

Braking

Brake only on the straight this should be instilled into every driver (if they don't already do it) right from the start.

WHY? Because when you brake some of the cars weight appears to move forward and reduces the traction of the back wheels. This does vary according to the type of suspension and whether it is a front or rear wheel drive car, but will always happen to some degree. When you brake hard the cars nose will go down and rear up. So add to that sideways cornering forces and there's a strong possibility of the rear of the car breaking away into a rear wheel skid. This is especially the case with rear wheel drive cars and the tendency will be for the rear to go to the left on a right-hand curve and to the right on a left-hand curve.

This is not usually a problem at low speeds because the modern car is very stable, but if you apply the brakes hard on a twisting downhill road in icy conditions it might be a different matter making you wonder what went wrong. Therefore only brake firmly on the straight and remember the potential dangers if you brake at any speed when the steering wheel is turned.

Brake in plenty of time before the hazard, not as you enter it and adjust the brake pressure according to conditions of the road surface. This is reliant on good observation and correct assessment of what you've seen. Even on a dry road the Advanced Driver will be conscious of changes in road surface. Roughish surfaces give good wheel grip, smooth polished surfaces, especially in the rain, or strewn with grit, oil or mud will reduce grip considerably. All this will affect the pressure required on the brake pedal to reduce the speed of the vehicle. Excessive pressure applied to the brake pedal will cause the wheels to lock and increase the chances of skidding.

Where braking is necessary the Advanced Driver should have used them less and earlier but over a greater distance and so smoothly that their passenger is hardly aware of the changing speed.

When descending steep winding roads brake firmly on the straight sections. Of course there are times when braking on a bend is unavoidable and in that case brake gently. When this happens, use gentle braking to reduce to possibility of the rear wheels locking up. However, should the wheels begin to lock then use cadence braking to regain control. It is also useful to engage a lower gear when going down a steep hill to increase the effect of engine braking.

Refine your braking

Taper off the pressure on the brake pedal as your car comes to a stop as this eliminates that uncomfortable jerk for your passengers. (Nodding dog syndrome)

Get into the habit of braking as little as possible on the open road. With good forward observation, adjustments to your road speed can be achieved using 'acceleration sense' (the ability to vary the vehicle speed in response to changing road and traffic conditions by accurate use of the accelerator – see 'Roadcraft' page 64. The blinking on and off of brake lights before every corner can be the sign of a novice or inexperienced driver, someone that has not assessed the bend correctly or comfort braking. Comfort braking which should be avoided is a light touch on the brakes for no apparent reason other than to give the driver a comforting feeling.

When a significant reduction in road speed is required try to work out the pressure required on the brake pedal so the speed is correct for the hazard ahead, then change gear and proceed without any secondary braking. Braking for any hazard comes before the gear change in 'the system of car control' (I.P.S (speed).G (gear).A) any secondary application of the brakes will be because you didn't quite get it right the first time.

The Advanced Driver will also be aware that brake lights can be used as signals to give information to others. (TUG Take information, Use information, Give information) e.g. I am slowing down.

Using the parking (hand) brake correctly is also important. It should not be used until the vehicle is stationary and the vehicle has settled. It is not necessary to use it for momentary stops unless on an incline, but when it is used, it should be applied immediately the vehicle stops, before taking neutral, and should be released last, just before moving off. It should never be pulled on against the ratchet.

Cadence/pulse braking.

This technique can be used on cars without ABS when a driver needs to maintain steering control and avoid skidding in slippery conditions in an emergency. This is the technique of using a succession of rhythmic pumps on the brake pedal. The pedal should be pumped hard with deliberation rather than with speed, pausing at the end of each pump on the pedal at the extremes of its travel. However, if your vehicle is fitted with ABS, never use cadence braking, but keep your foot hard on the brake pedal.