

2004-2009 Toyota Prius Hybrid Aftermarket Double DIN Stereo Installation Manual



2004-2009 Toyota Prius Hybrid with JBL Amplified Sound System and Navigation **Installation Manual**

For this installation, we will be installing a Pioneer AppRadio 4 with Apple CarPlay

Vehicle: 2008 Toyota Prius Hybrid Touring Edition with Stock Amplified JBL & Navigation System

Budget: \$600.00

Actual Cost: \$580.00 for all components used for this installation

Once this installation is complete, you will:

- Retain your factory JBL Amplified 9 Speaker System
- Retain Audio Steering Wheel Controls including Voice Command replaced by Siri
- Retain perfect MFD Functionality including Climate Controls
- Retain a fully Functional Navigation and Bluetooth phone
- Fully reversible installation back to the stock system if needed (no stock wires will be cut)

Once this installation is complete, you will not have:

- The beep will not work, but we are working on a solution for this
- The Auxiliary input in the center dash armrest console – but an adaptor can be purchased to retain its functionality. Unfortunately, you have to purchase the Scosche Dash kit since it is not sold separately, but this kit does NOT fit into the dash correctly, which is why we always use Metra for all installation components.

Components Needed for Installation:

- Pioneer AppRadio 4
 - Includes:
 - USB Extension (USB1)
 - GPS Antenna
 - Microphone
 - AUX Input Cord
 - Pioneer Wiring Harness
- Metra 95-8240B Dash Kit with 68 Ohm Resistor
- Metra Axxess ASCW-1 Universal Steering Wheel Control Interface
- Metra TYTO-01 JBL Amplifier Interface Harness
- Micro Bypass – Video Motion Bypass Interface (optional)

Installation Materials:

- Posi-Tap Wire Taps
- Soldering Gun with lead free solder
- Butt Connectors or crimp caps (18-22 AWG), ground connectors (1-1.5 mm)
- Electrical Tape
- Zip Ties – Large and small

- Wire Crimpers with Wire Cutter
- Spool of Wire for grounding (Copper ONLY)
- USB Extension Cable (USB2)
- High-Speed HDMI Cable
- Lightning to USB Cable
- Apple AV Adapter (For AppRadio)
- Power Drill with Extensions and various drill bits
- Screw Driver – Philips
- Socket Wrench – 10 mm Socket
- 3M Double Sided Tape (Included with AppRadio accessories)
- Dash Tear Down Tools (Soft Plastic for prying dash connectors)

If using a soldering gun for the connections, you will also need heat shrink tubing and a heat gun



TYTO-01 & ASCW-1 Allow the Amp & Steering wheel controls to continue functioning

After gathering all electronics and materials needed, please follow the instructions below:

Note: You can either solder your connections or use butt connectors/crimp caps – your choice – I prefer solder and heat shrinking. The Metra 95-8240B, TYTO-1, ASWC-1, and Pioneer System ALL include Installation instruction manuals. You should consult these manuals and become familiar with the installation procedure of every individual component before attempting this install.

Key

- ✚ *Connect = solder & heat shrink, butt connector, or crimp connector

1. **Set up a station to begin preparations for the installation**

You will need: If using the soldering method; Heat Shrink wraps, Heat Gun, Soldering gun, Solder, Posi-Taps, Electrical Tape, Zip ties, TYTO-01, ASWC-1, Pioneer Harness, and the 68 Ohm Resistor. If using the butt connector or crimp cap connector method, you will substitute the soldering materials for Crimp caps or Butt connectors

2. **Prepare the ASWC-1 Steering wheel control interface**

- Cut approximately 2 feet of wire from the spool of ground wire
- Connect 1 end of ground wire to **BLACK** wire from ASWC, strip the other side and set aside
- Attach a Posi-Tap to Green/Orange Wire
- Attach a Posi-Tap to Black/Green Wire
- Create another ground wire – approximately 2 feet in length; connect a Posi-Tap to one side, leave the other stripped.

3. **Prepare the TYTO-01 and Pioneer Harnesses**

- The TYTO-01 Harness has a 16 Pin Harness and a 20 pin Harness, begin by plugging both harnesses into the TYTO-01, and place the Pioneer/Deck Harness next to it on your work bench.
- Connect the White wire to the left front positive speaker of the Deck harness
- Connect the White/Black wire to the left front negative speaker of the Deck harness
- Connect the Gray wire to the right front positive speaker of the Deck harness
- Connect the Gray/Black wire to the right front negative speaker of the Deck harness
- Connect the Green wire to the left rear positive speaker of the Deck harness
- Connect the Green/Black wire to the left rear negative speaker of the Deck harness
- Connect the Purple wire to the right rear positive speaker of the Deck harness
- Connect the Purple/Black wire to the right rear negative speaker of the Deck harness
- Connect the yellow wire from the TYTO-01 to the Yellow Wire from the Deck Harness
- Connect the black GROUND wire from the TYTO-01 to the Black Wire of the Deck Harness
- Connect the Orange wire from the TYTO-01 to the orange wire from the Deck Harness

