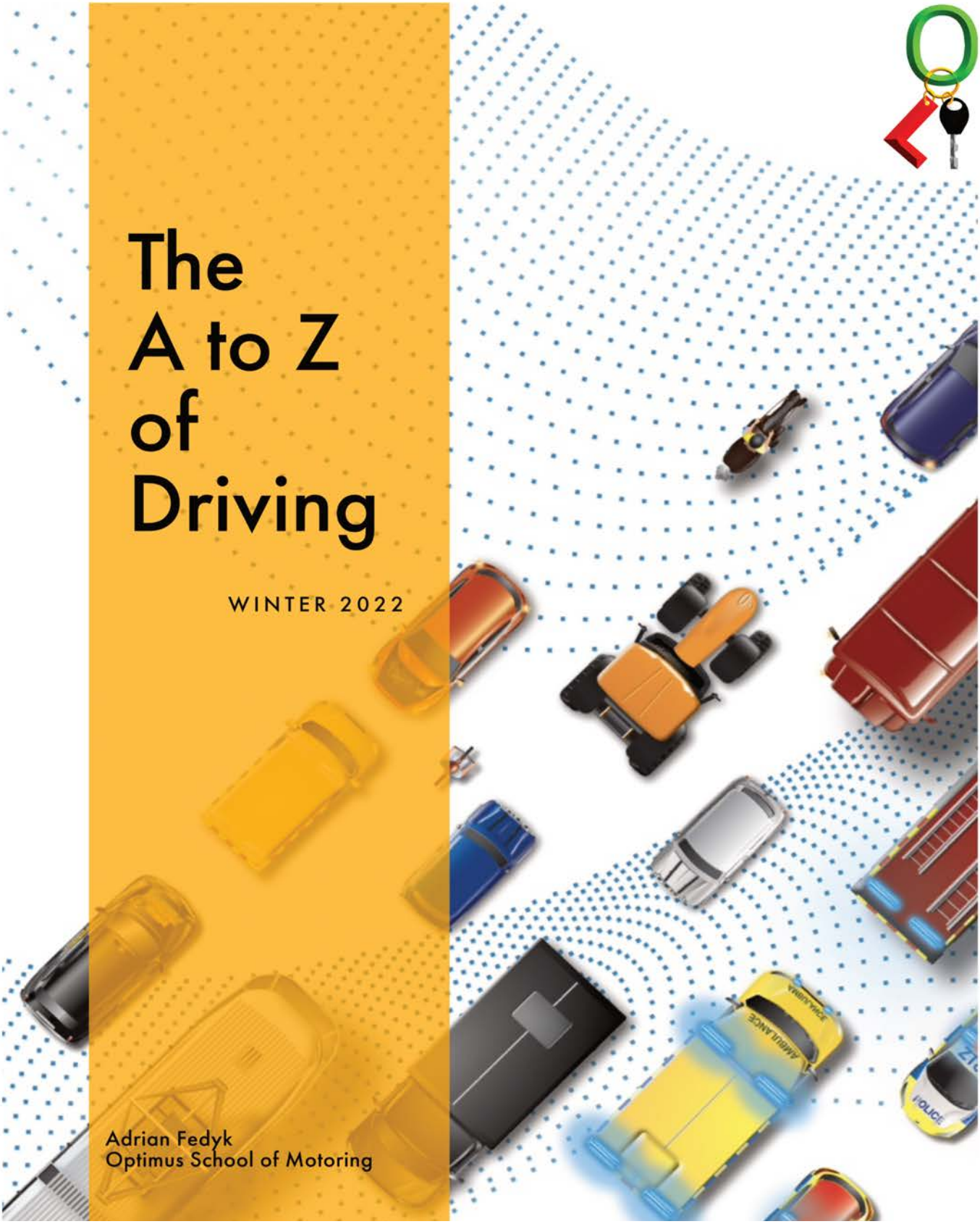
The A to Z of Driving

WINTER 2022



Adrian Fedyk
Optimus School of Motoring

CONTENTS

A IS FOR ACCELERATOR

The accelerator increases the amount of fuel being sent to the engine.

Pressing the accelerator pedal feeds more fuel into the engine and increases the engine speed, making the car go faster.

Easing off or releasing the accelerator makes the car slow down.

The accelerator is sometimes called the throttle, more common amongst motorcyclists.

'Accelerator Sense' is a technique which requires the driver to plan and adjust the car's speed using only the accelerator pedal, the brakes being used only when a more rapid reduction in speed is required.

Often called the gas pedal, it is the rightmost pedal in most cars and is operated with the right foot.

The term 'gas' is from gasoline the American word for petrol.

The spring mechanism, which pushes the pedal upwards when the driver removes their foot, is an example of a fail-safe mechanism.

Eco-safe driving suggests that the accelerator is used gently, although when a sudden increase in speed is needed, a 'foot to the floor' technique is used.

B IS FOR BRAKES

Brakes are for slowing down or stopping but there are other ways we can slow our vehicle down, such as simply taking our foot off the gas, changing gears, and using engine braking.

Different cars can have different types of brakes – disc brakes or drum brakes.

The more pressure you put on the foot brake, the more the vehicle will slow down.

