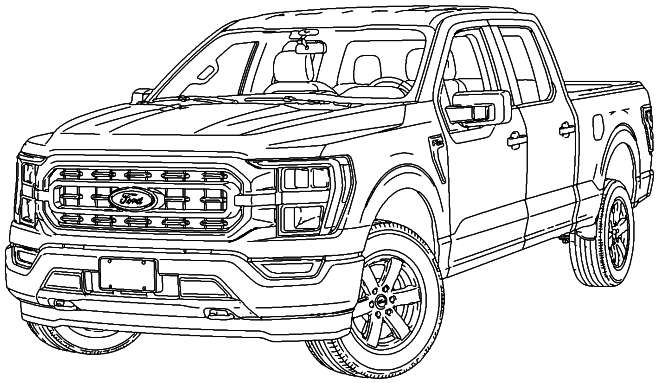
# Ford F-150
## PSS-23FORD-F150
## Installation Manual

- Model: Ford F-150
- Model Year: 2015-2026



| | Model | Year |
|---|---|---|
| Ford | F-150** | 2021-2025 |

**Not compatible with vehicles that have the OEM amplified audio system or B&O system. Must be crew cab with base audio.

* 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.**

## 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 a professional installer. This is a difficult installation that can be very time consuming.
- 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 is expected to lead to death or serious injury. |
| ⚠ Caution | Ignoring the content marked by this indication and using the product incorrectly is only expected to lead to injury or property damage. |

## Types of Precautions

| | |
|---|---|
| Forbidden | Indicates actions that are forbidden (must not be performed) |
| Forbidden | Indicates that disassembly is forbidden. |
| Mandatory | Indicates actions that are mandatory (must be performed) |
| | 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 children cannot reach them. If one of these small objects is swallowed, consult with a doctor immediately.**

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

**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 willl obstruct the driver's forward view; interfere with the operation of the steering wheel, gear shift, 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 could 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.**

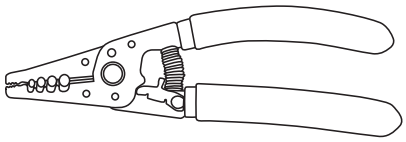
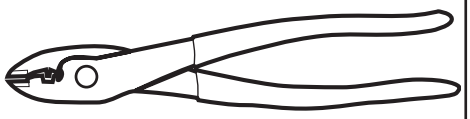
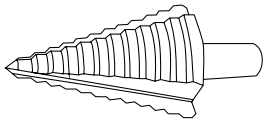
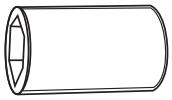
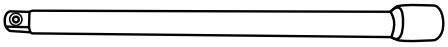
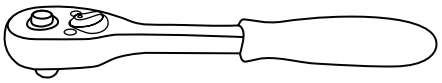
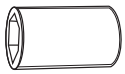
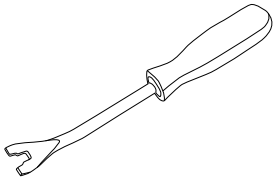
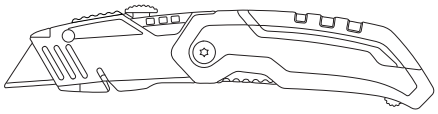
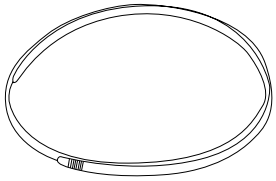
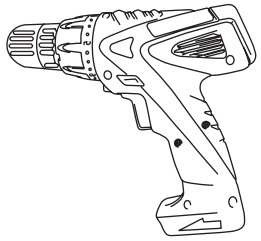
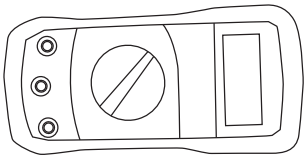
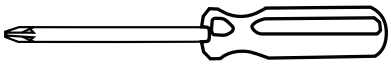
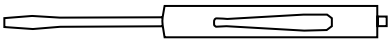
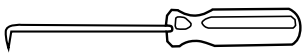
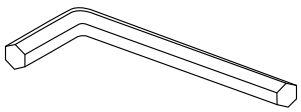
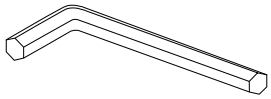
**Do not block vents or heat sinks. Doing so could lead to fire or damage equipment.**

**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

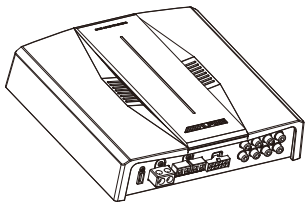
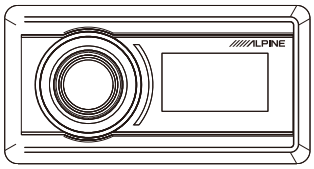
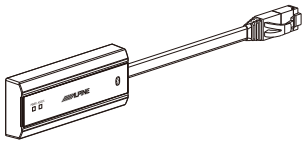
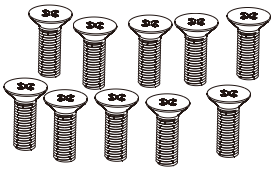
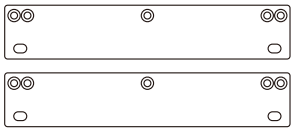
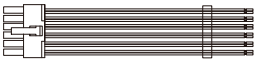
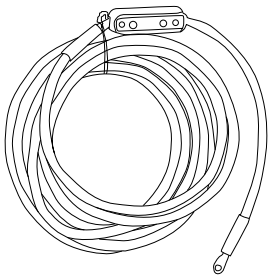
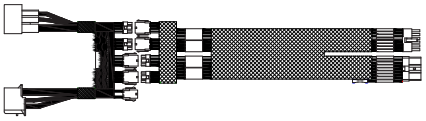
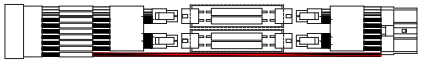
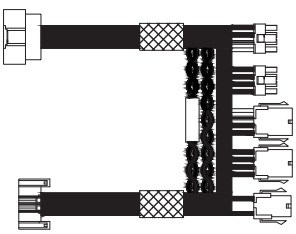
**The installation and wiring of this product requires specialized skills and experience. Have the product installed by a professional installer.**

## Tools Required

| Wire Strippers | Wire Cutters | Step Drill Bit |
|---|---|---|
|  |  |  |
| **10mm Socket** | **Extension** | **Ratchet** |
|  |  |  |
| **7mm Socket** | **Panel Popper** | **Utility Knife** |
|  |  |  |
| **Panel Removal Tools** | **Wire Fishing Tool** | **Cordless Power Drill** |
|  |  |  |
| **Digital Multimeter** | **Phillips Screwdriver** | **Flathead Screwdriver** |
|  |  |  |
| **Hook Tool** | **3mm Allen Wrench (Included With Amp)** | **2mm Allen Wrench (Included With Amp)** |
|  |  |  |

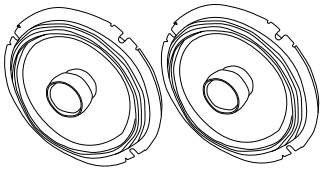
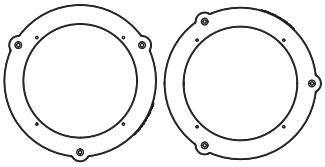
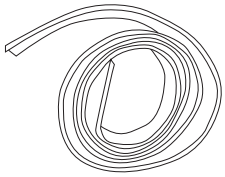
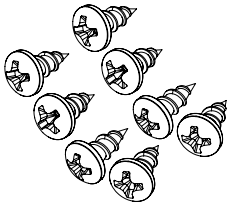
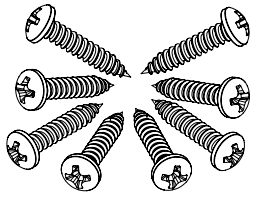
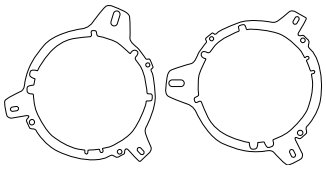
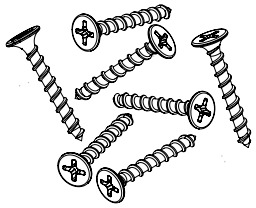
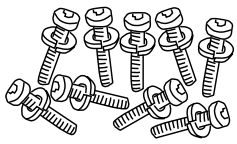
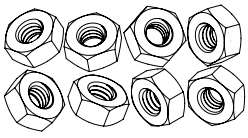
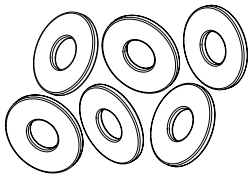
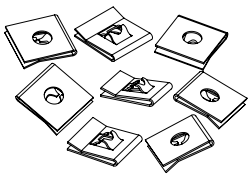
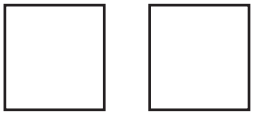
## Accessory List

### DSP/Amp Accessories

| Digital Signal Processor (PXE-C80-88-F150) | Wired Controller (RUX-CSP1) (Not Used) | External Bluetooth Module (KCE-800BT) (Not Used) |
|---|---|---|
|  |  |  |
| **Machine Screw For Mounting Brackets x 10** | **Self Tapping Screw x 4 (Not Used)** | **Mounting Brackets x 2** |
|  |  |  |
| **12 Pin Output Cable (Not Used)** | **20 Pin Input Cable (Not Used)** | **USB Extension (Not Used)** |
|  |  |  |
| **Wired Controller Cable (Not Used)** | **Power & Ground Wire (ALP-23FORD-PHRN-1)** | **Main Harness (ALP-23FORD-IHRN-1) (2021 & Up Only)** |
|  |  |  |
| **Load Resistor (ALP-23FORD-IHRN-5) (2015-2020 Only)** | **Radio T-Harness (ALP-15FORD-ISPK-1) (2015-2020 Only)** | |
|  |  | |

