



BMW E46 AVIN Avant-2 Installation Guide



You absolutely love your BMW but you find its time to refresh your e46 to newer technology. Maybe your existing OEM Nav system is getting tired or famously easy to damage capacitive screen is a little beat up. Or maybe you just have the stock business CD unit and its time for something new and improved!



Assumptions:

The example used for this DIY is a 2004 M3 convertible with a manual transmission. Also as shown to the left, it has the OEM business CD unit so will require some additional steps. If you have a double DIN unit or the factory OEM deck installed, some steps may not be valid or you can skip them entirely.



Goal:

Install the AVIN Avant-2 deck and any required hardware as quickly as possible, with minimal effort and a finished product that looks better than OEM!

Disclaimer:

This process worked for me beautifully but that doesn't mean it will automatically do so for you. Work slowly and carefully, don't force anything and don't rush. For roughly two hours total of time, you can save a significant amount on install costs and have pride in upgrading your car. When in doubt, stop, step back and ask for help if something isn't working.

Lastly... do yourself a favor as you get in and out of your car multiple times: DO NOT put tools in your pocket. It's tempting, but one wrong move and you can punch a screwdriver through your leather seat.

Tools:

Must have:

Torx T10 screw driver

Small flat screwdriver

Small Philips (+) screwdriver

[Single DIN to Double DIN Dash conversion frame](#) BMW # 51167001408 (if needed) Make SURE you buy the right one for your car, based on button layout. If you have the OEM NAV or existing double DIN configuration, you do not need this piece as your HVAC controls are already moved. **If so, skip steps 9 – 17** in the guide and follow 1-8 and 18 to the end.

Shop towels

Old plastic credit/club/debit card or piece of thin hard plastic

Nice to have:

[Plastic panel removal tool](#)

[Trim clip](#) x 5 (you *will* break these) BMW #51458266814

[Torque Bluetooth ODB2 module](#)

[3G USB Cellular modem](#)

[32GB MicroSD expansion card](#)

Needle nose Pliers

Shop work gloves

Magnetic screw bowl

Lots of light and space

Forum information – [E46 Fanatics Mobile Electronics Forum](#)

[Music](#) (I recommend BB King, nothing like the blues while doing car work)

Patience

Contacts:

[AVINUSA.com](#)

[E46 Fanatics Forum](#)

[E46 Fanatics Mobile Electronics Forum](#)