IMPORTANT – The Micro Bypass you purchase will come with its own instructions – but they typically are as follows:

- Connect Black wire to ground on stereo – I recommend instead connecting a ground wire to the black wire, then leaving the other end stripped for later mounting.
- Connect Blue wire to Blue/White remote amp wire from Deck Harness
- Connect green wire to green parking brake wire on Deck harness

Back to wiring the final wires

- Connect the Green Parking Brake wire on the Deck Harness to the green wire on the Microbypass

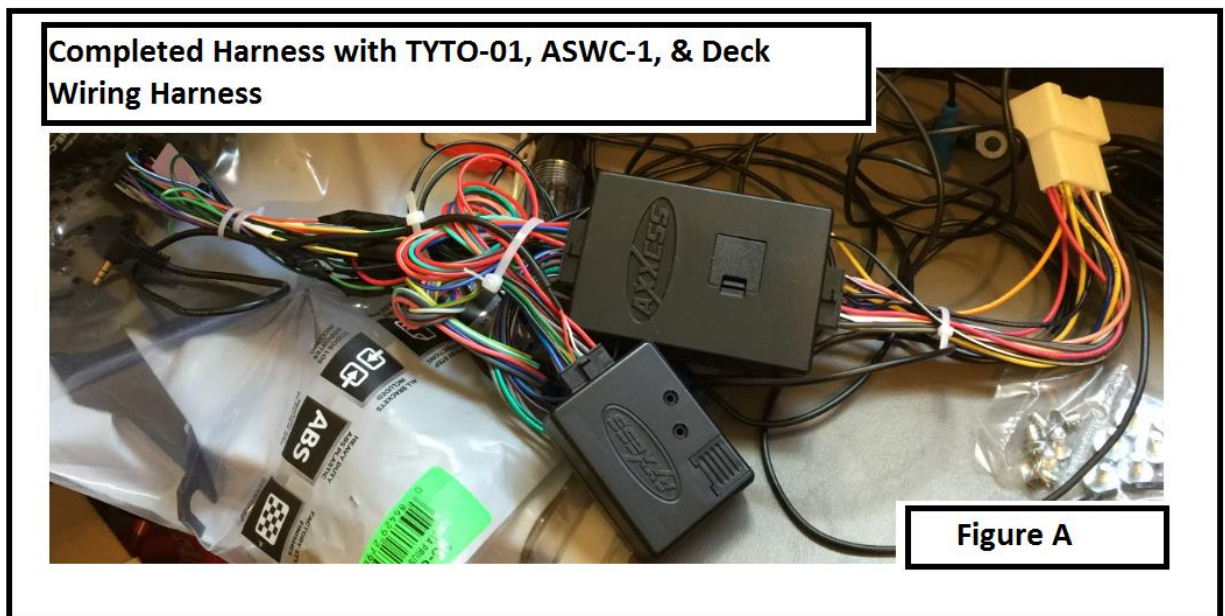
- Connect the Blue/White wire with the attached blue Micro Bypass wire to the amplifier remote turn on wire of the Deck harness

4. TYTO-01 and ASWC-1 Steering Wheel Control interface

- Connect the RED wire from the TYTO-01, RED wire from the ASWC-01, and RED wire from the Deck harness together (RED= 12 Volt Accessory wire/ignition wire).

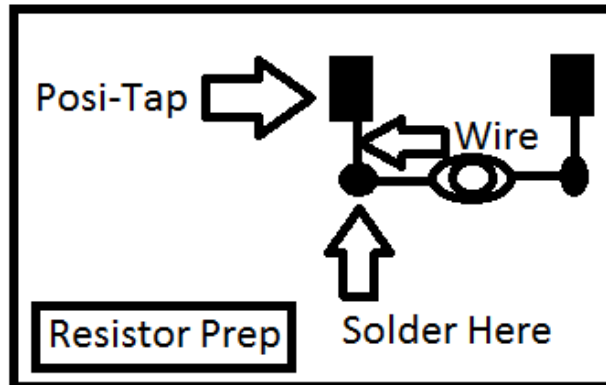
IMPORTANT: After soldering/connecting all Connections, you can either use shrink wrap plus heat to cover the connections, or if you used butt connectors, electrical tape can be supplemented. Crimp cap connectors are much sturdier than butt connectors so no electrical tape is needed. The purpose of the electrical tape is to be sure connections do not break free once you are placing all of the harness wires and TYTO-01 and ASWC-1 Boxes in the dash. I used solder plus shrink wrap, which made for a very clean finished harness. After all connections are made and ground wires and wire taps (Posi-Taps) are prepared, use zip ties to hold everything together in a organized manner.