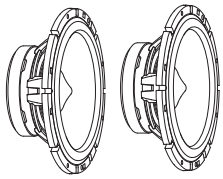
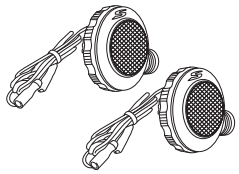
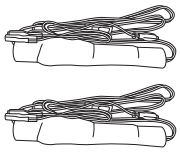
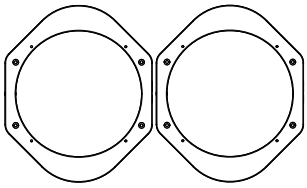
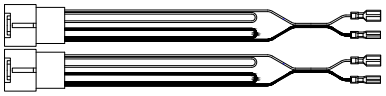
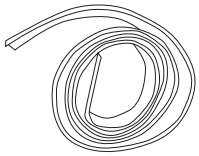
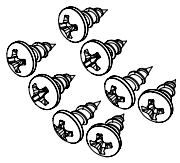
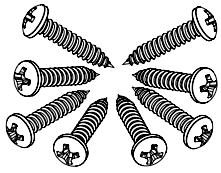
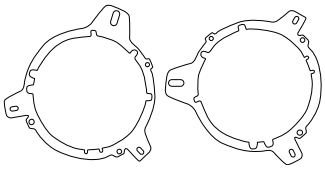
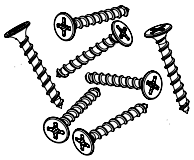
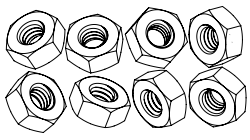
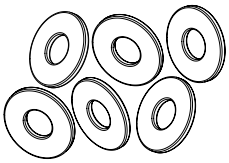
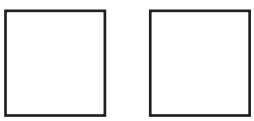
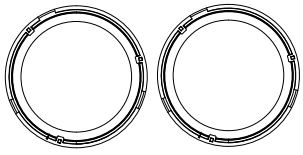
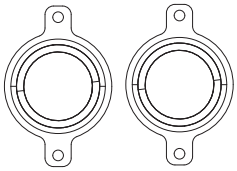
## Accessory List

**S2-S65 Rear Speakers Components & Installation Accessories**

| | | |
|---|---|---|
| **6.5” Coaxial Speakers Rear x 2 (S2-S65)** | **Rear Door Adapter Kit x 2 (ALP-23FORD-ISPK-R-1)** | **Rear Door Speaker Plug Adapter x 2 (ALP-23FORD-ISPK-R-1)** |
|  |  |  |
| **Rear Door Speaker Foam Roll x 1 (ALP-23FORD-ISPK-R-1)** | **Rear Door Speaker Mounting Screws x 8 (ALP-23FORD-ISPK-R-1)** | **Rear Door Speaker Adapter Screws x 8 (ALP-23FORD-ISPK-R-1)** |
|  |  |  |
| **Universal Adapter Rings x 2 (Not Used)*** | **12” Speaker Wire With Terminals x 2 (Not Used)*** | **1-1/8” Screws x 8 (Not Used)*** |
|  |  |  |
| **M4x7mm Machine Screws With Split Lock Washers Attached x 8 (Not Used)*** | **M4 Nuts x 8 (Not Used)*** | **Flat washers x 6 (Not Used)*** |
|  |  |  |
| **Speed clips x 8 (Not Used)*** | **Warranty Card, Registration Card** | |
|  |  | |

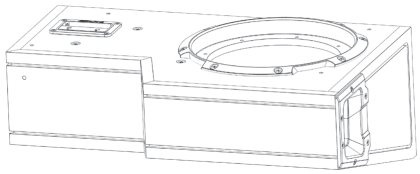
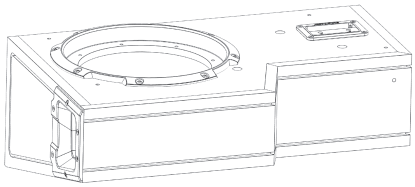
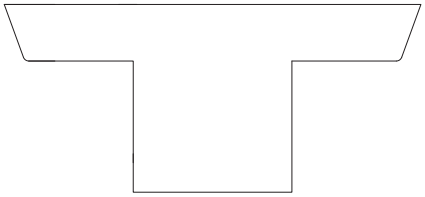
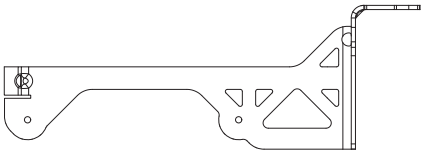
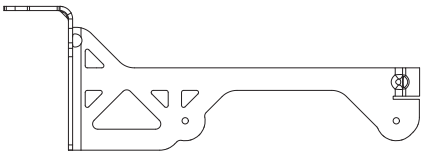
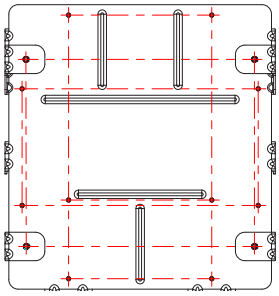
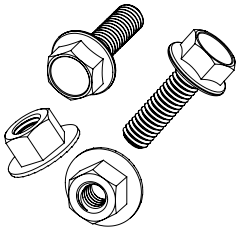
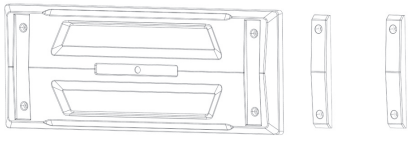
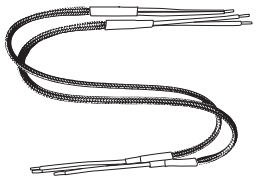
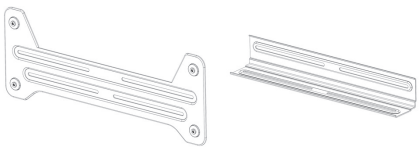
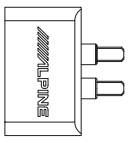
## Accessory List

**S2-S80C Front Speakers Components & Installation Accessories**

| 8” Component Woofers x 2 | Tweeters x 2 | Tweeter Crossovers x 2 (S2-80C) |
|---|---|---|
|  |  |  |
| Front Door Adapter Kit x 2 (ALP-23FORD-ISPK-F-1) | Front Door Speaker Plug Adapter x 2 (ALP-23FORD-ISPK-F-1) | Front Door Speaker Foam Roll x 1 (ALP-23FORD-ISPK-F-1) |
|  |  |  |
| Front Door Speaker Mouting Screws x 8 (ALP-23FORD-ISPK-F-1) | Front Door Speaker Adapter Screws x 8 (ALP-23FORD-ISPK-F-1) | Universal Adapter Rings x 2 (Not Used) |
|  |  |  |
| 12” Speaker Wire With Terminals x 2 (Not Used)* | 1-1/8” Screws x 8 (Not Used)* | Speed clips x 8 (Not Used)* |
|  |  |  |
| M4 Nuts x 8 (Not Used)* | Flat washers x 6 (Not Used)* | Front Tweeter Speaker Plug 2021-2026 Adapters x 2 (ALP-23FORD-ISPK-F-1)* |
|  |  |  |
| Warranty Card, Registration Card | Front Tweeter Mounting Rings 2021-2026 x 2 (ALP-23FORD-ISPK-F-1)* | Front Tweeter Mounting Rings 2015-2020 Adapters x 2 (ALP-15FORD-ISPK-1) |
|  |  |  |

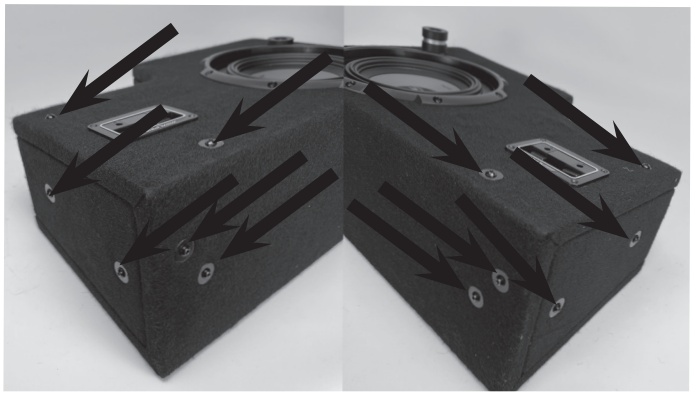
# Accessory List

## Sub Enclosure/Processor Mounting Parts

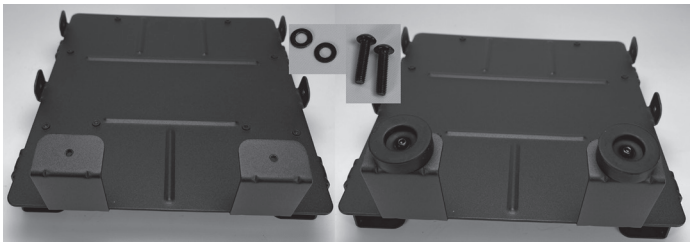
| Subwoofer Enclosure Driver Side (S-DB8V-TRK) | Subwoofer Enclosure Passenger Side (S-DB8V-TRK) | Sub Box Top Cover (ALP-23F150-CVR-RSH) |
|---|---|---|
|  |  |  |
| **Amplifier Bracket Left x 1 (ALP-23F150-BKT-LSH)** | **Amplfier Bracket Right x 1 (ALP-23F150-BKT-RSH)** | **Amplifier Tray (ALP-23F150-TRAY)** |
|  |  |  |
| **Amplfier Mounting Bolts x 4** | **Mounting Bolts With Nuts x 2 (Each)** | **Rubber Mounting Feet x 3 With Mounting Screws & Washers x 3 (Each Enclosure)** |
| |  |  |
| **Front Cover/Trim Bars** | **2-Channel Subwoofer Speaker Cable (ALP-23FORD-SHRN-2)** | **Front/Rear Link Bracket** |
|  |  |  |
| **PXE Power Reducer Adapter (ALP-23FORD-PHRN-1)** | | |
|  | | |

## Enclosure & Amp Rack Assembly

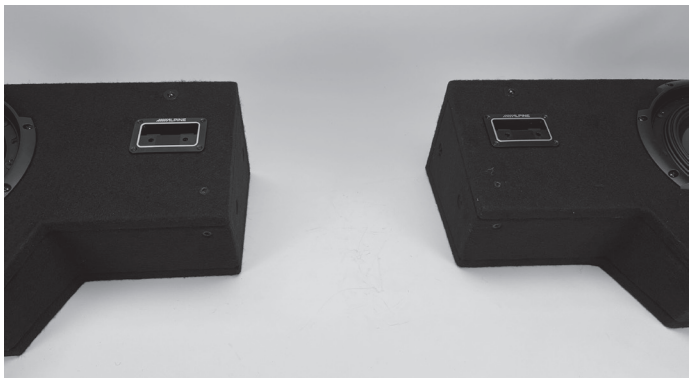
**1** Installation screws are temporarily installed in both driver and passenger side enclosures. Remove all screws to prepare for assembly.



