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SmarTire Tire Tips

By John Bolegoh, Technical Services Manager, SmarTire Systems Inc.

Article Four - Tire Care Tips and Active Tire Monitoring

In this fourth installment, we'll look at some basic tire care tips and introduce active tire monitoring for motorcycles.

General Tire Care Tips

These general tire care tips will help ensure longer tire life and a safer ride.

Know Your Load

Know your bike's total loaded weight including rider, gear, accessories, passenger, etc. and make sure not to exceed your tire's maximum load rating. If you are near the maximum, consider changing to a higher load rated tire and use higher pressure settings.

Know Your Tires

Inspect your tires before every ride. Look for irregular or excessive wear, any signs of cracking in the sidewalls and tread, blisters, knots, cuts or punctures. Immediately replace any damaged tire.

Pressure, pressure, pressure

Check air pressures regularly with a good quality gauge and always check tires when they are cold (about 65 degrees F.). Better yet, invest in an active tire pressure monitoring system that constantly checks tire pressures while you ride.

Stay out of the Sun!

Park in a shaded area and store your bike away from direct sunlight. Tires stored in direct sunlight will harden and age more quickly than those kept in dim light or the dark.

Store Away from Heat

Do not keep tires next to radiators or sources of heat. If you store your bike in a heated garage, find the coolest area. Tires subjected to heat will age more quickly than those stored in a cool, constant environment.

Active Tire Monitoring for Motorcycles

Active tire pressure monitoring is a new technology recently introduced for motorcycles, with its roots in the world of racing where maintaining proper tire pressure and temperature is critical.

What is Active Tire Monitoring Exactly?

Active tire monitoring is a safety and performance system that displays real-time tire data and automatically alerts the rider to a loss of air pressure or to a dangerously high tire temperature (a

rise in temperature often indicates the presence of a tire separation). This real-time tire information improves both rider safety and motorcycle performance.

An active tire monitoring system consists of two components:

- pressure/temperature sensors mounted on the rim inside each tire
- digital display with warning light mounted in view of the rider.

The sensor mounted inside the tire / wheel assembly continuously monitors both air pressure and temperature; transmitting this information via radio frequency to the receiver/display unit. If the tire pressure drops below preset thresholds or the temperature rises above a threshold, the display immediately alerts the rider with a bright flashing light and indicates the location and nature of the problem. At this point, the rider can safely stop and access what is causing the tire warning.

As well, the rider can view real-time tire pressure and temperature information by simply pressing the button on the display unit (preferably when stopped so it is not a distraction!). By pushing the button once, each tire's pressure, temperature and pressure deviation (amount of under or over inflation) is sequentially displayed.

The Importance of Temperature Monitoring

The air pressure inside a tire is directly affected by the tire's temperature. As a tire's temperature rises, the air pressure rises proportionally. The tire's operating temperature is influenced by:

- inflation pressure
- weight being carried by the tires
- speed of the motorcycle
- ambient climatic conditions
- tire properties
- riding style

An active tire monitoring system takes into account the natural change of pressure with temperature when triggering its alerts. This is called 'temperature compensation' and provides the rider with an earlier warning of a pressure irregularity than provided by a fixed low pressure alert threshold.

Temperature monitoring and alerting is also important because a steep rise in tire temperature often indicates a tire separation.

Tire Inflation Summary

An active tire monitoring system is affordable and easy to install by anyone with tire changing capabilities. It provides a critical early warning to tire pressure or temperature irregularities and not only saves your tires, but might just save your bacon!

Motorcycle tire under-inflation is a serious problem that causes thousands of needless accidents each year. Maintaining proper tire pressure not only increases rider safety but also improves motorcycle performance, tire life and fuel economy. SmarTire offers the industry's first active tire pressure monitoring system designed specifically for motorcycles and the safety conscious rider.

Send Us Your Flat Tire Stories!

If you have an interesting story related to a tire problem while riding, we'd love to hear it. Send us your best flat tire story, and I'll compile them for future distribution. If we publish it, we'll send you a SmarTire gift and we'll put your name in a draw for a free SmarTire for Motorcycles, Active Tire Pressure Monitoring System. Send your stories to: tiretips@smartire.com.

Next installment, we'll publish some of the stories that we've received. Some are extremely funny, some are extremely scary, many are both! If you have a topic suggestion for an upcoming installment, we'd love to hear from you.

John Bolegoh is SmarTire's Technical Services Manager with over 30 years experience in the tire and tire monitoring industries. To contact John with a question, email tiretips@smartire.com. SmarTire offers the world's first active tire pressure monitoring system for motorcycles. www.smartire.com