HUD Retrofit Project

Having read the post for a 2017 Camaro, I looked into the parts for a 2021 Camaro. Here's what I figured out so far. There is a different part # for the 2019+ HUD itself. The two plastic dash trim covers didn't resolve for my car, so I'll probably end up by cutting out holes. The HUD Switch and its bezel both have superseded part #'s. I've augmented the original post below with the details I've uncovered in my research.

HUD – (for 2018 and earlier) 84016314; for 2019+ 84673166
HUD Bezel "Trim Cover" - 23168369 - This goes around the hole in the dash
HUD Display "Switch" – 23193704, superseded by 84428043
Display Switch Bezel "F Plate" – 23197097, superseded by 84499224

I got all four of these in one eBay auction from a 2019 ZL1 donor car.

HUD Bolt "Bumper Cover Bolt" - X 4 – 11589012
HUD Nut "Combo Lamp Assembly Nut" - X 4 – 11609759

I got both the above from TotalGMParts online which is an AutoNation dealership in Florida.

LVDS (Mini-USB "Cable" for X2) – 23390635
OEM Lead with "Connector Kit" to splice X1 pin 1 to IPC x1 Pin 21. The old part was PT3779 for a 13576542 which was superseded by newer PT2558 for a 19368548. As best as I can see, these two are the same HUD X1 Connectors that come loaded with 8 wires.
3 button switch "Connector Kit" PT3130 / 19300398 comes loaded with 4 wires.

I found all three of these on Amazon Prime for a great price, almost $40 below the total for the three prices above with free Prime shipping.

I also ordered in a lot of 50 of the 0.64mm (female receptacle) terminal pins for my parts drawers just in case I needed them. These showed as discontinued at Mouser but I found them available at Newark.com, part # 928999-1.

That left me with:

Upper Dash Cover - 84124213 for the 2017-2018 Camaro only.

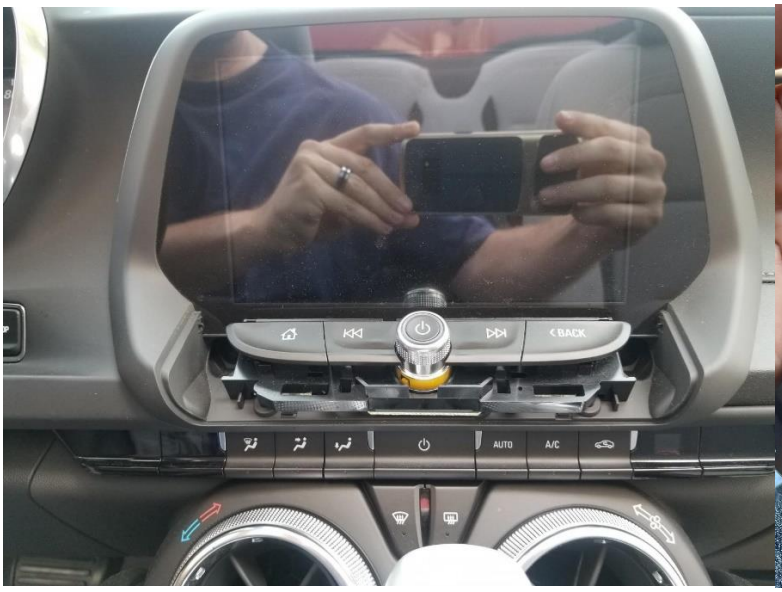
Front Trim Panel – 84225815 for the 2017-2018 Camaro only.

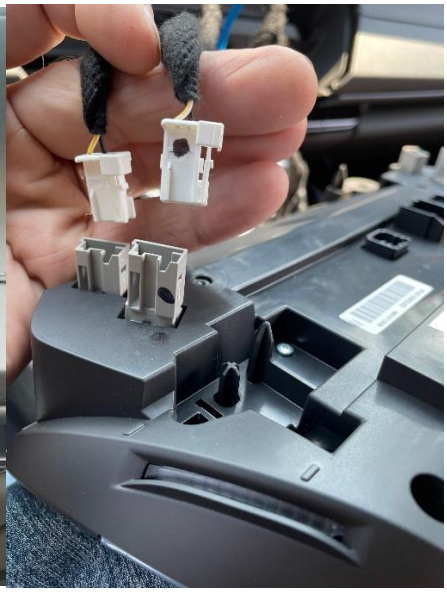
I found guide lines on my panels so cutting out the holes worked out, just like the OP found on the 2017 Camaro project.

HUD Retrofit Project

Open the access panel on right side of the trunk and use a 10mm socket to remove the ground battery terminal before starting... give your system type to dissipate...

Use a plastic pry tool along the bottom to remove the radio display. Mark at least one of the two LED connectors on each side. All four look the same to me. I purposefully left them all out on reinstallation!