**2** Attach rubber mounting feet to the amplifier tray using the included screws and washers. These parts came in the ALP-23F150-TRAY package.



**3** Place enclosures upside down on a flat surface and set to required width.

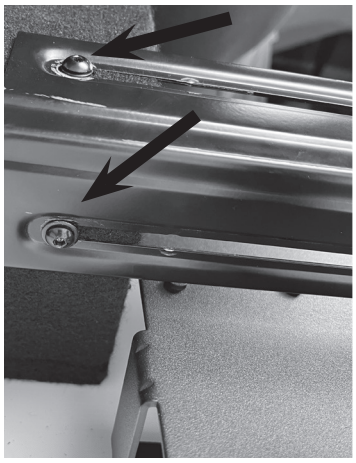


**4** Align amplifier tray with threaded inserts and secure it using 4 screws washers from Step



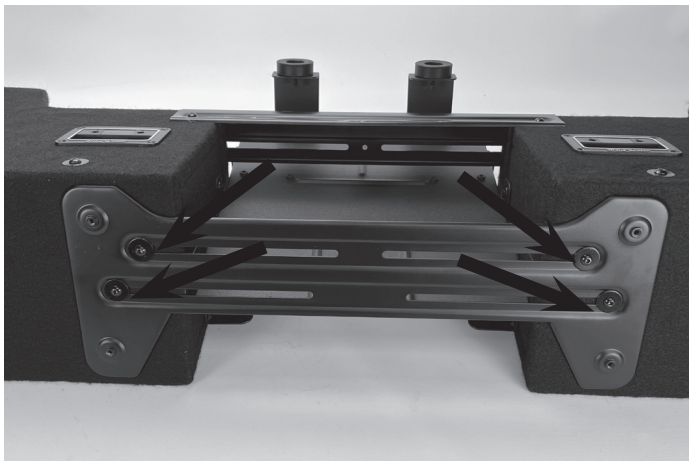
. 1

**5** Secure the rear bracket using the supplied M5x20mm screws (x4) and M5x12 washers (4) from Step 1.



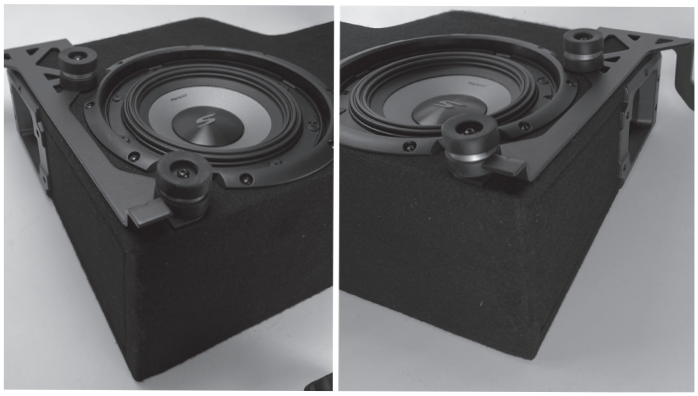


**6** Rotate the enclsure and attach the front bracket using the supplied M5x20mm screws (x4) and M5x12 washers (x4) from Step 1.

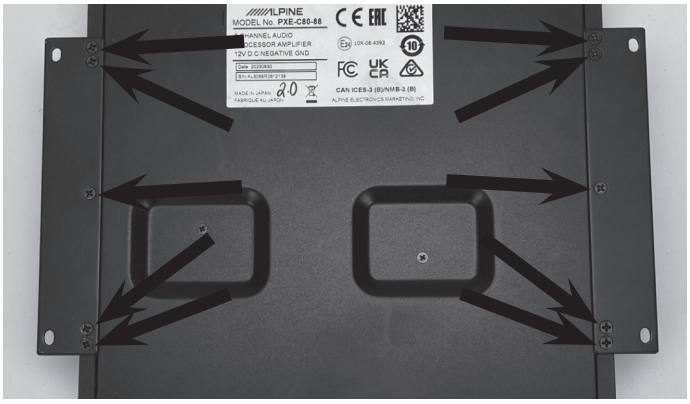


## Enclosure & Amp Rack Assembly (Continued)

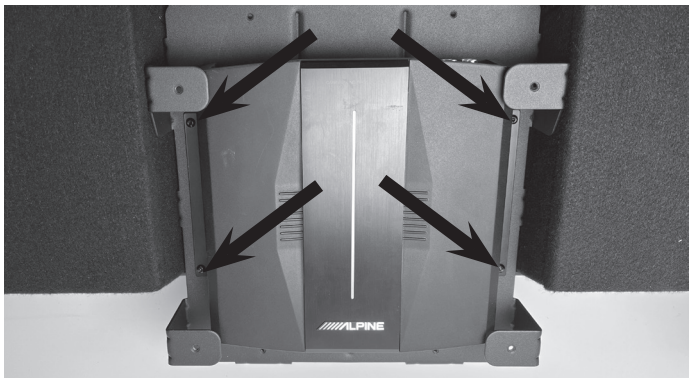
**7** Attach the side brackets to each of the enclosures by removing the mounting feet, aligning the brackets to those holes, and re-attaching the feet.



**8** Use the 10 included machine screws and a phillips screwdriver to attach the mounting brackets to the bottom of the PXE-C80-88..



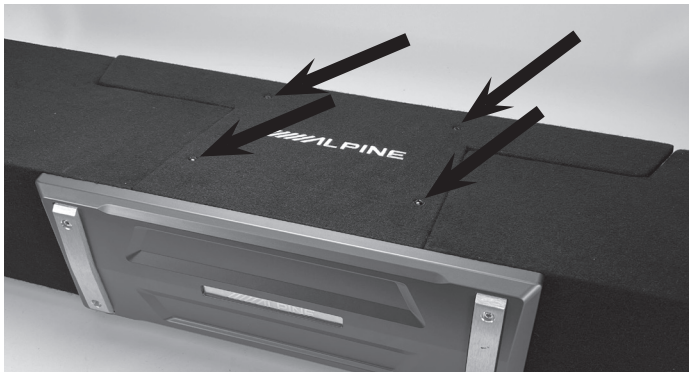

**9** Align the front cover and trim bars, then install with the supplied M5x20mm screws (x4) with a 4mm hex drive.




**10** Align the front cover and trim bars, then install with the supplied M5x20mm screws (x4) with a 4mm hex drive.



**11** The top cover can be aligned to the top of the enclosure and temporarily screwed in. It will need to come off to do the wiring in the vehicle but it's good practice so all the pieces are where they belong.



## Disconnecting The Battery/Batteries

**1** The negative battery terminal is held in by a 7mm nut. Use a ratchet to loosen and remove the terminal.



**2** Slide the terminal aside making sure it can not touch anything..



**3** If the vehicle is a hybrid it will also have a battery in the rear that will need to be disconnected. This is located under the rear seat on the passenger side Use a panel removal tool to release the clips that hold in the cover.



**4** Use a ratchet and a 7mm socket to remove the 7mm screw that attaches the ground wire and remove the ground wire and ensure that it can't touch anything.

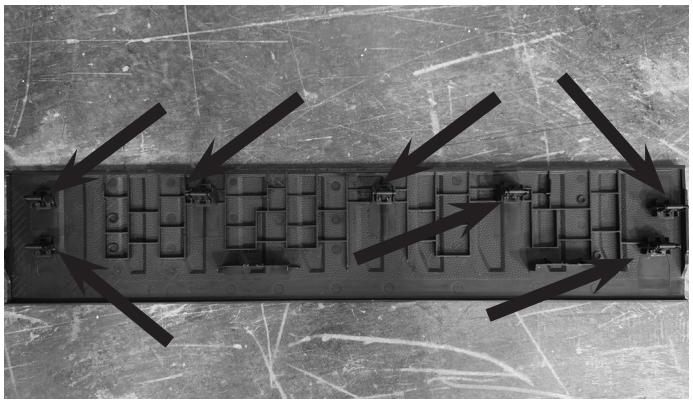


## Routing The Wire

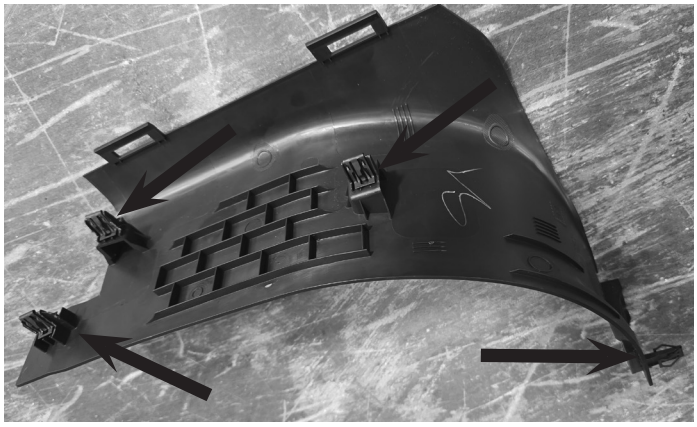
**1** The wiring is going to run along the passenger side of the vehicle. All of those panels need to be removed to run the wires along the factory wiring.



