



Brake Tek 1 Objectives

1. Participants will know the two different ways your brakes can fail:
 - C. Brake Fluid Boiling
 - D. Brake Pad Fade
2. Participants will know and understand the **differences** between brake fluid boiling and brake pad fade.
3. Participants will know and understand the different **symptoms** of brake fluid boiling and brake pad fade by being able to describe how their **foot feels** different on the **brake pedal** when experiencing each failure.

Terms:

- a. Generic term for both is Brake Failure or sometimes called "Brake Fade"
- b. Very different components of the system with very different symptoms but often confused.
- c. Brake Fluid Boiling or "boiling your brakes" or fluid failure
- d. Brake Pad Fade or gassing or glazing or pad failure.

Brake Fluid Boiling

- a. Nature of brake fluid is to absorb water lowering boiling temps.
- b. Street fluid Boiling points dry 400-450 wet 300
- c. Racing fluid boiling points dry 600 wet 400
- d. DOT3 DOT4 not as important as boiling point temps
- e. On track boiled fluid will not cure its self. Get off track immediately.
- f. Once fluid boils it is at its lowest wet boiling point and all needs replaced.
- g. Bleeding or flushing fluid prior to track increases boiling point

Brake Pad Fade

- a. Compounds have different level of friction and working temperatures.
- b. If temps get too hot the pads no longer generate friction.
- c. Street pads work to 500F-600F
- d. Race pads work to 1000F-1200+
- e. On track-if a pad fades it can recover by cooling.
- f. If a pad fades upgrade to a higher temperature pad.

Symptoms of brake fade felt on the foot through the **brake pedal**

Fluid

- a. Boiling fluid-pedal feels soft or squishy at first then pedal goes to the floor.
- b. At the beginning of braking zone.
- c. Try pumping the pedal to regain some pressure

Pad

- a. Pad Fad-pedal feels firm and high.
- b. Generally at the end of the braking zone.
- c. Sometimes pedal will be firm but slightly lower