



Brakes – Warning Signs, Wear, Dangers of driving with Worn/Faulty Brakes & Interesting Facts

Never Ignore These Warning Signs of possible Brake Problems:

1. Brake warning light is on
2. Squealing, squeaking or grinding noises when braking
3. Wobbling, vibration or scraping when braking
4. Leaking brake fluid
5. Spongy/soft brake pedal, including excessive pedal travel
6. Vibrating/shuddering brake pedal
7. Car pulling to one side when braking
8. Burning smell while driving
9. Car “bounces” when stopping
10. Your vehicle takes longer to come to a stop, i.e. increased stopping distance.

What Causes Faster Brake Wear?

- Driving on roads with a lot of hills and sharp turns
- Riding your brakes
- Urban stop-and-go driving
- Driving in heavy traffic with frequent braking
- Using cheap/unreliable brake components
- Driving aggressively. Aggressive driving leads to last minute braking. The result? Excessive heat cooking your discs & pads,
- Empty your trunk of any heavy junk. Overloading your vehicle with things you don't need can greatly impact brake life due to the extra weight you're adding to your vehicle. Take stock of what's in your boot. Remove what you don't need. This should improve your stopping power and eliminate the added stress and weight you're placing on your discs and other brake parts,
- Faulty Suspension system. You'll be able to gauge this if you can feel the front end nose dive after you brake. The distance it takes to stop is also longer, causing your front brakes to wear out faster,
- Skimming Discs. This practice should be avoided where possible as the issues that can arise from this are not worth it. (EG for every 1mm removed from the discs working surface, you can increase the operating temperature of the braking system by up to 100 degrees causing further damage to your braking system).

Because of the above possible causes, your brake pad/shoe replacement interval will be closer to the 15000-km mark. The less stress you put on your brakes, the longer you can go without brake service.

Dangers of Driving with worn Brakes:

- Can cause you to injure or more seriously, kill a Pedestrian,
- Can increase your chances of a Car accident,
- Can increase your chances of being injured/dying in said car accident and/or resulting in the injury/death of other parties involved in said Car accident, Increases Repair Costs

Did you know?

- During braking, the operating temperatures of braking components can average as much as 350 degrees Celsius.
- The 1967 Porsche 911S was the first mass produced vehicle manufactured with ventilated disc brake discs, now common on today's vehicles.
- Today's brake pad linings are manufactured using environmentally safe materials and no longer contain harmful agents like asbestos, lead, or cadmium.
- Antilock brakes were invented in Britain in 1958 and first tested on motorcycles; initially used in vehicle production in 1966; and were originally considered too expensive for most automakers for many years. Due to advances in computerized braking, ABS has been standard on most new vehicles since 2012.
- The hydraulic brake system, now used on nearly all vehicles, was first used on the 1920 Duesenberg, an American luxury car, before being used by Chrysler in mass-produced cars beginning in 1924.
- Development of disc brakes began in England in the 1890s.
- The first calliper-type automobile disc brake was patented by Frederick William Lanchester in his Birmingham factory in 1902.
- In 1901, Wilhelm Maybach designed the first Mercedes with a simple mechanical drum brake, wherein steel cables were wrapped around the drums of the rear wheels and is operated by a hand lever. But it was Louis Renault who was credited with inventing the drum brake that has become the standard for cars.
- The most advanced & efficient brakes are found in Formula One cars.
- The power generated by the braking system of even a modest family car can exceed 500bhp (375kW), outstripping the engine output of virtually everything on the road.
- Disc brakes were once considered one of the simplest parts of a car to manufacture. Not anymore. With today's sophisticated electronically monitored brake systems, tolerances need to be extraordinarily tight because the slightest shudder can confuse the car's anti-lock braking system.
- According to International statistics, "brake related problems" accounted for about 22% of vehicle collisions.
- It is estimated that one-third of the driving population on the American highways are operating with brakes that are unsafe!
- According to the UK Department for Transport's recent research, one-in-three accidents happens because a vehicle fails to stop in time and as many as one-in-eight motorists could be driving with illegal or dangerous brakes,
- 85% of motorists don't know how to check their own brake discs and pads for safety!

We can only guess that these numbers could be higher in South Africa – a scary thought!

- In 2016, faulty brakes contributed to 22% of car accidents in South Africa.
- In general, faulty brakes are said to make up 9.29% of fatal accidents in South Africa.
- In the RTMCs (Road Traffic Management Corporation) 2016-2017 report, they describe human factors as the primary reason for 77% of all fatal road accidents. This is followed by road conditions at 16%, and the condition of a vehicle at 6%.