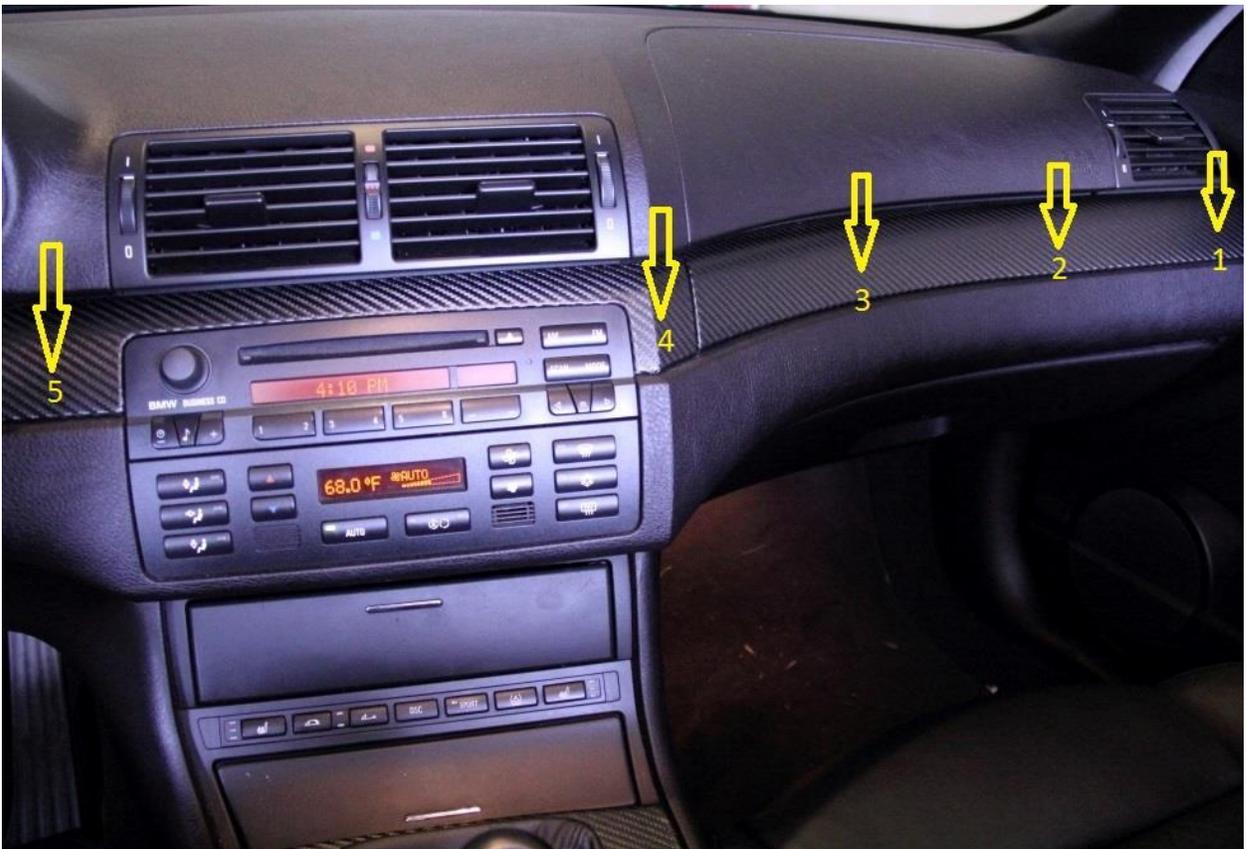
Trim, Stereo, and Frame removal

*Assumptions: This guide shows steps in regards to both a manual transmission plus the single DIN OEM factory stereo. Your car may be different.

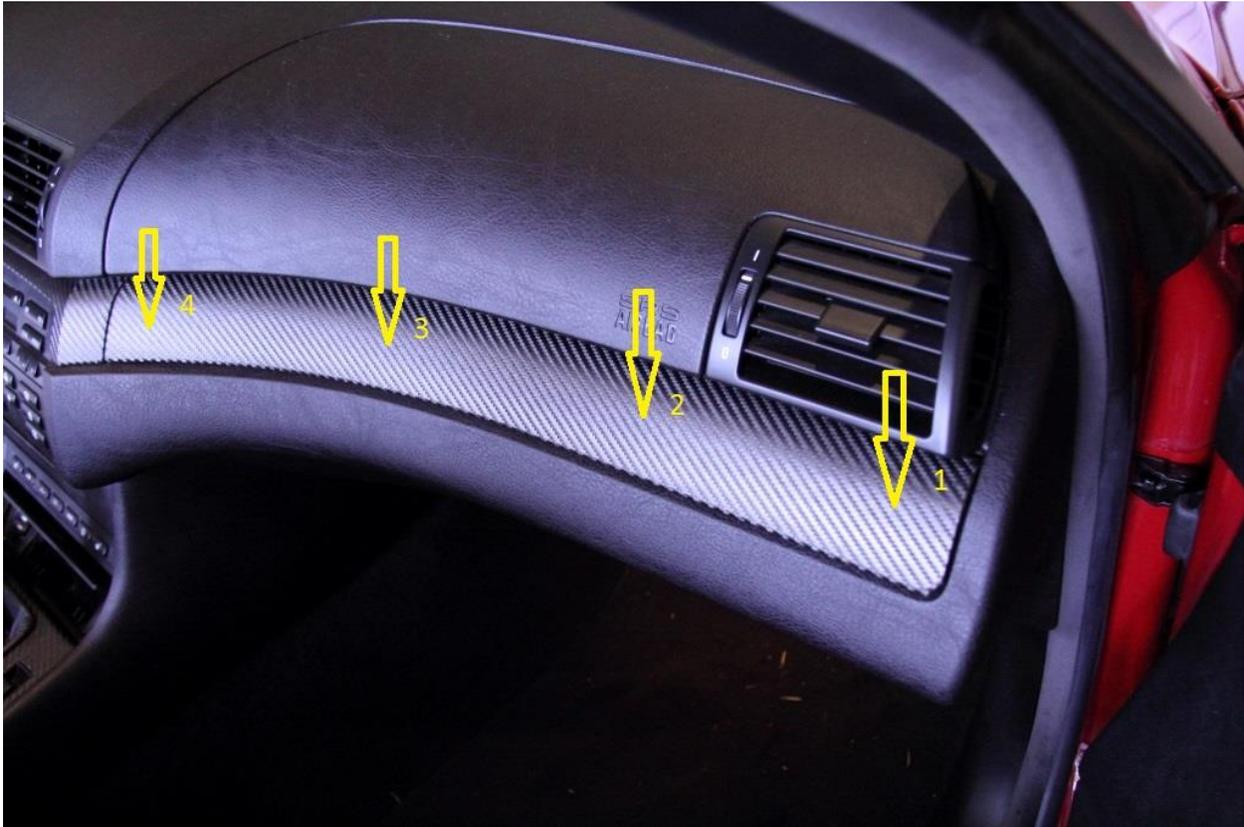
1. Dash trim will need to be removed first, and are held in with a series of 5 attached aluminum pins pushed back into the dash.

Go slowly and carefully as you do this work. The dash itself is soft padded material and *will* dent and tear if you are not careful.

The trim tools are the best option to slowly fulcrum out the pins in the dash and not damage anything along the way. Don't be hasty and make a thousand dollar mistake.



2. Use a flat bladed screwdriver covered with a shop rag, or better, the plastic trim tool to carefully pry up the trim, starting at point 1 slowly prying right to left to point 5.



