Preparing for success on corner entry

As I write this article I am reminded how both the lessons we learn in life apply to the racetrack and the lessons of the track apply back to life. It was Lincoln who was once quoted saying "give me 6 hours to chop down a tree and I will spend the first four sharpening the axe". Benjamin Franklin's famous quote of "by failing to prepare, you are preparing to fail" has been quoted by many of the mentors I've had in my life. This months article covers a critical step in preparing corner entry that many riders miss. I couldn't think of a better way to start 2018!

When it comes to having success at the track, preparation contributes to our success (or lack thereof) in many areas. Proper motorcycle preparation allows us to breeze through tech, ride every lap available and to attack the track with the confidence a good machine brings. Training our body for proper fitness allows track day riders to enjoy all of the track day sessions (guess why the last two rounds ALWAYS feature the highest quality track time) and for racers to ride at their full potential for the entire race distance. Mental preparation before each practice provides clear focus on goals and techniques that help you gain speed and skill at a rate faster than your peers.

The technique in this article set you up for success in any corner. It is a strategy used by nearly every professional rider I have ever seen, yet only about 10% of the track day riders and 30% of the racers I teach at the Penguin school fully utilize it. The beauty of this technique is that anyone can do it, and it does not take a high level of skill to execute.

What is this critical skill that every track rider needs to employ? It's simple: **NEVER go to the brakes sitting in the middle of the seat.** Before you put up objections, let's first consider the GOALS that every rider should have entering every corner that requires the use of the brakes.

1. To have the ability to brake as much as you need to in order to properly make the apex
2. To have the shortest possible duration of bar input to achieve your direction change
3. To be able to begin acceleration and take away lean angle as soon as possible

In summary, everything we do on corner entry should help us brake, turn and gas as efficiently as we can. The list of tips and tricks to accomplish this is seemingly endless but, as we also find in real life, if you begin in the wrong place it is extremely difficult to end up where you want to be.

In order to accomplish our 3 goals, one thing we must have is a STABLE motorcycle. Any time the suspension starts moving, the available grip drops and the chassis geometry becomes unpredictable. Let's explore these concepts for a moment each to discover why.

Traction(friction) is directly proportional to the amount of force pushing an object into the ground. With your bike on a stand on a polished concrete floor, it's very easy to make the front tire skid with a little kick. However, sit a Sumo wrestler on the seat and that tire isn't going anywhere. As forks travel up and down, the spring force on the tire is falling and rising several times a second. When the front suspension is moving, the maximum available grip becomes the lowest point of this curve.

Similarly, as forks move up and down the rake and trail of the bike is constantly changing. Rake and trail determine (among other things) the amount of force it takes to make your bike change direction. If I took a bike that you had ridding for years and slid your forks up in the triple clamps 10mm, you would have a front end that felt vague and twitchy. If I took them and slid them down in the clamps, you would complain that your bike steered like a truck. So, anything that you do on the bike that causes the front end to move up and down 10mm has the effect of causing the "twitchy, truck, twitchy, truck" syndrome, which significantly slows turn rates, reduces confidence and causes missed apex's and late drives.

Now let's imagine a sample entrance that brings you from 125mph down to 50. From the time you apply the brakes to the time you turn in, you might have 2 to 3 seconds. The LAST thing that you want to do in the middle of braking, downshifting and preparing to start your turn is take 180lbs (give or take) off the seat and then re-deposit it 6 inches to the inside. Try it in your garage (moving as fast as you can) and watch your suspension. That movement you'll see is KILLING your entry. I know of a professional data guy who calculated that moving body weight on the entrance costs an average of 0.4 seconds PER CORNER that it is done in! Most tracks have at least 4-5 corners that require some braking on the entrance – you do the math….

If you get off the seat and move your torso BEFORE you pull the brake lever you will be able to brake harder, carry more roll speed and turn the bars more sharply. All you need to do is separate from the gas tank and get your inside butt check off the seat. There's no need to hang off like a monkey – just get yourself in a position where you can smoothly move to the inside as lean angle increases. When you prepare for the entry properly, your outside leg will anchor against the tank (approximately at mid-thigh) and you'll engage your inner foot, both of which have some fantastic benefits in the turn that is to follow.

This preparatory position helps riders solve one of the most prevalent problems for track riders – the stiff inner arm. Using a combination of your outside leg and inner foot (think "heel up") to anchor under braking allows you to support much of the heavy braking load with your lower body. As the brakes trail off and the turn approaches, the forces you need to resist are greatly reduced. Since your lower body is already engaged, you can completely relax your arms at turn-in. By engaging your core you can transferring all the load from your inside arm to your inside foot BEFORE the turn begins. With a soft inner arm the bike turns much more easily, the tires have more grip to corner with, and the rider has vastly improved feedback from the front end.

The next time you watch a MotoGP event, pay close attention to the laps shot from the camera on the tail section. These masters of our sport will always prepare their body before the brake zone. Sometimes it's only a fraction of a second in advance, and sometimes they move several seconds before the brake lever. Either way, this practice of preparation is one way that we all can emulate the very best riders in our sport. Have a great 2018 and until next time, ride fast – ride safe!