

LAP 26 — DRIVING WITH YOUR FEET

Back on lap #11, we reviewed basic driving technique discussing tires, grip, the effects of weight transfer, and how driving fast at the limit is similar to dancing because it requires development of a certain rhythm. To be proficient at dancing, good footwork is necessary and driving a car fast on a road course requires the same except that a misstep is more expensive and usually results in a visit from the tow truck. After learning basic steps, dance students can advance to more complicated footwork, the same holds true for race car drivers.

Probably the most misunderstood of driving techniques is the "Heel/Toe." Commonly believed to describe placing the heel of the foot on the brake and the ball or "toe" is placed on the throttle. In fact, the opposite is true but with an added twist. The ball of the foot or "toe" is placed on the brake and the right side of the foot (from the little toe down) is used to modulate the throttle using a rolling action or twist of the foot while the heel does nothing. The purpose of the Heel/Toe is to better match engine revs during downshifts so the car isn't upset and can be driven closer to the limit during deceleration. In road racing the brakes are used for stopping the car, not the engine. If you've been using the engine to slow the car you better check the mirrors because you're about to get passed. The trick to proper Heel/Toe is making sure the pedals are properly positioned both in relation to the driver and in relationship to each other. Don't be afraid to bend the throttle linkage around to get your Mustangs throttle pedal in the proper position relative to the brake.

Did you know some of the worlds most proficient drivers all learned to race while by driving Karts? Michael Schumaker, Ayrton Senna, Fernando Alonso, Mika Hakkinen, Lewis Hamilton, and Jenson Button all raced karts at an early age and thus learned to use the left foot for braking. Ask yourself, how often do you use the left foot for something other than applying the clutch in your Mustang? Maybe you should think about giving it a try. Left-foot braking provides tremendous car control, allowing instantaneous weight transfer from the front to the rear and the ability to keep engine revs higher without fully closing the throttle during cornering. Learning to left-foot brake requires confidence and patience because it's difficult to dive deep into a corner while keeping the right foot in place over the throttle while modulating the brake using the left foot. Usually, the left foot is planted on the floor, supporting the weight of the body while the right foot applies the brakes. When left-foot braking, both the seat and restraint system must be properly located to provide the security necessary to modulate the brake with the left foot.

After you learn to left-foot brake the real fun begins. Called trail braking, the technique of using the brake to turn the car allows maximum speed through the corner and provides faster exit speeds. Used properly, trail braking is performed when entering a corner by delaying brake application as late as possible and then trailing the pressure deep into the corner such that the rear of the car is attempting to pass the

front and thus rotates the car into the turn. This allows the throttle to be applied instantaneously because it's already in position since it never left the pedal. Now see why the kart drivers have an advantage? To trail brake, the brake bias must be adjusted for the given track which is why so many race cars have adjustable brake proportioning valves. If you have a proportioning valve but never adjust it for different tracks you're leaving seconds on those lap times. Try to mount the proportioning valve under the hood where it belongs and get it out of the cockpit. As a driver you should be far too busy driving to make the delicate adjustments required to properly balance the car. Make the adjustment in the pits and then focus on your driving during the entire race. It will make you faster quicker.

Try to view some footwork video of a professional driver on a road course before attempting these techniques on the track. It is helpful to see how busy the professionals are as they drive the car with their feet.

You see, Fred Flintstone and Barney Rubble figured out how important the feet were to driving years ago!

"LEFT-FOOT BRAKING PROVIDES TREMENDOUS CAR CONTROL, ALLOWING INSTANTANEOUS WEIGHT TRANSFER FROM THE FRONT TO THE REAR AND THE ABILITY TO KEEP ENGINE REVS HIGHER WITHOUT FULLY CLOSING THE THROTTLE DURING CORNERING."

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