How to bypass crank case gas recirculation on Toyota 1KD-FTV engine

The crank case gas or piston blow-by gas is mixed with oil mist which is churned up by mechanical actions of the moving parts inside of engine is fed back into the engine to burn off again once more to reduce the pollution.

The blow-by gas is typically 3-5% per cylinder for new engine up to 40,000 km and older engine can be up to or more than 10% per cylinder (especially more so in diesel due to high compression).

The crank case vent hose is connected in between the turbo charger and the air cleaner box so that the turbo charger is working like air pump which sucks up enormous amount of crank case gas and oil mist which is produced by blow-by and mechanical action.

We have measured the suction at the crank case hose with gauge and it was typically right up to 15 PSI. That is a lot of suction!

The problem of the current pollution control system is it works when the car is new up to around 40,000 km but after that it does not work very well at all due to this increased blow-by gas and oil mist which they have to burn it off again.

In theory, you have to replace or rebuild your engine every 40,000 km to conform pollution regulation just like in Japan.

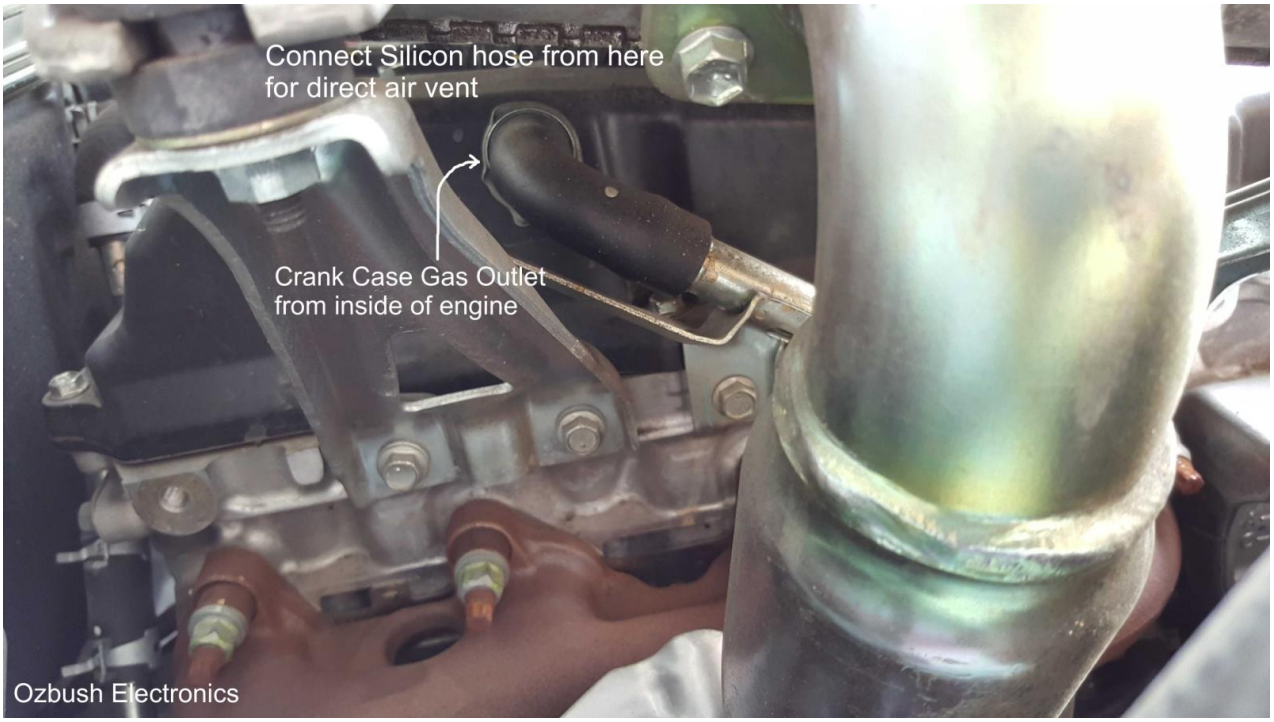
This is the reason why there is no mobile pollution checking station because no car will pass the test after 20,000 km. It is the way the engine is designed and there is no one can do anything about it because the piston will wear out every time it runs and leaks more and more gas.

All these are making your engine suffer a lot and make you to burn more fuel with maintenance cost.

