

Nostalgic Motor Cars Unlocks the History and Mysteries of the 1963-1985 Avantis

How To Change The Evaporator Core 1963-1985 Avantis

By Dan Booth,
Nostalgic Motor Cars

Dan Booth has over 45 years of exclusive, hands on Avanti sales, service, collision and parts, not Studebaker cars or trucks, just 1963-1985 Avantis.

I have been asked to do an article on the replacement of the 1963-1985 Avanti Air Conditioning Evaporator Core.

You can remove the entire dash assembly, there are good instructions on this, in the Studebaker Avanti Service Manual, that's why I didn't include them in my article on How To Install a N.O.S. Nostalgic Dash Pad, for the magazine, Issue#189 You can also go to our web site www.NostalgicMotorCars.net, click on "Tech Articles" and look for the factory dash instructions, "How To Remove an Avanti Dash Assembly"

You can remove the complete heater assembly and duct. (also an article I wrote for the Avanti Magazine #193 Winter/Spring 2021) or go to our web site and click on Tech Articles

Or you can do what I have been doing for over 40 years, which you might think is the unthinkable. Cut the console on the right side. This is the easiest of the three.

1. Disconnect you battery
2. Remove the vertical A/C air vent panel, 2 screws, unplug the switches
3. Remove the ashtray assembly - 2 screws, and unplug the cigar/cigarette lighter.
4. Remove the shifter console cover - 4 screws
5. Open up the console door 1963-1976 about or remove the E-brake cover about 1979 1985 - 3 screws
6. Remove the 6 screws that hold the automatic shifter to the console
7. Remove the nut that holds the vertical stainless molding to the side of the console, remove that molding



8. Lift the shifter assembly up (you don't have to remove it) Remove the nut from the console that holds the stainless molding

9. Remove the passenger seat



10. Remove the last nut from the side of the console location, inside the console glove compartment or where the E-brake cover is.
11. Remove the screws (about 8-10) that hold the right front console side panel (with round vent) to the console and the tunnel. Note, most screws are under the edge of the carpet. Lift up the carpet to expose the screws and remove this panel



12. Carefully remove the upholstery from top right side and bottom side of the console and there could be a small narrow



strip (about 1/2 wide) on the very top of the console directly below the dash. Remove the carpet from the console side Cut the very top of the console (it's about 1/2' wide) directly below the dash in the middle

13. Remove any rivets that may hold the side of the console to the tunnel (only on the very front)





14. Draw a line on the console on a diagonal starting about 1" in front of the riveted bracket that holds the heater/fresh air cable assembly bracket to the console side and continue to the bottom console and angling forward.



15. Start cutting on that diagonal line. Don't forget where the console side is bonded to the side of the tunnel, you can only plunge 1/8" deep, otherwise you will cut through the tunnel fiberglass.
16. Take some large flat bladed screw drivers and carefully tap down between the inside of the console side and the console tunnel. you will be peeling off the console (its a lot like peeling a thick skinned orange) From the tunnel side (don't forget you will be re-bonding this back together)
17. Remove one bolt on each side of the bottom of the dash that holds the A/C evaporator assembly to the dash.
18. Now the assembly is ready to slide it out. As you are lifting and sliding out the assembly. There is a plastic nipple with a water drain hose, on the very bottom that you don't want to break. I lift up and out, enough to cut the old drain hose off, and I will replace it before I reinstall the assembly.



