

http://www.audiforums.com/m_915763/mpage_2/key_/tm.htm#926395

[quote]ORIGINAL: Project halp [/quote]

Hey Project

I am not guru, but here's my take on the chip thing... hope this helps clear things up a little...

At the end of the day your engine is nothing more than a big air pump. It gets air in, mixes it with fuel and ignites it. The more air you can squeeze into the combustion chamber the more fuel you can add and the more power will be generated.

Basically the ECU (Engine Control Unit) in your car came from the factory with an air/fuel map that decides how much fuel needs to be injected to mix with air coming into the engine at a certain RPM and amount of load on the motor. The ECU also adjusts where the mixture is ignited by the plugs, referred to as adjusting the "timing". What chip companies do, is alter this map and allow the engine to produce more power. Why do manufacturers not do this?... well they have to meet MPG standards dictated by the government etc and also don't want the engine to work too hard for reliability sake. Most chips increase the rev limiter/boost and as a result works the motor a little harder at the top end, where most HP is produced (typically).

On normally aspirated engines (no turbo or supercharger) the engine maps can be altered, but the resulting HP gains are minimal. Mostly the drivability and throttle response etc is enhanced on these. With a turbocharged (forced induction) car the tuner can also increase the boost, i.e. the amount of air the turbo is pumping into the motor, and this is where big power gains can be had. More boost >> more air + more fuel = more power.

Now APR and GIAC offer mutli-map setups, where they save two maps in the ECU. For example the one being the performance map and the other the stock map. When you switch between these the car will use the particular map you selected to control the engine output, thus allowing you to "turn it back to stock" when you need it. In stock mode anyone driving the car will not notice any extra power and the car will feel like a stock car. However switch it to performance chip and the extra power is there.

Gigi mentioned the APR mutli-map is controllable via the cruise control... This is very handy if you just want the chip and do not intend to ever work on the car yourself or do any self diagnosis. However if you feel like you want to look under hood in the future, the GIAC chip might be an option. More expensive yes, but I would not invest the money in the GIAC map changer either, I would rather spend the money towards a VAG-COM (<http://www.Ross-Tech.com>) that you can use to diagnose issues with your car.

Here's some info on OBD (Onboard Diagnostics) <http://www.VAGLinks.com> (ODBII section) if you have some time... LOL

I hope that helps some. Sorry for the essay...

Cheers
Massboykie