



...And It All Comes Together

Howdy pals'n'gals, Slim here with a metaphoric post on the topic of motorcycle design. This is a topic I have covered already in a post from about 2 years back, so skip it if you get bored.

Today I had a rare opportunity to hit the road and get in some 2-wheel time with my old engineering pal Emmet Whittaker, who has a new motorcycle to ride around on. I had just finished changing out the oil in my big Suzuki and seeing as how it has been many months since I last had it out on the open road, I was more than ready. We did the loop from Philomath to Waldport to Newport and back to Philomath again and I got to experience once again that feeling where It All Comes Together.

A motorcycle is a complicated machine and every motorcycle ever made constitutes a unique blend of engine, transmission, brakes, suspension, steering and sound. Each of these attributes is affected strongly and directly by how fast you are going and how hard you are making the machine work. The sum total of those attributes constitutes the overall riding experience and after you have been riding motorcycles for a while you begin to notice how they meld together under way, when all you have on your mind is managing the road and the machine and then soaking up the resulting experience.

The engine on Big Suzy has a lot of complicated stuff happening inside it, and most 4-cylinder engines like the one in my bike share the general characteristic that they are tuned to produce best power when they are spinning fast. This means that they run rough when they are not spinning fast, and this in turn means that as the bike goes faster, the engine behaves "happier"- it gets smoother and more businesslike.

In addition, at slow speeds a big and heavy bike is tricky to handle. It does not want to stay upright and go in a straight line- it really wants to tuck into a turn and fall over, which is why so many riders manage to dump their bikes in parking lots. But once the bike gets some speed on it, it begins to stabilize and a bike that is designed for long distance freeway cruising like mine almost steers itself once you get it above 45 MPH.

The brakes on a heavy and powerful bike are proportioned not for making gentle stops from low speeds, although they will certainly do that. They are intended to take you quickly down from 100MPH to zero, which means that if you get on them too hard at 25 MPH you'll skid and fall down- another reason people dump their bikes while motoring through the suburbs. Once you get going a bit faster, it is still possible to lock up a wheel and kiss the asphalt, but the subjective experience of braking down from freeway speeds is sufficiently different to me from braking down from 25 that I feel more confident with it.

All these things add up to this: as your bike and you travel over the road at different speeds, you can feel how the suspension designer, the engine designer, the steering guy, the brake guy and so on had some notion in mind about when and under what conditions their particular piece of the machine would come into its own and furnish best performance. As you approach that point, you can begin to feel all the pieces slipping into place. The engine smooths out. The mirrors stop buzzing back and forth. The steering firms up and stops feeling floppy. The suspension says oh yes, these bumps-no problem. And so on.

So, while coming back from Newport, the road twists and turns a bit, goes up and down a bit, straightens out a bit, and in each case you respond by running up and down through the gears, leaning the bike over first one way and then the other, getting on the brakes and then the throttle-mixing up all the control inputs across a variety of speeds. And after a short while, you begin to recognize that magic point, the zone of the "flight envelope" where It All Comes Together and the bike is doing exactly what it was designed to do. It's cool.

On Big Suzy, the magic begins at 65 and is well-established by 75. Since that is a bit too fast for my riding skills, I do not have this experience often. On that particular road, it happens when you crest a hill in the passing lane after getting around a lumbering motorhome on a long grade. And there you are.

In the rear view mirrors of a big, fast, powerful motorcycle that is in its Happy Place, all that is behind you contracts and vanishes from view with swiftness. The road ahead presents itself. You and the machine are alive and moving into the future. If you are careful, you will stay upright, arrive home, and kiss something other than asphalt. Because sooner or later, It All Comes Together.

That's Slim's story for a Tuesday evening, and he's sticking to it.