19. Grind all the old bond from the side of the tunnel and the console piece you removed. Sand with 40 grit paper or grind the inside and outside of the console where it was cut About 2" from the cut on both pieces. Vacuum and blow out any dust so you don't contaminate the A/C system.
20. Disable the housing cover to access the evaporator core. I will clean and check the 2 squirrel cages to make sure I don't have a loose set screw or too much end play in the motor shaft. I hook up 12 volts to the motor and let it run for a while and make sure the motor is quiet and does not get too hot. The N.O.S. Avanti Evaporator core uses copper tubing with a small seam on the inside. Those seams are also present on the flared fitting. If this seam is not flattened down, it will leak, This is what I taught myself to clean the flare and fitting. I then put a little a/c oil on the flare and the fitting. I then tighten the line nut on the expansion valve, then take it back apart, clean and oil and repeat this procedure a total of 3 times. Doing this I have never had a leak at the flares. When I am doing this in the car. I will get a helper to hold the wrench without any movement. While I tighten up the fittings, as I don't want to take a chance of kinking the copper tubing and I want to make sure the fitting is tight, so it won't leak.
21. After the evaporator assembly is back in place with it's new drain hose. Hook up 12 volts to the motor to make sure it doesn't have any noise, from the motor and squirrel cages.

NOTE: before I re-bond the console back in place, I complete my installation of all removed parts, needed to charge the A/C system.

22. Set the console pieces and the console side in place. I will totally charge the system with dye in that system and check for any leaks.
23. Place the console cut off piece back in place checking for proper alignment. I drill 2 holes (make sure there are no wires behind where you are drilling through the console and tunnel and fasten with 2 screws. I double check for proper alignment. Remove the 2 screws and the cut off console piece. Mix the hardener in the bonding material and apply to back side of cut off console. Slightly snug up the 2 screws, but don't squeeze out too much bond, wipe off any excess bond from the side., install your rivet. After the bond has cured, remove the 2 screws & countersink the 2 holes and fill them.
24. Take some stirring paint sticks cut them for width and length, apply masking tape to both sides. Apply 2" masking tape to the console on the outside. Cut the 1-1/2 oz fiberglass mat into correct size pieces (if you don't have 1-1/2 oz fiberglass mat I carry it in stock) that you will apply up on the back side. If you are inexperienced, or uncertain on how to work with fiberglass mat and resin, go to our web site NostalgicMotorCars.net and click on Tech Articles, look for the article I write for the *Avanti Magazine* Issue#192 "How to Replace a Broken Front Floor Nut Plate on Your Front Seat.

When the resin has almost fully cured, remove the tape. After the resin has fully cured, regrind or re-sand with 40-80 grit paper and apply the fiberglass mat and resin to the outside. This would be the best way for the repairs.

The Alternative Method

The alternative method is to take an old fiberglass body panel, grind the bonding face of this panel, remove all paint and etc. Cut small pieces that will work as bonding strips and bond them on the backside. Then fill the kerf in with the fiberglass bond on the outside. If you don't have any old fiberglass panels laying around, I can cut some for you out of some new fiberglass panels. If you haven't had experience in bonding fiberglass to fiberglass go to my web site NostalgicMotorCars.net, click on Tech Articles, look for the article I wrote for the *Avanti Magazine* Issue#192 how to replace a front seat inner rear floor nut plate. Reinstall the parts you removed.



When I stated that it takes one person to hold the wrench tight, and the other to tighten down the fitting, I am not kidding. Here is an example of a N.O.S. A/C evaporator core I sold in August of 1993, to an A/C shop in Texas. I told this gentleman about flattening out those seams, but he must have thought that it was not necessary. After he installed the evaporator core, he called me and stated the evaporator core was leaking. I told him that they were all pressure tested, before shipping. He insisted on sending it back to me. When I got the core back, I could see the small copper line had been twisted almost 180 degrees and that was where it was probably leaking

I pressurized the core, put it under water and the core was not leaking, much to my surprise, even after he had twisted it almost 180 degrees. Where it was leaking was at the fitting. He either didn't use a/c oil when tightening. Didn't do it 3 times or he just didn't have it tight. I gave him a refund and asked him to find one somewhere else. He couldn't find one anywhere else and sold the car with out the A/C working.

This is not a difficult job to do if you understand my instructions, but it is difficult to write in a somewhat short article. As I have been writing this article I have been giving verbal instruction to one of my customers in Utah. He has been doing just fine. If there is any part of this article, that you do not understand, please call me Dan Booth 248-349-4884