

Addendum to "Introduction To Motorcycle Roadracing" How to Hang off Chapter Page 80

Because of major advances in tire technology since the book was written, I needed to write this addendum to my book "Introduction to Motorcycle Roadracing". The book is currently going through some major rewrites updates.

In the book, we have discussed the "Basic" or "Conventional" technique for body position, and the benefits of body position. There is a couple of additional points I would like to add.

1. The bike will only react to how much weight and how far it is moved off center. The bike doesn't care or even know if the weight that is moved is your head, head & shoulders, shoulders, chest, mid section, butt & hips or if you are holding a bowling ball off to one side. It just knows weight.

2. To stand the bike up, you must move weight to the inside of the turn. To be efficient, you need to move as much weight as necessary with the least effort.

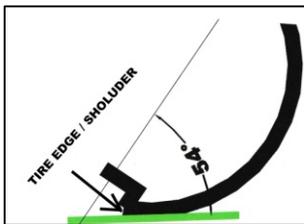
Let's visualize where the center of mass is for the human body. Is it around the head and shoulders or more around your mid-section and hips? The answer is mid-section and hips (as per the sketch).



Approximate
Center of Mass
of Humans

So which part of the body will move the most weight with the least effort? The answer is mid section or stomach, hips and butt. Moving just your head and shoulders will move a very small percentage of your weight as compared to your mid-section.

This is why I teach that, if you start to drag hard parts or run off the tire edge/ shoulder then you



will need to adopt some body position (BP). "Start with a Conventional BP." (As shown here). Where you hang off just enough weight, by simply sliding some your butt off the seat, this will straighten the bike up and stop hard parts from scraping on the ground. This will also keep your arms in a good



control position and eyes level. As you get faster and lean more, you will use up the extra ground clearance and drag again. Now, you will need to move further off the seat. Repeat as necessary.

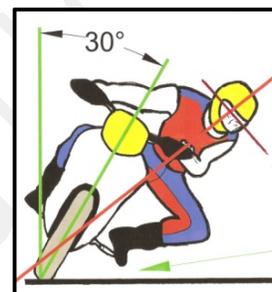
This conventional BP will be adequate and effective for 90% of today's track day riders. Do to the high traction levels of today's tires only the remaining 10% of riders can properly use up this extra traction.

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If you get so fast, where you have your butt off the seat, as far as you can, without falling off and still dragging hard parts etc, then you may need to adopt the more aggressive BP. This is where you also move your head and shoulders out and off center. This will then move the last few pounds of body weight off center. This is a photo of a rider that is often used to defend the aggressive BP. But notice his arm position, for good control and his level eye angle to the horizon.



Use as much BP as you need to keep hard parts off the ground and off the edge of the tire. But still, not as ridiculous as this rider. This is an example of a way over aggressive BP. Where his arms are in an ineffective control position and his eyes are tipped way too far to have good balance. PS. If you know any dirt bike racers, ask, if would they ever ride with this BP in the dirt, and why or why not?



"Arm Position Is Just As Important As Body Position!"

A couple of closing notes, about BP

If you go around a fast turn in your car do you tip your head at an angle to the horizon or do you keep it level? Probably level is your answer. If you don't tip your head in a car, WHY would you tip your head when on a bike? Your head, eyes and inner ear balance sensors doesn't care if you are on a bike or in a car. They only sense that you are going around a turn.

Several years ago I personally did some research and kept track of the crash records of several of the top pro racers. As it turned out, on average, the riders that kept their heads level had a lot fewer crashes than the riders that excessively tipped the head in the turn.

"Keep your eyes as level as possible!"

Closing Shot Contrary to popular opinion about BP and traction, The only, only, only thing that BP does is straighten the bike up a little bit in the corner. It doesn't reduce cornering forces, doesn't give you a bigger contact patch and it doesn't give you more traction. Ed's first law of BP,

"There Is No Magic Way To Sit On Your Bike To Get More Traction"