TURBO CHARGING

by Dennis P. Begley

The word is — this is the end of the V-8 engine. Future motors will be smaller, more fuel efficient. If horsepower is wanted it will come from a turbocharger, supercharger or the such. Sounds like a good reason to collect old Mustangs?

Ford Motor Company's contribution to the cause is a turbocharged 4-cyl. engine. This high output engine is standard in the SVO Mustang, rated at 205 HP, and in Mercury's new Merkur, rated 175 HP. It's a special performance option in the Cougar & T-Bird, rated in these cars at 155 HP. That's right we're talking V-8 horsepower from a 4-cylinder motor.

Basically a turbocharger is an air pump driven by the exhaust of the motor. It pumps lots of extra air to mix with the gasoline creating additional horsepower during combustion.

However, as a mechanic friend of mine told me when I bought my first turbo, a 280ZX, "basically what you have there is a race car. It has the same engine that's raced. You're going to have to treat it as one." I later learned what he meant. The engine generates a lot of heat. Most turbochargers are cooled by the same oil that lubricates the engine. Special oil was recommended. And because clean oil is critical to the life of the hi-revving turbo, it had to be changed religiously every 3,000 miles. Something else he insisted on is always starting the engine and letting it run for a minute or two before driving. Got to make sure oil gets into the turbocharger. "You should never drive in and turn it off," he stressed. "That turbo is still turning and when you turn the car off you also turn off the oil pump." He said another problem turbo race cars had is running them hard, getting the motor HOT, then turning it off. The tremendous heat of the engine and turbocharger can cause the oil to evaporate and turn to coke. Guess it does terrible things to the precision blades in the turbo. He suggested always letting it run a few minutes and cool down before turning the key off: the hotter the motor, the longer to cool down.

What's it like to drive Ford's turbo 4? First of all the sound of the motor is not that of a V-8. It sounds like a small race car, fans and the high pitch whine of a hi-po 4 cylinder. It winds out quickly. Although from a standing start, the turbo lag (time it takes for the turbo to kick in) seems excessive, the feel of raw horsepower is there. And when the turbo kicks in at 2300 RPM+, hang on. For best times revving it to 2000 RPM+ and letting the clutch out will light the tires reminiscent of an early V-8 Mustang. In fact at 175 net horsepower, the output is comparable to that of the early hi-po Mustangs. Sound too good to be true? At highway speeds, the turbo is a pleasure. Think about going from 60-70 and you are! Or a 100 MPH! This engine is happiest at 3000 RPM and above. The turbo pushes the engine quickly to 6000 RPM in ALL gears. You can even pass in 5th gear, although a downshift into 4th gives plenty of extra power just in case.

Overall, the engine is impressive. That's a lot of power from a small motor. It's easy to get used to except for the turbo lag from a dead stop. It produces 26+ MPG on the highway, 17-19 MPG, depending on your foot, in the city. And it will run away from most cars on the highway! If this is the hi-performance motor of the future, I can live with it.

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