3. It is not uncommon for the orange trim clips to break or even come out attached still to the aluminum pin on the trim. These will break or will be broken, but are easy to replace.



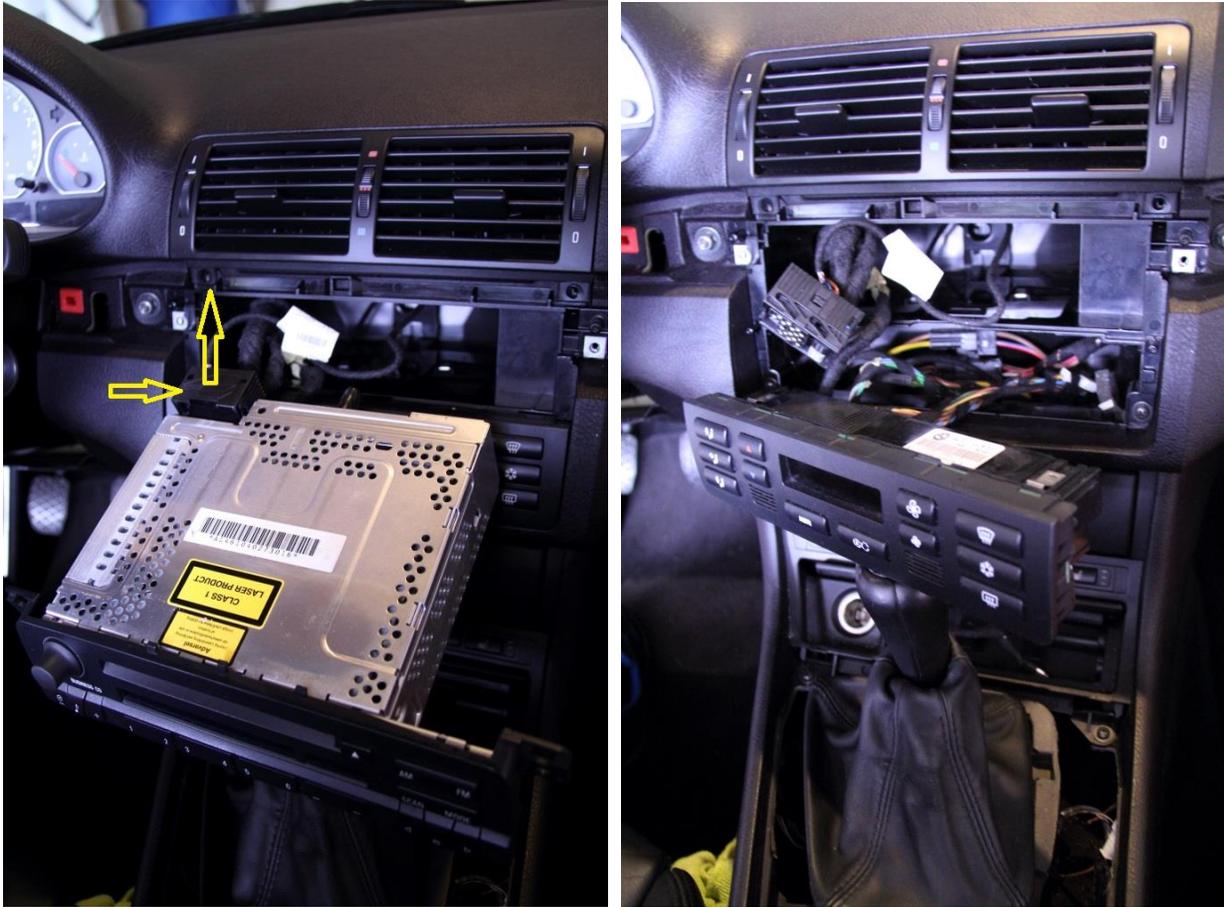
4. Use a pair of needle nose pliers to grip and then remove the trim clips. Turn the clip to a vertical orientation to remove and pull out. Insert the new clip vertically and then turn horizontal to lock into place. The blade of the pliers works well to turn back into place.



5. Remove the four screws below to free the dash vent assembly and the single DIN stereo deck, and set the screws in a safe place.