Slowing down under control isn't just a matter of slamming the foot brake on as hard as you can.

As with the other foot pedals, using the foot brake needs practice.

Progressive braking is a safe driving technique that:

- Allows other drivers time to react
- Prevents skidding
- Saves wear and tear on brakes, tyres, and suspension
- Uses less fuel than harsh braking.

To brake progressively:

- Feel - put light pressure on the brake at first
- Firm - gradually increase the pressure as required to stop the vehicle
- Feather - when the vehicle has almost stopped, ease off the pressure so that the vehicle stops smoothly. There should be little or no pressure as the vehicle stops.

Five rules for braking:

- Anticipate - think and look well ahead
- Know your own limitations and those of your vehicle
- Take note of the state of the road and the surface
- Give yourself plenty of time and distance to brake progressively
- Avoid the risk of skidding, rather than trying to control it.

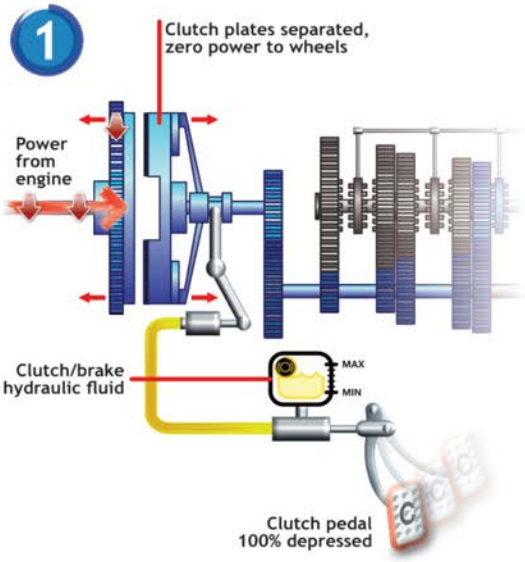
Braking shifts the weight of the vehicle forward.

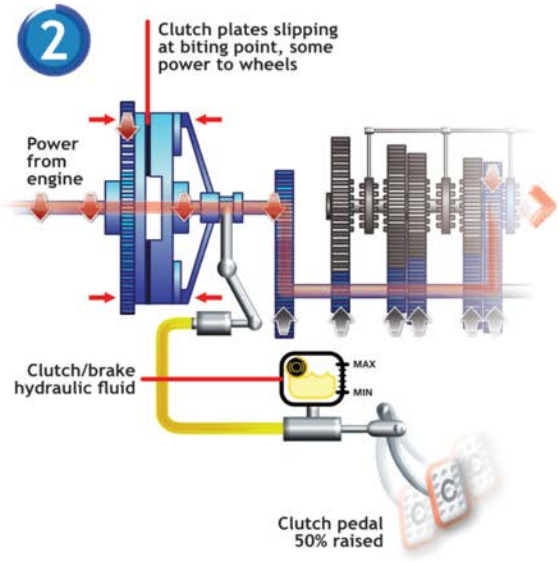
This can make steering more difficult.

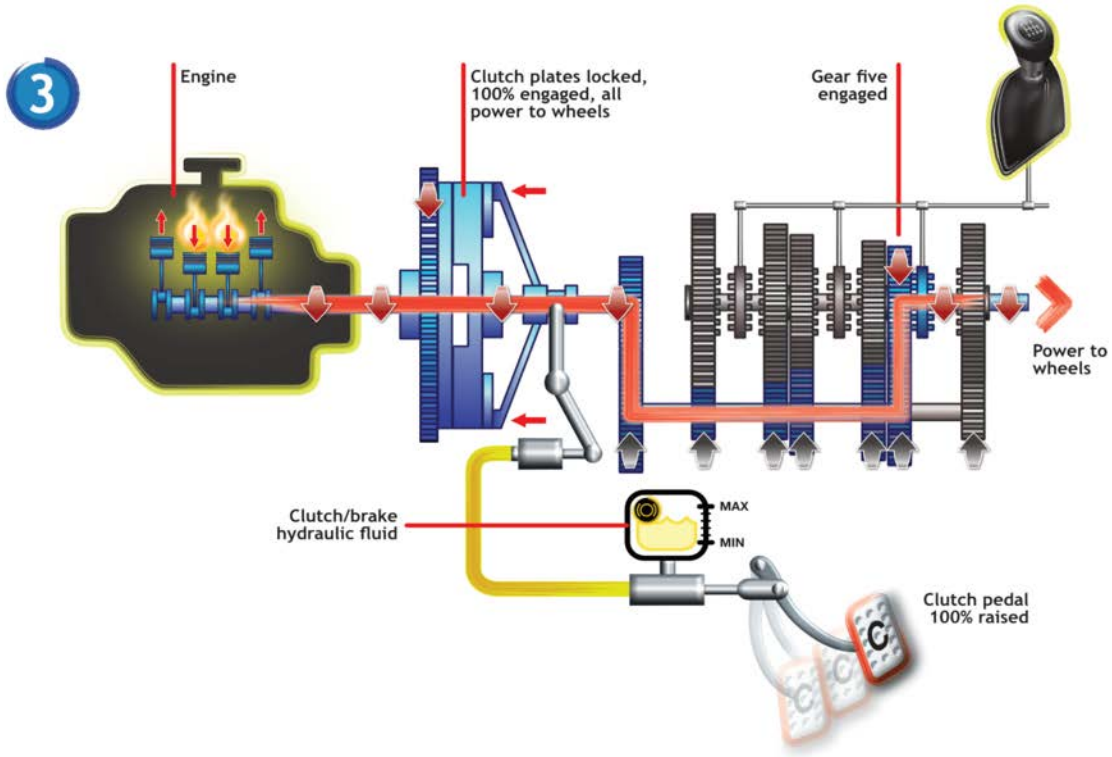
Whenever you brake, you should consider:

