

## Advance & Alternate Lines

The classic race line for a simple 90 degree turn is easy to determine it is simply "*Wide, Tight, Wide.*" Finding the proper line through different type or a complex set of turns more difficult.

### A Bowl Turn

A bowl turn is a long turn which has approximately 180 degree give or take. The bowl may look like a simple turn but it will have more optional alternate lines than other types. The type of line for the bowl will depend on several factors, such as;

- radius of the turn
- the previous turn
- the next turn
- the length of the straight before
- the length of the straight after
- type of the bike

To better understand the options available for a bowl lets start with comparing a bowl to a 90°. In **Figure 1** notice the apex of each turn. A standard 90°, the length of the apex and time at apex are reasonably small. The apex is a small percentage of the whole turn. In contrast, the length of the apex and time at the apex in a bowl turn is substantial. The apex makes up almost 50% of the turn. It is this time at apex which gives the rider optional line choices.

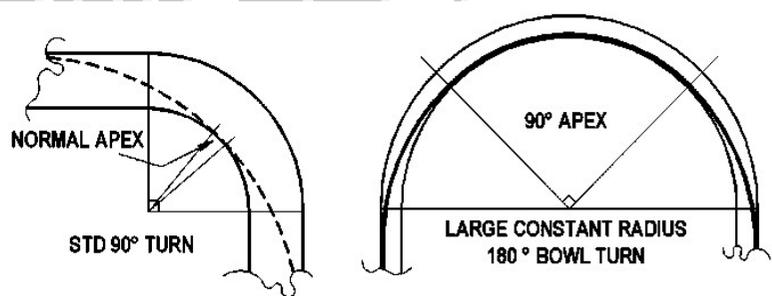


Figure 1

**The Set up** The longer the apex, the less critical the setup is. When the apex is of sufficient length, the radius of a classic line becomes fixed and defined by the curve of the pavement and is unaffected by the setup. In this example, the maximum speed through the 90° turn could vary 10-15 mph as a result of setup. Where as in the bowl, the maximum speed at the apex or mid turn will not be effected by setup.

**Alternate set-up Figure 2** With a wide (solid) or straight-in set-up (dashed), the mid corner or speed at apex will be the same. The wide or straight in set-up give no speed advantage at mid turn. Even though at mid corner, there is no speed advantage, it also holds true there is no speed disadvantage from either set up.

On the other hand, there may be a small advantage, other than mid corner speed, from the straight-in set up. This advantage shows up in braking. Braking for a bowl turn is where a lot of passing can take place. It is this option to modify the setup which makes passing possible. Because a wide set-up is not crucial for a long turn, a racer would be able to move to a straight in setup. The first advantage is the overtaking rider moves to the inside of the rider setting up wide. This is called "taking the inside line" or a "block pass". The rider on the straight in approach still has the motorcycle in straight up attitude further into the turn approach.

The rider setting up wide will start to lean over sooner. As we know, a straight up bike will have more tire grip

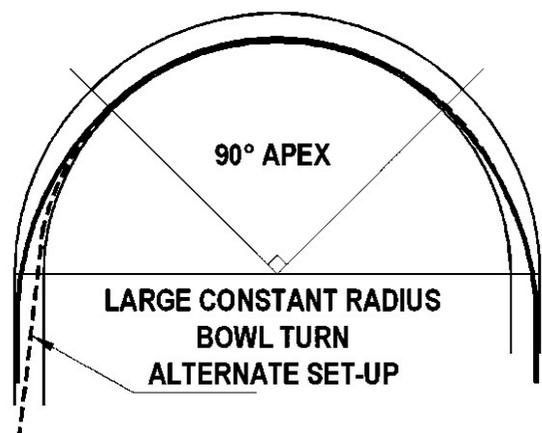


Figure 2