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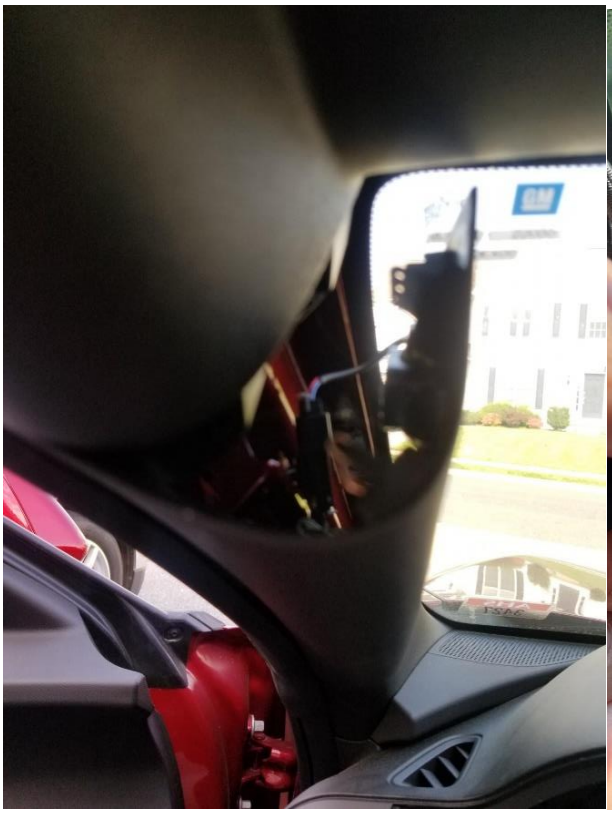
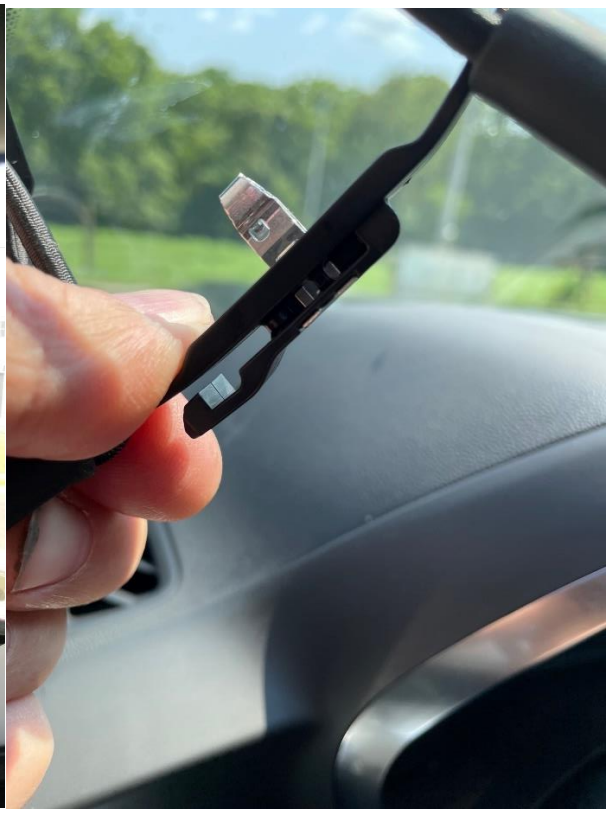
You'll now see a single 7mm bolt head at the left of the leather trim pad. Withdraw it.

Pry out the leather dash trim pad and set it aside carefully.

HUD Retrofit Project

Remove both pillar trims being careful as each has a microphone that is only secured by hot glue. Pop the top clips out just hard enough to get to the 2-pin connector. Slide the red tab up to then press in and disconnect. Then you'll want to depress the large plastic clip at one end and slide it out. This secures the pillar trim from flying loose and adding to your injuries if the side airbags go off in a wreck.

