

Warning!

Motorsport is dangerous and Karen Andrews Racing will not be held responsible for any accidents, loss or damage. Our racing instruction section is advising only and does not promote dangerous or reckless driving, especially on the public roads.

Should you require further help or instruction in person, either on the track or on the road or confidence building, please contact Karen Andrews on 07977 218229 or info@KarenAndrewsRacing.co.uk

First Things First

Driving Position

Position your seat a couple of inches closer than for road driving. Your wrists should sit comfortably on the top of the steering wheel without you sitting forward. Sit upright and grip the wheel lightly while keeping the elbows bent. If you lean back and have straight arms you will have a lot less control of the car should you need to make any corrections. Pedals should all be easily accessible and you should be able to move your feet from one pedal to the other quickly and comfortably.

Planning

Always look & think ahead. To get good track times, the skill is keeping the cars momentum as constant as possible, not hard braking then hard acceleration at every corner. Use ALL the engine revs. Drive through a corner, not braking hard up to and then frantically accelerating out of a corner, you have to keep your driving as smooth as possible. Before going out on track always check all fluid levels, wheel nuts & tyre pressure.

Corners

With cornering the most important thing you can learn to improve your times is "SLOW IN FAST OUT". Repeat it after me "SLOW IN FAST OUT. Basically the slower, smoother and more in control you are on the approach to the corner the faster your exit speed will be. Also another important detail to remember is "USE ALL THE TRACK" where possible; remember the sooner your wheels are straight the sooner you can come on the power. Here are a few examples of some of the most common corners found on circuits today.

90° Short Corner

Medium speed approach. The best way to negotiate this type of turn is similar to the hairpin. This type of corner catches a lot of people out and is one of the best overtaking opportunities you'll find. On the approach, turn in late then keep the remaining part of the bend as straight as possible.

90° Long Corner

High-speed approach. Aim for the middle point of the turn, then accelerate out, aiming for the opposite side of the track. Should be taken with little or no loss of speed & the corner should feel nice and smooth.

Hairpin

Low speed approach. Turn in late to make the exit of the hairpin a fast corner line, which then gives you chance to come on the power sooner and more abruptly. Remember "SLOW IN FAST OUT".

Tightening Corner

Medium speed approach. You should not be clipping the apex of the corner until much further round the bend than usual. This later apex allows you to exit the bend almost straight facing.

Long Curve

High-speed approach. With this type of corner, turn in early keeping close to the inside of the track, near the rumble strip. The exit should be a mirror image of the entry for a fast exit.

Double Apex

Medium speed approach. Enter the corner from the far left of the track winding into the apex on the inside, straighten out and drift back out onto the centreline of the track. Once there seek the

apex of the 2nd part of the corner, clip it and exit straight using the entire track width. Basically a symmetrical corner.

Opening Corner

Turn in early and aim for an early apex point. Keeping the car wide, drive the exit like a fast corner.

Esses

Medium speed approach. Set up the approach so that the route through the bends is as straight as possible, unnecessary steering will result in more loss of speed.

Chicane

Medium speed approach. Take an almost straight line in to the first corner, a slight dab on the brakes in between the 2 internal apexes; accelerate hard out of the turn as the car passes the 2nd apex. Use the entire track width on your exit.

Techniques

Heel & Toe Downshift

This is a technique, which is used when braking and downshifting to match the speed of the engine to the transmission. E.g. if you are downshifting from 3rd to 2nd when approaching a corner, the engine in 3rd is approximately revving at 3500rpm. When you drop your clutch the revs also drop to about 2500rpm and after the downshift, when the clutch is released, the engine revs higher at 4300rpm. This causes the jolt when changing down gears. We use heel and toe to eliminate this jolt. This may be the most complicated thing you will learn so don't get frustrated if you can't get it first time, it may take hours in the car to perfect this technique.

The Heel & Toe part comes in to play when you have to be on the brakes at the same time you want to be changing gear. The term Heel & Toe can be misleading as most drivers use the inside and outside part of the foot and sometimes the top.

Start by sitting in your driving position, put your foot on the brake and then try to hit the accelerator with the outside edge of your foot or your heel. You will need to rotate your foot in order to reach the accelerator simultaneously. Once you're able to press both pedals with one foot, you blip the throttle momentarily by rolling your foot over onto the gas while keeping constant pressure on the brake.

On a straight section of quiet road, establish a steady speed of about 50mph in fifth gear. Without braking, use your right foot on the accelerator and left foot on the clutch only, downshift to fourth. Try to blip the accelerator pedal as the shift passes through neutral so that the car doesn't jolt when the clutch is released. Don't try to accelerate once you're in fourth just continue to maintain a constant speed. Next, try the same thing going between 4th and 3rd at 35mph; this will require more revs when blipping the throttle. If you've got everything right and smooth, the car will travel smoothly down the road as if you weren't changing gear. Now try this exercise whilst braking. Try under heavy and light braking as you never brake with the same pressure throughout a track. Just rotate your foot on the brake to catch a blip on the throttle try to learn to blip the accelerator pedal without varying the pressure on the brake.