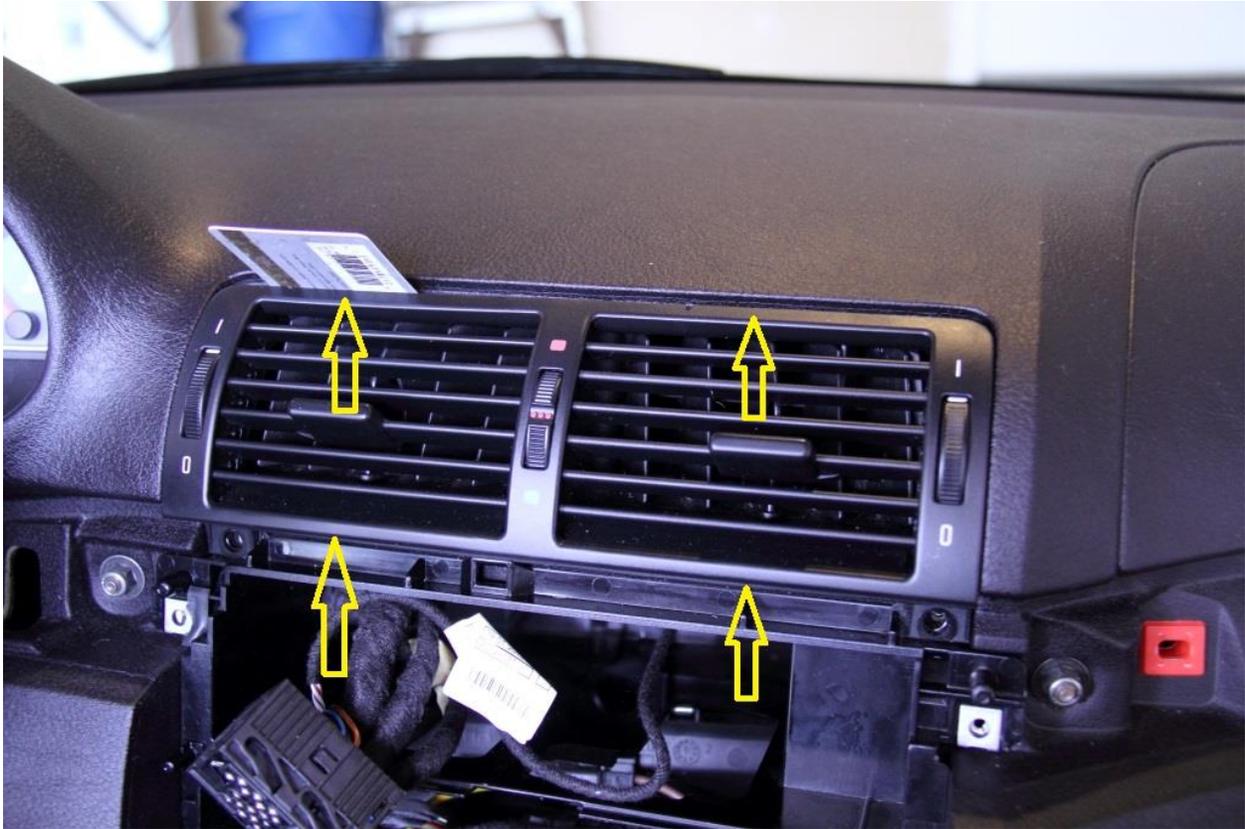


- Slide the stereo deck out of the dash and release the cable harness at the rear of the stereo by pulling upwards on the restraining collar. Detach the separate antenna wire and set stereo deck aside in a safe place.



- (above right) Reach behind the HVAC controls with your fingers and push forward to release the panel. Unplug wires from the control panel and set aside in a safe place.
- Remove the center vent assembly by freeing the four pressure clips on the vents themselves. Do this by using the plastic trim tool, or an old credit card to slide between the dash and the vent. When all four are loose, the vent will pull straight out of the dash.

I did not remove the vent control wire as I saw no need, and put the vent on the dash with a shop towel to prevent scratching.



9. Removing the surround around the gear shift will be required to change the existing frame for the HVAC controls relocation. Pull gently up on one corner of the leather gear shift boot until the clips pull free. Remove the two screws as indicated, and lift the surround up until the window control wires are exposed. Unplug them both by squeezing the tabs and pull the plugs free from the switches.

