



UK MKIII Supra Owners Group

# Heater Matrix Bypass Valve Mod



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## GUIDE : Heater Matrix Bypass Valve Mod

When coolant is being pumped around the engine, it reaches the back of the cylinder head and has two potential paths - back to the water pump or through the heater matrix. This is all good and well except for one small fact, you might not have your heaters switched on!

When you have the heaters on their cold setting, a bypass valve (on the nearside bulkhead) is closed off which means the coolant flows away from the back of the head and effectively hits dead end. This can lead to a build up of heat around the back of the head which is bad. This mod will remove the restriction and ensure the coolant can always flow through the heater matrix which reduces localised heating of the cylinder head (and still allows you to use your heater controls).

Step 1 - Locate the heater bypass valve on the bulkhead. Note the valve is the small plastic bit that has a pipe at the side (from the head) and the bottom (to the matrix). The funny diaphragm thingy with the the vacuum hose attached is the 'actuator' which controls the opening and closing of the valve.

In picture 1, the fans are set to the cold position and the valve is closed. In picture 2, the fans are on hot and the valve has been opened





Step 2 - You need to pull the metal lever out from the valve (careful not to loose the plastic piece if you intend to refit it at some point). This is a bit fiddly and can be achieved using a flatblade screwdriver if you struggle but don't stress anything more than you need to



Step 3 - You should now be able to move valve into the open position as shown in the picture



Alternatively, you can leave the actuator attached to the valve and cable-tie it up so it is always open if you prefer. The approach I used means that the actuator is still free to move up and down without any resistance so I like this method.

You can take this mod one step further and bypass the matrix altogether (I intend to do this myself), by routing the pipework from the back of the head straight into the return line that comes out the heater matrix. You will see in front of the steering wheel there is a coolant return path from the heater matrix, this can be removed and the pipe that goes from the head to the bypass valve could be rerouted here. This will remove heaters altogether but also remove the heater matrix completely making the stat the highest point in the system. This is a little extreme, especially for those using the car as a daily driver, so the valve mod is a happy medium.