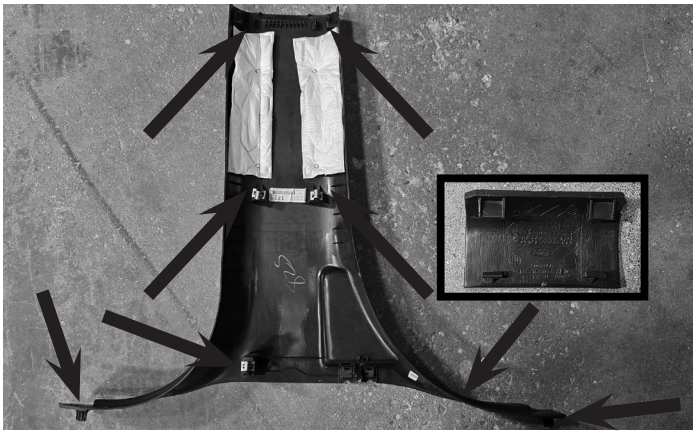
**2** Use a panel removal tool to release the clips of the lower kick panel. The back side of the panel is shown here to see all the clip locations.



**3** Use a panel removal tool to release the clips of the kicks panel.



**4** Use a panel removal tool to release the clips of the D pillar and remove it.



**5** Use a panel removal tool to release the clips of the back floor panel and remove it.



**6** Use a panel removal tool to release the 3 clips of the panel below the passenger side dash and remove that. Some trim levels have a module attached to the panel. Remove the two 7mm screws to remove the module and the panel.



## Routing The Wire (Continued)

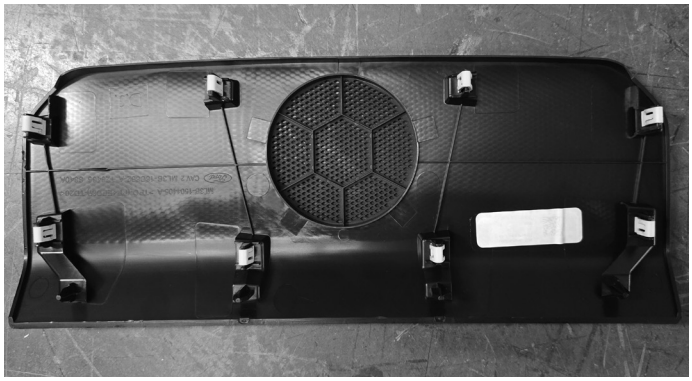
7 Remove the glove box by pressing in on the tabs at each side.



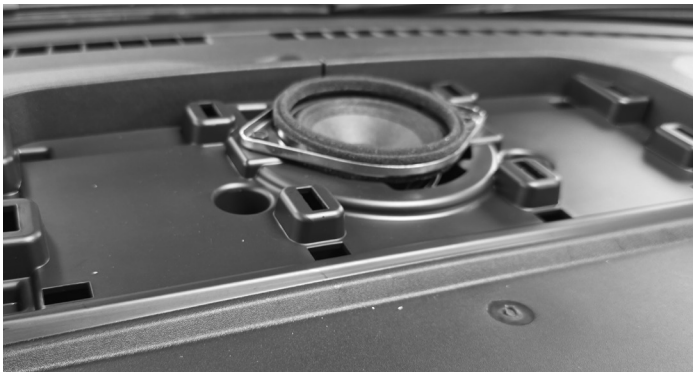
8 Pick up the plastic cover on top of the dash and remove it.



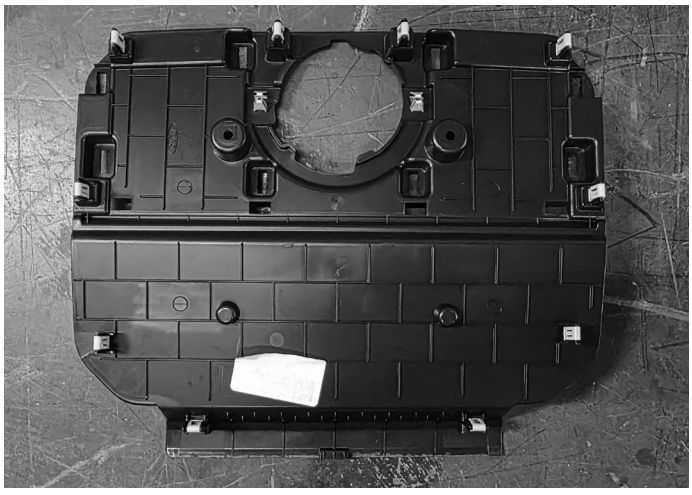
9 This will allow access to the front of the center channel grille cover. Use a panel removal tool to release the 8 clips and remove the panel. These clips can be fairly tight so be careful not to damage the plastic.



10 Use a ratchet and socket to remove the two 7mm screws holding in the center channel speaker. Unplug that and remove it.



11 Use a panel removal tool release the 10 clips holding in the center channel speaker panel. Again these clips are tight so care will need to be used to remove the panel. This will provide access to the back of the head unit.



12 Now that the panels are removed run the +12V constant and ground wires into the engine bay. There's a small OEM grommet on the passenger side firewall to the bottom right of a much larger wiring harness. Remove the smaller grommet.



## Routing The Wire (Continued)

**13** Make an opening in the OEM grommet with a utility knife so there's enough space for the two wires to pass through.



**14** Use a wire fishing tool from the engine bay to reach the passenger kick panel. Tape the +12V constant wire to it and pull it through. The angle to get through is tight so it's better to do one wire at a time and could be easier with an extra set of hands on the other side. Once the +12V constant wire is through leave enough slack and tape the ground wire to it and pull it through.



**15** With both the wires through remove the tape and run them through the OEM grommet. Snap the grommet back into place on the firewall.

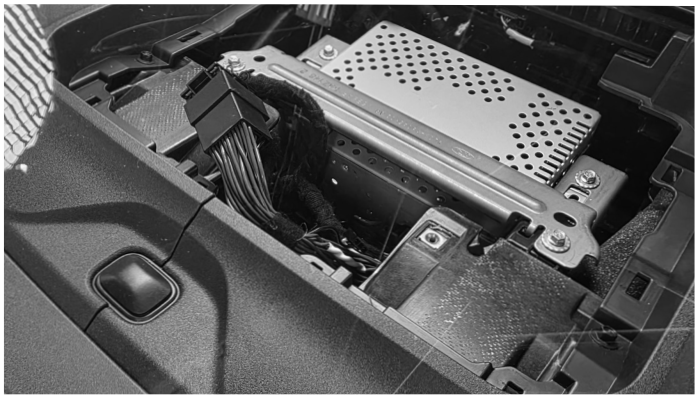


**16** Use a wire fishing tool to get from the glove box area to the back of the head unit. Route the T-Harness to the back of the head unit. Make sure to route the correct end through.



## Routing The Wire (Continued)

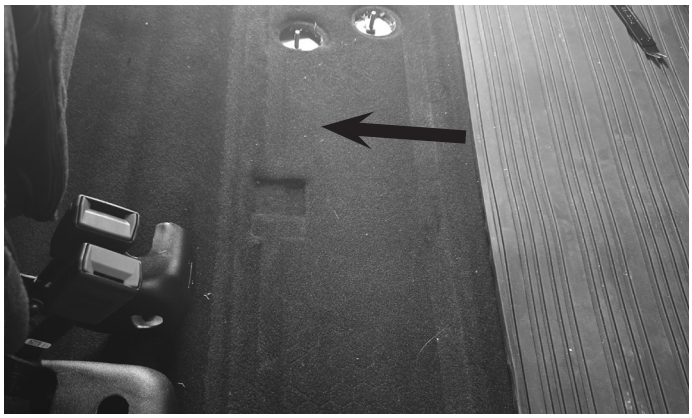
**17** Reach behind the head unit and unplug the harness. It is difficult to see this so it will need to be done by feeling. There are two harnesses plugged in and you can feel which one has more pins than the other. This will be the harness closer to the right. Plug the male end of the T-harness into the head unit and the other side into the OEM harness. If this is a 2015-2020, make sure to use the correct adapter here.



**19** Continue to route the T-Harness, +12V constant, and ground wires along the factory wiring heading to the back of the vehicle.



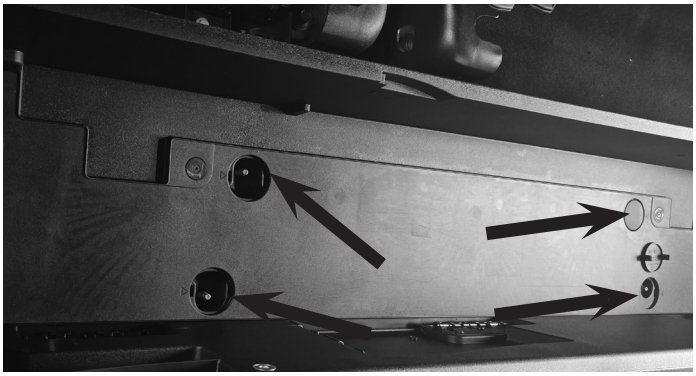
**21** Use a utility knife to cut a small incision in the middle of the carpet. Run the wires through this.



**18** Route the other side of the T-Harness with zip ties along the factory wiring that is behind the glove box and down to the kick panel area to meet up with the +12V constant and ground wires that were ran earlier.



**20** Some trim levels will have a storage compartment under the back seat that will need to be removed. If your vehicle has this, use a panel removal tool to remove the covers to expose the 10mm nuts and remove those with a socket and ratchet.



