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**Turbos and Heat**

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## Turbos & Heat

Now you own a turbo and no one told you about the additional heat?

Most people who buy high performance smaller engines don't even know they just bought a turbo. Not every person that buys a turbo is a teenager looking to become a street racer. You know the cars, older Hondas with lowered suspensions and large tail pipes. Noise and speed are what they are trying to get out of those engines. Well you may be surprised to find those same engines in a great number of run-of-the-mill vehicles.

Soccer moms and seniors who want a smaller four-cylinder engine just bought their first turbo. Someone at the dealership didn't tell them, or told them not to worry.

Audi, Toyota, VW, and Honda all have turbos that are sprinkled in their vehicle line-up. Turbos are everywhere in today's auto manufacturers' engine offerings. These turbos create a unique problem that most consumers don't know about compared to a normally aspirated engine, and the problem is additional heat.

**Heat** that you don't have to deal with in non-turbo engines. Heat so great that turbos are now normally water-cooled. In the past, many were air-cooled. GM, for example, had to give up on air-cooled turbo engines because consumers burned up their engines. In traffic back-ups and those hot summer trips, turbos (the older air-cooled type) just didn't make it. I had two of them when I worked for GM and I fired both of them. So you need to find out what type of turbo you have before you take that trip to downtown on a hot sunny day.

Before we go much further with this, you need to understand that increased heat affects your engine in many ways. These effects are not just all internal. This heat affects your engine and your oil. Oil in turbo engines is under greater stress and these oils break down faster in turbo engines. Are the people driving cars around you aware of the increased engine heat? We don't think so.

How does owning a turbo affect your oil? You must understand that maximum lubrication is a must for these types of engines. Having minimum oil protection can be deadly to a turbo engine.

If you question this all you need to do is.....

## **Look at your Tachometer!**

It will tell you what's happening on the inside of your engine. Most new turbos don't kick in until about 2500 rpm. Look at your tachometer at 65 or 70 miles an hour. The same, about 2500 rpm.

What does this tell you!

To get the increased acceleration from a light, or when merging onto a freeway, you need to kick the turbo in, to do that you need to run the engine at 2500 rpm, the same rpms you need to run your car at 70 miles an hour.

Common sense will tell you that this increase in rpm will affect your engine in a negative way.

More rpms mean more heat and more wear and tear on your engine.

These four-cylinder turbos will give you the pick-up and pep like a six-cylinder, but what affect does it have on the longevity of your four-cylinder engine?

The affect of the heat and the acids created by the breaking down of the oil will increase wear on these little engines. These little four-cylinder engines have to compete with larger engines in day-to-day driving.

Because of the strain and the additional wear these little engines normally give poorer performance after 30,000 miles.

What is an owner to do to prevent this destruction of their little four-cylinder turbo? Oil changes are critical with these engines. Letting it go another thousand miles will not work with these little heat boxes.

Synthetic oils are recommend by many of the manufacturers for turbo engines because of the fear they have that the engine oil will break down. This is a natural fear after you review the numbers created by these little engines.

Of all the engine families out there, these engines need additional protection. These engines need Bi-Tron.

The Bi-Tron oil additive will not break down like conventional motor oils. It will prevent the oil from losing its lubrication ability and the additional lubricity caused by the Bi-Tron oil additive will help stabilize the engine oil mixture.

Additional heat needs additional lubrication and Bi-Tron can deliver that to you.

J. K. English