



TALK ON CORNERS

Porsche Driving Consultant, Neil Furber, highlights how you can take control of your Porsche in fast-road and trackday environments through extra balance in bends

For some time, older 911s have had a reputation for lairy handling, but, despite concern from some inexperienced owners, the evergreen Neunelfer isn't all that scary if driven as Porsche intended. Granted, early 911s were more sensitive to changes in vertical load on tyres than more recent models, but good driving technique hasn't changed. In fact, no matter what Porsche you drive, nor where the engine is, stable cornering can be achieved in the same way.

The key to stability is balance. Furthermore, balance is easier to achieve with smoothness. An all-too-common approach to spirited driving is to speed up your driver inputs with increased vehicle speed, but the exact opposite is required!

The harder you work your car, the smoother your inputs should be to ensure you don't overload the tyres. When I'm coaching, I like to paint a picture: if your performance driving is good, you should look no more stressed than if you are sat in a wing-backed chair reading a newspaper. Perhaps this oversimplifies things, but you can see the point I'm making. Relaxed muscles and gentle movements are the goal.

You may remember this line from my first *GT Porsche* driver coaching article: the first few degrees of steering are the most important. This helps let the tyres and chassis start to work before the bend fully develops. Aggressive steering input will overload the front or rear tyres. Smooth, progressive inputs work far better. A relaxed style can help

the outer front tyre gain more vertical load during cornering to enable a greater ultimate steering angle and stronger cornering forces. Over-driving or rushing your inputs can overload this tyre before it receives the extra vertical load. The result is understeer, a straighter trajectory than desired.

'Balance' describes a car with a level chassis or body shell. By this, I mean that it isn't experiencing 'pitch' (nose up or down). Production cars are, of course, designed to remain stable with the chassis remaining level during steady-speed cornering, yet although some pitch angle is tolerated through the use of throttle and brakes, your driving ability and the available instantaneous tyre grip will be what dictates whether your Porsche remains stable. ■

CORE TECHNIQUE

Let's take a look at core technique for cornering. There may be a better option for a specific corner or objective, but core technique will keep things under control for all but error recovery. Hopefully, when approaching the bend, you'll have decided what speed is required to brake and change down (as outlined in the last few *GT Porsche* driver coaching articles). To achieve maximum stability, you should perform all of the braking and gear changes in a straight line. The most important thing is to release the brake pedal smoothly and move back to the throttle pedal before you start to steer. Just a light touch is all that's required. After all, you're not looking to accelerate. This way, you can achieve the balance we're striving for. Follow

up with nice, smooth steering input and you'll be off to a great start.

Releasing the brake allows the nose to travel back up most of the way. Staying off the throttle would leave engine braking, deceleration and some residual nose-heavy pitch, but if you apply a 'balanced' throttle, the car becomes properly level again.

Balanced throttle is the exact amount required to keep the engine revs constant with no acceleration or deceleration. It has the added benefit of keeping the driven wheels torque-neutral, ensuring the tyres provide all available grip for cornering. The easiest way to find the correct point is to listen to the engine. You're looking for a constant, stable exhaust note, not one getting louder or quieter.



▲ **Corner approach** As you get close to the bend, make your braking and gear changes while travelling in a straight line



▲ **Balancing throttle** Release the brake smoothly and move to balanced throttle in readiness for the turn



▲ **Corner development** Steer slowly and progressively in order to transfer load to the outside front tyre



▲ **Corner Exit** Squeeze the throttle progressively as you smoothly unwind the steering in an effort to gain rear grip



SQUEEZING THE LOUD PEDAL

It's time for the best bit! Once your Porsche is stable and the bend has developed, you'll be looking to get onto the loud pedal. As for not banging down the gears, it's important to avoid standing on the throttle. A progressive squeeze on the pedal as you unwind the steering smoothly is great for stability and progress. If you do this correctly, the car will progressively sit down on the rear tyres and gain grip as you straighten up and start to build speed for the next straight in the road ahead.



THE NEXT STEP

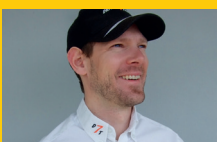
You may have heard people say 911s 'turn in' better with a little residual braking to increase weight on the nose. This is a technique known as trail braking. We'll look into this in a future *GT Porsche* driver coaching article, but put simply, braking increases the vertical load on the front tyres, a condition which can increase their cornering capacity. Conversely, it reduces the vertical load on the rear tyres. This is where things can become problematic. If you're too close to the rear tyre limits, the drive can become a little hairy! Cue the infamous oversteer, leading to tail out, full spin or 'whale tail' in nearby undergrowth!

The trick to trail braking is knowing how much of it you need and how much is too much. Different cars and tyre conditions have an effect, but road gradient, ambient conditions and speed/intensity also make a huge difference. Get it wrong and your drive will become a very expensive afternoon behind the wheel. You have been warned!



NEXT MONTH

Handling traits:
rear-engined versus
mid-engined
sports cars



DRIVING FORCE

Neil Furber is *GT Porsche*'s resident driving expert. With a technical background as a mechanical engineer in the Formula One industry, Neil brings a unique technical insight to driver coaching. Splitting his time between the French Alps and the UK, he coaches drivers through his brand, Drive 7Tenths (drive7tenths.com), and as a Porsche Driving Consultant working out of the Porsche Experience Centre at Silverstone Circuit.