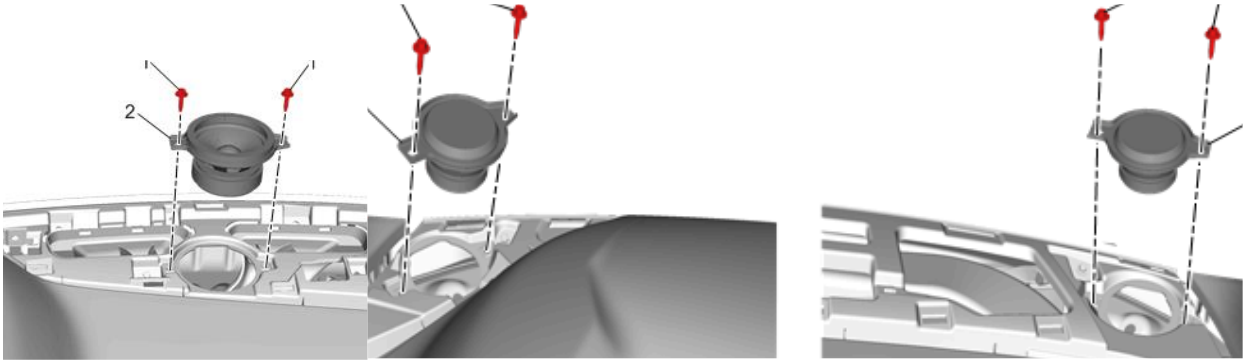




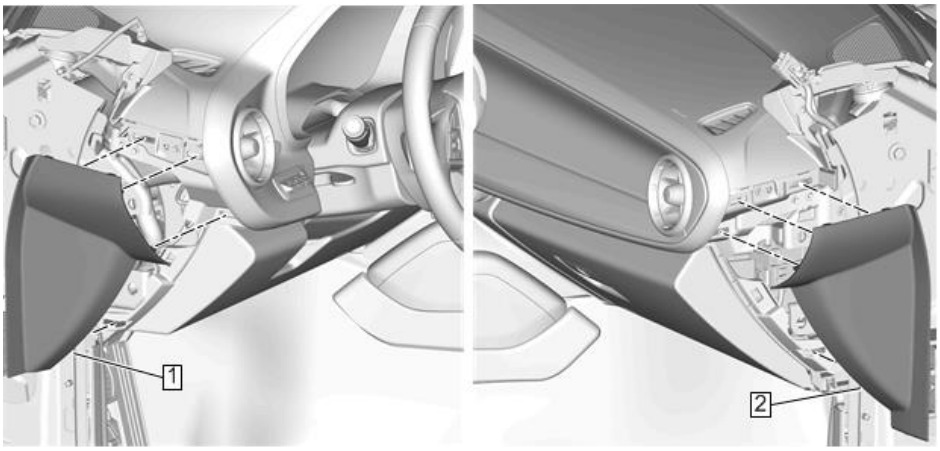
HUD Retrofit Project

Now work at the top of the dash to uncover the speakers. With the pillar trims out, you'll see a single 7mm screw to unscrew that holds a top trim panel down on each side of the cluster. When you pull up each of those panels, take care to disconnect the light sensor connector under the right side (much longer) panel before fully removing it.

Now you are looking at three speakers held in by two screws apiece to unscrew. Remove, unplug, and set each speaker aside carefully.

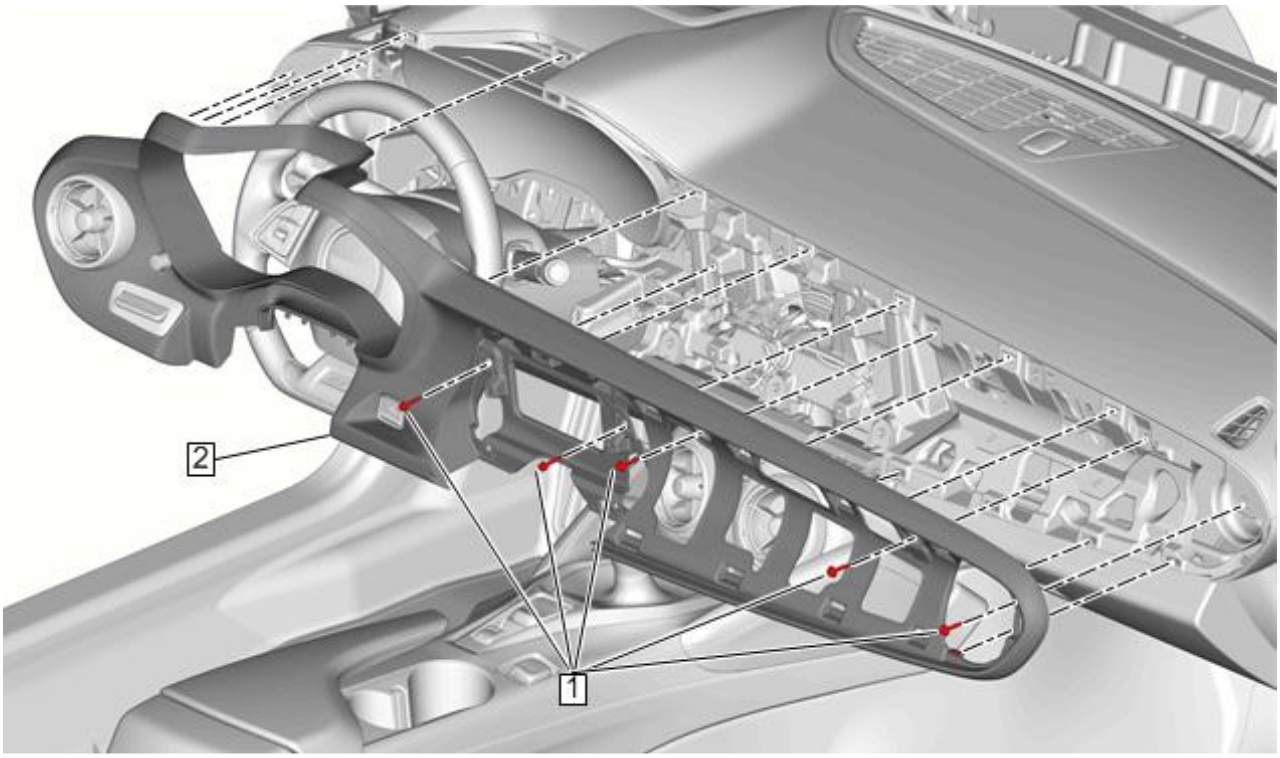


Now for the dash trim panel and its underlying dash top face panel. Pry out the dash side panels



HUD Retrofit Project

Now remove the 5x 7mm bolts that hold the dash trim in place and loosen it up.



