

How to...

Get Track Day Tyre Wise!

Words & pics: **Glen Williams / Staff**

Before you go handing over your sir Ed's for a track day, the first question you should ask is, 'are my tyres up to the task?' 2008 Formula 3 champion, Glen Williams runs us through the do's and don'ts about tyres at the track.

Tyre condition is likely to be the most important safety consideration of just about all the parts that make up your motorcycle. And the race track with its higher speeds and braking forces is going to place quite a bit more stress on them.

Therefore they need to be in good condition. Having good tyres on board is important not only for your own safety but also for the safety of other track users - so keep this in mind when making your decision on whether they are up to scratch.

Good Grip

Ideally your tyres should be new or in near new condition and therefore free of any cuts or holes in the tread area, have no cracks in the sidewalls, embedded objects or puncture repair bungs fitted. Look out for bulges or 'out of round' areas too. If any of these faults are noticeable when making an initial inspection then seriously consider fitting some newer rubber - or if you can't afford it, then miss the planned track day until you can.

Pressure Points

Other 'tyre-wise' items you still need to check upon arrival at the track include one of primary importance - tyre pressure. The tyre's pressure has a dramatic effect on both the tyre and machine performance, so if you haven't brought a pressure gauge along with you - then it's worth borrowing one from someone, as having under or over inflated tyres at either end of the motorcycle is not good! Other basic items to check are the valves for leakage (take the cap off and place a dab of a spit on the open end of the valves and watch for any bubbles), and check that the valve caps are in place and securely tightened.

If your bike is fitted with OEM tyres - then there will likely be a manufacturer's recommendation for the pressures relevant to your machine. This is a good place to start - however it is likely that the manufacturer has made 'allowances' for these suggested pressures which take into account; typical road speeds, weather, two-up travelling, luggage carrying, rider comfort, and variable road surfaces. For the track though much of this becomes irrelevant and it is likely that you will be able to refine these recommended settings for a safer and more enjoyable experience.

Ask Yourself

Questions you will need to ask yourself before touching the standard set pressures include; what is the air temperature and track temperature on the day - cooler than usual, a cold windy day etc? What is the track surface condition - dry, wet or damp patches? Is the track surface a high adhesion type (like Teretonga) or a lower adhesion type? You will also need to consider your own skill level and what speeds you are planning to ride at

on the day, i.e. 'within your limits' or 'pushing as hard as you can'? All of these factors will help dictate your own personal pressure settings at the track where you're travelling faster and braking harder than normal road riding situations, so the pressures and performance must be optimised to suit your track day needs.

Wear or Grip?

Not only will track and weather conditions affect your tyre's performance and grip level but so will your riding speed (the faster you go the more energy you and the machine will transfer through/ into the tyre) as will suspension setup, which can have a marked effect on tyre performance. High end quality suspension actually requires (and allows) a much faster pace to be ridden for the same given tyre wear/performance, while a basic suspension setup can overwork tyres at a much slower pace and limit the tyres ultimate performance, and of course your speed and stability. It's a bit of a 'catch 22' situation and road racers lose a lot of sleep trying to find the perfect combination of tyre wear and grip. Suspension and its effects on tyres is a dark science and is another subject entirely - so we won't delve in too deep to that right now.

Trial & Error

All things being equal though - and for those going out there on OEM style road-orientated tyres it's likely you'll have to reduce your tyre pressure a little for your track day experience. Try this in small steps only, maybe 2-3psi to begin with in the rear and 1-2psi in the front. After doing this, be sure to compare your bike's 'feel and grip performance' from your previous trialed standard setting. You may find it better or you may find it worse. Does it steer into the corners the same? Does it feel more stable mid-corner? Is there more or less grip when exiting the corner? Is the bike more or less stable in a straight line?

You should be asking yourself all of these questions as you circulate around the track and hopefully the bike will feel 'better' and you'll be able to circulate within your comfort zone but actually be going faster than beforehand.

Standard bike, standard rubber yet with correct pressures, this BMW still performs on the track.

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Slick Tricks

'Slick' and 'Supersport' tyres typically have a different optimum operating pressure and temperature than a road-biased tyre that will operate and warm up quite effectively at normal road speeds. These track-focused tyres are also highly likely to benefit from pre-heating with tyre warmers as they can take a little longer than usual to get up to their ideal operating temperature on the race track, and very often suffer low grip levels when operating from cold.

Recommended Retail

If you have non-OEM tyres fitted to your bike, your ideal pressure will depend more on the type of tyre fitted. If it is another brand of 'road orientated' tyre (similar to OEM type) then the pressures may be similar to your OEM settings. However if you have fitted a treaded, more track focused Supersport type tyre, then it is likely that you will start your pressure settings at that tyre manufacturer's recommendation. The same rule applies to slicks. It's standard practice for a racer to adjust pressures to suit the specific machine, track and environment conditions and their given suspension set up. Another factor is rider's style; some riders are harder on front tyres than rear tyres and visa versa.

Hot Laps

If you really want to get take the tyre pressure monitoring to a higher level then you can analyse your tyre's performance by checking the 'hot' pressure when you come into the pits (ideally within 30seconds of stop-ping). You will see how much the pressures have risen over your cold settings. A rise in pressure anywhere from 4.5 - 7psi can be expected of a tyre that is working well and gaining energy/heat. Another good reason for checking pressures upon your return to the pits is to ensure that you have not lost any pressure. This is surprisingly common in track use situations where greater than normal stresses are placed on tyres, which can test out poor beading and those with faulty valves etc.

If you see Glen at the track don't hesitate to tap him on the shoulder and say hello, he's happy to help and hopefully answer questions about your own tyre setup.



First thing you should do when you get to the track is check the pressures when the tyre is cold, using a good gauge.

Warm 'em Up

Whenever going out on new or cold tyres, take it easy and build up your speed for the first couple of laps and allow the tyre some time to get up to its ideal operating temperature and allow time for the tyre's surface to clean off any collected debris or dust that often sticks when riding around in the pit areas. Take special attention on circuits that have a limited amount of turns in any one direction - as it will take longer to warm the side of the tyres that has less use. Going too fast too soon is the major cause of crashes on track days, so don't get suckered into it. You don't know if the fella you're following as you head onto the track has had his tyres cooking in warmers for the morning, so if he takes off, don't try and keep up. Do three or more laps before upping the pace just to be safe.

Danger Will Robinson

Unfortunately there is no hard and fast rule as to what pressure to set your tyres at but if you start with the recommended pressure and then 'read the track and environmental conditions' on the day, you can then decide which way you might need to adjust your tyres. Be careful not to reduce tyre pressure excessively. This can result in loss of machine stability, badly 'feathered' or worn tyres, loss of pressure or in the worst case a very unstable machine closely followed by you investing in crash repairs!



OEM, sports road tyre, slick. All do the same thing, just some are better than others when upping the pace.