- The safety and peace of mind of everyone concerned, including your passengers
- The wear and tear on your brakes, tyres, and suspension
- The vehicles behind you, whose brakes might not be as powerful as yours.

C IS FOR CLUTCH







C IS FOR CLUTCH (CONTINUED)

In Manual Transmission Cars, that is with a Gear Lever and Clutch Pedal, the clutch pedal decides if the engine is connected to the wheels.

When the clutch pedal is all the way up, the engine is fully connected to the wheels.

With the clutch pedal pressed all the way to the floor, it disconnects the engine from the wheels.

Between the fully-up (3) and fully-down (1) position is the biting point (2), where the engine is just beginning to get connected with the wheels.

This point is essential for getting the car moving smoothly, and you will need to practice finding it.

The biting point is very sensitive, and you will need to practice moving your left foot up and down on the clutch about the thickness of a pound coin, to come 'on' and 'off' the biting point.

The biting point varies depending on the type and model of a car, and its age. The older the car, the higher the biting point usually is.

In most modern cars with an ECU (Engine Control Unit) the car will move away very, very slowly at the biting point.

You can use this to crawl forwards or backwards in tight spaces, such as in heavy traffic or entering/leaving parking spots.

However, to move away normally from a stop, slight pressure on the accelerator is needed to move away smoothly.

How does the clutch work?

To see an animation of how a clutch works, see this video from Simon Raisbeck:

www.youtube.com/watch?v=6DL0j0eKD8Y

To see a real clutch, check out this video from Eric the Car Guy:

www.youtube.com/watch?v=FfjGohWy-OU

To see how it interacts with the gear box, see this video from Learn Engineering:

www.youtube.com/watch?v=wCu9W9xNwtI

When is the clutch used?

The clutch is used for a few things when driving, and it can be thought of as a standby pedal.

When moving off from stationary, the clutch is raised slowly to bring the car out of 'standby'.

When changing between different gears, the clutch is used to temporarily take the power away from the wheels while the gears reposition themselves.

When coming to a complete stop, the clutch is pressed down to put the car into 'standby'.

D IS FOR DUAL CARRIAGEWAY

A dual carriageway is a road which has a central reservation to separate the carriageways.

They are usually used to link major roads or areas together, and where there is high-traffic flow – where two lanes would benefit the traffic to keep it moving.

Despite the name, some 'dual carriageways' have only one lane in each direction, or maybe three lanes: it is the separation between opposite directions that makes it a dual carriageway not the number of lanes.

How do you join a dual carriageway?

If there is no slip road, emerge as you would like a left turn at a junction.

Ensure that you emerge into the left-hand lane of the dual carriageway, and you wait for a big enough gap to build up your speed.

If there is a slip road, indicate your intention to join, and use the slip road to adjust your speed to that of the traffic on the dual carriageway.

Look for a gap in the traffic, and then merge into the left-hand lane.

Consider a quick sideways glance, your blindspot, to check that there are no vehicles next to you, but also use your mirrors effectively to see the position of the vehicles on the main dual carriageway.

Once you have joined, remember to cancel your indicators, and continue to build up your speed to match the speed of other vehicles.

If other vehicles are trying to join the dual carriageway when you are already on it, follow these tips:

- Don't try to race them while they're on the slip road
- Look well ahead, if there are several vehicles trying to join, be prepared to adjust your speed
- Show consideration for traffic joining, and if it's safe to do so, check your mirrors, indicate, and change lanes to give the joining traffic space
- Take extra care if the dual carriageway curves, as vehicles on the slip road may have difficulty seeing vehicles on the dual carriageway.

How do you leave a dual carriageway?

Know which exit you want to take by looking at road signs or listening to your SatNav. Position yourself in the left-hand lane in good time.

Make sure you plan well ahead and are not stuck in a far-right hand lane when you should be coming off the dual carriageway.

Look for the countdown markers that tell you how far it is to the exit – 300, 200, 100-yard markers.

Try to avoid slowing down too much on the dual carriageway before you exit, as you could hold up vehicles behind you.

Try to wait until you are on the exiting slip road before braking. If the slip road is short, you may need to start braking just before you exit to bring your speed down.

If you miss your exit, carry on to the next one.

Remember that you will be used to driving at high speeds whilst on a dual carriageway. When you exit a dual carriageway, your judgement may be affected.

Going 40mph may feel like 20mph. Glance at your speedometer to check your actual speed.

E IS FOR EMERGENCY STOP

The emergency stop, also known as the controlled stop, is often practised during driving lessons.

This involves simulating an emergency and getting the student to stop as quickly and as safely as possible.