Figure A shows what your Harness should look like at this point



5. Prepare the 68 Ohm Resistor

- Cut 2 1.5 inch portions of wire from the Wire in your supplies
- Strip back both sides of each wire
- Solder 1 side of each wire to the Resistor (remember to twist resistor single strand wire from each side around each striped end of wire)
- Apply heat shrink or electrical tape to the connections and resistor
- With the remaining two stripped ends, attach a Posi-Tap to each side
- Set aside for now



Be sure to tape up all connections once all soldering is complete

6. **Interior/Dashboard tear down** – There are instructions for this with the Metra 95-8240B Kit as well as many YouTube videos.

I recommend you disconnect the negative battery terminal to ensure no short circuit occurs during the tear down and installation process. As you will see, only 1 plug will be disconnected in the process (Parking Button), so a short circuit is very unlikely but it is always standard practice to disconnect the battery. Install at your own risk!

I recommend using a minimum of 4 towels to cover the dash with as well as the back seat to avoid scratches and scuffs from removed interior trim pieces. A bowl for the screws and Nuts is also helpful to ensure you do not lose them.

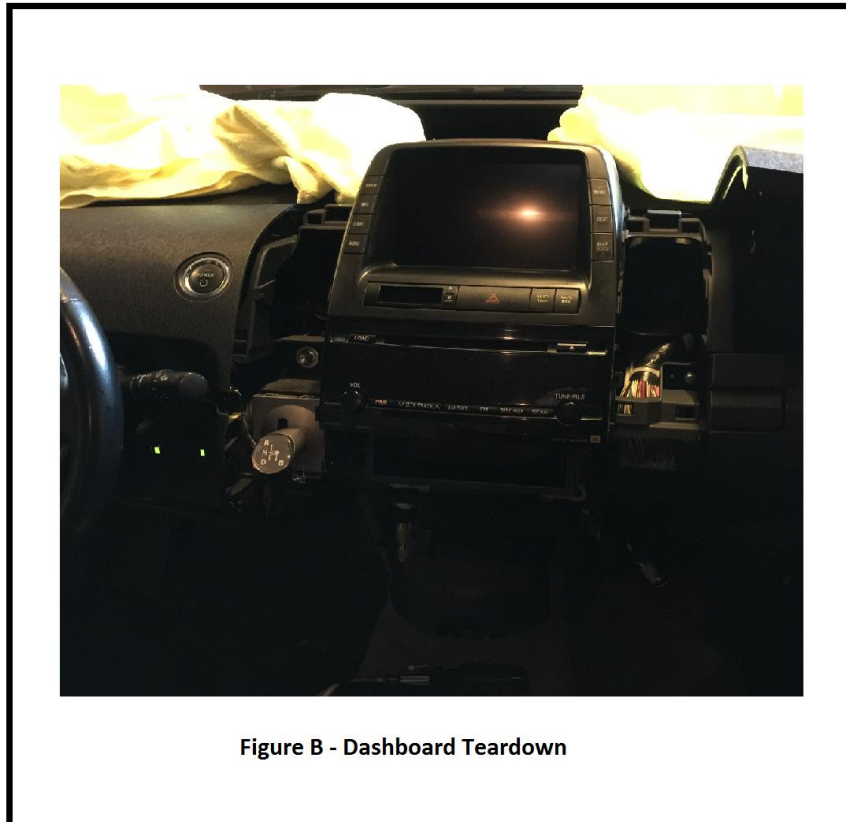
SIMPLIFIED DIRECTIONS

Gather Dash tear down tools, Philips screwdriver, and Socket wrench with 10 mm socket (a long extension is recommended)

- Begin by removing the lower center console, there will be one screw that pops out on the right side. Pull forward on each side, left and right, and pull downwards to remove. No need to unplug the 12V adapter.

- Remove screw from the lower dash panel underneath the steering wheel beside the hood release latch. No Need to unplug anything again, just needs to be loose.
- Remove Left driver side Vent – start by using soft plastic pry tool on the bottom of the vent, and pry upwards. Once loose, pull up and out, set down on towels on dashboard or towels on back seat carefully to avoid scratches. The clips will not break, do not worry if you have to pull hard but be careful and stop if you hear cracking and analyze with a flashlight to ensure you're doing it accurately.
- Remove screw from the bottom lining of vent hole.
- Pry outwards on lower dash piece surrounding the steering wheel, be careful with the last two clips around the steering wheel, they will be the toughest to pop out. However, you only need 1 clip on the outer left dash to come out and the two on the right side by the POWER button to pop out to allow for removal of the right side drivers vent to be removed.
- Pry upwards on the upper dash panel that includes the Power button, no need to unplug it, just make sure it's loose and moving freely.
- Cover Shift Lever with a towel to avoid scratches, then remove the vent in the same manner as the first far left vent, prying up from the bottom, then pulling up. Now, lift the center dash trim panel with the POWER button out of the way to allow clearance of the vent. UNPLUG the Parking button.
- Set Vent aside on towel on back seat.
- Remove the right vent around the stereo. Pry up from bottom and pull upwards until it comes out. Set aside carefully on towel.

