



Techniques for Changing Gears by Ayrton Senna

The changing of gears in a race car is as fundamental as braking or accelerating. It is a factor that differentiates more experienced drivers from beginners; those who know their car well can gain milliseconds with each gear change during a race.

When braking, it is necessary to change gears in order to exit a curve accelerating, without losing any time. But Ayrton Senna's suggestion was not to do this at the beginning of the process:

“Even without a precise rule existing for this, practice allows me to suggest that you shouldn't change gears until at least the first third of the braking zone.”

When accelerating, the driver must change gears rapidly, taking advantage of the rotation intervals when the engine has more power. Whenever the rotations are higher than this interval, you should put it into a higher gear.

Making the perfect gear shift in a space of milliseconds to make a difference on the track with a manual transmission is something very few could do.

With advances in technology however, gear changing in today's Formula 1 has come to rely on semiautomatic transmissions. This requires less expertise from drivers but the principal benefit has been in relation to safety:

“There have been two great absolute advantages: the time to change the gear is much less, and the driver no longer has to take his right hand off the steering wheel, which increases safety and control over the car.”