

PART  
FIVE

# Be a better driver



Part 5: Performance driving coach Neil Furber explains the correct ways to steer your car, for enhanced safety, efficiency and finesse

You may remember some initial comments I made about steering in the first episode of this series (June, 2018 issue); now it's time to expand on those with a proper explanation of good steering technique. Although the methods I'll be spotlighting here can immediately benefit all drivers, if you have properly addressed your seating position (as described in that first article), you'll maximise the value of the advice to follow.

A good seating position will provide the necessary comfort, support and reach to use the steering wheel properly. As I said before, to work towards evolving your driving from a basic skill into an art, the most important driver control is the steering wheel.

Almost anybody can drive a car in a straight line, even at a high speed. But it's in the corners where the real pleasure and satisfaction can be enjoyed. To be more specific, the transient phases of corner entry and exit are usually better than the middle. Surprise, surprise, this is where the steering is most important!

#### KEEP IT RELAXED

The steering wheel is not a handle. Nor is it just a place to rest your hand, especially like the classic 'one-armed-bandit' pose covered in Part One. I'm sure you all left that behind some months ago! Furthermore, any car that is properly maintained and correctly set-up will drive in a straight line quite happily all by itself, providing the road surface is flat and in

good condition.

So, we arrive at my first steering tip: your goal is to use the steering wheel as little as possible while maintaining full control and minimising any muscular effort. If you are doing things right, you should look as relaxed as if you were sitting reading the newspaper.

#### HAND POSITIONS

I mentioned the quarter-to-three and ten-to-two hand positions in Part One. Both are a good start, but I favour the quarter-to-three for a few main reasons. The hands have the maximum spacing, which minimises muscular effort – much like a long spanner versus a short one.

The steering finesse and range of available steering angle are maximised

(for a 'fixed grip' steering input). Most automated manual cars with paddle shift have their paddles aligned with this position and, as they often rotate with the wheel, the driver can maintain full control of the gears whenever necessary.

Just a quick note on thumbs – some driver coaches will advocate a quarter-to-three grip with the thumbs wrapped into the rim at the spokes. There is merit to this in some cases, but it tends to be recommended for beginners to help resist the temptation to keep changing grip.

However, in extreme cases – such as loss of control including a spin, a harsh kerb-strike or in an accident, etc – the steering wheel can be whipped around quite fast. With the thumbs wrapped in, this can lead to injury. Off-road drivers are

advised to keep thumbs out of the spokes at all times as large rocks and tree roots can have much the same effect!

I tend to choose thumbs out of the spokes and against the rim, but there are certain cars or cases where I will wrap them in for extra control. For example, a thumb-in-the-spoke position can be a handy way to get a few more degrees of steering angle at the limit of the 'fixed grip' technique.

#### CORE TECHNIQUES

There has been a common theme throughout these articles so far; driving is not black and white. Almost everything is a shade of grey, but learning core techniques in a more distinct, black-and-white fashion can be helpful to master each bite-sized chunk.

Pull-push steering video



Once you have a solid grasp of all the core techniques, you may find ways to blend these in particular environments. As an example, I may use 'fixed grip' when initiating a slide on a circuit, and then use a blend of 'rotational steering', and even a 'pull-push' feeding motion, to control the car during a sustained drift.

Again, I'm sure you've all eradicated those common, bad habits discussed in Part One. Palming, steering with one dominant hand, turning a hand upside down in the top of the wheel rim and skipping the hands one over the other, all a thing of the past. No, on a serious note, this isn't anything like as easy as it sounds. However, the detailed descriptions and supporting photos here, plus the videos I've created, should give you enough



**FIXED GRIP STEERING**  
 1. Fixed-grip 'Home' position, with hands set at 'quarter-to-three'.  
 2. Getting near the limit of fixed grip comfort.  
 3. The classic pretzel – the absolute limit of the fixed grip technique.

information to make a vast improvement. The three main steering techniques which will serve you well for 99% of the time, ensuring you drive with efficiency, symmetry and finesse, are as follows.