Figure B shows where you should be at this point:



Remove MFD (NAVIGATION SCREEN)

- Fold up a towel leaving at least 4-6 layers of cushion and place on top center portion of dash above the POWER button next to the vent gap.
- Remove two 10 mm bolts around Navigation/MFD Screen
- Pull outwards (it will be tough, but just be sure you're ready for the jolt it makes when popping it out of the clips)
- DO NOT unplug the MFD. Set on top of layered towel, the cables are long enough

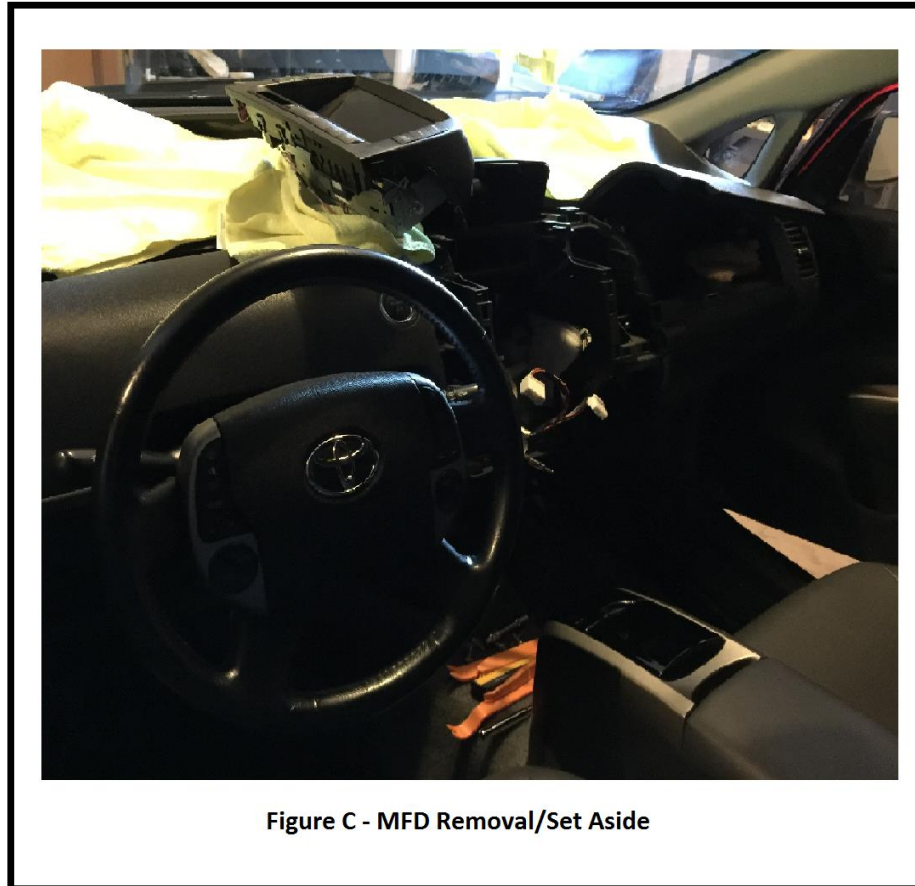


Figure C - MFD Removal/Set Aside

REMOVE FACTORY STEREO AND LOWER STEREO COMPONENTS

- Remove the two screws from the lower panel holding the cubby panel in place under the stereo.
- Pull outwards to unclip the panel and set aside.
- Remove Top Left and Right 10 mm bolts holding the stereo in place
- Remove the Bottom left bolt holding the stereo in place, then the right bolt.
- Pull outwards on the stereo until the clips release
- Unplug both harnesses connected to the factory stereo
- Bring the stock stereo to your designated workplace with your materials and electronics and newly made harness after.

7. Prepare Stereo For Installation

- Take the stock stereo and remove the lower cubby
- Take the new Deck out of the box and mount the two mounting pieces included with the Metra 95-8240B and be sure to mount it in the same place as the stock stereo. It is recommended to set them next to each other and compare and tweak until they are aligned in the same position as shown in Figure D