Once you're happy that you are able to change gears smoothly under braking, try a similar exercise at 30mph using 2nd in addition to the other gears. The downshift into 2nd usually requires higher revs and 1 extra blip of the throttle. Keep same method as the other gears but blip out of 3rd and again just coming out of the neutral position on the box.

Next, try to bring the engine up to different speeds. The idea is just to get used to blipping the throttle while braking, without worrying about accomplishing anything with the engine. The idea is to not let the operation of the gas pedal affect the braking. Never change down before braking, as you risk over revving the engine. The next step requires an open stretch of straight track. Brake from speed, to a rev-matched downshift at the 'end' of the braking.

Left Foot Braking

This technique allows a car to be slowed with minimal effects on the car's balance, followed by very rapid resumption of acceleration. The left foot works the brake pedal while the right foot remains on the gas pedal. You need to establish an appropriate balance between both acceleration and deceleration without excessive weight transfer. Left-foot braking can only be used in turns/corners that require no downshifting, or to recover a spin or to pump up the brakes before a hard braking corner.

Left-foot braking sequence: Approaching the turn at full power, rest your left foot lightly on the brake pedal. Press the brake pedal with your left foot at the appropriate moment, while maintaining pressure on the accelerator. The car slows somewhat and its balance shifts forward to help it turn. When the car has slowed enough for the approaching turn, lift your left foot off the brake and add more pressure to the accelerator. As the engine was already producing significant power during braking, the car will now accelerate immediately.

With the engine off, try moving your left foot on and off the brake pedal. This will feel 'very strange' at first, as you will find yourself keep looking at the pedals or just de-clutch. This technique has to become second nature, just as it is for your right foot moving from accelerator to brake. This requires lots of practice, so that there is no confusion or hesitation under pressure.

In an empty car-park try driving in a straight line at slow speed and repeat the above exercise moving your left foot to the brake pedal. No real pressure is applied to brake pedal.

The next exercise is to be able to brake normally with your left foot and slow the car from gradually increasing speeds.

When things get out of shape

The most important point to remember if things ever get out of shape is “DON'T PANIC” keep everything smooth and ease yourself out of trouble. Steering, braking and reducing acceleration should always be done smoothly and not full pressure. Should things get very out of hand and there is no hope of reclaiming control, take your feet off the pedals, cross your arms and try and relax your body, this will reduce the risk of broken bones on impact. Just remember things can go wrong, even for the best driver.

Under-Steer

Under-steer is when you turn into a corner but the car wants to go straight on. Further acceleration only enhances the problem, leading to a loss of traction and the car's ability to turn. Under-steer can be corrected by easing off the throttle to aid traction or press the brake with your left foot slightly to slow the vehicle. Do not back right off the accelerator as this could induce a spin. You need to judge the exit of corner to make sure there is enough space for you to exit safely as the car will exit wider than the original line.

Over-Steer

Over-steer is when the rear wheels are trying to overtake the front. This condition can be caused by power over-steer (too much power when your wheels aren't straight) or sudden changes of steering. You need to either reduce power slightly (**IN REAR WHEEL DRIVE ONLY**) in order to bring the back end back into line or keep the power the same (or balanced throttle) and steer into the rear wheel slide, which will stop the car from spinning. You need to judge the exit of corner to make sure there is enough space for you to exit safely as the car will exit wider than the original line.

Correcting a Spin

Turn the steering wheel into the direction of the spin and balance the accelerator to neutral power, neither off nor on. As soon as the car stops sliding, immediately adjust the steering wheel to the normal direction, otherwise the car will very quickly grip and spin the other way. If you are unable to regain control put the brakes on hard and lock the wheels. This will help ensure the car continues to spin in a straight and predictable line and should reduce the risk of possibly throwing the car in front of following vehicles.

Race Information

What Circuit Flags Mean

Chequered

Finish flag, End of the Session. Once you are clear of the finish line start gently slowing down and enter the pits next time round.

Union Jack

Can be used to start a race in the event of lights failure.

Yellow

Slow down and be careful, there is a car on or near the track in a dangerous position ahead of you.

Red

Slow down promptly to a speed of about 20mph and proceed slowly to the pits. The race has been stopped because of significant dangers or there are people on the track.

Blue

Let the following car past. Back off and/or move over and let the car past you. You are impeding the following car and if you ignore this flag you may be black-flagged next time round.

Black

You are to immediately come into the pits. You have committed an offence or your car is deemed to be dangerous.

Red and Yellow

Warning that a slippery surface is on the racing line.

White

Slow non-race car/vehicle on the track

Green

All Clear, normal racing conditions.