It could be that a pedestrian has suddenly walked out on you, or a car has pulled out on you.

How is it performed on a test?

Your examiner will pull you over at the side of the road and explain what they are going to do.

They won't just suddenly shout "STOP" while you're driving along and expect you to stop.

- They will choose a safe, quiet road for you to do this on, although the speed limit could be more, or less than 30 mph
- They will explain that they would like you to do an emergency stop and that the signal they give will be by raising their right hand and saying "STOP"
- They will ask you to drive on when you're ready
- The examiner will look around, make sure it is safe, and then will say "STOP"
- You will be expected to react quickly and safely.

Once you've stopped the examiner will ask you to drive on again, and you will not be asked to do the emergency stop again.

Candidates in 2 out of 7 tests do the emergency stop – so it's not a definite that you'll get the emergency stop on your test.

However, it is good to practice this with your instructor so that you are prepared – and in case it happens for real one day.

How to perform an emergency stop:

The Highway Code states, "In an emergency, brake immediately. Try to avoid braking so harshly that you lock your wheels. Locked wheels can lead to loss of control."

First, it's important to note that you do not need to check your mirrors in an emergency stop.

Looking in your mirror will waste valuable time when you should be braking – if you've been using your mirrors regularly you should know what's behind you.

When you are given the "STOP" signal, you must react quickly and brake firmly, keeping two hands on the steering wheel.

Once you've come to a complete stop, ensure you do not allow the car to roll, apply your handbrake, and select neutral.

Remember to move off safely – including checking all around you – especially both blind spots and mirrors.

Antilock Braking Systems (ABS)

If your vehicle is fitted with ABS brakes, the system activates automatically under conditions of harsh braking.

ABS employs wheel-speed sensors to anticipate when a wheel is about to lock under extreme braking.

E IS FOR EMERGENCY STOP

(CONTINUED)

Just before the wheels begin to lock, the system releases the brakes momentarily before automatically reapplying them.

This cycle is repeated several times a second to maximise braking performance, sending a pulsing sensation through the brake pedal.

You may find this a little disconcerting the first time it occurs, and you may be tempted to respond by relaxing the pressure on the brake pedal.

However, it is important that maximum pressure is maintained.

ABS do not necessarily reduce your stopping distance, but because the wheels are prevented from locking, you can continue to steer.

Something you would not be able to do if the wheels were locked.

Reducing the pressure or pumping the brake pedal reduces the effectiveness of the system.

The pressure on the brake pedal must be maintained until the hazard is safely avoided.

Knowing ABS will help you stop safely should not encourage you to drive less carefully.

ABS cannot overcome the laws of physics, it's still possible for one or more of the tyres to skid because of:

- Poor road contact
- Surface water
- Loose road surface
- ABS will enhance your skills, NOT replace them.

You can try and avoid the risk of needing to brake in an emergency.

If you are planning well ahead, you will be aware of what's going on around you.

Look out for children playing, pedestrians emerging from behind vehicles, especially vans.

Be aware of school times, and tell-tale signs such as a ball rolling into the road – children will follow it.

Also, drive at a speed in which you can stop safely in the distance you can see to be clear.

The Driving the Essential Skills Book says the following:

- Always keep both hands on the steering wheel. You need as much control as possible
- Avoid braking so hard that you lock any of the wheels. A skid may cause a serious loss of control
- Don't press down on the clutch pedal until just before you stop. This helps with your braking and stability
- Don't use the parking brake while the vehicle is moving. Most parking brakes work on the back wheels only. Extra braking on the back wheels can cause skidding
- Don't give a signal – you need both hands to control your steering, and your brake lights will come on at the rear to signal to people behind that you are braking
- Stop as quickly and as safely as possible, keeping your vehicle under full control.

F IS FOR FOLLOWING DISTANCE

This is also known as a ‘separation distance’. It refers to the gap that we leave between our vehicle and the vehicle in front.

It’s important that we leave a good gap in case anything suddenly happens in front.

It gives us time to react and slow or stop safely.

Road traffic collisions are often caused by vehicles following the vehicle in front too closely.

It’s essential that drivers can judge a good separation distance in all types of conditions – whether it’s bad weather, heavy road traffic, or different road conditions.

Sometimes in heavy, slow-moving traffic, it may not be realistic to leave a large separation distance.

This could waste valuable road space especially in queues, and as you’re moving slowly, you will be able to stop quicker anyway.

Even so, your separation distance should never be less than your thinking distance.

Your overall stopping distance is made up of your thinking distance and braking distance.

This can depend on a variety of factors:

- How fast you’re going
- Whether you’re travelling uphill or downhill
- The weather
- The conditions of the road
- The type and age of your vehicle
- The condition of your brakes and tyres
- The size and weight of your vehicle
- Your ability as a driver, and your reaction times.

A good way to judge a safe separation gap is to use the ‘two-second rule’.

This is measured by counting two seconds from when the vehicle in front passes a stationary object, to when you pass the same stationary object.

If you are still counting to two when you pass the stationary object.

This means you are too close to the vehicle in front, and you need to drop back to give yourself a safer separation distance.

If you have finished counting to two by the time you pass the stationary object, this means you have a good, safe separation gap.

