

Addendum to April 2013, Rev. 1 C4 Heater Core Replacement Document

By tigerwillow1, August 2021

Having just gone through the joy of this job on a urS4, made possible only by the referenced document, I was able to catch a few discrepancies and build on the hints. It's hard to find words good enough to compare a 31 page, step-by-step document with abundant photos to the more reference-oriented info in the Bentley that leaves an awful lot of unanswered questions for a first-timer, not to mention that one innocent-looking line: "Remove center console".

To compete with Kinderutz's record of 2.5 hours, I spent at least 20 hours spread over a month. Helps to be retired and have a spare car. Hopefully these little discoveries can make it a bit easier for somebody diving into this job in the future. Going sequentially through the base document:

Page 1, preliminary #1 - The heater core has been NLA from the dealers for some time. I used a Behr core purchased from German Auto Parts, and it appears to be 100% identical to the original that came out of the car (minus the cracked plastic end cap on the hose side). The box label says Mahle and Behr, so maybe there was a corporate merger here. Don't confuse Mahle with Meyle. The original heater core had the number 443 819 031 D molded on the plastic end with the hose connections. On the replacement, whatever number was molded there was filed off. Best I can tell is it's just an alternate part number for the 443 819 030 that's listed for our cars.

Pictures of the box labels on the next page.

MAHLE

BEHR®

PREMIUM LINE

AH 98 000P
8FH 351 311 - 621

Wärmetauscher
Heat exchanger
Échangeur de chaleur
Intercambiador calor
Wymłennik ciepła
Теплообменник салона
مبادل حراري للتكييف

Made in France

صنع في فرنسا
Expiry date: none
70818723



PRODUCED BY BEHR



AUDI 100 / 200 / A6 /

MAHLE
Aftermarket GmbH
Pragstr. 26 - 46
70376 Stuttgart
Germany



UPC



EAN

443-819-030/6

2

AH 98 000P

Heater Core

20521C11

Z2

BH10D1

2



Page 9, step 9 - I agree with usr4boy's advice to leave the big rubber boot attached to the heater box. I found that inserting a piece of sheet metal between the disconnected boot and evaporator box made it easier to slide the heater box out and back in.



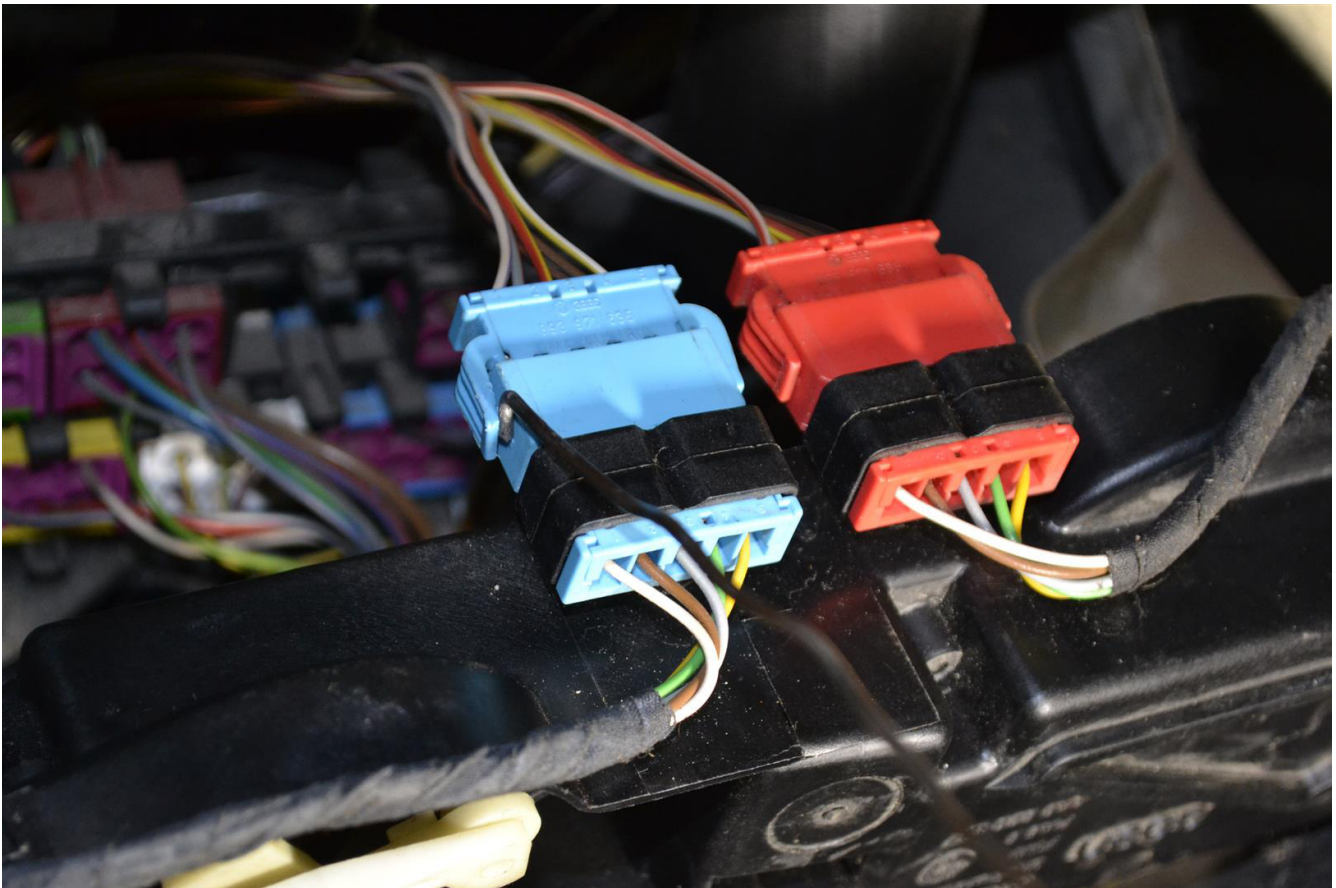
Page 10, step 12 - I don't see how just pulling the front of the carpeted plastic side panel disengages it from the holding clip. There must be some other bending that happened. This is one of those things that becomes obvious if you look at the clip design after the heater box is out. Part of the side panel slides into a metal clip in the forward direction. I found the easiest way to disengage and reengage it is to pull the side panel away from the console behind the clip location, allowing the panel to clear the metal clip it slides into as the panel pulls rearward. There's probably a risk here of breaking the plastic if it has become brittle. Mine was still fairly flexible. The clip setup doesn't show up very well in a photo. To try to make it better I photoshopped the plastic part to red. The front of the side panel is to the left and below the clip in the picture. Definitely a YMMV situation.