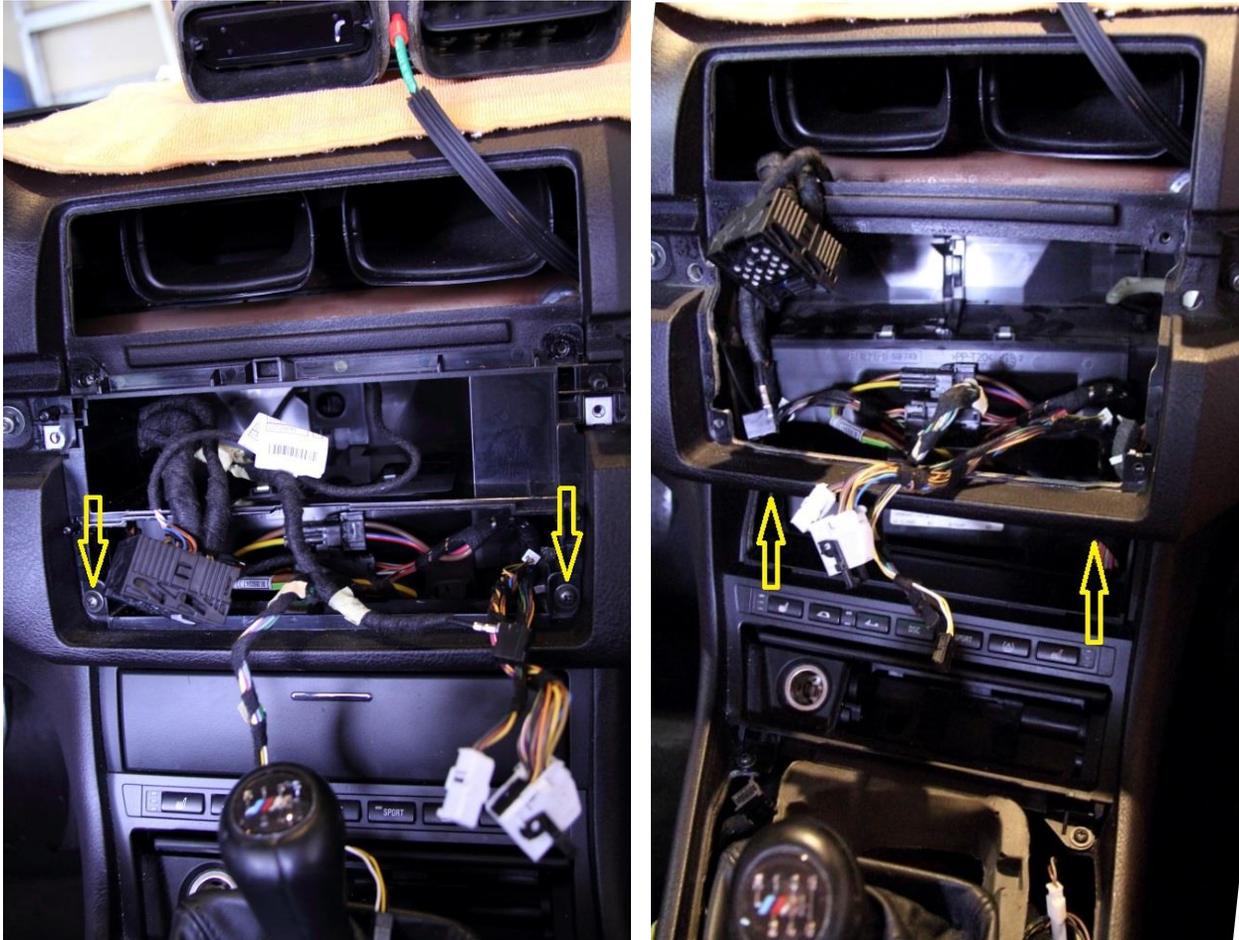
Lift the surround up and feed the leather boot through it, and set it aside in a safe place.



10. (above right) Remove the two screws indicated to free the lower edge of the frame, and set the screws aside in a safe place.

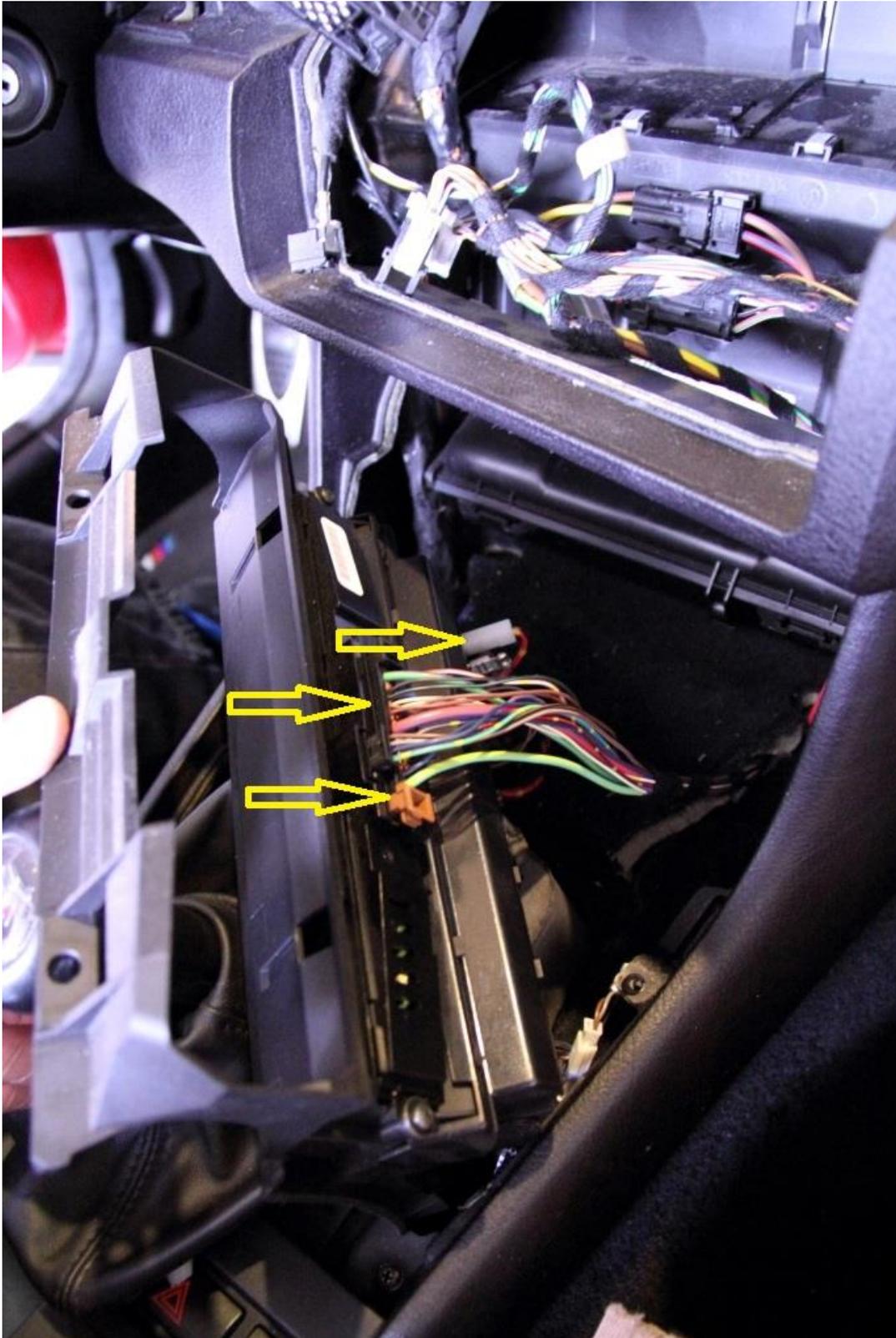
11. Remove both indicated screws and pull frame out and set aside. Reach down and behind the small storage compartment and release it by pushing out. Take both and set aside in a safe place, you will not need either piece again.

