WIN A DAY OF EXPERT COACHING!

RiDE has teamed up with Rapid Training to give you the chance to win a full day of training with an expert riding coach. The training – worth £495 – will identify habits that may be holding you back, along with those elements of your riding style that can take you forward. You'll learn how to consistently carve late-apex lines, plus how to see and interpret detail at speed, how to develop an intuitive response to whatever comes your way and how to handle your bike with precision and ease. All Rapid's coaches are trained to police class-one standard and can adapt the course to suit all levels and experience.

You can enter the competition at www.rapidtraining.co.uk/ride-rapid-competition

RAPID
SINCE 1997

STEERING SUCCESS

Steering seems so basic, yet very few of us get it right. Here's how to hit the perfect line time after time

Words Rapid Training **Pictures** Jason Critchell

▼ **Bent arms ready to apply pressure forwards, not down**

WELCOME TO THE second episode of RiDE's summer masterclass – your chance to methodically upgrade your riding skills by implementing the hard-earned advice of some of the highest-qualified and most experienced motorcyclists in the UK.

Last month, the experts at Rapid Training talked about cornering lines and why a late apex line is not only safer, but faster too. This month, the focus is on the skill that will help you ride these lines: precision steering.

This masterclass is based on Rapid's hugely successful road and track coaching programme, which combines the knowledge of their British Superbike and TT riders with their team of police class-one coaches. If you've always wondered how elite road riders and racers change direction so fast, or pondered why some novices run wide so often, read on...

▲ **Getting your steering right helps improve stability and enjoyment**

◀ A single, positive steering input will help the bike carve through the bend

Steer fast to ride fast

How you steer has a big impact on the amount of speed you can carry into, through and out of a corner. If you steer slowly, the bike takes a long time to go from being upright to banked over, so you can easily run wide. This forces you to either slow down or lean even further as you corner to compensate.

While a slow-steering rider is slowly moving the bike on to its new line, the fast-steering rider is already carving hard to the apex. That difference can be crucial. Your steering can also affect stability – rough steering inputs and unnecessary corrections destabilise the bike when it's already in its least-stable state. The faster we go, the more important these two effects become, so the cleaner and crisper our steering needs to be.

Countersteering 2.0

In its most basic form, countersteering is pushing the left bar to go left, and the right bar to go right. But Rapid found that its BSB racers and elite coaches use a more sophisticated version of the technique. Firstly, they give the inside bar a firm, crisp push, not a long, gentle one. Secondly, they only use one input per corner rather than multiple adjustments. And finally, after the single push, they relax their grip and let the bike carve round the corner. Rapid calls the technique 'Precision Steering' because that's the effect it has.

Push forward not down

The most common countersteering error is the push direction. If you push down on the bar to initiate a turn, nothing will happen – no matter how hard you try. But if you apply a tiny amount of forward pressure on the bar, the bike will turn sharply.

It's a mistake often made by sportsbike riders because the most comfortable long-distance riding position is to lock your elbows and support the weight of your head and torso on your arms. From there, you can push all you like and the bike won't turn because the force is travelling down the forks. So, to get a crisp, clean steering input, you need to bend your elbows so your forearms are parallel with the road – if you don't believe us, just look at the arm position of any MotoGP, WSB or BSB rider as they approach the turn-in point of a corner.

'Countersteering is pushing left to go left and vice versa'

▼ Positive steering inputs can help you change direction quickly and safely

They are perfectly positioned to give that firm, crisp bar input forwards and not down.

Lean your body

Your body position can change the effectiveness of countersteering. Leaning out of a bend while trying to push the inside bar counters the steering input, slows the steering and means the bike has to lean further to make the same bend at a given speed. On the other hand, leaning into a bend improves the steering action and reduces the lean angle required – that's a good thing because the tyres will grip better and there's the potential for more speed and extra safety.