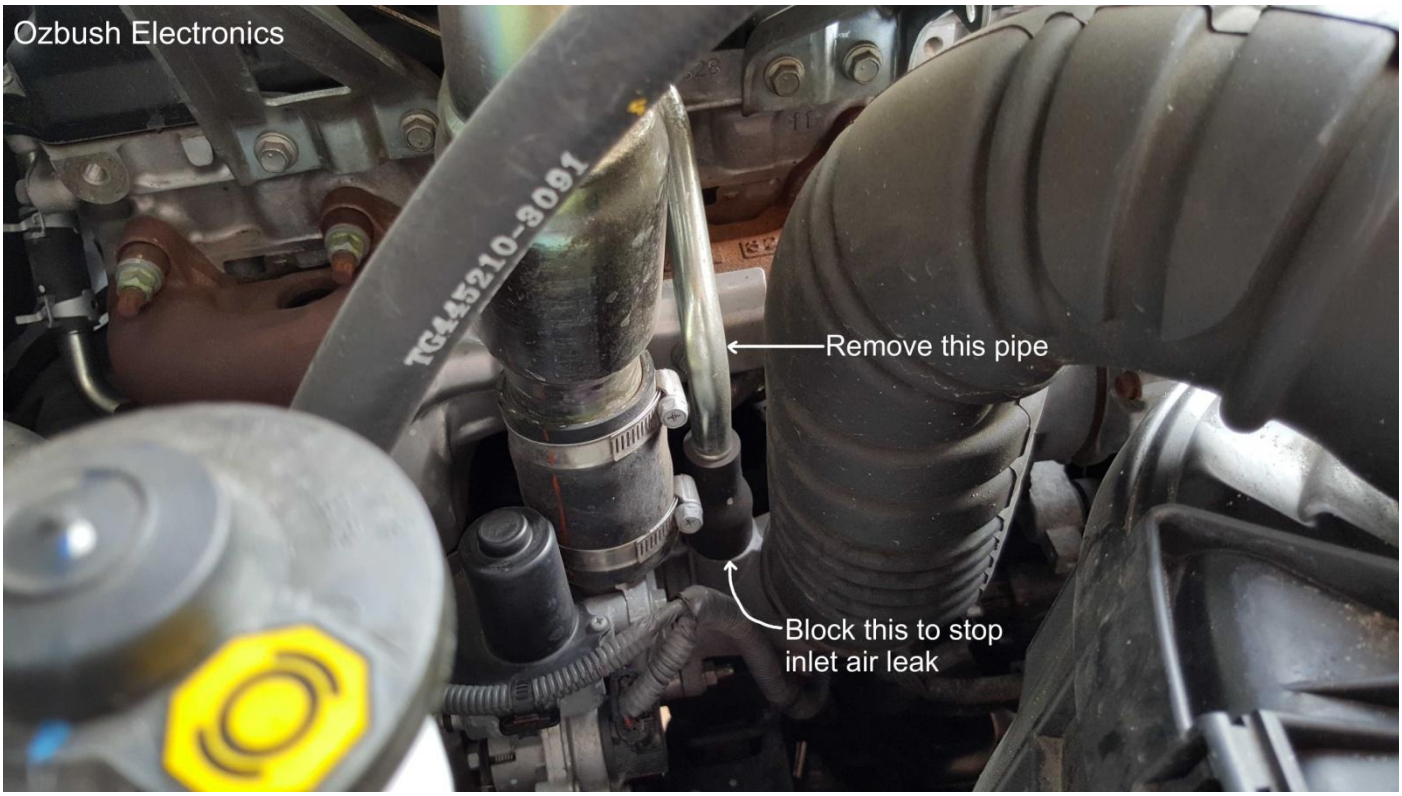
We have measured in engine dynamo-meter for increase of typically 10-18kw of more power when blocking EGR and venting crank case gas directly to air. That is a lot of power thus more economy. Car engine runs far smoother too.

The most important of all, this direct vent of crank case gas and oil mist will minimise carbon build up in the engine which choke up the inlet manifold and wears out engine parts prematurely by mixing up and forming the mud cake with soot from EGR system. You can stop these 100% if you can block EGR system and install crank case direct vent.

Toyota 1KD-FTV engine Crank Case Gas vent which need to be vented directly to air.



I got rid of the pipe which is feeding crank case gas back into inlet.
I found silicon rubber hose from EBay and connected the silicon hose from outlet of crank case to right under the body near tail pipe area and hooked up with hose clamp to the body.
Make sure no crank case gas will enter the cabin.



The crank case area have a mild air pressure so you don't need anything fancy just make sure you DO NOT block the crank case gas vent, the crank case need to be breathed otherwise engine oil will be leaking every oil seals.

You must also block the inlet hole near the turbo charger and air cleaner box using chair leg protector rubber. You could use anything to block the inlet air leak.

One more caution, I had a Lizard crawled into my direct vent pipe under the body where pipe was installed and died there thus was blocking the pipe. It took me for a while to figure out why rocker cover was leaking oil despite it was new.

Please use small dump filter like this at the end of pipe. You can find them in the EBay.

I also use Mann Provent 200 oil catch can to catch all the oil mist before the gas is dumped onto the road.
You don't have to use it but I don't think it is good to dribble the oil onto the road or soil.

Please note: Above Modifications are for use only for off road or racing. It may not comply with current emission standard set by government authority.

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