

Carbs

Motorcycle carburetors have to make the best of sketchy circumstances. If there's too much fuel they'll bog down and stall but if there's too little they'll run hot--and perhaps bog down and stall. Because fuel demands change according to whether you're starting on a cold morning, cruising along peacefully, sitting at a stoplight, or rolling full on to pass a crazy driver we have to find the best balance overall.

We want to be a tad lean at the low end--this gives us easier starting and lots of power for accelerating into the upper gears--and gradually richen as we increase demand, but not so much that we overwhelm the compressed air with more gas than it can burn. This is a tall order for a device that must function within limited parameters. Ideally we'd want four or five jets that each cover a specified range of demand but we only have one or two so naturally we have to do a lot of wishful thinking.

In the most general of terms, if you have poor power under moderate to hard acceleration, you're too rich. If you surge and buck at steady speed you're lean.

Further refinements are that if you experience hard starting and trouble restarting when the engine is hot, you're too rich. If your pipes are turning blue and you hear 'tink-tink-tink' sounds immediately after you shut down, you're lean.

One of the easiest rich/lean indicators to check is the condition of the plugs. A black sooty coating suggests rich (absent of course a head gasket leak or bad rings); a white residue suggests lean. What we're looking for is a nice tan deposit on the plugs.

If You Have to Forget Everything Else, at Least Remember This:

You can run rich as all get out and not hurt anything, but lean running can kill an engine in no time.

Components in the valve train, head, and cylinders can't stand up to superheated ionized gases passing over them and strange things happen to the metal that are all bad.

We once had a CB900 self-destruct on the dyno in less than a minute. On examination the valves were burned and the plugs were snow-white. Yes we might have checked before hand but it wouldn't have been nearly as much fun.

Joking aside, never changing the oil is a far less harmful lapse of judgement than running lean for extended periods.

Race bike engines do it but then those get rebuilt more often than I trim my beard, whereas your street bike will suffer premature aging or worse if you let it go lean.