Also take this opportunity organize the space, keep HVAC and stereo cabling separate and keep track of what belongs to what.



12. (above right) Remove two screws set back into the frame to free the frame and gently pull free and out to be able to reach cable clips for button controls.

13. Carefully pull out the lower frame with attached cabling until you can reach the clips and unplug the cables. Remove button cables and connections for the lighter/power socket as well.



14. Use the t-10 screwdriver to remove the two indicated screws, and remove the button strip, and set the old frame aside for a moment. Then reinstall the buttons into the new frame. ([Single DIN to Double DIN Dash conversion frame](#))



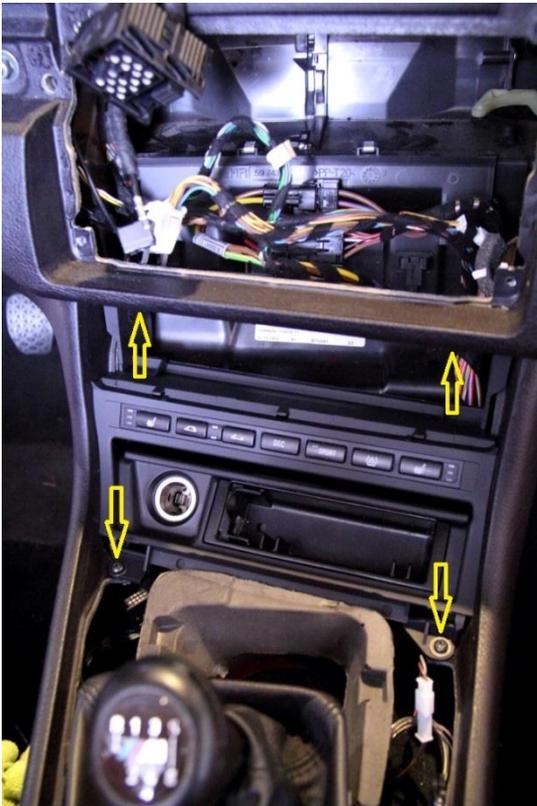
15. The lighter/power outlet socket will need to be removed from the old frame and installed into the new frame. The socket is secured in place by two plastic tabs and once unlocked, pushes out the front.

Reinstallation is easy as the socket is keyed to go in only one way so once removed just snap into the new frame.

I used a small bladed screwdriver to pry back the plastic tab as indicated by the arrow, and knowing I was replacing the frame, wasn't concerned if I broke it or not.



16. Install the new frame, plug the socket and buttons back in and gently install into place. Secure the frame using the same four screws, and pull HVAC cabling down into the new frame.



17. Connect the HVAC controls to the module and gently snap into the opening, guiding cables at the back from the top if needed. Reverse the order to reinstall the gear shift surround and window controls. You won't need access to that area moving forward.



AVIN Avant-2 Deck Installation

If you have made it through the HVAC relocation, congratulations and the hard work is almost done! You only have a few more steps to get your new deck up and running.