A good way to accurately judge this distance is to use the phrase

"Only a fool breaks the two-second rule"

This takes approximately two seconds to say.

If the road conditions are wet, you should double the two-second rule, making it four seconds.

One phrase for this is:

"Only a fool breaks the two-second rule.
When it’s wet on the floor, then make it four."

Also, remember spray from the vehicle in front may make visibility even worse.

Consider leaving an even bigger gap so that you can see clearly ahead.

F IS FOR FOLLOWING DISTANCE (CONTINUED)

Use of speed

Looking at the illustration above we see a speed of 25mph results in an impact speed of 18mph.

Most drivers consider 25mph to be slow and in driving terms you could say it is.

However, the resulting impact speed of 18mph needs consideration.

The illustration shows it to be equivalent of falling from a first-floor window.

There is a case of a five-year-old girl falling from her first-floor bedroom window. She injured her ribs, lungs, pelvis and fractured her femur.

Horrific injuries and statistically she was very lucky to survive.

She now needs to use a frame to assist in walking.

The recovery will be slow and the disruption to normal family life will be considerable.

Add to this the trauma suffered by her and all her family.

A small and seemingly insignificant increase in speed can have devastating consequences.

Study the illustration opposite to gain a much better understanding of the possible consequences of your use of speed.

How should you respond?

When the conditions are icy or snowy, you should multiply the two-second rule by ten, making it 20 seconds.

When a vehicle is following you too closely, sometimes called ‘tailgating’ or ‘being a space-invader’.

Gently ease off your accelerator and gradually increase the gap between you and the vehicle in front.

If you have a bigger gap between you and the vehicle in front, should anything happen, you will have even more time to react and can brake more gradually.

This will give the vehicle behind time to react too.

Pay it forward - If the vehicle behind steals your space, give it to the car in front.

G IS FOR GEARS

The gearbox contains the gears, which control the relationship between the engine speed and wheel speed.

First gear provides the greatest force for the driving wheels and is normally the one you use to get the vehicle moving from a complete stop.

As you speed up, you change up to the higher gears, each one giving you less engine power, but more speed for your wheels.

Using the highest gear possible for speed and road traffic conditions saves fuel - if your speed, and engine revs, isn't too low for that gear.

Which gear do we need?

Most vehicles have 5 gears, some have 6 gears, and all have a reverse gear.

When neutral is selected, no gear is engaged - this is known as coasting.

We start by moving off in 1st gear as this gear gives us the most power/force. As we build up our speed, we listen to our engine.

When we reach the correct number of engine revolutions (revs on the rev counter - usually around 2,000/2,500 revs) for the engine, we change up a gear.

We then work our way up through the gears consecutively.

As you become more confident and experienced, you'll be able to judge which gear you need for the speed, and the situation you're in.

How to change up a gear:

- Place your left hand upon the gear stick
- Press the clutch pedal down, at the same time as you ease off your gas pedal
- Select the next gear required and which is suited to the road and traffic conditions.
- Let the clutch pedal come up smoothly, and at the same time press the gas pedal back down gently
- As the clutch pedal comes up, the gas pedal goes down at the same time
- Put your left hand back on the steering wheel.

How to change down a gear:

You will already be braking as required for the junction, roundabout or hazard, and the situation ahead. We should brake to the desired speed for the gear we want to select.

- Place your left hand on the gear stick
- Press the clutch pedal down, keeping your foot on your foot brake
- Select the most appropriate gear for the lower speed that you are doing
- Being able to judge which gear is the most appropriate comes with practice, experience, and good judgement
- Bring the clutch pedal up smoothly, continuing to brake if still appropriate
- Put your left hand back on the steering wheel
- You can stop in any gear if you know you are coming to a complete stop
- However, remember to be in the correct gear when you move off again - usually 1st gear.

G IS FOR GEARS (CONTINUED)

Coasting

Coasting is where we have the vehicle in neutral or you have the clutch down unnecessarily when driving, such as turning into a junction, driving down a road or going around a roundabout.

Coasting means that although the vehicle is still moving, it's not being driven by the engine.

Coasting for any distance is dangerous, because:

- It reduces the driver's control of the vehicle
- You might have difficulty engaging a gear if something unexpected happens
- It almost certainly leads to the vehicle gathering speed when travelling downhill, resulting in it being harder to brake
- It removes the assistance of engine braking which you would get in a lower gear.

Each time you change gear you coast a little bit - this is unavoidable, but if you bring your clutch back up as soon as you've changed gear, this isn't a problem.

Also, when you come to a stop, the clutch must go down to disengage the engine from the wheels, to prevent you from stalling before going into neutral.

H IS FOR HEALTH

Sometimes called Fitness to Drive, health is an important factor in driving.

In the long-term, any pre-existing or new medical condition which may affect your ability to drive safely must be reported to the Driver and Vehicle Licensing Agency (DVLA).

This is generally a conversation you should have with your doctor or specialist.

A complete list of notifiable conditions is available on the gov.uk website.

You should be able to read a new style licence plate from 20.5 metres, something which is tested at the very beginning of your practical test.

This can be with corrective eyewear if necessary but if they are required must be always worn when driving.