We're not suggesting you go the full Marquez and hang off the inside of the bike – that's wildly OTT at road speeds. A slightly inward-leaning upper body position is all you need to optimise the steering action, reduce the lean angle and improve stability.

One input then chill

Whenever possible, we should use only one steering input. If we're cornering fast, we're already using a substantial percentage of our available traction, and another steering input risks destabilising the bike. Riders

▲ Proper steering will help the bike achieve stability and self-steer a carving line through a corner

▼ Experimenting with push angles is best done on a circuit

EXPERIMENTS WITH PUSH ANGLE

To convince yourself of the value of getting the right angle of push, Rapid runs an interesting on-track training experiment. First, try pushing down the forks to turn (nothing will happen or the bike may actually go the other way). Then try the same thing with your forearms at 45° to the road (barely any steering effect), and finally with them parallel to the road. Be careful with the last test, though – a light nudge could send the bike spearing off. Because the effect is so potent, Rapid only does this exercise on the track to be on the safe side.

EXPERIMENT WITH BODY LEAN

Find a quiet corner, knock 20% from your normal speed to give you extra safety margin, and experiment with different upper-body positions. First try gently leaning your head and torso out of the bend (pushing the bike down) as you countersteer, then go again with your body in a neutral position while steering, and finally leaning your upper body into the bend. You'll find that the bike steers faster and easier when you're leaning inwards.

▲ Body position and lean can have a big effect

SUMMER RIDING MASTERCLASS: PART 2

CONCENTRATE ON RELAXING

Find a nice sweeping bend and focus on using just one input, then relaxing as the bike drops on to the right line. Your need to actively relax your grip on the bars, and concentrate on feeling how calmly the bike glides round with no input from you. If you've been thruppenny-bitting round corners, this exercise can be a revelation. Keep practising until the push-and-relax technique becomes second nature.

who use multiple inputs to get through a bend, especially at full lean angle or on a slippery road, risk losing control of the bike.

Perhaps because cars need a constant force on the steering wheel to steer round a bend, lots of riders think the same thing is true on a bike. But it's not. The best riders will use a single push and then relax their grip, letting the bike track round the rest of the corner.

The reason this is possible is that a motorcycle front wheel is self-aligning – once it's set on a cornering path by our single input, it will carve a line dictated by the bike's geometry and tyre profiles.

It's worth understanding how this happens. When we push the inside bar, the wheel turns away from the direction of the turn and causes the bike to lean into the bend. Then, when we stop the push, the front wheel automatically falls back into alignment for the bend and around we go. Or we will unless we keep a tight grip on the bars, which stops the front wheel from self-aligning and we're effectively fighting the bike.

Going to the next level

Racers can get from full lean on one side to full lean on the other in under 0.5sec, while average street riders can take two seconds or more to do the same thing. Road riders obviously don't need to gain milliseconds through chicanes in the same way racers do, but if you're interested in riding more briskly without running wide, the racers' technique is crucial. The faster we go, the more pressure and speed we need to use to achieve a clean, quick response.

The tricky bit is to make this firm, quick input while remaining smooth, because rough inputs can easily destabilise the bike. If you watch MotoGP riders on their qualification laps when they are making hugely powerful steering inputs, the bikes usually look uncannily unruffled going into corners because the riders are so skilled at making fast, smooth inputs.

That's what we're aiming for.

▲ We're all taught to look where you want to go, and you will. But you still need to steer...

But, but, but... conditions

Of course, we can't just fling the bike on its side all the time. The steering input needs to reflect the traction that's available because it is possible to unstick the front tyre by pushing too hard. If it's cold and wet, you can't turn as fast as on warm, dry tarmac. But because you're unlikely to be going as fast, such a quick turn shouldn't really be necessary anyway. *R*

NEXT MONTH

Throttle control. Once you understand how your throttle affects corner entry, mid-corner speed and exit drive, you may find you're leaving your mates behind without trying. We show you how.