For both sides of the console, I used a ~5" length of wood to hold the side panel back while trying to get my head and hand into the little space at the same time.

Page 11, step 16 (unplugging the red and blue connectors) - Comments:

1. I agree with waiting to do this until the heater box is moved out an inch or two. This changes the job from almost impossible to very difficult. (Plan B)
2. I couldn't make plan C work (reach in through removed radio hole). Too far to reach and too many things in the way.
3. Plan A, reach in and pull the connectors off, didn't work for me either because they were on there too darn tight. Sounds like urs4boy broke one of the wings off the blue connector trying to disengage it, then was able to pull both of them off. I found that after disengaging one of the wings on each connector, I could pull them off. It's just that there's a fine line between disengaging a wing and breaking it off. I used a custom tool to push a wing away from it's locking tab before pulling it off. This one was made from a metal coat hanger.



I used the tool through the radio opening for red connector, and for the blue connector from the side. It might have been just as easy to do the red one from the side, too.

Page 20, step 22 - I agree with ursboy's comment to just grab the box from the passenger side and lift it out.

Page 21, step 23 - Some comments about the labeling on the picture

1. In the top picture, the plastic cover labeled "Tabs were broken...." is covering the V68 Temperature Regulator Flap Motor.

2. In the top picture the clip labeled "Leave alone" is holding the other side of the flap that the blue control arm connects to. There's nothing wrong with leaving it alone, which I did, but it did lead to me being confused (easy to do). The big picture here is that the heater box outside pictures were taken by urs4boy, the inside pictures on pages 25 and 27 were taken by Thefeek, and they didn't take the box apart the same way. No right or wrong here, just be aware that if you follow urs4boy's suggestions from the box outside pictures, the flaps won't all be on the same side when the box is opened up, as they were for Thefeek.

3. In the bottom picture, the red connector is labeled incorrectly. It's actually for the V85 Footwell Defroster Flap Motor. The V68 motor is under the "Tabs were broken...." cover in the top picture. None of this information has anything to do with getting the job done, but if you want to know what all the motors are, the S6 evaporator outlet flap motor is the V71 Air Flow Flap Motor. If you want to know what each motor does, it's easy with the V68 Temperature Regulator motor that operates 3 flaps in unison to direct all airflow either through, or around, the heater core. With the V70 and V85 red and blue motors, the best I can come up with is they each operate a single flap, both of which work in unison to direct the heater box output to the top, middle, and bottom vents in various combinations.

Page 22, still step 23 - The white arms that urs4boy advises to mark the position of are the linkage that moves the 3 flaps that route the airflow through or around the heater core, in unison. The v68 motor drives one of the flaps from the other side of the box, and the linkage in the photo drives the other 2 flaps. From the labeling. I'm assuming urs4boy removed the linkage arms to split the box. For better or worse, I instead removed the V68 motor on the other side because it seemed like less work. Close to the motor, there's also a flap retainer clip that needs to be removed. Probably no right or wrong way here either.

Page 23, step 24 - Believe the comment "Don't force the heater box apart". Find the clip, screw, or whatever you overlooked before you break it.

Page 24, still step 24 - In the top photo, same comment as before that the red connector is for motor V85. About lubing the motors, it's not horribly difficult to split their snapped-together plastic cases to gain access. I sparingly added grease to the gears. One motor didn't need it and the other looked like it did. Notice in the photo that the black bell crank with red arm has been separated from the white arm. If you want to remove the motor, I strongly recommend doing this. I thought I could be clever and get the motor out without this disconnection and snapped the very brittle NLA bell crank. Removing the retaining washer to get the white arm off the bell crank is difficult. Finding a replacement bell crank is even worse. If you want to test run the motor, note that it's a 7 volt motor, with the white and brown wires at the connector powering the motor. The other 3 wires connect to the internal potentiometer. The V68 motor on the side of the heater box is of the same construction.

Page 29, step 3 - Don't forget this step in your excitement to get the heater box all the way seated. If you didn't break the wings off the red and blue connectors, they are darn difficult to push all the way in. I skipped this step and resorted to using a pry bar to seat the connectors, and luckily didn't break anything in the process. And as the instructions warn, the rubber boot was folded on top of itself, which I was unable to undo.

Page 30, step 7 - Just remove the bracket first. If you don't, you'll end up removing it anyway after wasting a lot of time. I wish I could have found a better way to install the driver side elbow, but didn't. As urs4boy said, it's a beotch.

Page 30, step 9 - If you use the piece of sheet metal between the round rubber boot and evaporator box, you can get the boot into position, pull the sheet metal, and slide the boot right on to the evaporator box.

As others who have gone before me have said, you don't want to be doing this job often!