## Mounting The Subwoofer Enclosures & Wiring The Processor

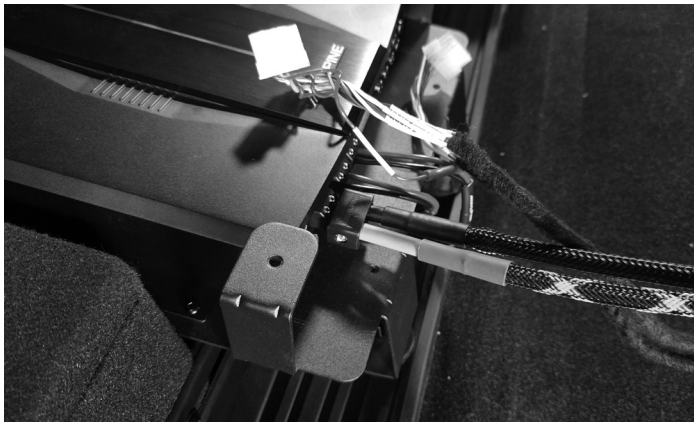
1 Lift the sub enclosures and place them in the rear seat. This may be easier with the help of another person. There's an OEM hole in the bracket that holds the rear seat into place. Line up the passenger side and use the included nut & bolt to temporarily hand tighten into place.



2 The drivers side seat bracket also has a hole in it from the factory. With the passenger side still lose line up the sub enclosure bracket with the factory hole and hand tighten the nut and bolt.



3 Attach the +12V constant and ground wires to the included reducer adapter using a 2mm allen wrench. Please note that the the reducer adapter has a flat side and rounded side of the prongs that go into the processor. The flat side should be pointed up. Also notice that the drivers side connection is the +12V constant and the drivers side is the ground. This needs to line up with the terminals on the processor otherwise it can cause damage. With the reducer adapter attached to the wires secure it with the flat sides up to the processor using a 2mm allen wrench.

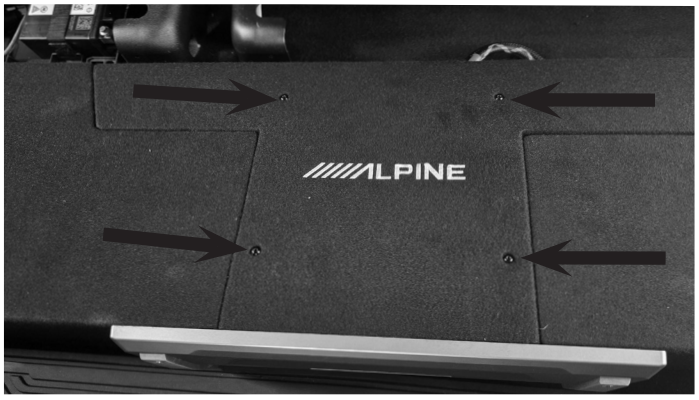


4 Plug in the load resistor harness and T-harness to the front and back of the processor. The wire is just can be routed along the passenger side edge of the processor under the tabs so it can stay hidden. There will likely be some slack wire for the +12V constant and ground wires. This can be hidden under the carpet now that all of the connections are made. The mounting bolts can now be tightened down with a 10mm socket and ratchet.



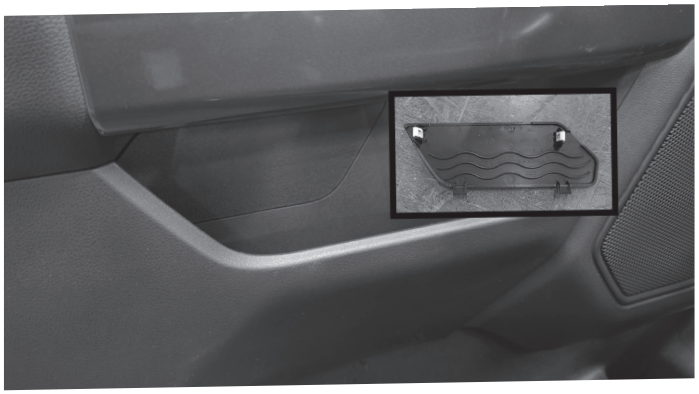
## Mounting The Subwoofer Enclosures & Wiring The Processor (Continued)

17 The top cover can now be mounted into place using the 4 supplied screws and a ??mm wrench.

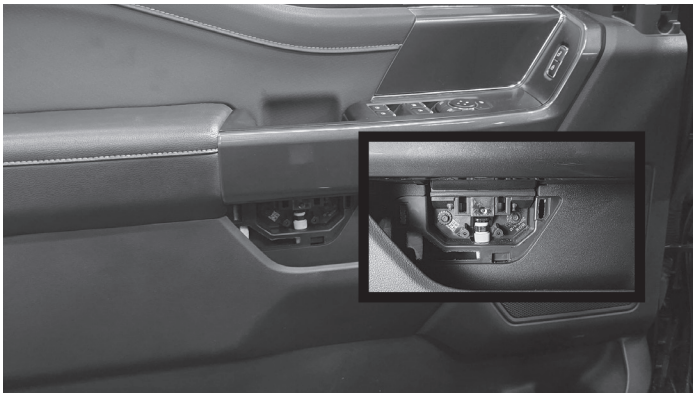


## Front Door Speaker Installation

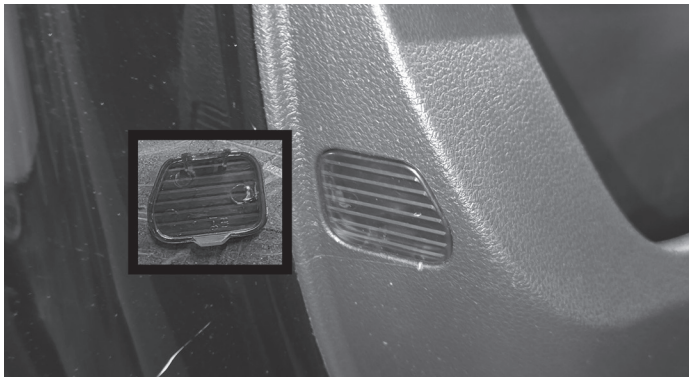
**1** Remove the center panel using a panel removal tool to unsnap the two top clips. Then slide the panel up to remove it.



**2** Use a ratchet and a 7mm socket to remove the two 7mm screws behind the panel.



**3** Use a panel removal tool to unsnap the top clip and remove the lower reflector.



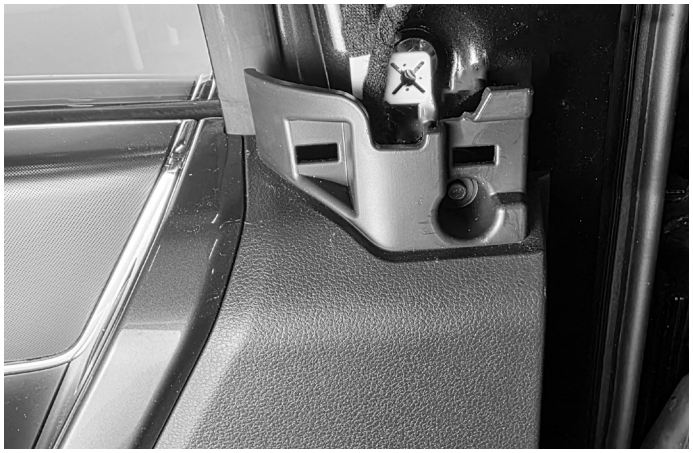
**4** Use a ratchet and a 7mm socket to remove the 7mm screw behind the panel.



**5** Use a panel removal tool to release the 4 clips and remove the top corner panel.



**6** Use a ratchet and a 7mm socket to remove the 7mm screw behind the panel.

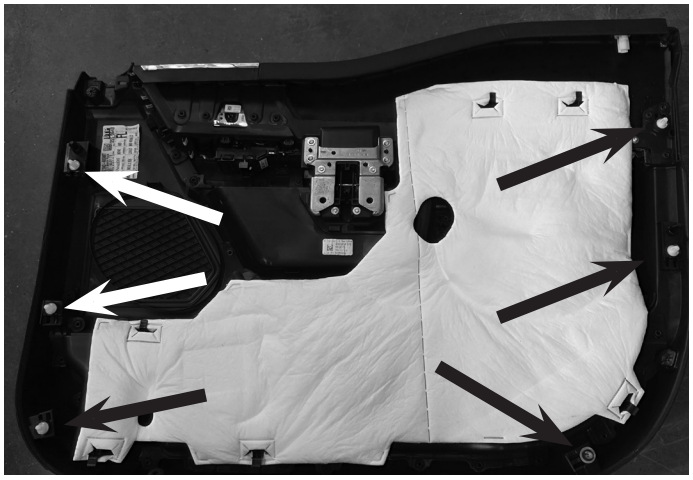


## Front Door Speaker Installation (Continued)

7 Use a ratchet and a 7mm socket to remove the two 7mm screws at the bottom of the panel.



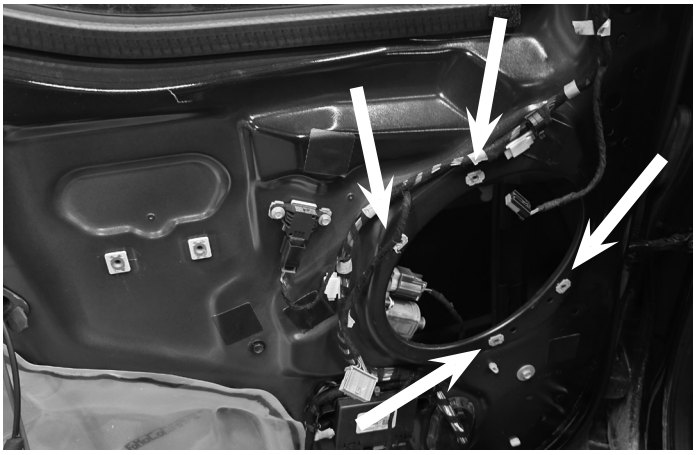
8 Use a panel removal tool to release the 6 clips along the sides of the panel.



9 Unplug the harness for the door locks, unsnap the door lock button, and release the handle cable. The handle cable has a tab right at the bottom of it that can be released with a flat head screw driver or panel tool.



