

# SHOP TALK

## Fuel Injection? *continued*

By Steve Taylor

**Greetings!** As the ever-changing technology evolves concerning fuel injected Harleys, I write this article as an update to a previously written article. Fuel injected Harley-Davidsons are here to stay, so get used to it. It is my opinion that if you have a choice between an injected and a carbureted Harley, choose the injected bike. Far more technology (money) is being pumped into it. Late model fuel injected Harleys now come with a "closed loop" system, as opposed to earlier models being "open looped". Just like automobiles, the closed loop systems have oxygen sensors located in the exhaust near the heads. Reason being is so that the E.C.M. (electronic control module), can make changes in fuel delivery while the motor is running by analyzing the exhaust gasses.

**How much change?** Well, let's say you have a "bone stock" motorcycle. You decide you want a little more rumble out the exhaust and install a set of slip-ons. Unfortunately the system will not recognize such a change and your "check engine light" will probably come on. Not to mention back firing, hard starting, and a possible hole in the piston(s) caused by a lean condition. Stock E.C.M.s only recognizes minuet changes for efficient running. It seems that about every week or so a fuel injected bike will come in with a condition previously described. Some fuel injected bike owners are bashing out the baffles in their exhaust for a little more sound. Bad move. Carbureted rules do not apply here.

**Choices, we all have choices.** Here is yours: You can leave your bike stock (yeah RIGHT), ride your bike to the dealership and have a "Stage One" system installed, i.e.: Screaming Eagle exhaust, free flowing air breather and an E.C.M. download. Not much of a performance up grade, but will satisfy to a small degree. Also, any changes you may wish to make yourself, forget about it. Only the dealer can do that for you. 2nd choice: by installing a Power Commander unit on your bike, you can pick and choose an exhaust (Vance and Hines, Reinhart, Supertrapp, etc.), and a free flowing air breather. Down load a map yourself and go. And I mean GO because you WILL feel the performance gain. Also if you change your mind about an exhaust, (or any other component for that matter), NO

PROBLEM! Just down load another map, free! Software & cables included along with a toll free tech support line. Power Commanders average approximately 250 points of adjustment and are oxygen sensor friendly. Think of points of adjustment of a way of tuning your bike 250 times throughout the entire r.p.m. range. From idle to wide open throttle.

**Another choice** would be Harley-Davidson's Race Tuner. Usually a dealer installed item, these offer approximately 2,500 points of adjustment with provisions for ignition advance, and advance curve as well as fuel delivery. Much pricier than a Power Commander and you will need to have it tuned by a dealer. If you ever want changes in the future (exhaust, cams, heads, etc.) you will need it re-tuned by the dealership. A better performance gain but at a forfeit of owner tuning. It is also oxygen sensor friendly.

**One other choice** (there are however much more), would be a Zippers ThunderMax. A complete unit with weld-in exhaust "bungs" to place the provided oxygen sensors that make it a closed loop system. They come with a base map that is specific to your bike (you tell Zippers what you have and they map the unit). This unit has approx. 2,600 points of adjustments. Once installed (owner installation friendly), the module will make adjustments up to 50% of either way (lean/rich), throughout entire r.p.m. range. Also, if you decide to make motor/exhaust changes in the future, Zippers will send you the required map upgrades free! Zippers also has a very well trained tech. department that will guide you every step of the way. Now, and in the future. Zippers ThunderMax is the preferred product of choice in my shop for obvious reasons.

Ride safe everyone.

Questions? Comments? Steve Taylor of Taylor Made V-Twins can be reached at 810-966-4900 or e-mail us at [taylormade@advnet.net](mailto:taylormade@advnet.net)

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