**FIXED-GRIP STEERING**

This is great for gentle, flowing bends and small deviations. It's the technique favoured by racing drivers due to it providing maximum communication with the tyres when they're loaded in the bends.

The 'fixed' grip is most effective with the hands set in the quarter-to-three position, but 'ten-to-two' is also appropriate if you feel more comfortable that way. Remember, sometimes things feel more comfortable purely because of habits.

I'd recommend a bit of persistence towards a quarter-to-three grip, though, as it often starts to feel more natural after a day or two, and has the added benefit of closer proximity to indicators, wiper controls and gear-shift paddles.

The technique is really simple; hold the steering wheel symmetrically in the straight-ahead position. I'll refer to this as the 'home' position. You can simply rotate the wheel in the required direction with both hands working as a team, and never releasing their grip.

The key here is to make a smooth, gentle

transition with the hands. If you are getting tired hands or arms, you may be tensing up. Relax the arms and grip so that the muscles are doing nothing but a gradual rotation of the wheel. Furthermore, if the steering input is a bit stop-start – or you make sudden plus/minus adjustments in the turn – the tyres and car will do the same.

Your primary aim should be to make all phases of cornering gradual and smooth. Digital, erratic inputs will unsettle the car, and can reduce the total grip available. Think of a smooth, analogue flow and you'll be at least half-way there.

With the fixed grip, it's very easy to find the home position. In some cases, this technique can be useful for the application of 90-180° of steering, such as when negotiating a hairpin bend. But when you run out of steering lock, your arms will form a pretzel-like knot, or need an inconvenient change in grip.

**PULL-PUSH STEERING**

When young drivers are taught this technique badly, they typically develop a small-range, shuffling motion. After they pass their test, this will soon feel far too slow and be dropped in favour of palming or some other undesirable habit. However, those who learn pull-push technique properly will be rewarded with a skill for life.

I must confess that I had to re-learn this during my quest for artful steering, but haven't looked back since! Now, for anything more than gentle bends, this is my primary steering method of choice, as I can easily cope with anything from 90° of steering to full lock in a smooth, flowing motion under full control. For road drivers, this technique will make smooth, efficient work of roundabouts, side turnings, T-junctions and car park manoeuvres.

Again, things start from the 'home' position. For maximum efficiency and a nice positive steer into a tight bend, you'll benefit from moving the leading hand to the top of the wheel before you start to steer. To turn right, this is the right hand and, to turn left, it would be the left one. This leading hand then 'pulls' the top of the wheel down towards the bottom, while the other hand slides around the wheel rim to meet at the bottom.

After switching which hand has the grip, the new hand can 'push' the bottom of the wheel upwards, continuing to turn the wheels as necessary. At the same time, the other hand is slid upwards around the opposite side of the rim, so that both hands meet again at the top. Essentially, one hand is gripping the wheel and controlling its position, while the other has the palm in contact with the rim and



**PULL-PUSH STEERING**

4. Pull-push steering starts with moving the leading hand to the top of the wheel's rim.
5. Pull down with the dominant hand, while allowing the other to glide down over the rim so that both hands remain symmetrical.
6. Keep pulling down so the hands meet at the bottom of the rim.
7. Push up using the other hand, again with hands remaining symmetrical.
8. Continue pushing up until hands meet at the top of the rim.

**PULL-PUSH LEARNING TIPS**

Find a large, quiet open area with no obstacles to practice pull-push steering. At very low vehicle speed, steer slowly and initially break-up the movement into half-turn phases.

1. Grip the top of the wheel with the leading hand.
2. Gently pull this part of the wheel down to the bottom while sliding the other hand around the rim to meet hands – pause.
3. Swap hands – the sliding hand now grips, and vice versa.
4. Gently push the new bottom of the wheel up towards the top, while sliding the other hand the other way around the rim to meet hands – pause.
5. Swap hands again.
6. Gently pull the new top of the wheel down until you run out of lock – pause.
7. The hands should now be symmetrically opposite, left-to-right.
8. To unwind back to 'home', reverse the steps slowly in stages.