The front panel has a leather “gaitor” piece under the cluster that fastens to the top of the steering wheel bezel. Be very careful prying that up.

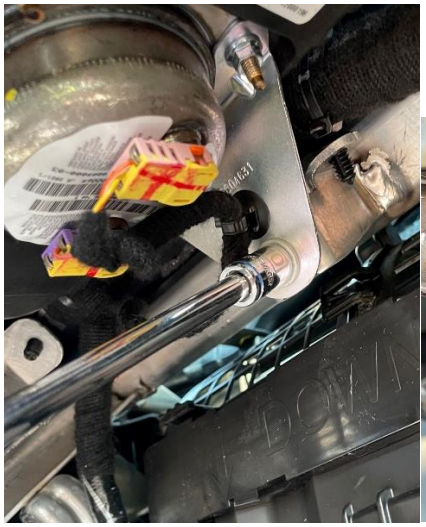
HUD Retrofit Project

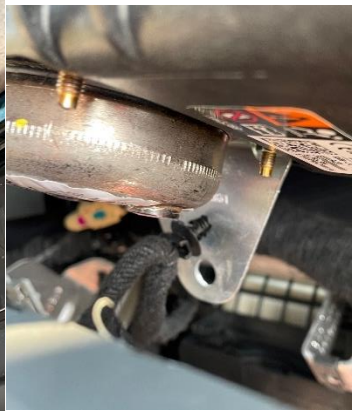
Disconnect the Start button and the dimmer switch. Both have release tabs on their sides. The dimmer switch is on the left and the power switch is on the right side facing the passenger. Remove the panel.

HUD Retrofit Project

Now you have to remove the glovebox door to access the three 10mm bolts that secure the right-side airbag to the dash frame. Drop the lower knee panel enough (front two 7mm bolts will do it) to pry it down and uncover a metal pin at each side of the glovebox hinges. Press a small tool against the pin at the inner side of the hinge to start it out. Once started you can get under the head to withdraw each pin fully. Now carefully lower the door as you unhook the spring cable on the right side.

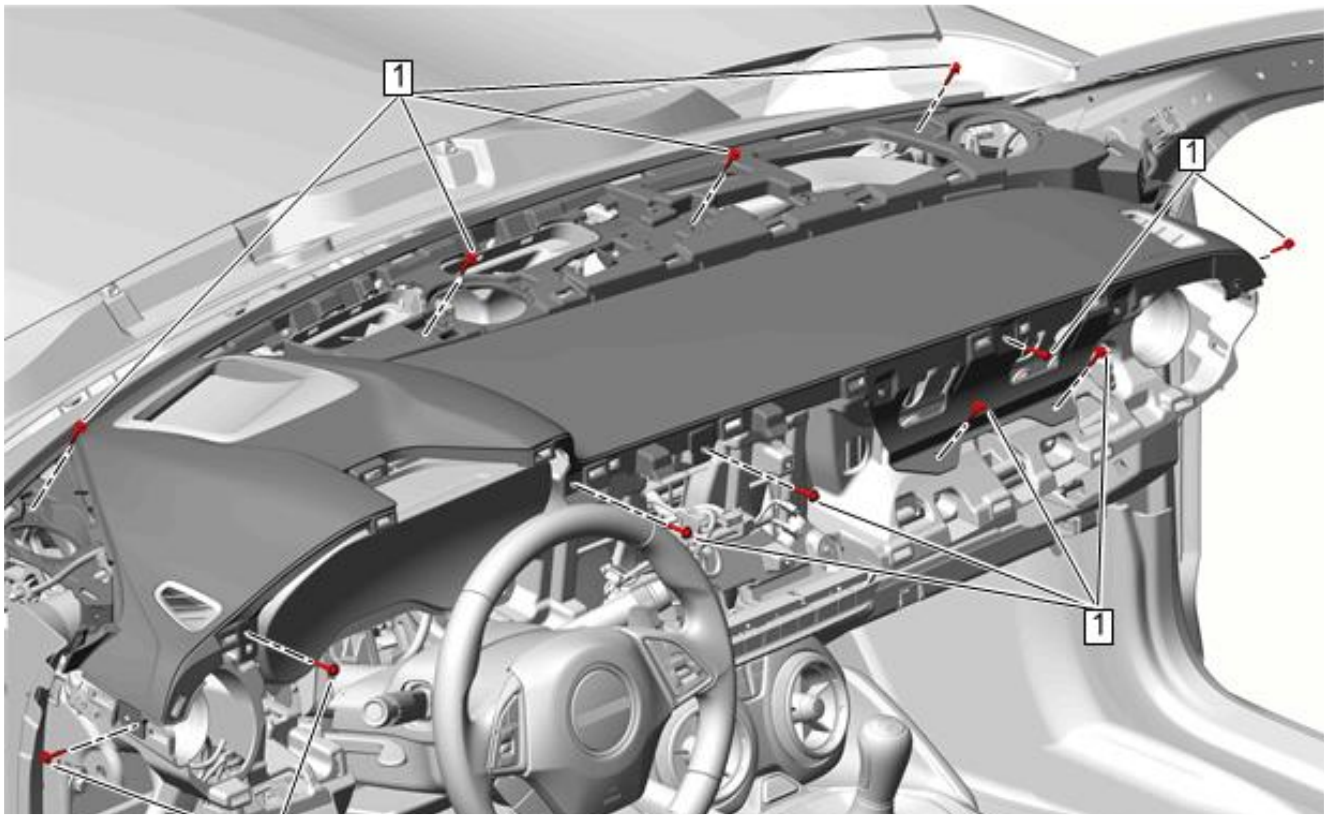
See why the door had to come out? Use your 10mm socket to access the top two of three 10mm airbag bolts through an opening in the panel that the door hid from view. Withdraw the third of the three bolts from underneath that panel, also uncovered by taking out the door. Pry the electrical connector pins down on both sides of each airbag connector and remove them. Carefully pull the wrapped black plastic “tree” retainer out of the bracket and you’re ready to finish this last panel – airbag comes with.