In the shorter term, minor illness or tiredness can affect your ability to drive safely, and it is up to you as a responsible person, to decide for yourself if you are fit to drive or not.

- Perhaps you have a headache?
- Could you delay your journey for an hour while you take some over-the-counter pain killers?
- If you have a cold and cannot give driving your full attention, could you work from home or lift-share?
- Do you even need to drive?
- Would walking or public transport be a safer option for everybody?

If you are on any medication, read the information leaflet, or ask your doctor or pharmacist how it might affect your driving.

Many medications state that you should not operate machinery. Remember a car is a machine too.

And finally on fitness to drive we must consider recreational drugs, including alcohol.

Recreational drugs are subject to a strict liability law, which essentially means zero tolerance.

Alcohol has a slightly more forgiving limit but any amount of alcohol in your system will have a detrimental effect on your driving.

Remember both can stay in your system for a considerable amount of time and dramatically affect your reactions, even the morning after, so make sure you factor this into any driving plans.

I IS FOR INDEPENDENT DRIVING

There are three possible elements to this:

1. Using SatNav (including on your driving test). The examiner will use their own SatNav and it will already be set-up for the Test Route you are going to take

2. Following road signs (including on your driving test)

3. Driving alone.

SatNav

Satellite navigation is great, although you need to use it carefully.

Whatever model you buy (in many modern cars, you can even dock your phone and use Google Maps or Apple Maps), it needs to be kept up to date.

You must always check for yourself that it isn't asking you to do something illegal, for example, asking you to turn in to a no-entry road or do a U-turn when road-signs prohibit it.

By far the easiest way to use satnav is as a visual aid, and to listen to the actual words it is saying out loud.

Quite simply, anything the SatNav says should just be a cue to look at the screen. This is quite safe, it's easier than looking at a road-sign.

Usually, SatNavs will use icons on the screen to give you advance notice of instructions. For example, it might show a roundabout symbol with an arrow pointing to the right.

Even without a verbal instruction, you'll therefore know to set yourself up in the correct lane for a right-turn.

During the driving test you won't be asked to programme it yourself, it's only there for you to follow the directions. Don't forget that one in five driving tests will still use the 'follow the road signs to…' method.

Following road signs

- It goes without saying, but if you don't plan where you're going, you probably won't get there

- Look well ahead and make a note of any signs in the distance which may help when you get close enough to read them

- If you aren't sure which direction the signs are going to send you, then make sure you check surrounding lanes early - before you might need to move - just in case you do need to change lanes

- Look early at the lane layout sign to ensure your positioning is correct for the direction you are travelling. Spiral roundabouts, for example, will have a sign advising which lane you will need on approach

- Understanding how signs work is vital in helping you to recognise quickly where you're going

- Motorway information has blue backgrounds, primary routes have green, and non-primary or local routes have a white background

- As well as looking for the destination name, make sure you look out for the road number too - this will help to confirm you're still in the right lane on roundabouts

- Understand where to expect the information to be found, the position of signs, information on roads, for example.

I IS FOR INDEPENDENT DRIVING (CONTINUED)

Driving alone

If you've passed your driving test - congratulations.

Welcome to real independent driving.

Your driving test and lessons will have taught you all the skills you need.

But here's a reminder of some of the key safety-points you may have forgotten (or may feel embarrassed to use now you're a 'real driver'):

- Plan. Don't do anything at the last minute.
- If you find yourself in the wrong lane at a big junction, don't try and change lanes
- Just go wherever that lane takes you and find somewhere safe to turn around later
- SatNav will detect you've gone wrong and will help you get back on track
- Tell somebody where you are going
- Agree a timescale for 'checking in' and remember to park-up before sending a text message
- Remember your personal safety. Keep your doors locked and leave yourself an escape route when you pull up behind another vehicle.

If you have passengers who don't drive, and don't understand the stress you may be feeling, agree some rules about behaviour, and agree that you will pull in for a rest every two hours.

Never be scared to ask your passengers to be quiet for a moment while you navigate a tricky roundabout or need to concentrate while joining a motorway.

J IS FOR JUNCTIONS

A junction is where two or more roads meet, usually with a minor road joining a major road.

There are many types of junctions – including:

- T junction and Y junction
- Junction on a bend
- Roundabout
- Crossroads
- Unmarked and Controlled junctions
- Box junctions.

How to identify a junction?

Road markings

The most common road markings surrounding a typical junction would be a give way line, or a stop line.

The centre line may also change to a hazard line (it becomes longer as you approach the hazard).

This is where the centre line becomes longer, and warns you of a hazard ahead, such as a junction, slip road, roundabout, or a sharp corner, for example.

Road signs

You may also find different signs surrounding junctions.

These could be Give Way signs, Stop signs, warning signs (warning you of the type of junction coming up).

Some signs have a 'thicker' line - this indicates the main road and therefore who has priority.

Road signs & markings help us identify a junction.

We may also look for gaps in houses, gaps in rows of parked cars, and other cars pulling in/out of the junction.

How to deal with a typical junction

A ‘closed’ or ‘blind’ junction means we're unable to see clearly what is on the main road that we're trying to emerge onto.

It could be that the angle of the junction makes it difficult to see, or that houses, trees, or other 'street furniture' is getting in our way.

