

Motorcycle Tires: The Sticky Facts & Top Tips

The only things keeping you from a really bad day when you are riding are your motorcycle's tires and the air in them. Here is what you should know past the round-and-black points. From the October 2001 issue of *Motorcycle Cruiser* magazine. From the February, 2009 issue of *Motorcycle Cruiser*



There are important parts of your tires -- like the plies under the tread rubber -- that you hope you never see.

Most riders realize their bike's sole connection to the unforgiving asphalt is a thin, pliable hoop of rubber encircling the wheel. What many bikers don't realize though, is how crucial their motorcycle's relationship with this rubber really is. "Co-dependent" would not be an understatement here.

Essential as these rubber hoops are, plenty of riders still can't offer up much insight into their tires' construction or duties. And as any tire company rep will readily admit, many riders buy tires based primarily on appearance rather than performance. But even though rubber has very much become a styling element of cruisers, a tire's beauty is deeper than its tread pattern--and what you don't know can hurt you.

Hoop Anatomy 101



The alphanumeric hieroglyphics on a tire's sidewall offer a variety of info. Size can appear in inch, metric and/or alphanumeric denominations. All three interpret the size in terms of its width, aspect ratio and diameter of the intended rim. Here 160 is the cross-section width in mm; 90 is the aspect ratio (the relationship of the tire's height from the rim to the road to its width, expressed as a percentage of section width); H is the speed rating. An S-rated tire is designed to cope with sustained speeds up to 112 mph. An H-rated goes up to 130 mph, a V rated is to 150 mph, and a Z-rated tire is will go more than 150 mph.

Nice Carcass: The backbone of a tire is called the carcass. This interior layer consists of overlapping synthetic cords called plies. The angle of these plies will largely determine a tire's strength and flexibility in action, while the entire carcass construction will affect a tire's performance and wear. Bias-ply tires, which most cruisers wear, have plies running diagonally from one bead to the other, with alternating plies angled in opposite directions. If you could see through the plies...well, you'd be Superman, but you'd also notice that the cords form an X.

Do We Have Contact?: When a tire rolls, the part that hits the pavement flattens out, becoming the contact patch. As forward motion continues, the contact patch travels away from the pavement and returns to its rounded shape. This constant flexing from round to flat causes plies to rub against each other, generating heat. Unfortunately, not many cruisers are built to use radials, which heat up less and wear better, but improvements in bias-ply technology have produced bias tires which are as good as radials for cruising.

Don't Tread on Me: The tire section motorcyclists are most familiar with is the tread--it's the outermost region of the tire pressing against the road. Molded from tough rubber, the surface of the tread is crisscrossed with grooves called sipes, which channel water away from the contact patch to prevent hydroplaning. The entire tread affects cooling, wear and stability, and the big daddy of them all--traction.

Get a Bead On: The bead is the inner diameter edge of the tire, comprised of high tensile steel wires. It's the edge of the sidewall where the tire seats against the rim, providing an airtight fit, and it acts as an anchor to the plies.

Up the Wall: The tire's sidewall is the portion of the tire between the bead and the tread. It's flexible enough to soak up bumps, yet stiff enough to limit rollover and protect the side of the tire from road damage. It's also the place cruiser tires showcase styling conceits such as whitewalls and fat lettered model names.

Another important consideration to remember is that bikes with spoked wheels almost always use tube-type tires to keep air from leaking out around the spoke nipples, while bikes with solid or cast wheels are usually shod with tubeless tires. In tubeless applications the inside of the tire is sealed, as is the rim.

TOP 10 TIRE TIPS

Now that you understand the language of rubber, it doesn't mean you shouldn't keep practicing. A neglected tire can be a deadly one.



The simplest and most important thing you can do for your tires' health and your safety is keep them, inflated to the designated pressure.

1. Air It Out: Check tire pressure every chance you get. There's probably no simpler procedure that's more important and more ignored by bikers of every stripe. The air, not the carcass, supports the bike, and underinflation is a tire's number one enemy. (Make sure the tires are cool when you take the reading.) For a better traction in wet conditions, increase pressures by about 10 percent. Unsure of what the pressure is supposed to be? Look for a sticker somewhere on the bike. It is also probably on the VIN (serial number) plate near the steering head with the gross vehicle weight rating (GVWR) and gross axle weight ratings (GAWR) information.

2. Step in Line: Pay close attention to alignment--shaft drive bikes have no adjustment, but if you have a chain or belt, check the position of your tires. Proper alignment ensures better handling and longer wear.

3. Steady, Now: Although it primarily affects handling, improper balance can also shorten a tire's life. Check it after 500 or 1000 miles of use.

4. Top It Off: The valve stem cap should be securely fastened on the stem, because it's an important part of your tire's sealing system. It'll give you extra security at high speeds, when centrifugal force can conspire to open the valve inside the stem.

5. Soap It Up: Most tire manufacturers recommend that the only substance used to keep rubber shiny should be good old soap and water. Many alleged protectants actually promote premature cracking and finish deterioration. Make sure you wipe off any lube, brake fluid or gas promptly, too.

6. Look Before You Crank: Before you saddle up, take a moment to visually inspect your tires. We can't tell you how many times we've pulled out screws or nails before a ride, thus preventing almost certain tire failure. Once you're on the road, it'll be too late. **7. Stay Smooth:** This is common sense--avoid potholes and sharp objects on the road that can compromise your tire's integrity. The same goes for curbs.

8. Don't Mix and Match: Never run two tires of differing construction. We can't stress this enough, and this rule applies to bias-ply vs. radials as well as tubeless and tube-type tires--even bias-ply vs. bias-belted tires. The results can be disastrous.

9. Scuff 'Em Up: Optimal grip is obtained only after the tread surface has been ridden on, so go into those first few twisties with a bit of caution. The suggested break-in distance is usually 100 or so miles. After that, check the tire's pressure again!

10. Don't Scrimp: If you replace your tires, make sure you replace the tubes, too. Some manufacturers even recommend that you change both tires at the same time, even if they wear differently.

Still have sticky questions? Tire manufacturers invite unsolicited phone calls (we know, because we call them all the time). They'll talk you through any confusion and help you figure out what works best for your bike and riding style.

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