

# DIY for Adblue Heater:

Codes are 20BD18 and 20BE1B.

They will just replace parts from kits:

MB 164-471-11-75 RS PREHEATER and  
MB 002-470-68-94 RS Fuel Delivery

You must drop the tank to get to the heater. 4 bolts to remove the plastic splash shield from underneath, then two straps, and 4 bolts to drop the tank. You can unplug the electrical connector and sit the tank on the ground to disconnect it.

There is a plastic ring like a fuel level sender that unscrews to remove the heater/pump from the tank.

Per the dealer, the new AdBlue tank comes with both items serviced by both repair kits and costs less than the two repair kits combined.

A1644707201 \$1586 complete tank assembly (\$1244 with shipping from ECS Tuning)

A0024706894 approx. \$1300 heater

A1644711175 approx. \$700 pump

Or ECS Tuning AdBlue heater repair kit 7P6198970A \$272.61

DIY, not pictured here is the removal of the four nuts that fasten the plastic tank cover and the four nuts that secure the two metal band tank support straps.

Photos start here because I wanted to take lots of pictures to make sure I remembered where to reconnect everything and where the zip ties were to be restored when finished. This is the pump unit on the lid of the additive tank. It must be disconnected and removed to access failed pre-heater parts which are located inside the additive tank.



There are four connectors to the pump unit visible from the front. One is the actual additive line to the injector nozzle. There is also a large connector that is located behind the pump unit. I disconnected the four electrical connectors and left the fluid line connected while servicing the tank. Once the connectors were loose, I used a 4mm hex key to remove the three stainless fasteners that anchor the pump to the tank lid.







Once the pump was detached, and the other electrical connectors on the rearmost side of the tank were also detached, I was able pull the tank from the support straps and place it on the ground for the next steps.





After documenting the position of the zip ties and removing them to free the harness connectors, I used a large flat blade screwdriver and a rubber mallet to knock the locking ring loose on the additive tank lid. It secures a soft silicone rubber gasket within, so it is quite difficult to twist off manually, but it turned easily with a few firm taps of the mallet. It will rotate one full revolution and lift off.



At this time, I noted there is a reference arrow on the tank in the 11 o'clock position as looking from the perspective of the one the ground photo above. This reference is used to index the lid locking ring and the RS pre-heater assembly when installing within the additive tank.



Pulling the rubber gasket from the lid opening, you see the RS pre-heater assembly installed within directly under the lid and pump assembly. There is just enough extra tubing length to be able to fit your fingers within to grab the assembly and twist about 5° counter- or anti-clockwise to loosen it from its anchor tabs.



The new RS pre-heater assembly has an index arrow on the top rim, align it about 5° CCW/ACW to insert and twist clock-wise to lock in place.



My kit came with a replacement vent, so I swapped that in.

I damaged the pump after replacing the heater core because I did not prime the core chamber and the pump burned itself out trying to build pressure with the inner core empty. If you have a P20E8 low reductant pressure code, it could be your pump need to be replaced or your system has a leak that is keeping it from building pressure.

As far as I could tell, the pump works by injecting air pressure into inner core within tank, it does not actually pump the fluid itself. I think the DEF fluid is then fed to a higher-pressure pump upstream near the injectors.

Whatever the case, I suspect you're in need of a new pump if you have low pressure code. At the point I realized this, I just threw my hands up and handed to the dealer to fix. Lesson learned for next time I need a DEF pre-heater replacement.



Once the new pre-heater assembly is in place, install the new gasket and make sure the skirt of the gasket smoothly surrounds the top edge of the pre-heater assembly. Install new lid locking ring and tap into alignment with index arrow if needed with rubber mallet and large flat blade screw driver.



The new lid comes with a different kind of harness zip ties, so attach them to the lid at the locations indicated, roughly 12, 6, 7, and 9 o'clock starting from the index arrow.



Position tank with new pre-heater back in anchor straps.



Restore pump assembly to top of additive tank lid. There are two rubber rings used to promote a seal on the pump inlet and outlet, one is a small (6mm) O-ring, the other is thick (5mm x 14mm) rubber washer. The new tank lid already had the thicker washer seal installed, I put the smaller O-ring on the smaller pressure outlet of the pump housing. I used a little petroleum jelly to lube the larger fluid inlet, so it would more easily slide into the thicker washer seal on the lid. Secure the pump with the three 4mm hex head screws.



Reattach the electrical connections to the pump and the tank harness. Zip tie the cables routed around the perimeter of the lid to tidy everything up (not pictured.)



Restore the tank to the mounted position and attach the support straps and then the four plastic cover nuts.







Turn the engine on and clear heater codes or drive it for a few cycles and they will clear automatically.