10 Remove the four 7mm screws, unplug, and remove the OEM speaker.



## Front Door Speaker Installation (Continued)

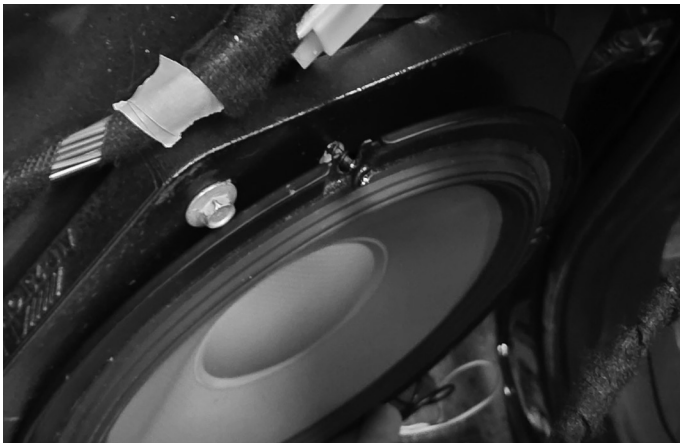
**11** Mount the speaker adapter ring using the 4 OEM screws from the previous step. Plug the adapter into the OEM speaker harness.



**12** Remove the backing from the speaker foam roll and run it along the back outer basket of the 8” woofer.




**13** Plug in the woofer terminals. Mount the 8” woofer to the adapter ring. The adapter ring has pre-drilled holes. It can be attached using 4 of the provided door speaker mounting screws and a phillips screw driver.



**14** Plug all the OEM harnesses back in, mount the door with the OEM clips, and screw in the six 7mm screws to put the door back together. Repeat the process on the passenger side.



## Front Tweeter Installation

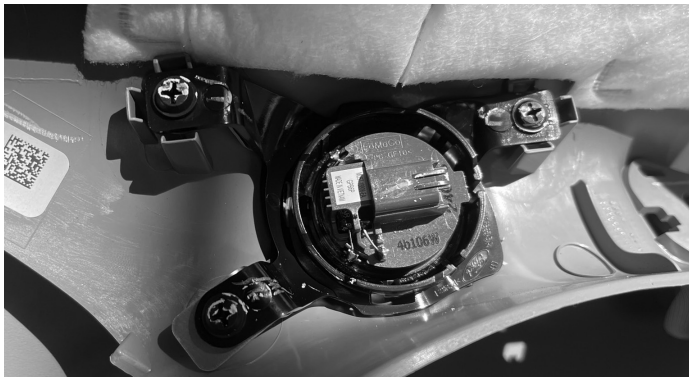
**1** There's a small tab at the bottom of the trim panel for the pillar. Use a hook tool to release that panel being careful not to scratch or damage the plastic.



**2** Use a ratchet and a 10mm socket to remove the two 10mm screws behind the panel. Remove the panel and unplug the factory tweeter.



**3** Use a phillips screwdriver to remove the 3 factory screws holding the tweeter in place.



**4** The Alpine tweeter needs to be removed from it's housing. Unscrew all the pieces. This is what you will have left.



**5** Attach the included tweeter mounting ring to the front of the tweeter. This is click and turn in place to hold the tweeter. If this is a 2015-2020 vehicle make sure to use the included specific adapter for the vehicle.



**6** Click the tweeter into place in the OEM mounting ring.

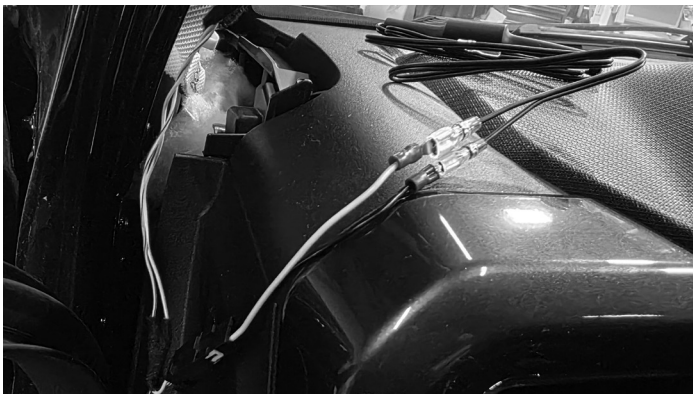


## Front Tweeter Installation (Continued)

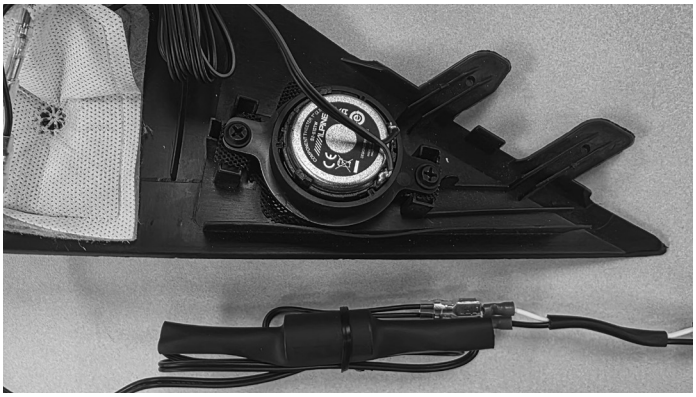
7 Use the 3 phillips screws removed from the earlier step and attach the new tweeter and OEM mounting ring to the pillar.



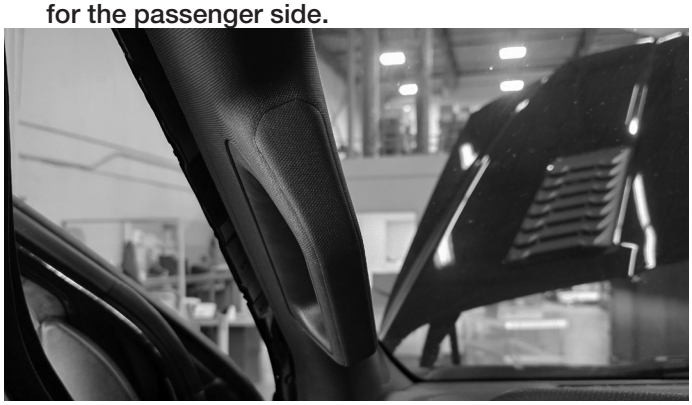
8 Plug the front tweeter adapter plug into the OEM tweeter plug. The crossover network for the tweeter will plug into that and the other side goes directly to the tweeter. There's plenty of slack wire to hide the crossover in the cavity behind the panel. For the 2015-2020 make sure to use the correct adapters for that.



8 If you have a 2015-2020 use the specific adapter for that and attach the tweeter with 2 of the phillips screws.

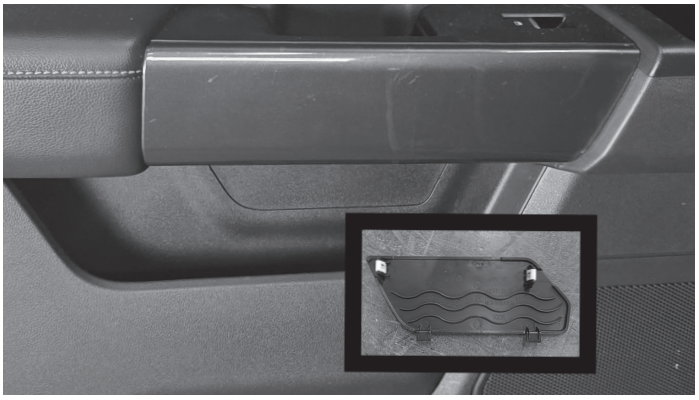


10 Reattach the factory panel and repeat the process for the passenger side.

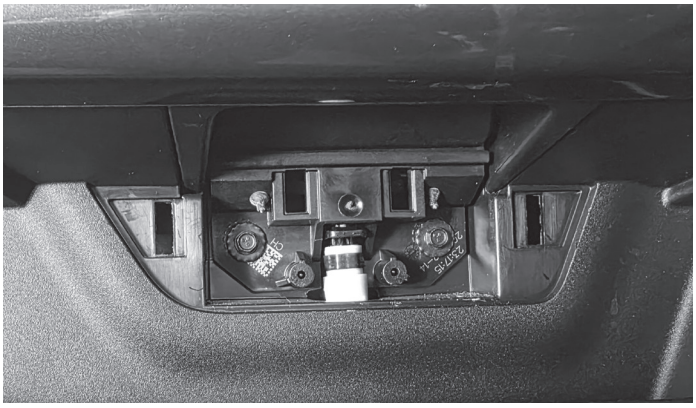


## Rear Door Speaker Installation

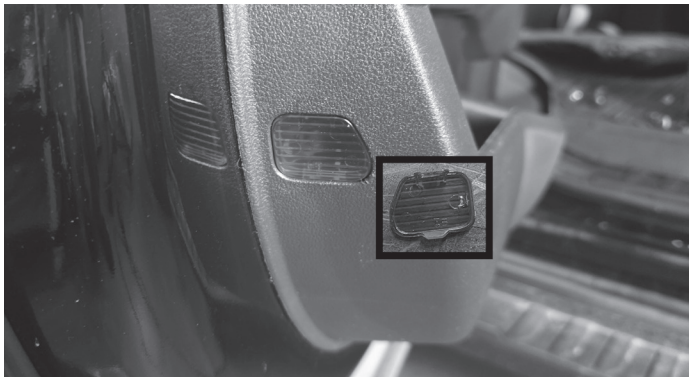
**1** Remove the center panel using a panel removal tool to unsnap the two top clips. Then slide the panel up to remove it.



**2** Use a ratchet and a 7mm socket to remove the two 7mm screws behind the panel.



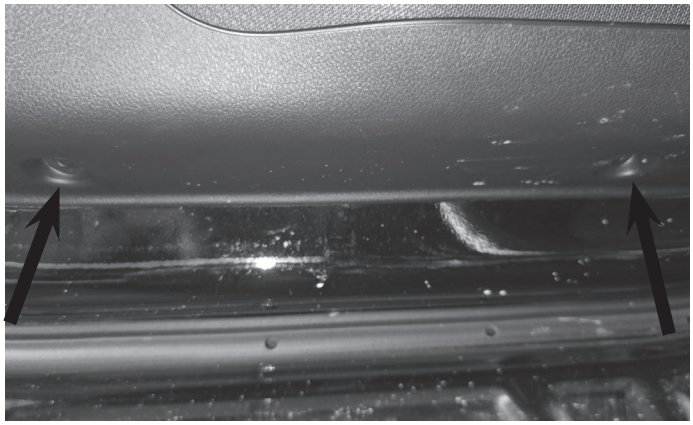
**3** Use a panel removal tool to unsnap the top clip and remove the lower reflector.