Figure D - Stereo Prep



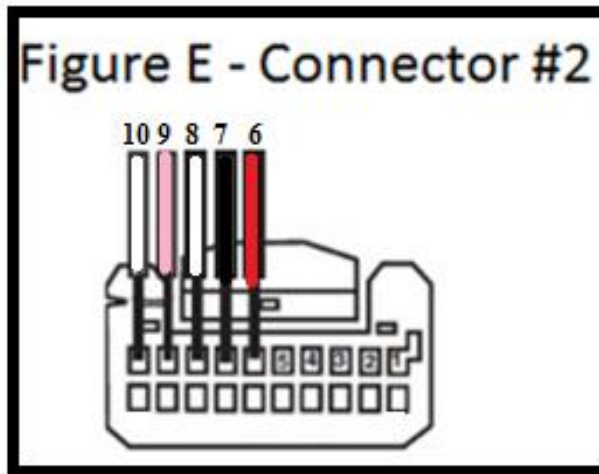
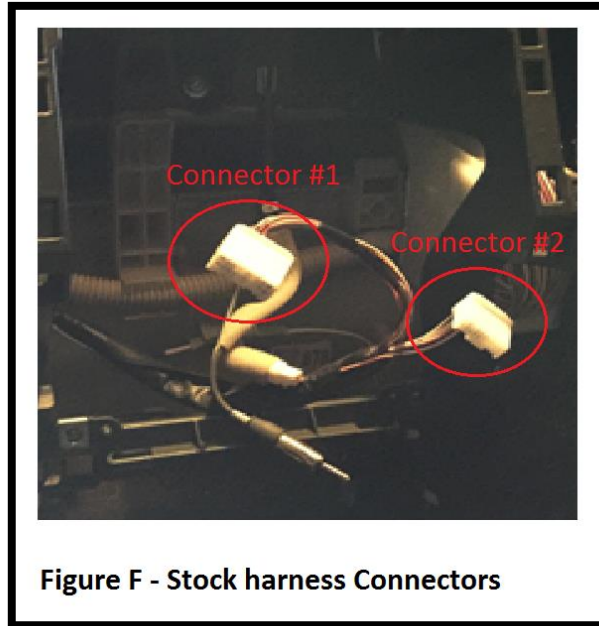
8. Install the Harness with ASWC-1 and TYTO-01 and Wire Taps

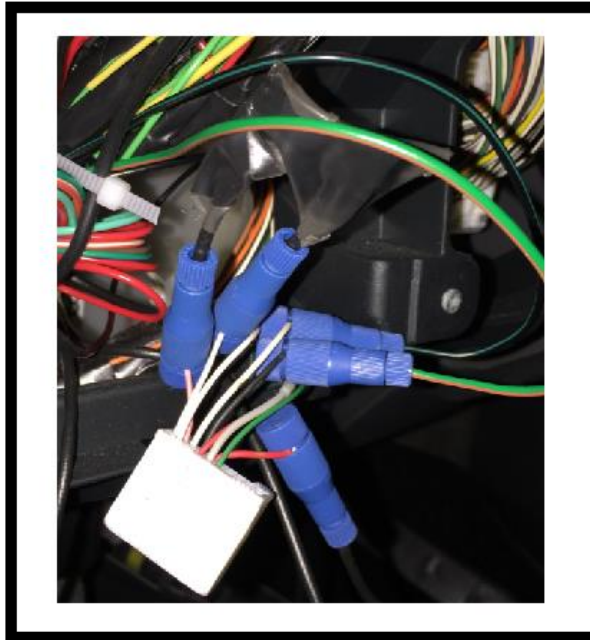
- As you will see, on the JBL head units there is two connectors (oppose to three on the non-JBL)
- One connector is for the TYTO-01 to plug into – **Connector #1**
- The other Connector is where you will add the Resistor and Wire taps – **Connector #2**

Connector #2 & ASWC-1

- Locate Pin 9 & 10, look closely, they are engraved in the connector. Connect one side of the Resistor Posi-Tap to Pin 10, and the other to Pin 9.
- Connect the Posi-Tap from the Black/Green Wire to PIN 8
- Connect the Posi-Tap from the Green/Orange Wire to PIN 7

NOTE: Be sure you align the wire in the Posi-Tap in the middle of the connector and visually inspect it when tapping the wire to ensure it pierces directly through the middle. The stock OEM wires will not be harmed and only have holes afterward which can be covered with shrink wrap if you decide to reverse the installation process.



