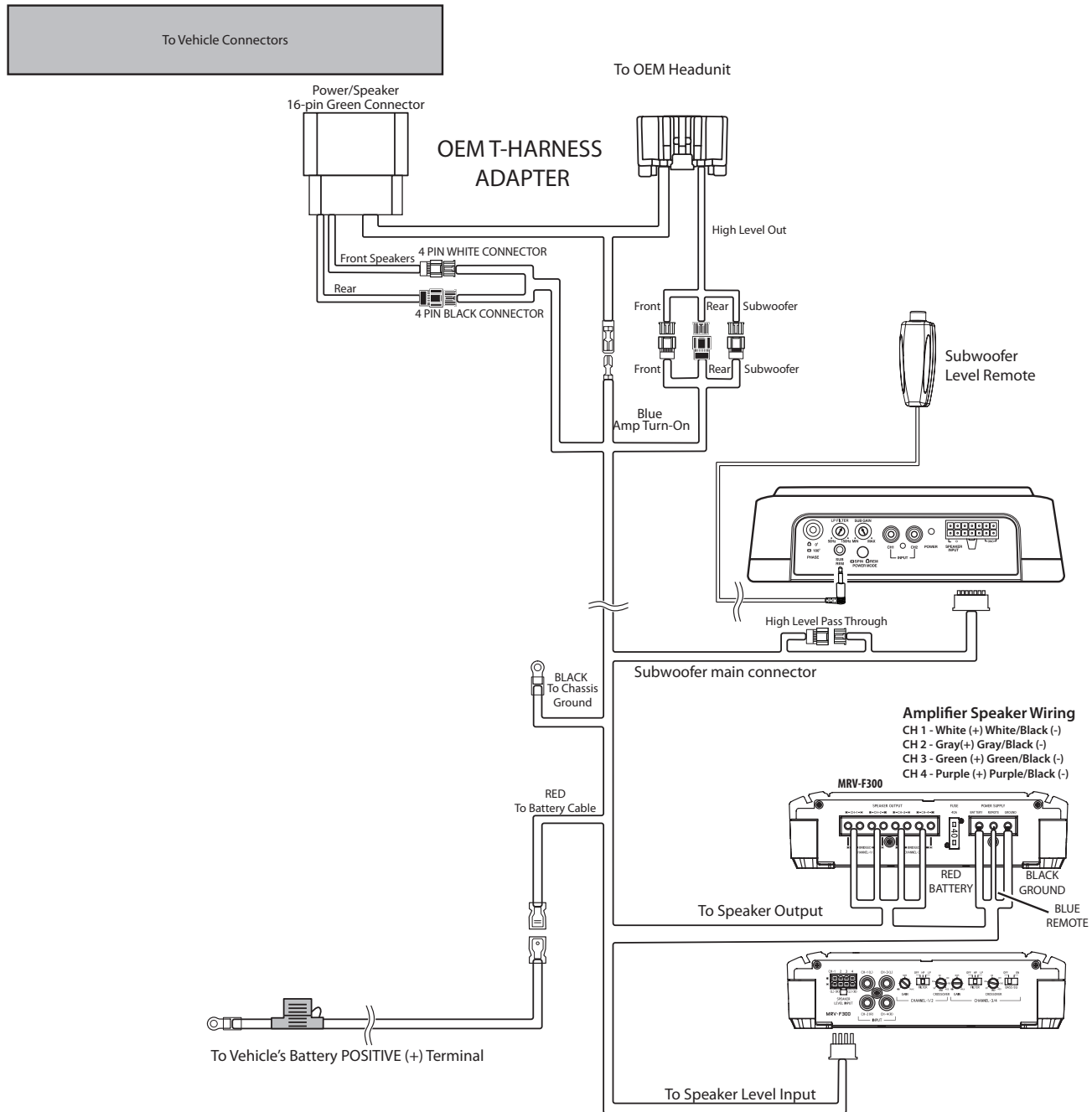
SUB GAIN: MIN to MAX.

PHASE: 0° or 180°.

POWER MODE: SUB REM, SPIN, REM.

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

PSS-21WRA Wiring Diagram For Factory Headunit



Amplifier Speaker Wiring
 CH 1 - White (+) White/Black (-)
 CH 2 - Gray(+) Gray/Black (-)
 CH 3 - Green (+) Green/Black (-)
 CH 4 - Purple (+) Purple/Black (-)

POWER AMPLIFIER MRV-F300

CHANNEL · 1/2 CHANNEL · 3/4

SUBWOOFER PWE-S8

LP FILTER SUB GAIN
 50Hz 150Hz MIN MAX
 PHASE SUB REM SPIN REM POWER MODE

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