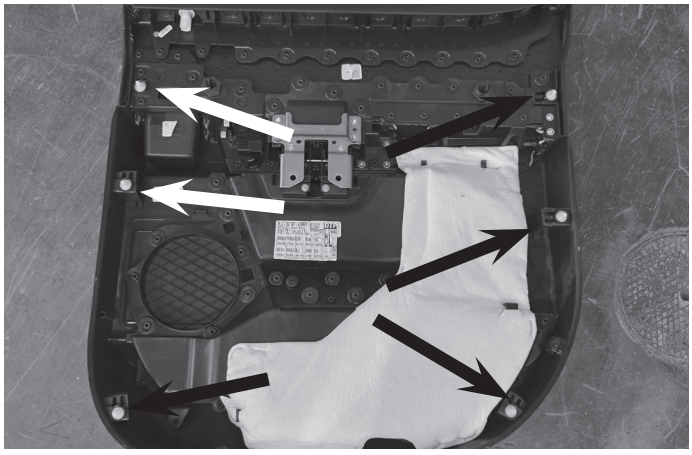
**4** Use a ratchet and a 7mm socket to remove the 7mm screw behind the panel.



**5** Use a ratchet and a 7mm socket to remove the two 7mm screws at the bottom of the panel.



**6** Use a panel removal tool to release the 6 clips along the sides of the panel.



## Rear Door Speaker Installation (Continued)

7 Unplug the harness for the door locks, unsnap the door lock button, and release the handle cable. The handle cable has a tab right at the bottom of it that can be released with a flat head screw driver or panel tool.



9 Mount the speaker adapter ring using the 3 OEM screws from the previous step. Plug the adapter into the OEM speaker harness. Plug in the woofer terminals. Mount the coaxial speaker to the adapter ring. The adapter ring has pre-drilled holes. It can be attached using 4 of the provided door speaker mounting screws and a phillips screw driver.



8 Remove the three 7mm screws, unplug, and remove the OEM speaker.



10 Plug all the OEM harnesses back in, mount the door with the OEM clips, and screw in the six 7mm screws to put the door back together. Repeat the process on the passenger side.

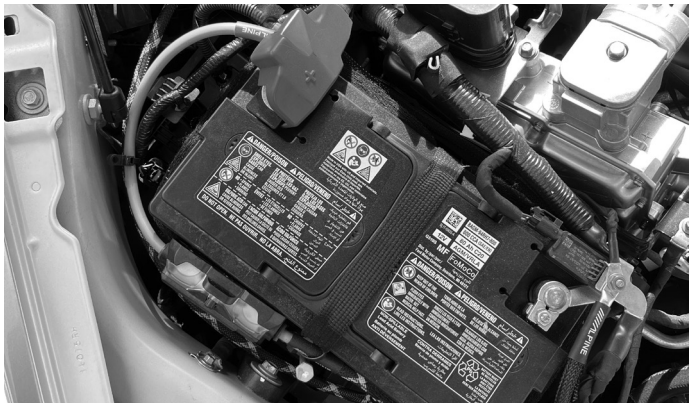


## Re-Connect Batteries

**1** Route the fuse holder to the front of the battery.



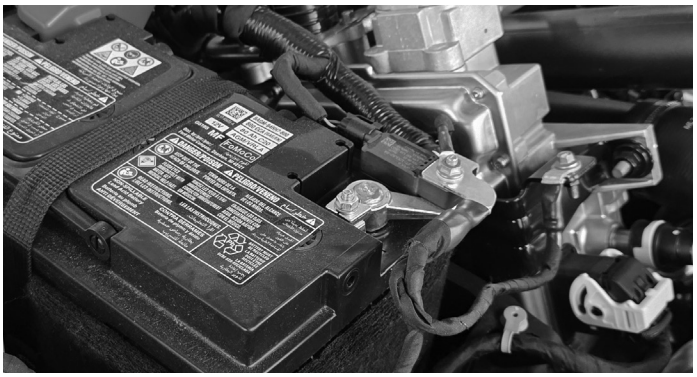
**2** Connect the ring terminal to the +12V side of the battery. Zip tie the fuse holder and wire into place.



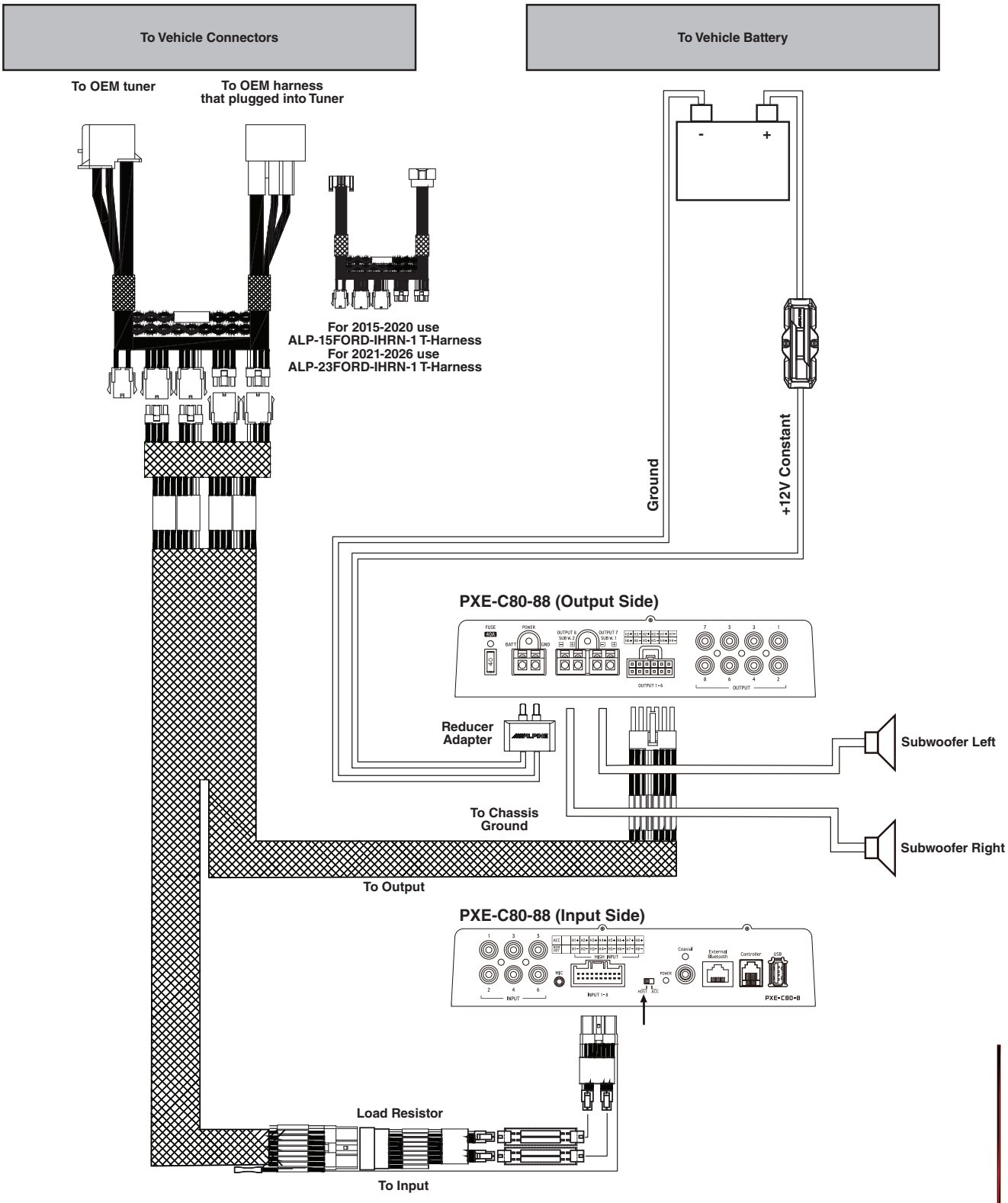
**3** Re-connect the negative terminal in the rear and snap the cover back into place.