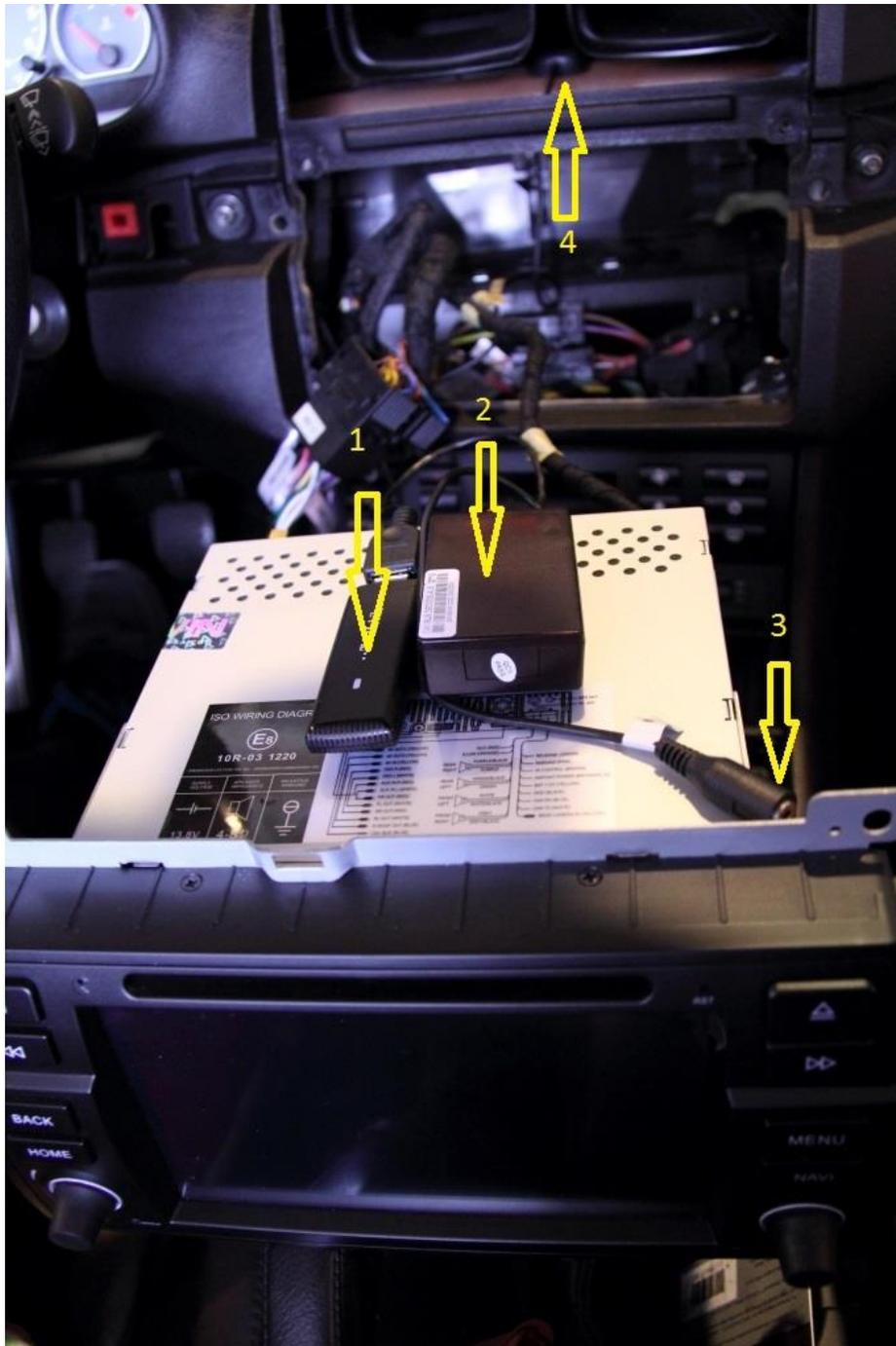
*Assumption first: This guide deals with OEM wiring harness and antenna and does not address if you have custom speakers or connections.

18. Install the OEM wiring harness adaptor to wiring harness, and snap down locking collar.



19. Connect the wiring harness to the back of the Avant-2, along with antenna wire and any other accessories. I attached the (1) 3G USB modem, (2) Canbus interface and (3) Ext. line to the top of the deck using provided Velcro pad. The (4) GPS antenna is installed on the brace below the vent ducts as it is magnetic and stays there perfectly.

Install locations may vary and place any accessories where you get the best reception. This worked best for me, as I have full reception on both GPS and 3G wireless with everything hidden in the dash, and accessible if needed by removing the vent.

