

TRAINING

# BRAKING TECHNIQUES

Words: Karel Pavich

As a motorcycle instructor, I am continually amazed at how many of our students come to us with inadequate braking skills. There are not many things as important as understanding and practicing braking on your bike.

Paul perfects trail braking technique on the track...



**B**raking – like many actions on a motorcycle – is a process, and once you understand and learn the process, things become a lot easier and your skill level increases accordingly.

## CAN YOU REACH THE LEVER EASILY?

We see many cases where the front brake lever is not properly adjusted or simply too far away from the rider's hands. This is especially important for women who generally have smaller hands. The more difficult it is to reach the lever, the longer the delay in the braking

process, and those valuable seconds could be the difference between staying upright or not.

## WEIGHT TRANSFER

To understand braking we must understand grip.

The transfer of weight on each tyre is the main contributor to grip.

When you brake on a motorcycle, the bike pitches forward, transferring weight on to the front wheel, increasing front tyre grip. This is more noticeable on sports bikes, as they are tall with short wheelbases compared to cruisers, which are long and low.

## WHICH BRAKE TO USE?

On a motorcycle, the majority of braking power comes from the front.

A good two-stage progressive braking technique on the front brake will maximise your stopping capability, but this takes practice to perfect the technique.

Bikes like cruisers don't pitch as much as sports bikes, therefore the rear brake has more braking performance. However, the bulk of the stopping power still remains with the front brake.

The majority of students will lock the rear brake when practicing "urgent braking" drills.

This can put the machine out of control and the rider will need to moderate the rear brake to regain control.

Good training and practice is the best way to understand your braking performance, the bike's capabilities and your own reaction times to improve your skill.

## TWO-STAGE PROGRESSIVE BRAKING TECHNIQUE

This is the best technique for optimum braking performance, and to avoid locking the brakes (or activating the ABS) by overzealous use of the brake lever or pedal.

**Stage One:** Get off the throttle and initiate front braking, where the bike will start to transfer weight and provide more grip to the front tyre.

**Stage Two:** Squeeze the front lever progressively until you come to a stop. You also need to pull in the clutch, and start downshifting the gears until you are in first gear – ready to escape from any vehicles that could rear end you – and at the same time, apply light pressure on the rear brake.

There is a lot of focus and attention required to master this braking technique, you also need to tune into how the bike is reacting by listening, feeling and sensing for any compromised grip. The maximum braking capacity on any bike is just before lockup, so learn where that point is on your bike.

It's best to practice using the front brake and

clutch to begin with, then introduce the rear brake and downshifts.

## WHAT IS TRAIL BRAKING?

**Wikipedia describes it as:** *Trail braking is a driving and motorcycle riding technique where the brakes are used beyond the entrance to a turn, and then gradually released up to, or before, the apex of the turn.*

Trail braking is a technique which is generally reserved for racers, used to slow the bike as quickly as possible from one speed (on the straight) to another (corner apex speed). On the racetrack, racers are trying to make the straights as long as possible and the corners as short as possible.

Using a trail braking technique, a racer will approach a turn and – at their braking marker – apply full braking force, usually with the bike upright. As they tip the bike into the corner, the braking pressure is reduced as they ease off the brakes incrementally, while turning the bike in towards the apex. They continue to trail the (front) brake as the lean angle increases until they get to the apex of the corner, which will be where the greatest lean angle is. At this point, they release the brake and start to apply the throttle.

This might sound easy enough in theory, but proper execution is complicated because it comes down to feel and it can be a very fine line between staying upright and losing the front. It does require a LOT of practice to finesse this technique and most racers are

right on the limit when using this technique, something that is not really applicable on the road, where you need a much bigger safety buffer. Nonetheless, trail braking is a handy skill to have and can be useful on the road in an emergency, however, you should get proper training before you try this one.

## ABS

Whether anti-lock brakes can out-perform a skilled rider or not could be questioned, however on the road, with the unknowns surfaces and traction levels, ABS is one of the best safety nets you could have on a motorcycle.

## BRAKE AND ESCAPE IN AN EMERGENCY

When emergency braking, you are asking a lot from the front tyre. If you need to swerve away from a hazard, it's best to get off the front brake to turn and then on it again once turned, or you can use the rear through the whole manoeuvre with more control. Again, this is a highly skilled exercise that needs training and practise.

Emergency braking is a must-have skill that motorcyclists should regularly practise, it could literally save your life one day. However, the best practice is still to try and avoid situations where you need to emergency brake in the first place. Attending a Pro Rider course will help you understand and practice correct braking technique, an incredibly valuable exercise. ■■■

...before teaching it to Rossi, who uses it now that Paul's taught him how.

"Trail braking is a technique which is generally reserved for racers, used to slow the bike as quickly as possible from one speed to another."