**4** Re-connect the negative terminal of the front battery.

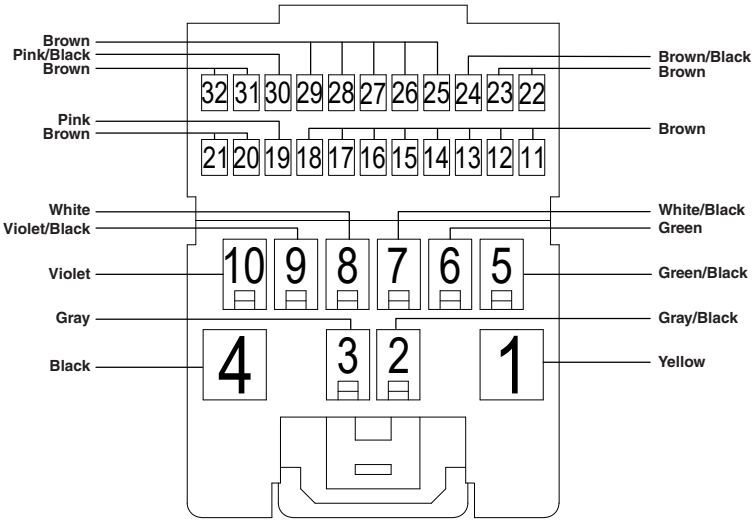


# PSS-23FORD-F150 Wiring Diagram

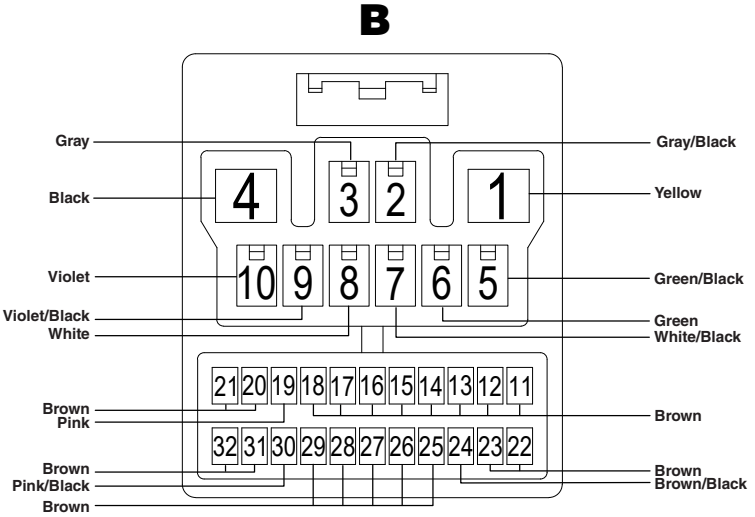


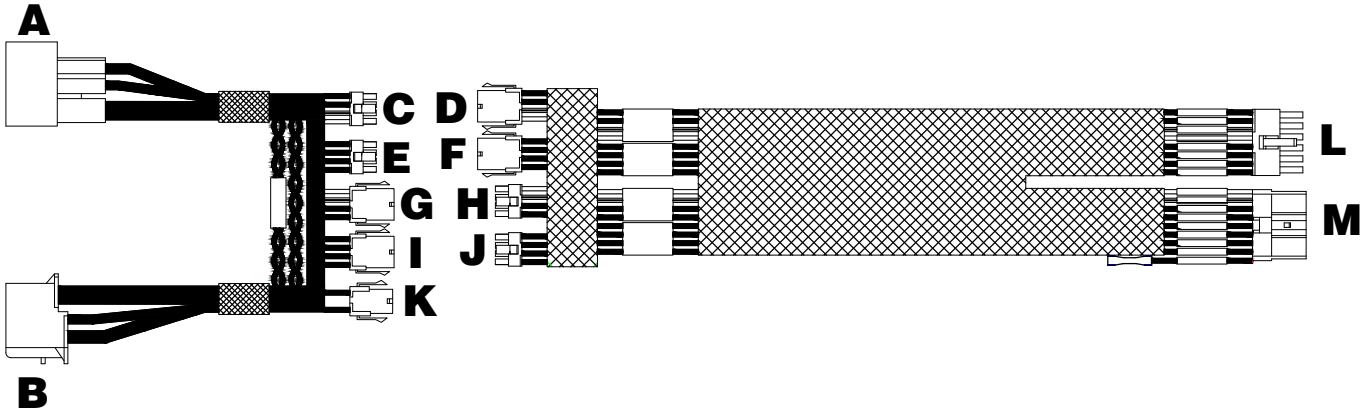
## Wire Harness Pin Outs

**A**



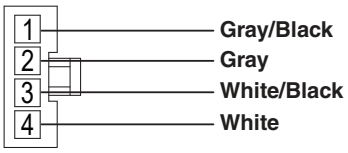

**B**



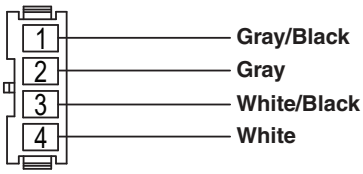



## Wire Harness Pin Outs (Continued)

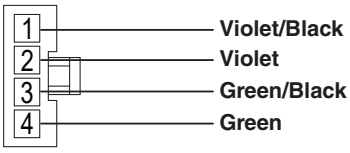
### C



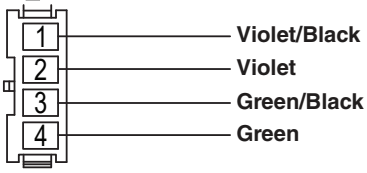

### D



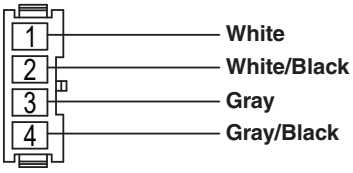

### E




### F



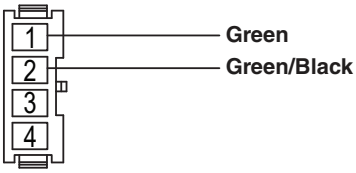

### G




### H



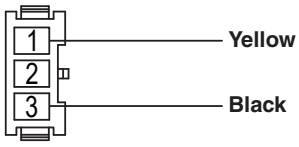

### I



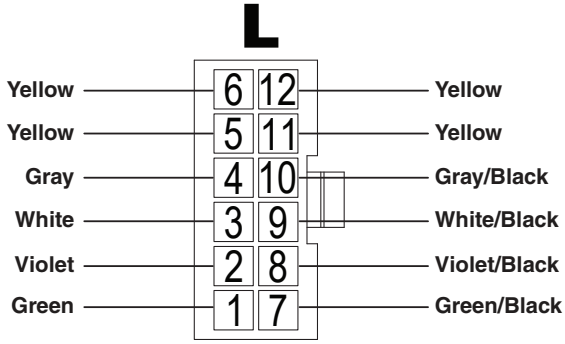

### J



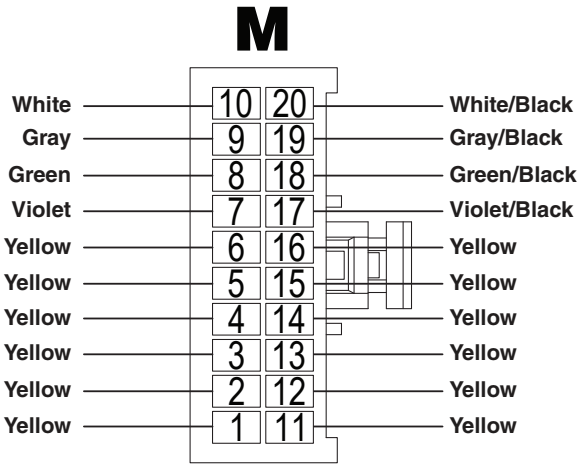

### K




### L




### M



## Specifications- PXE-C80-88

| | |
|---|---|
| Dynamic Range | |
| Signal-To-Noise-Ratio (High level: 40k-AES17+A-weighted) | ≥80dB |
| Signal-To-Noise-Ratio (RCA: 40k-AES17+A-weighted) | ≥95dB |
| Frequency Response | 20Hz-20kHz |
| THD+N | |
| Input Impedance | Low-level input: 20KΩ<br>High-level input: 330Ω |
| Low-Level Output Impedance | 51Ω |
| Scope Of Signal Input And Output | RCA Input: 7.5Vpp; High Level: 24Vpp; RCA Output: 7.5Vpp |
| Ambient Temperature | -20 - 60°C |
| Storage Temperature | -40 - 85°C |
| Power Source | 9V - 15V DC |
| Active REM Input | Options of high-level activation (H1+/H1-) and ACC activation for selection |
| Active REM Output | +12V activation; Voltage output (0.1A) |
| Stand-by Power Consumption | ≤0.1W |
| Gross Weight | 1.7kg<br>3 pounds 12 ounces |
| Dimensions | 210mm (length) x 190mm (width) x 45mm (heigth)<br>8-17/64” (length) x 7-31/64” (width) x 1-49/64” |

| | |
|---|---|
| Type of Input Signals | 6-channel high-level, 6-channel Aux, S/PDIF, Coaxial, Bluetooth |
| Output Type | 12-Channel RCA output, 8-Channel high-level |
| Output Signal Gain | Range of gain: mute, -59.9dB - 0dB |
| Native Sample Rate | 32k - 96k |
| Output Signal EQ | 1. Range of frequency: 20Hz - 20KHz, resolution 1Hz<br>2. Q-Factor: 0.404 - 28.85, resolution 0.01<br>3. Gain: -12.0dB - +12.0dB, resolution 0.1dB |
| Output Crossover | 1. Types of filters: Butterworth, Linkwitz-Riley, and Bessel<br>2. Filter crossover points: 20Hz - 20KHz, resolution 1Hz<br>3. Filter slope (Slope) setting: 12dB/Oct - 48db/Oct |
| Output Phase Position And Delay | Phase: 0°/180°<br>Delay: 0.000-20 milliseconds, 0.00-692cm, 0.00-273inches |
| Number Of Preset Sound Settings | 6 |

## Specifications- S2-S65

| | |
|---|---|
| Woofer | 6-1/2” (16.5cm) PP Cone |
| Tweeter | 1” (2.5cm) Cloth Dome |
| Maximum Peak Power | 240 Watts |
| Maximum RMS Power | 80 Watts |
| Impedance | 4 ohms (DCR 3.7 ohms) |
| Sensitivity | 88 dB SPL (1W@ 1 m) |
| Frequency Response | 55 Hz to 40 kHz |
| Mounting Depth | 2-1/4” (5.8cm) |
| Cutout Diameter | 5” (12.9cm) circle |

## Specifications- S2-S80C

| | |
|---|---|
| Woofer | 8” (20cm) PP Cone |
| Tweeter | 1” (2.5cm) Cloth Dome |
| Maximum Peak Power | 260 Watts |
| Maximum RMS Power | 85 Watts |
| Impedance | 4 ohms (DCR 3.7 ohms) |
| Sensitivity | 89 dB SPL (1W@ 1 m) |
| Frequency Response | 55 Hz to 40 kHz |
| Mounting Depth | · 2-1/2” (6.6cm) |
| Cutout Diameter | 7” (17.8cm) circle |

## Troubleshooting Guide

| Symptom | | Possible Cause | Remedy |
|---|---|---|---|
| 1 | PXE-C80-88 not powering on. | Fuse in the vehicle has blown. | Inspect wiring for shorts and replace fuse. |
| | | Harness is unplugged. | Verify every connection from the installation connections diagram. |
| | | Improper Voltage | Test the power wires at the processor with a digital multimeter and trace from there. |
| 2 | Not getting any sound. | Harness is unplugged. | Verify every connection from the installation connections diagram. |
| | | Attempted to change the factory tuning. | The unit is pre-tuned specifically for this vehicle. By changing the tuning it could have caused a setting like the mixer to be set to something it shouldn't be. The vehicle will need to be tuned again. |