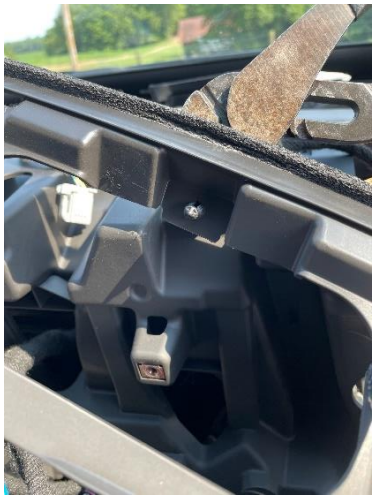


HUD Retrofit Project

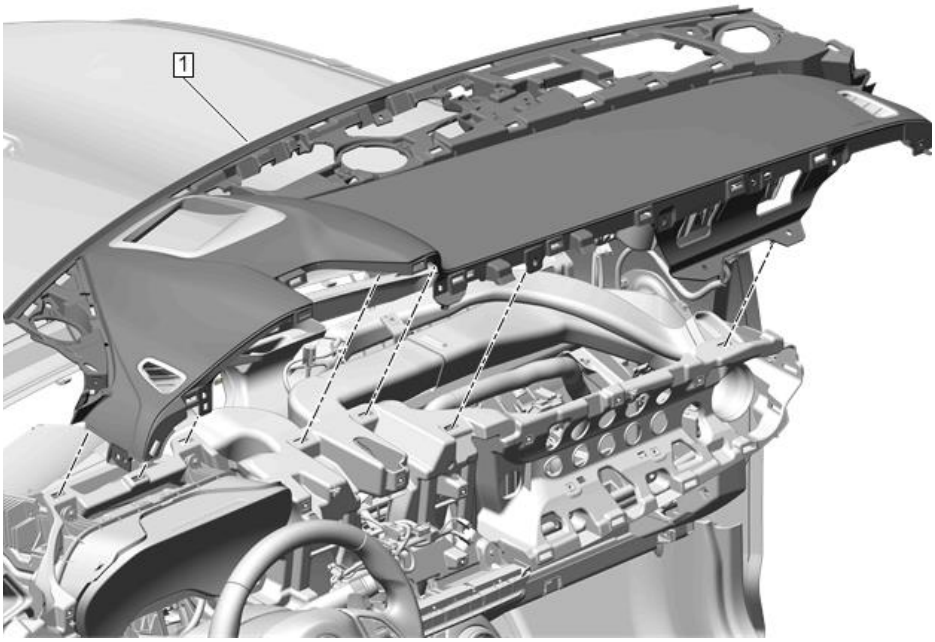
Remove the 12x 7mm screws left that hold the upper dash panel in place. Those top four will require use of your ¼" ratchet (or electric wrench – better!) with swivel and a long extension. I found it easiest to try and hold the extension up as close to the glass as possible and use my electric wrench in short bursts with a hand on the swivel to hold the 7mm socket down and to avoid binding up the swivel. Easier done than explained. Just one of the two bolts on each side needs to come out.



Now pry out over a few locating tabs and pull up the entire panel. Three harness holders inserted from underneath the panel and running just behind the defroster ducts make it difficult. The ducts have small tabs that secure them above the panel along their windshield side. Small pry bars can depress the ducts enough to allow you to pull up and expose the three "tree" harness connectors to carefully pull down.



HUD Retrofit Project



Each panel has an outline marked on the unseen side to cut out for the HUD Switch and the HUD. Never mind this part if you bought new panels with the holes already in them. I didn't. I used a Dremel tool with a drill bit style cutter to cut each hole out. Be very careful not to go too far out of the lines.