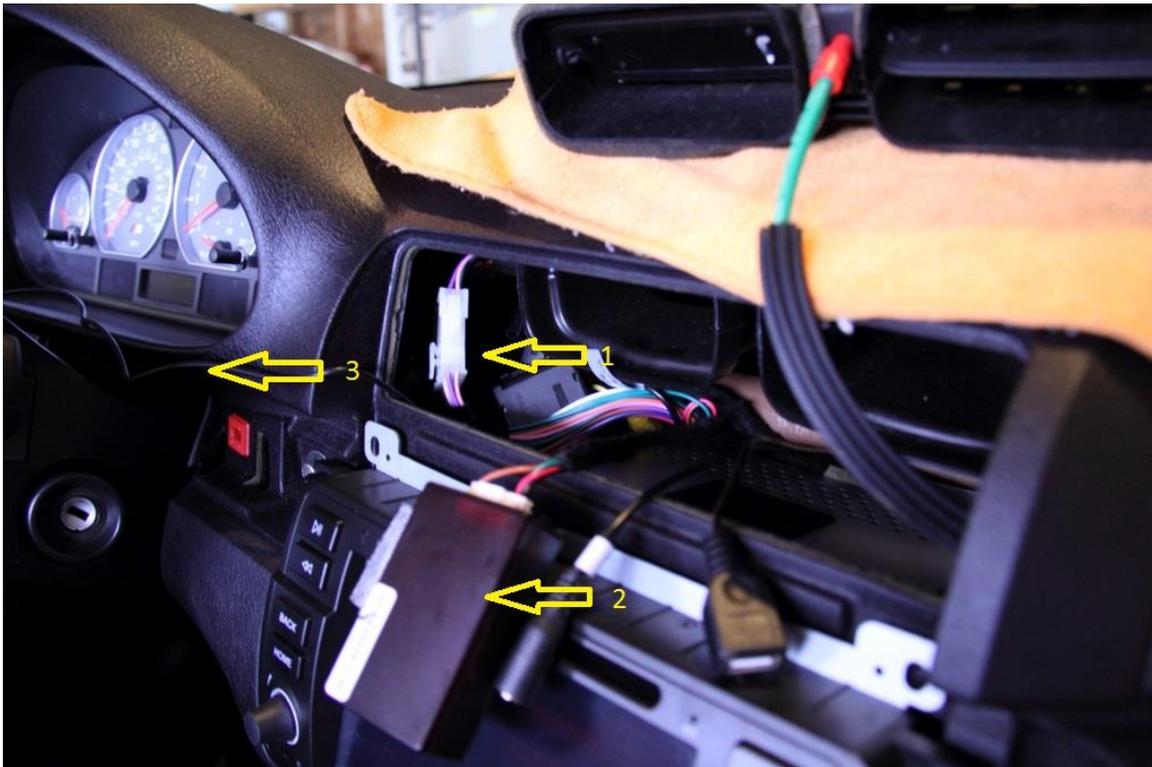


20. Now comes the fun part... cable management and installation the deck. Slowly slide the deck into the dash, feeding the cable bundle into available space.

To help with cable maintenance, I found the void at point (1) to the left of the vents was the most available space for the wiring harness. I also moved the accessories (2) temporarily to allow more room to work and moved the GPS antenna (3) out.

Slowly work the deck back into place, don't pinch any cables and take your time. The final fit in my case, the deck was SNUG as it slid into place and I doubt would come out even if the screws were not in place.

Once the deck is in place, reattach the accessories (2) to the top of the deck and place the GPS antenna (3) back on the frame strut.



21. Ensure all of your cables are routed and in place, to be ready for vent reinstallation after testing the deck. Now is the REALLY fun part... if you haven't done so already, turn the ignition to the accessory position and power on the deck!

Now is the time to test all of the deck functions, radio reception, 3G USB connectivity (if you have it), steering wheel controls and everything else possible. Test everything before you finish off the install and reinstall the rest of the dash components.

Test EVERYTHING, especially HVAC controls, window controls and dash buttons such as heated seats, DSC, and sport mode.



22. Reinstall the central vents by gently push it back into place until the clips click and the unit is secure. Reinstall both screws as indicated below to secure vents and deck. Note: If you likely will have additional screws left over if you replaced the single DIN stereo and lower trim.

Then install the trim pieces in order of removal, center dash first then followed by the passenger side piece. Note: If you replaced your trim clips, double check they are in the horizontal locked position before trim is reinstalled. Also expect the new clips to be very snug as you press the trim into place.



23. Time to double check all of your work:

Trim in place with ash tray/bin reinstalled

Deck fully functional

HVAC controls active and working (if relocated)

Heated seats, DSC, Sport dash buttons active and working (if relocated)

Lighter/Power socket active and working (if relocated)

Window controls active and working (if gear shift trim removed)

Clean up and put your tools away

Detail the interior as you know you will want to show off the deck!





Congratulations! All of the hard work is done and you have made a significant upgrade to your e46 and investment in your car and yourself. It can be a little daunting when you first open the Avant-2 box, looking at all of cables and accessories, isn't it?

That said taking the work slowly and patiently, it isn't that hard and you saved yourself a healthy amount of money from having a third party or vendor do the install.

Congratulations again and enjoy the new entertainment system in your car!

Written by Stefan Yotz 4/2014

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There is no warrantee or guarantee to this guide and is provided in all good faith and best effort.

Huge thanks to:

[Tommy – AVINUSA.com](#)

[E46 Fanatics Forum](#)

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