Breaking It In Right

Nothing's more critical than the first few miles.

• Bob Price

Butterflies. Aw, c'mon, admit it. You get them. I get them, we all get them. I don't care if it's your first new motorcycle or the 50th. After you've signed your name to a half-dozen documents and handed over the down payment, you can't wait to take that shiney machine out and see what it will do.

Resist the temptation! Sure, the time spent rolling up the first few hundred miles is frustrating, but it pays off in the long run.

There are three myths about break-in operation that are hazardous to the life of your motorcycle. Myth number one: Taking the bike in for service after only 600 miles is just another way for the dealers to get your money. Myth number two: Running an engine hard will break the engine in faster. After all, racers run their engines wide open right after a rebuild. Myth number three: You should break the motorcycle in by riding it the way you ride every day, so the parts wear in for your riding style.

Wrong, wrong, wrong.

The last thing a dealer wants to do is alienate the customer. He wants to service that motorcycle so soon after the sale to ensure the bike's reliability over the long run. A satisfied customer will be back for other purchases, like accessories and clothing.

Running a new engine hard won't break it in faster—that will just shorten its life considerably. Racers (and motorcycle magazine editors) just don't have the time to spend running a bike gently for a thousand miles. Magazine editors simply give the motorcycle back to the manufacturer. Racers rebuild those engines frequently, sometimes as often as every few hundred miles. You don't want to pay for an overhaul that often, do you?

While riding a brand-new motorcycle the way you ride every day isn't as hard on it as running it wide open, it will still lead to an early demise for the machine. Cylinder glazing and burnt valves are just two examples of what can happen if you don't pay attention to the break-in cautions listed in the owner's manual.

The clearances between the parts of a new engine from the OEMs are very tight. The parts for an engine built to running clearances would have to be hand-fit, and the labor costs could easily triple the price of the motorcycle. Instead, the parts are manufactured over a range of tight clearances, and through careful break-in, are allowed to wear themselves in to the running clearance.

While there are minor differences between manufacturers on how to break in a new motorcycle, the basic rule is simple. *Take it easy.* Tight clearances mean more friction and a hotter running engine. By running your motorcycle gently at first, you allow rings to seat properly, gears to loosen up and bearings to align themselves without generating excessive heat.

As parts wear, abrasive metal particles are suspended in the oil and trapped in the oil filter, especially at first. Also, with tight clearances the oil gets hotter and works harder than normal and therefore loses its anti-shear properties early. This is why oil and filter changes are so critical after that first 600 miles of wear.

The valves have to be adjusted early as well. New valves will pound themselves into their seats, thus decreasing the clearance between valve tip and rocker. If the valves aren't adjusted and the clearance disappears entirely, valves may remain partially open during combustion. The result? Burned valves and an early valve job.

New gaskets compress at first, so the cylinder head should be retorqued (tightened to specification). Retorquing has no effect on the valve clearances of an overhead cam engine (although it does affect the valve timing slightly), but it does take up more of the valve clearance on push-rod-type engines. The dealer should retorque the cylinder head before adjusting the valves.

Finally, a broken-in engine runs cooler and revs more quickly than an engine that is new and tight. It will need to be tuned to compensate for this change in running condition.

Running the engine gently does not mean running it slowly all the time. Avoid lugging the engine, and vary the engine speed often over the range recommended in your owner's manual. Use all of the gears if possible. If you find you are on the freeway, vary the engine speed while maintaining vehicle speed by shifting gears. Avoid prolonged operation. Yamaha even recommends shutting the engine down for 10 minutes or so for every hour of operation that first few hundred miles so the parts have a chance to cool. Don't worry if you have to accelerate hard or brake quickly in the interest of safety. It won't hurt the bike. Just avoid continuous hard use.

The engine is not the only part of the motorcycle that needs to be broken in gently. The brake pads have to seat before they can work efficiently, so moderation is the key here as well. This one is easy to do since you're already riding conservatively for the sake of your engine. Hard early use can lead to brake noise and accelerated wear.

Perhaps the most important part of breaking in a new motorcycle is breaking in the rider. Until the rider is familiar with the machine, he gives more attention to the operation of the motorcycle than to traffic. It's just as well that he has to take it easy during break-in miles. As he gets used to the controls, he can start looking for any defects or quirks in the motorcycle's operation. These can be fixed or adjusted by the dealer during that first service. Besides engine maintenance, the dealer will check over every part of the motorcycle to ensure that all the fasteners are tight and that the running gear is functioning properly. Help him out! Point out any specific problems you may have encountered.

By breaking your new motorcycle in properly, the bike will be cheaper to maintain and give you years of joy. I know of many people who have over 100,000 miles on their odometers, yet their machines have had no more than routine maintenance. So take it easy at first and don't neglect the first service. One-hundred-thousand miles sounds pretty good, doesn't it? □