HUD Retrofit Project

Cutouts made, bezels in place.

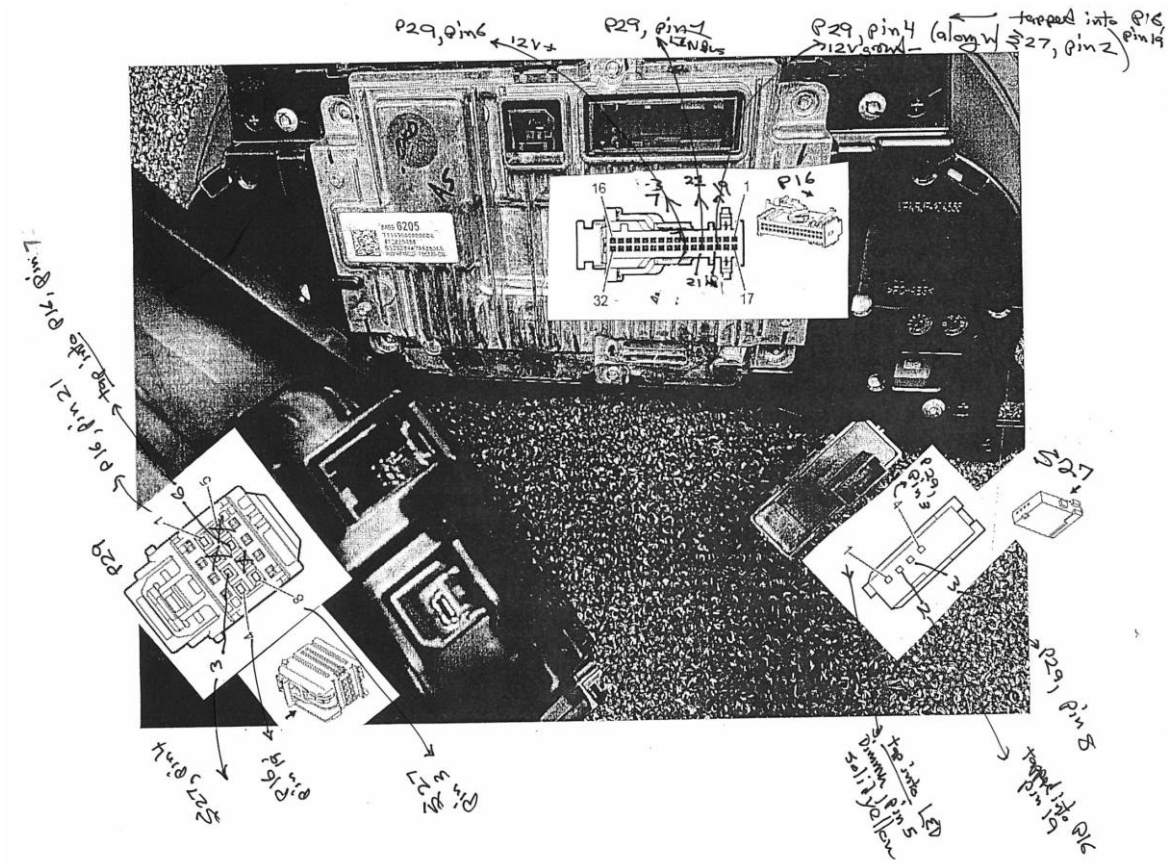
HUD Retrofit Project

Now... you should be able to easily remove the instrument cluster. If you removed the cluster before removing the top dash cover then it's trickier.... Be careful when attempting to access the top 2 screws. You need a long extension... and a magnetic tool to grab the screw so it isn't lost.

