Wheels: An e-mail from David of Centerville says, "You were most helpful in pinpointing a problem with my car a couple of years ago; I hope you will be able to offer some advice or suggestions at this time.

I own a 1999 Mazda Protégé, which I bought new. My present problems are these:

A. In the morning, I start the car and let the engine run a few seconds while I get buckled in. I back out into the street and shift into Drive. At this point, the engine falters and stalls. When I restart it, the engine runs all right, but with a subtle roughness.

B. When the engine is idling at a stoplight, there is a bit of roughness noticeable.

C. The last two times I have filled the tank, the measured mileage has been approximately 24 miles per gallon; in the past, it was about 30 miles per gallon.

I feel this is not a reasonable performance condition for the car. It has greater than 110,000 miles, but has been serviced regularly by the dealer at the prescribed intervals.

I mentioned this to the dealer and presented them with a list of these symptoms.

The dealer's shop performed the following checks:

No codes were found,
Monitored fuel trim values; fuel trims at approximately 6%.
No major vacuum leak found.
Passed IAC test and EGR test.
Pulled spark plug and checked for proper gap. This was satisfactory.

The service representative suggested the engine mounts might be wearing, but could not say definitely whether this was the cause of the problems. Since, at this point, I have not been able to find an assignable cause, I am wondering if you could offer any further information?

The faltering of the engine in the morning and the decreased mileage are both matters of concern at this point. I'd appreciate any suggestions."

Halderman: Based on the symptoms, I think that carbon on the valves is a likely cause of the roughness and stalling in the morning. When carbon builds up on the intake valve, the fuel supplied by the fuel injectors is often absorbed by the porous carbon, resulting in less than the normal amount of fuel being delivered to the engine cylinders. As a result, the engine lacks power when cold. After the carbon has been saturated with gasoline, the engine runs OK. The roughness could be also associated with the carbon buildup or a clogged injector. The fuel trim number of 6 percent means that the engine computer is adding 6 percent more fuel than normal based on the oxygen sensor readings. Often only one fuel injector is clogged, but because there is only one oxygen sensor used for fuel control, the computer would increase the amount of fuel supplied to all cylinders and not just the one with the clogged injector.

What would I do? I would ask a shop to perform a fuel system cleaning, which would include the following:

1. Fuel injector cleaning
2. Fuel rail cleaning
3. Intake throttle body cleaning
4. Upper cylinder cleaning (top engine cleaning)

If this does not take care of the problem, I suggest that the fuel injectors be tested for proper flow. This can be one using a pressure drop method using a special tester.


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Restores Power & Performance