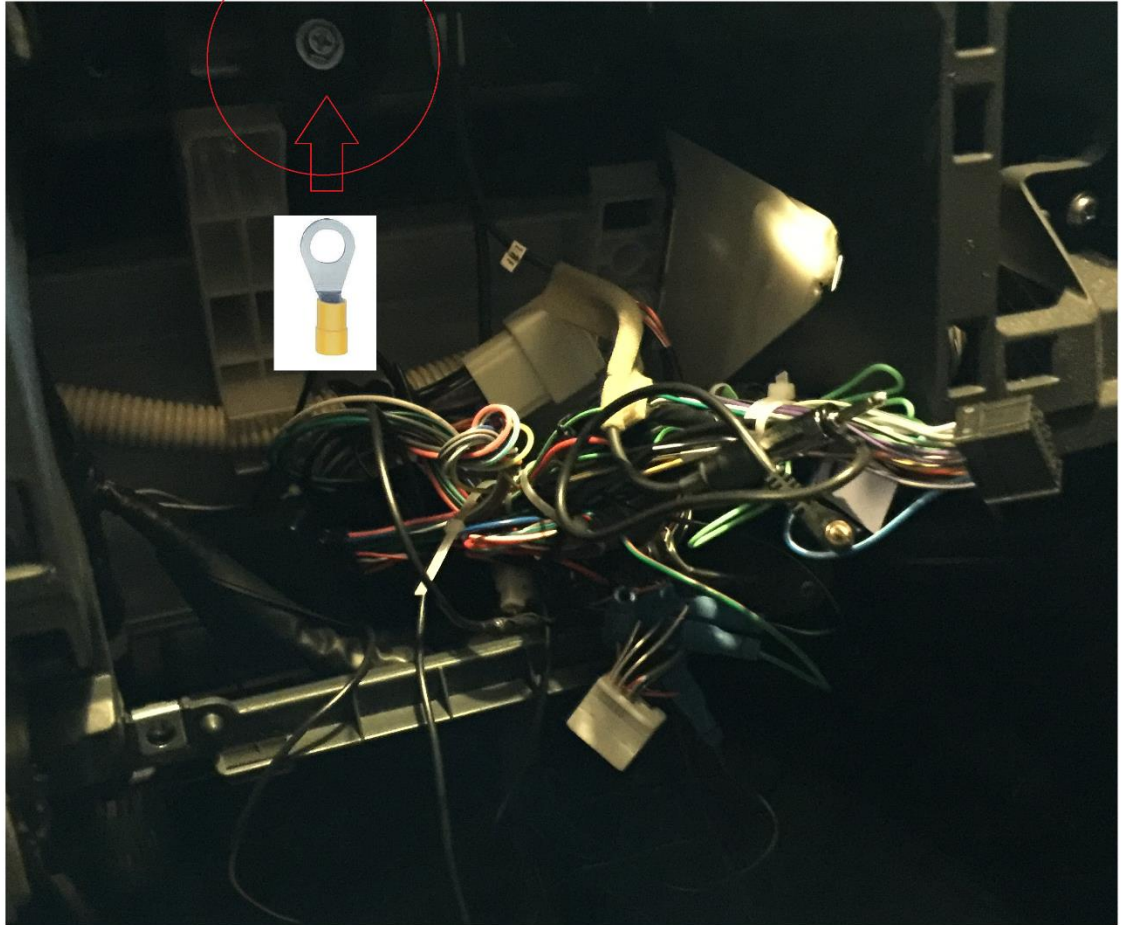


Complete resistor and ASWC-1 Installation and wire tap into Connector #2

GROUNDS

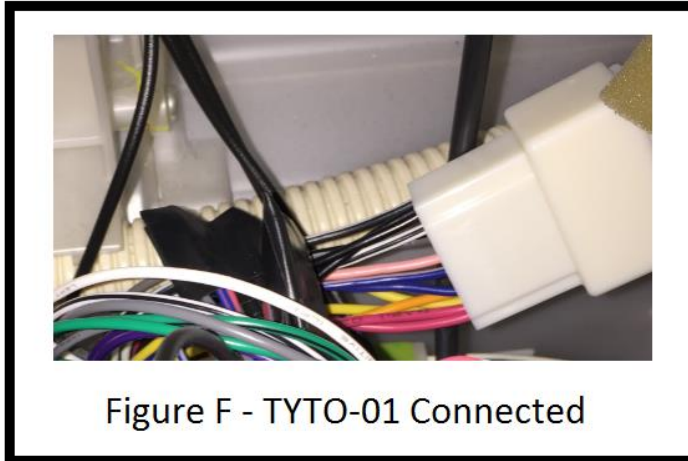
- In the middle of the two upper stereo frame bolts, there will be one 10 mm bolt in the middle, locate it and remove the 10 mm bolt.
- Connect the Posi-Tap from one end of the ground wire you created to PIN 6, leave the other end stripped
- The black wire from the ASWC-1 that you attached a ground wire and left one side stripped will now be utilized
- The Ground from the Micro Bypass that is stripped will now be utilized.
- Attach ALL 3 ground wires together and twist, then connect to a ground connector.
- Pull out on the plastic in front of the threading of the middle bolt and slip the round ground connector behind the plastic panel. Re-Drive the bolt back into place. See image below for reference
- All your grounds are now ready, proceed to the next step

Remove this bolt, pry up on plastic in front of metal chassis, and slip the ground wire underneath against the metal



TYTO-1 Connection to Stock OEM Harness

-Connect the TYTO-1 to the vehicles harness



STEREO – Auxiliary Cables

In order to fit all Auxiliary Cable in a convenient place, especially when using an AppRadio with CarPlay enabled, you will need to drill a 1 Inch in Diameter hole in the side of the upper glove box facing the driver's side as shown in the images. You can always run them elsewhere, but I found that it was the best place since the Priuses glove box has an anti-slip mat pre-installed and it makes great use for a smartphone instead of mounting somewhere else. At the same time, your phone will charge as well and not fly or fall when braking or turning. Be sure to vacuum and wipe out the glovebox when you're done drilling. If your worried about doing irreversible damage to your glovebox, you can route the wires in the lower glove box, but remember you can always plug it with a grommet if you decide to reverse the installation.