When each phase is working well under full control, start to link them so there are shorter pauses and, eventually, a full flow is achieved. If you get lost, simply unwind back to 'home' and start again.

**PULL-PUSH ERRORS**

Errors with the pull-push steering technique tend to include:

- Too harsh an initial pull
- A stop-start action
- Jerky hand changes
- Failure to use the full circumference of the wheel, which reduces efficiency

slides around, ready to take control when the hands meet. It is much like passing the baton in a relay race.

A full turn of lock can be applied with two hand changes – one at the bottom, another at the top – and usually a further quarter-turn will complete the job. This technique is easiest to learn in phases – see panel – but should be a fluid, flowing movement to give a smooth and continuous steer up to the maximum

angle required. Unwinding the lock is just a reverse set of movements. This sounds easy, but can be quite challenging when learning afresh, and trying to dial-out other weaker steering habits.

**ROTATIONAL STEERING**

Most drivers have some way of doing this but, sadly, it's normally biased with one hand being more dominant. It often ends up with palming the wheel, or the arms in



## ROTATIONAL STEERING

9. Rotate wheel using fixed grip until about 90° position is reached.
10. Release the lower hand and move it across to...
11. ... re-grip the wheel in the original position.
12. Flip the other hand and steer through using fixed grip.

a knot when trying to take tighter corners. This technique is best applied to skid control or rapid lock-to-lock movement when manoeuvring in very tight spaces. In both cases, lots of lock is required quickly and the accuracy is less important than the speed. Even so, there are poor, reasonable and excellent ways to do this. Try never to use this for general cornering!

'Rotational' steering gets its name from the movement made by both hands. This is the classic 'crossing hands' movement where both hands trace a circle in the same direction. To make a good job of rotational steering, you should focus on large 'bites' of the rim when changing hands. This will help you reach full lock quickly without needing Bruce Lee's hands to do it!

My favoured style of rotational steering creates the movement as a series of 'fixed grip' motions. This way, I can reach full lock by changing hands only once, and go lock-

to-lock with just two changes – great for controlling big skids or sliding the tail from side to side. It also makes it really easy to find the straight-ahead position in a hurry.

So, start with a fixed grip steering input and begin to turn the wheel. As you get to approximately 90° of steering lock, release the lower hand and cross to re-grip the original position on the rim as you continue to turn the wheel with the remaining hand. Once you re-grip it, flip the other hand so it can untwist the arm and re-grip its location. You will now have the same 'fixed' grip with the original quarter-to-three hand positions which you can use to continue to the lock stop if needed.

To unwind, again just reverse the steps, each time re-gripping the same hand positions on the wheel. You should then arrive at the straight-ahead position with the two hands at the 'home' position. ●

## ROTATIONAL STEERING LEARNING TIPS

Again, when practising this, slow things down and don't rush the steering. It can be easier to learn in the following separate stages, initially with pauses in between.

1. Turn the wheel to just over 90° degrees with 'fixed grip' steering.
2. Reach over with the lower hand to re-grip original hand position.
3. Flip the other hand to re-grip its location.
4. Continue to steer to 'home' position (one turn of lock from start).
5. Add the final quarter turn – or whatever is left in the system – with 'fixed grip' steering.



## NEXT MONTH

Managing traffic and safe overtaking

## WITH THANKS

I'm grateful to ROSSI-AUTOMOBILE in Annemasse (France) for use of the cars featured in the photographs and videos [rossi-automobile.com](http://rossi-automobile.com)

## DRIVER TRAINING OPTIONS

If this article has piqued your interest or you'd like some help learning these techniques, you can find out more about on-road and on-track driver training options or get in touch with Neil through the DRIVE 7TENTHS website – [drive7tenths.com](http://drive7tenths.com) where you can also find useful videos demonstrating Neil's driving techniques