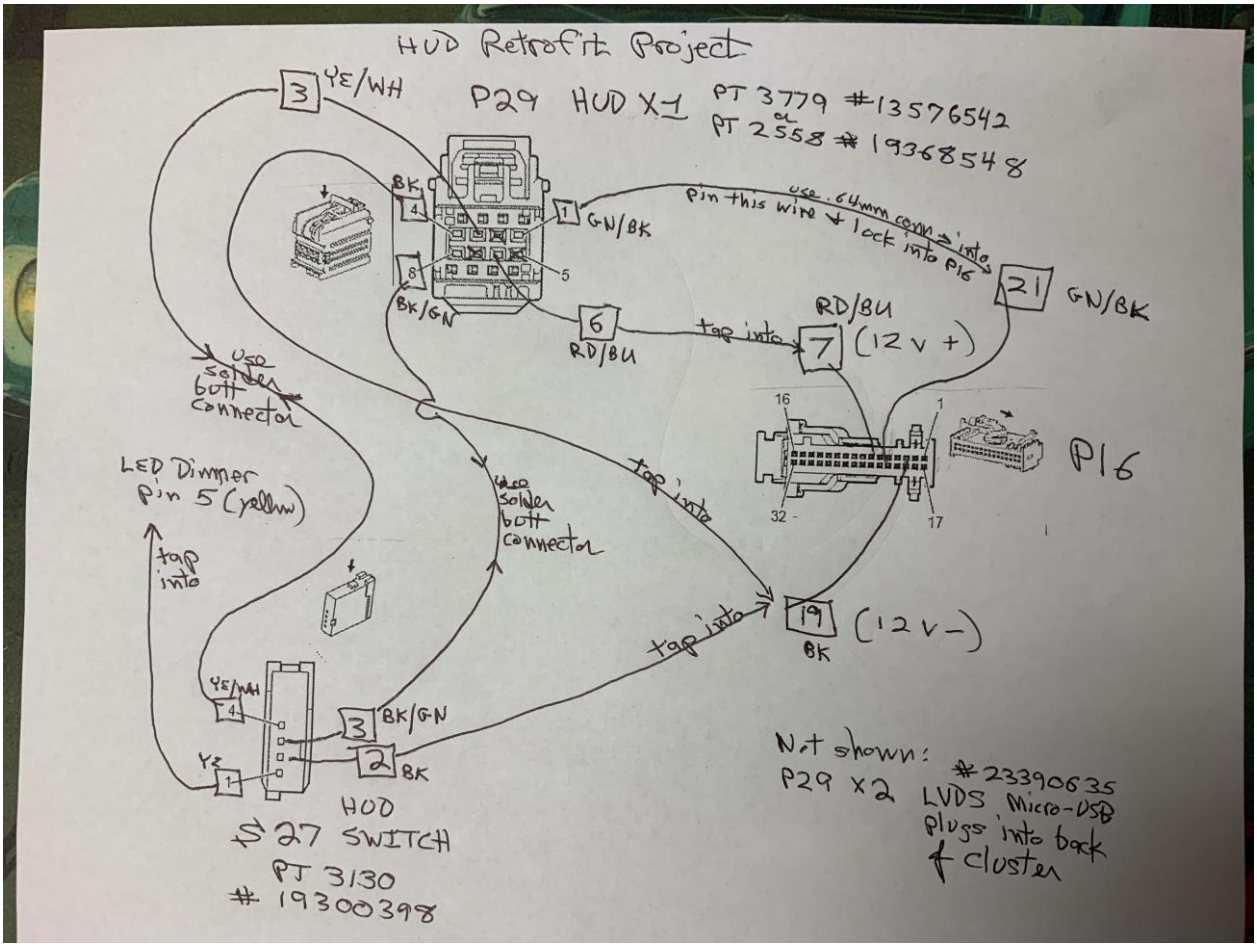
The first connector to remove on the back of the cluster is the P29, X2 Mini-USB cable. This is closest to the passenger side of the vehicle. Then you remove the P29 X1 main data/power cable. This has a swivel type lock. Pry up the tab so that it swivels over the connector and slides out of the socket. The only photo I took was on how to get the connector apart to add the necessary wires. You can see the swivel locking mechanism already "bent back". Using a small plastic trim tool... you can pry the connector apart. Set the cluster aside, carefully.

HUD Retrofit Project

Here are the three components. Now to connect them together.



HUD Retrofit Project



Now it's time to integrate the (new) HUD P29 X1 8-pin connector with the (existing) 32-pin P16 Cluster connector and the (new) 4-pin S27 HUD Switch connector. Only 5 of the 8 wires are used in P29 X1. Cut the wires short at pin locations 2, 5 and 7. P29 X1 wires 1, 4 and 6 go to the cluster at P16, X1 as follows: Strip the end and crimp a 0.64mm female pin onto P29 X1, pin 1. Insert that pin into P16 X1, pin 21 which should be vacant until you do this. That wire is the LINBUS data transfer wire.

Route the wire from the HUD at P29, pin 6 and tap this into the Red/BU wire in the instrument cluster connector P16 X1, pin 7 to supply the HUD with +12v power.

Route the wire from the HUD Switch, S27, pin 2 and tap it into the wire coming out of the HUD at P29, pin 4. Route that wire on to be tapped into the Black wire in the cluster connector at P29 X1, pin 19 to complete the -12v ground. The remaining wires run between the HUD and the HUD Switch: Pin 3 to Pin 4 (HUD Switch Signal) and Pin 8 to Pin 3 (HUD Switch Low Reference), respectively, per the diagram. The wire coming out of S27 X1 at the HUD Switch is tapped into the 6-pin LED dimmer just above in the panel at Pin 5, a solid yellow wire for LED Backlight Dimming Control. The thick blue cable P29, X2 has mini-USB jacks on each end. The HUD and the Cluster connectors are subtly different, so the cable can't be run backwards. I made up a harness inside on this hot summer day. A few photos show details.

