

Fit extra fan on top of the inter cooler:

Have you ever noticed that after driving a while on a hot day the engine is quite dead below 1500 RPM. Even when pulling away on a small little incline you had to rev it up to about 1500 RPM otherwise the engine will stall. The most likely cause for this lack of power is heat soak. Because the inter cooler is mounted on top of the engine, the hot air from the engine heats up the inter cooler. When driving slowly there is not enough airflow through the air intake on the bonnet and the inter cooler cannot cool down the air which the turbo pushes through the inter cooler.

The following information is how one owner resolved this problem:-

I bought a normal 10 inch electrical fan from the part shop. I also bought one relay and an inline fuse holder. For a switch I use a nifty little power switch which I borrowed from an old 486 computer power supply.



Firstly I attached the fan on top of the inter cooler with 5 mm screws and nylock nuts. I use nylock nuts on just about everything in order to prevent it from loosening due to vibration.



For the wiring I decided to make a permanent connection to my auxiliary battery. I have a auxiliary battery fitted in front of the air filter. The reasons for the permanent connection: 1. Laziness. 2. I used a 30 amp fuse in the inline fuse holder. The highest fuse in the normal fuse box is 20 amps for the wiper motor and the wires for the wiper motor is much thinner than that of the fan. So I am afraid that the wires will overheat if I use the wiper motor's wiring. I connected the life wire to the battery with the fuse holder as close as possible to the battery. I used the positive as permanent power to the relay and fan. So should something go wrong and it makes a short, the fuse will blow.



I then fitted the switch on the dash at the bottom right next to the mirror adjustment and head light adjustment switches.



Now I ran an earth wire through the switch. So my switch cuts the earth wire. The other end of the earth connects to the relay's solenoid connector. So when you switch the switch on, it completes the circuit through the earth which activates the solenoid. Because the fan gets permanent positive, the relay switch also cuts the earth wire from the fan. So if something goes wrong with these wires and it makes a short circuit, the fan will go on and there cannot be any serious consequences.

I fitted the relay on the right hand side of the vehicle next to the brake booster. It is much cooler on this side of the engine and there must be a reason why Nissan fitted the fuse box and relay box here. I attached the relay to the brake fluid pipes by means of a cable tie. I am not very fond of making holes in the body and I do not see any harm to be caused by using a cable tie.



There is a rubber plug just next to the clutch master cylinder. I used this hole to run the wires to the inside of the cabin. Also note that I used fittings on the wires running to the fan which can easily be un-plugged. When i have to remove the inter cooler for some reason I do not have to cut or undo the wiring.



I tested it but found that a lot of the air was escaping at the gaps outside the fan



So I took the fan off again and applied some thick rubber tape to the metal cover surrounding the inter cooler

This did the trick and you can actually feel the air blowing very strongly at the bottom of the inter cooler This works great when driving slow and I find that the viscous fan seems to kick in less now. When driving at speed I cannot feel any lack in power which might be caused by less airflow due to the fan blocking airflow while driving at speed. I switch the fan on and off manually when driving slow and especially when doing obstacles or 4x4 driving.

It was money and effort worth spending.