This may mean we have to take extra precautions and creep out carefully at the junction, to get the best view of the road before emerging fully onto the main road.

Where a junction is ‘open’ - meaning we can see clearly what is coming both ways as we approach the junction - we may not have to stop unless there is a Stop sign.

MSPSL (Mirrors, Signal, Position, Speed, Look)

The MSPSL routine helps students to understand what we need to do on the approach to a junction, and how to deal with junctions safely.

The MSPSL routine works for approaching any junction, roundabout, or hazard.

Mirrors

We would check our middle mirror to tell us what's behind us.

Then our left door mirror if we are turning left.

The right door mirror if we are turning right.

It is best practice to check our mirrors in pairs.

Our middle mirror gives us a 'true' picture of what is behind us.

Our side mirrors are slightly curved (convex), therefore gives us a wider view, however, makes everything look further away.

J IS FOR JUNCTIONS

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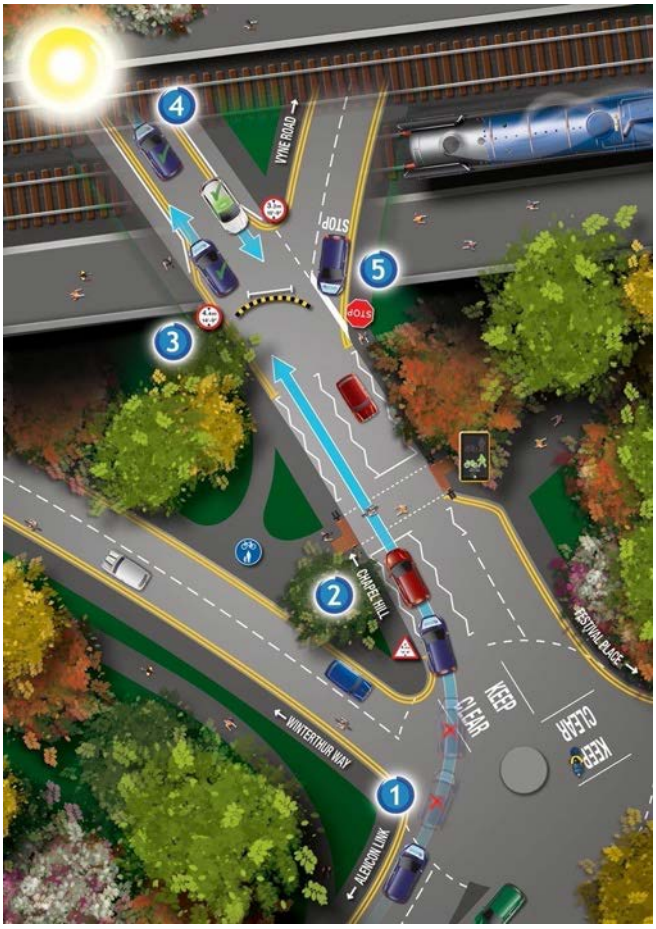

So, we need to take that into account when making decisions as to when to pull out, overtake or turn.

It's also important to think about what you're going to do if, for example, a car is following you closely, or there is a car next to you when you're trying to change lanes.

As you progress in your driving, you will learn the skills of anticipation and judgement - they take time and experience, and your instructor can support you with this.

Signal

Typically, we would indicate left or right. Sometimes if we're following the road ahead, we may not indicate.

It's important that our signals don't confuse other road users - and therefore it's important that we check our mirrors first, to see who's around.

It's also important to understand what a signal is - it could be several things.

A signal is something that shows others our intentions, here are a few examples:

- Indicators - shows where we're going
- Road positioning - shows where we're going
- Brake lights - shows we're slowing down
- Reverse lights - shows we're reversing
- Headlights - warn road users of our presence
- Speed - indicates whether we're likely to turn into a junction.

For example, if we see a car approaching fast with its indicator on, it's unlikely they're going to turn, so we should be cautious of trusting an indicator alone.

Position

Our position can tell another road user where we're going. If there is more than one lane, we can choose the correct lane appropriate for where we're going.

We can use road markings and arrows on the road to help us, and by looking at road signs which may show which lane to choose for different directions.

Even if there is only one lane, our positioning can still be a powerful signal.

If we 'hug' the kerb to the left and follow that kerb round, it would show other road users that we are going to turn left.

If we stay to the right-hand side of our lane, it will show other road users that we are going to turn right.

Speed

Speed is important - it can be a signal to other road users as to where we're going or what we're planning to do.

