

Phi's Braking Tips and Information



1. 75 % of your stopping power comes from the front brake, while 25% from your rear brake.
2. If the road is wet, it's 50 % from the front, and 50% from the rear wheel.
3. The previous 2 tips percentages change, based on the speed of which you are traveling.
4. Never apply brakes so quickly that you lock either of them, and that during hard braking you should tend to ease up on the rear brake as weight shifts towards the front wheel.
5. 4.5 seconds is the amount of time it should take to stop, at a speed of 60 mph. In one second at 60 mph, you travel 88 feet. 60 mph = 88 fps. (fps=1.467 * MPH)
6. In order to stop in time you must be alert, have fast reflexes, and skill in order to avoid a collision.
7. Always cover your front brake lever with proper positioning of your right hand.
8. Remember, brakes are there to slow you down gradually to a stop. The use of both brakes will increase the life of your front brake.
9. In very slow maneuvers, the use of the rear brake alone often provides added stability and control of your motorcycle.
10. If you need to stop or slow down on slick or gravel surfaces, the rear brake is just the ticket (in combination with a very gentle hand on the front one.)
11. **The most dangerous control you have on your motorcycle is your rear brake!**
This, because it is easy to STOP (your rear wheel) with it. A spinning rear wheel is what provides the majority of your bike's stability. The gyroscopic effect of a spinning rear wheel is imposed on the frame of the motorcycle and determines the attitude/stability of the entire bike except for its relatively insignificant front-end. To lock the rear wheel is, by definition, to remove the majority of your attitude control and stability. Use of the rear brake requires a gentle, controlled touch - EVERY TIME!
12. If you lock your front brake you lose ALL steering control.
13. If you lock your rear brake you lose stability for about 80% of your motorcycle.
14. If you can stop fast enough without locking your brakes you should do so.
15. The odds of dumping your bike are many times greater if you lock your brakes (either of them) than if you do not.
16. Stopping performance is a function of your brakes, your tires, and the ROAD SURFACE.
17. You should establish your entry speed BEFORE you enter the curve. That is, you are to eliminate all excess approach speed, with braking if necessary, while still traveling in a straight line and while the bike is vertical.

18. You should 'set' your suspension BEFORE you enter the curve. That is, you should NOT have to deal with a changing center of gravity that results from weight shifts that are caused by changes of acceleration or braking while in a curve. You should have already established your entry speed at this point so your springs/shocks are resting at normal riding positions.
19. If you simply use the rear brake, and you stomp on the pedal to do so, you will get about 33% (or less) of the total stopping potential of your brakes. That, because you will immediately cause a weight transfer that unloads the rear and, thus, reduces traction which causes a skid and which further reduces your stopping efficiency.
20. Studies have convincingly shown that in order to stop in the shortest possible distance and the shortest possible time you must disengage the clutch fully at the time you begin to brake.

Here, for example, is a chart that demonstrates the effect that clutch usage had on 77 emergency braking stops performed by professional riders performed and documented by the Federation Motorcycliste Du Quebec in 2004:

Variable	Deceleration		Distance	Time
	N	(G)	100 km/h to 0	
			metres (m)	secondes (s)
With downshifting	31	-0.891	43.17	3.21
Clutch engaged	35	-0.889	41.51	3.21
Clutch disengaged	11	-0.929	39.95	3.08
	77			

You see that the greatest deceleration rate, fastest time and shortest distance all were the result of fully disengaging the clutch lever at the start of an emergency stop effort.

Get into the habit of downshifting AFTER YOU HAVE COME TO A COMPLETE STOP during an emergency braking situation.