A Grommet can be placed inside the drilled hole before the wires are ran. But be aware that the HDMI cable barely fit so the whole would have to be larger, preferably up to 1.5 Inches



Figure G - Glove Box Installation



If you have a 1 INCH Grommet, I encourage you to install it before running the wires

- Connect the Deck harness to the back of the deck
- Connect the HDMI Cable
- Connect USB1
- Connect USB2
- Connect GPS Antenna
- Connect AUX Input
- Connect Microphone
- Connect Antenna

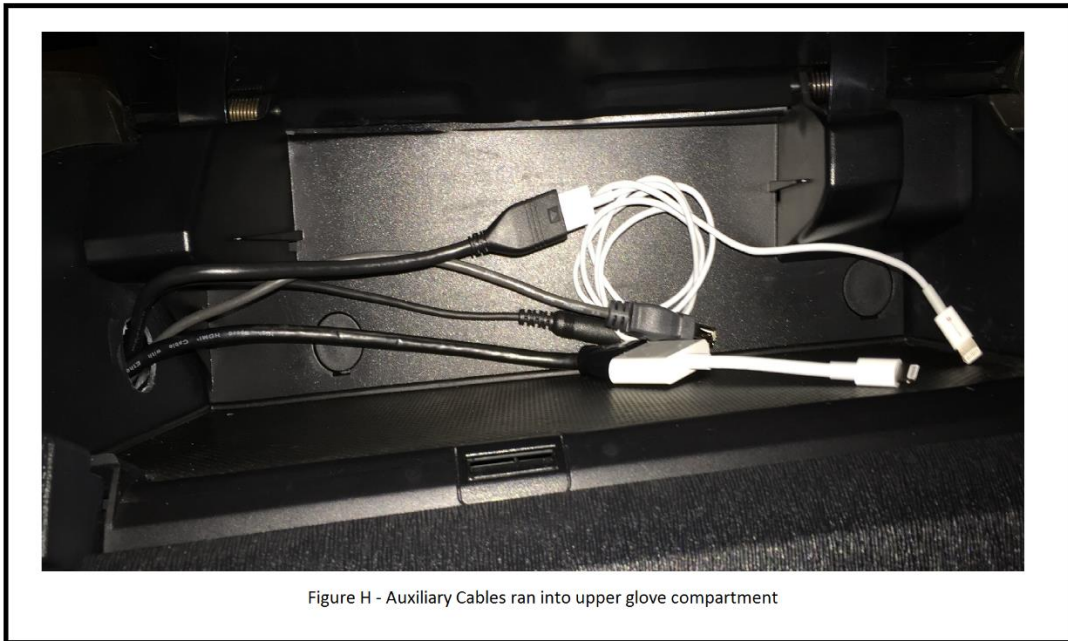
IMPORTANT – BE SURE TO CONNECT THE 3.5 mm jack from the ASWC to the remote wire on the back of the Deck.

STOP - DOUBLE CHECK ALL CONNECTIONS TO MAKE SURE EVERYTHING IS CONNECTED BEFORE BOLTING THE NEW DECK DASH FRAME INTO PLACE

- Bolt stereo back into place starting on the top left, top right, then the bottom in the same order, be sure to leave the bolts partially untightened so you can get the Deck straight before the final tightening of the four 10mm bolts
- Run the GPS Antenna and Microphone to the Driver side vent closest to the window and be sure it is underneath all panels and on the inside of the dashboard snap connectors

Wiring

- Run all Auxiliary connection Cables through drilled hole in upper glove box
- Place Apple AV Adapter and Lightning cable in their as well