HUD Retrofit Project

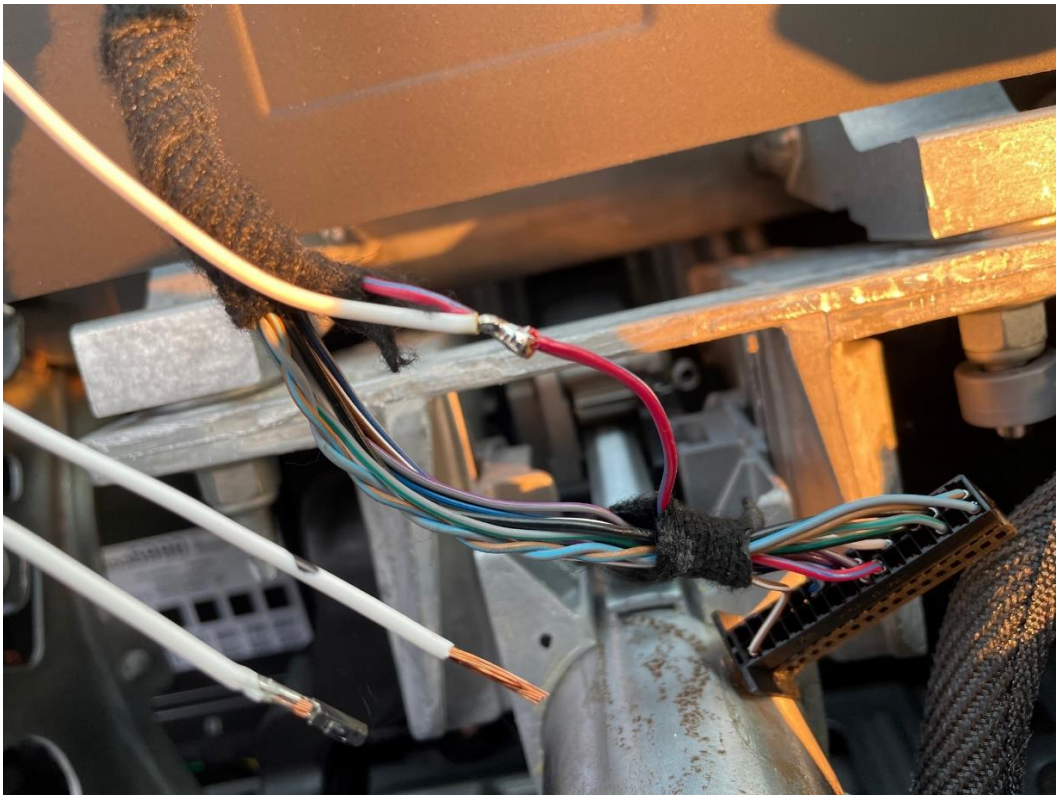


Photo shows the power connection soldered in and the LINBUS pin crimped on. Ground was next.

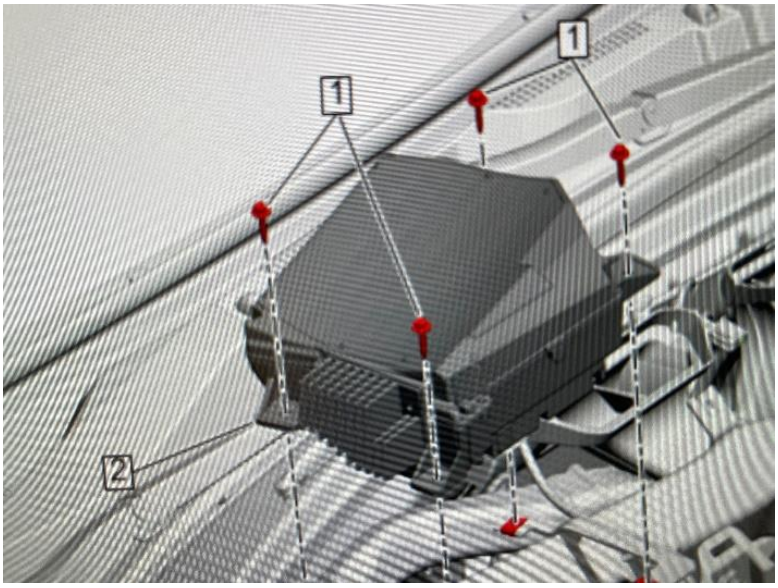
HUD Retrofit Project

LINBUS pin inserted into #21 of the cluster connector. Fabric tape cleans all this up.

HUD Retrofit Project

Remove the 2x 7mm bolts on the vertical plastic. Tight squeeze - pull on it to get the HUD in there.

HUD Retrofit Project



Temporarily plug the connectors back into the HUD, the HUD Switch, the Cluster, the 8” display, the dimmer switch and the start button so you can test for function. Power up the car. Does it all work? If so, unplug and remove the components you plugged in for the test. It’s finally time to secure the HUD into the dash. There are 4 mounting points for the nuts on the metal frame. The 2 closest to the driver use the OUTERMOST of the 2 holes and the HUD locating tabs drop into the inner holes. The two closest to the windshield have only 1 hole each. Now work backwards and be sure you use all the 7mm bolts you took out as you reassemble the dash. The HUD requires one of several special OEM windshields depending on what else by way of cameras or sensors is mounted up high by your rearview mirror. However, a film can be applied on the inside of the glass over the display area to eliminate the “double vision.” That might work good enough for you, but if not…