

TECH Q & A

ANDREW
MACDONALD



EGA Hooray

On the subject of exhaust gas testers I was so fascinated by your September '98 column on EGAs that I purchased a Gunson portable unit to finally end the insanity of setting the carbs on my Honda CB750K.

Unbelievable! It now runs like a Swiss watch and its fuel economy is up too. Now for the question-when setting the carbs on a four-into-four exhaust system, it's easy to adjust each carb to each pipe, but how in the world am I going to set the four carbs on my newly acquired CB750F with its four-into-one pipe? How do I know which screw is doing what to the reading? Thanks for your time.

John Nassios
Chicago, Illinois

That's the problem-you don't know what's going on with each carb's screw setting when there are two or more exhaust header pipes feeding into one muffler. The accepted practice is to set up all the mixture (or air screws in your bike's case) at an even number of turns out. But as you have probably discovered using an EGA, that's pretty coarse tuning, because to arrive at an ideal carbon monoxide reading for each cylinder the final screw settings will differ from carburetor to carburetor. No two carbs, intake tracts or combustion chambers are perfectly alike, and the same goes for ignition spark. The difference in optimum screw settings may vary only by as much as a

quarter turn, but its effect on engine smooth and throttle response is astonishing.

I remember a tune and service I performed on an '88 Yamaha Venture Royale in which I'd backed out all four mixture screws on each of its four carburetors an even count of four turns. "Sniffing" its two mufflers with the gas analyzer I got a nice CO reading of 3_ percent. Sounded pretty sweet, too, as I synchronized the carb butterfly openings at the same time.

Coincidentally, my Yamaha area technical rep was in town the next day to give an EGA seminar. Checking my work, he removed the 6mm bolt from each of the Venture's header pipes, which allowed him to thread in a factory EGA adapter probe. Instead of getting a cumulative exhaust gas reading back at the muffler, we witnessed what was actually happening with each cylinder close to the exhaust valve. Wow, what a difference!

The four different readings were all over the place. Taking a flat-bladed screwdriver I budged the mixture screws around until the gas analyzer readings for all four cylinders were even, not the mixture screw settings. That engine went from just sounding good at idle to becoming the Rolex from heaven. Just tapping the throttle grip with your index finger made the tachometer needle leap to 1,500 rpm from an idle of 1,000. I became an EGA disciple from that moment on.

Most Yamaha and Triumph road bikes come from the factory with 6mm bolts in their header pipes for EGA inspection. If a threaded probe adapter is not available, a skinny "straw" probe simply inserted into the hole works just as well. Remove one bolt at a time and tune its relevant carb. When reinstalling the bolt remember to put high temperature anti-seize grease on the threads so it can be removed in the future without shearing off.

If you want to install threaded EGA ports in the header pipes of your bike, I suggest a Riv-Nut kit in 6mm sizing. It works similarly to a pop rivet kit. You drill an appropriately sized hole with the drill bit provided, then install a threaded rivet insert with the special compressing tool. If your local Snap-On or Matco tool truck doesn't have one on board, they can be ordered in a few days, and are priced under 50 bucks.