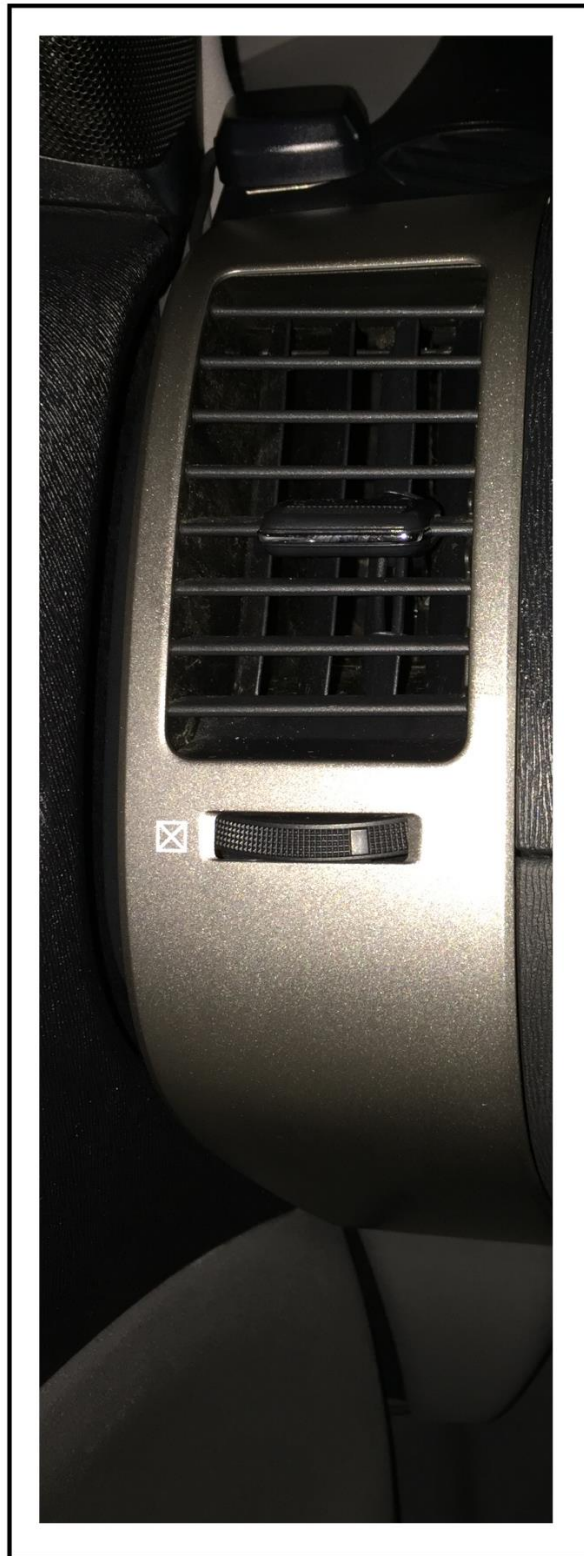
9. GPS ANTENNA AND MICROPHONE MOUNTING

GPS ANTENNA

- Run the GPS antenna wire down under the dash under the vent by the driver's side window
- Run it out all the way to the floor panel, then around the side. Then run it up into the corner of the dashboard and mount it as shown in the images using 3M Film and the under sticky metal panel (Sticky metal panel comes with the Pioneer AppRadio 4). **IMPORTANT** – cut out a custom square of this sticky metal stuff to first stick onto the dash since the grooves in the dashboard will not allow the 3M to stick by itself
- Tuck the wires into the side until it is no longer visible
- Pull the excess wire through the Vent, then neatly zip tie it to the harness directly under the vent until it is tight and neat as shown in figure I below.



Figure I - Vent harness to zip tie GPS & MIC Wires onto



MICROPHONE

- Next to the dimmer switch, there is a removable blank button, remove it
- Drill out a slight half hole on the bottom
- Drill out the side of the Clip closest to the half hole you just drilled (inside the blank button) – Drilling the internals keeps the wire from being pinched
- Set aside
- Apply another cut square piece of the adhesive/metal plate
- Apply 3M to top side of metal, and stick the microphone to it as shown
- Run wires through blank button holes you cut
- Adjust mic to proper position
- Place button back in with mic attached
- Pull excess microphone wire through the vent
- Zip tie it to the same place as previously done with the GPS wiring





10. TEST THE SYSTEM

Place a towel back over the shift lever and reconnect the Parking Brake Button

- Reconnect the Negative Battery Terminal**
- Press the POWER Button
- Watch everything turn on (MFD, Dash Lights, and Deck)
- If you have an iPhone, plug it into USB1, and test CarPlay
- Use the Fade controls for the speakers and ensure every speaker is working
- Test the Steering Wheel Controls after 45 SECONDS after pressing the POWER button
- Volume Controls, Up, Down, Mode, and Voice Command for Siri should ALL Work
- Test microphone, GPS, and all functions related to CarPlay if applicable
- The Dashboard and MFD should NOT display ANY Error
- The Climate Controls should ALL work



Figure K - Testing the System





Climate control should work on both the MFD and the steering wheel, be sure to test both for full functionality

- If everything is working correctly then proceed to step 11 after POWERING OFF the vehicle and removing the Vent around the shifter
- **If something is not working correctly, then analyze ALL CONNECTIONS in the wiring harnesses and dashboard components**

11. PUT THE INTERIOR COMPONENTS BACK TOGETHER

- Now that everything works and everything is mounted properly, you can re-install all dash pieces in the reverse order.
- Start with placing the Metra Dash kit panel around the deck into the clip holes
- Reinstall the MFD Screen.
- Re-install the lower cubby panel under the new Deck
- Re-install the Vent with the shifter
- Clip the upper and lower dash around the steering column back together
- Re-install the lower panel under the lower stereo cubby with 12V in plug (remember to place the clip back into the right passenger side)
- Re-install the remaining vents



Figure L - Completed Installation Expected Results







THANK YOU FOR USING THIS MANUAL FOR YOUR INSTALL

PLEASE ENJOY YOUR NEW SYSTEM!

QUESTIONS? COMMENTS?

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