

With the high price of gas on everyone's mind I thought that this article is appropriate for the present time.

## **Higher-Octane Gasoline Is Cheaper Than A Top-End Engine Job**

By James R. Davis

An apparently handy man with his tools recently posted a message in which he described a method for tuning your engine without having all the special shop tools found at you motorcycle dealership. Among other things, he said: "Does your motor ping? If it pings **slightly**, you're right on the mark. If she pings horribly, you need to retard your timing (rotate timing plate same direction as engine rotation). You can pull over and do this by the side of the road. If she doesn't ping at all, advance your timing a little."

'Pinging', in my opinion, damages an engine. Indeed, I have been told by a world class wrench that for every hour your engine runs while pinging you lose about ONE YEAR of life of normal 'ping-free' engine operations.

I full well recognize that the person was describing a technique to time your engine without the tools your mechanic has at his disposal and that he takes care to suggest that it should only ping 'slightly' when done. That, it seems to me, is still 'pinging' and is too much.

There was a time when I did all my own wrenching (30 years ago). Besides the fact that technology has evolved faster than my ability to keep up with it, I have come to believe that both my time and my life (and that of any passenger I might have with me) are far too valuable to fail to use an expert who is properly equipped/trained to take care of all but the most trivial of maintenance on my motorcycle for me – regardless of the cost. If my motorcycle pinged 'slightly' after I had it in the shop for a timing adjustment I would take it back and have the mechanic correct it, and there is no doubt in my mind whatever that he would do so.

Assuming your engine is properly tuned, then you need to think about the octane rating of the fuel you use.

### **Octane ratings**

I think that some attention should be paid by all of us to both altitude and temperature in the selection of our fuels. When it is hot a higher octane is often called for. The closer to sea level you are, the more likely you should be running with a grade of gasoline above 'regular'. Note, however, that the newer your motorcycle is, the less likely you need to run anything other than 'regular' – ever. Motorcycles manufactured after about 1980 (other than the odd 'Boxer Twin') were made to run quite well with regular gasoline. In the middle of summer, if you notice a slight pinging from your engine, a medium grade of gasoline might be just the right 'fix', and it's cheap.

Using a higher octane than is needed does not cause unusual engine wear, though it may tend to cause a carbon build-up within the engine – particularly if you use premium grade. Using a lower rating, if it results in pinging, DOES do engine damage (the theme of this message, after all.)

Pinging is the sound of damage being done to your engine (directly or indirectly – and, of course, it could simply mean that you are driving in too high a gear.) A higher grade of gasoline eliminates pinging – however, it may also merely camouflage what is really wrong by eliminating those pings.) In other words it is perfectly (assuming that there is not something fundamentally wrong with your engine and you do not use a higher octane to eliminate symptoms), though a bit more expensive, to use a higher octane gasoline for part of your driving year.

If your bike does not ping (at all) when using regular, fine, use regular. If it does, then move up a grade of gasoline.

I may not be the most conservative motorcycle rider in the world, but paying an extra fractional penny per mile driven seems like cheap preventative maintenance to me.

This is the Safety Article for the month of June From Chapter Educators Gene & Pam Lingford