J IS FOR JUNCTIONS

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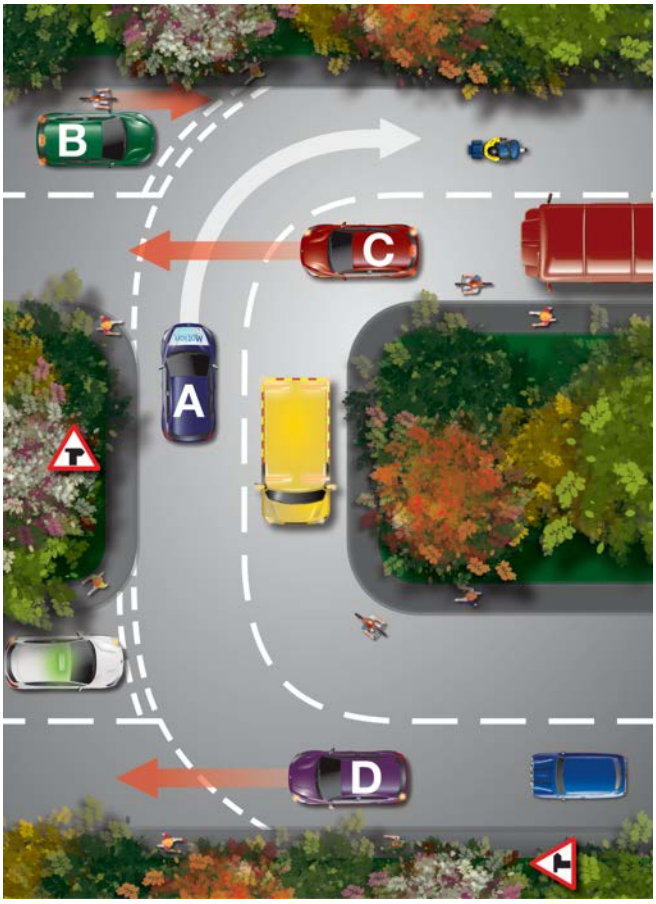


The warning triangle you see in the illustration above, simply means 'T-junction'. Within the diagram the broadest bar has priority, and it is shown to bend right, with the small bar to the left representing a side road.

Vehicle A is simply following the bend while vehicle B is waiting to emerge at a give way line.

Vehicle C wishes to exit the major road they are on into the minor road and although it is physically directly ahead of them the only way they can convey this to vehicles A and B is to give a right signal.

If vehicle C wanted to simply follow the bend in the road, then no signal would be required.

At the base of the illustration is vehicle D indicating to their left to convey their intention to leave the major into the minor side road, as opposed to no signal to follow the road around the bend.

Having our speed under control will really help us control the car when we're making a turn at a junction or a roundabout.

Bringing our speed down not only gives us more control over the car, but also allows us to plan better, and gives us more time to deal with the junction and our surroundings.

Speed and gears are also closely linked together - if we bring our speed down, but fail to change down a gear, we still wouldn't have as much control over the car.

So, it's important to bring our speed down and then choose an appropriate gear for the speed.

How much we bring our speed down would depend on several factors, including:

- How wide or narrow the turn is?
- How many lanes there are?
- How sharp the turn is?
- Whether it's a blind/closed junction?
- Whether it's a give way or stop line, other traffic
- Road conditions
- Weather conditions.

Look

Finally, it's important to look. We need to look out of the junction if we're emerging, to make sure it's safe to turn.

This would include looking left and right at a typical T junction for example.

Even if we were turning left, it's still important to check to the left.

What if there was a vehicle overtaking another vehicle, and was in your lane on the main road?

If we were turning into a junction, it would still be important to look around.

If you're turning right, we need to ensure there are no oncoming vehicles or pedestrians who we need to give priority to, and whenever we turn into a junction it's important to check the road is clear first.

K IS FOR KNOWLEDGE

If we didn't have any knowledge, we wouldn't really be able to drive. Practical experience of driving is fantastic, and clearly useful.

However, if you don't have the knowledge of the road, rules, signs, and markings, you wouldn't be able to drive effectively, safely, or even legally.

Therefore, it's important that we learn new things, and continuously update our knowledge.

Especially as rules can change over time.

It's also important that we have a good understanding of our knowledge.

Again, it's all well and good knowing that the white sign with a black stripe means 'national speed limit' - but what does 'national speed limit' mean?

- What is the national speed limit?
- When would you drive to the national speed limit?
- When wouldn't you drive to the national speed limit?
- What is the difference between a single carriageway and a dual carriageway?

Understanding our knowledge means we can use this together with our practical experience and become an even better, safer, and more responsible driver.

Why do we have a Theory Test?

The theory test is important to show that we have the knowledge and understanding of different topics.

By passing the theory test, it demonstrates you have the knowledge which the DVSA require you to know to be able to drive safely.

You must pass your theory test before you can book and take your practical driving test, however you don't need to have passed your theory test to start learning to drive.

You will pick up knowledge from your practical experience of learning to drive.

The Theory Test

The theory test includes different topics, including two main 'bands':

1. Road Procedure
2. Traffic signs and signals, car control, pedestrians, and mechanical knowledge.

Overall, this incorporates:

- Accidents
- Alertness
- Attitude
- Documents
- Hazard awareness
- Motorway rules
- Road and traffic signs
- Rules of the road
- Safety and your vehicle
- Safety margins
- Vehicle handling
- Vehicle loading and vulnerable road users.

There are two parts to the theory test:

1. Multiple choice questions
2. Hazard perception.

For the multiple-choice questions, you must score 43 out of 50 to pass.

K IS FOR KNOWLEDGE
(CONTINUED)

For the hazard perception section, you must score 44 out of 75 points.

There are 14 video clips with one hazard in each - and in one clip, there are two hazards.

You can score a maximum of 5 points per hazard - so the earlier you see the hazard, the more you score.

If you miss the hazard, or click too many times, you will score 0 for that clip.

Where can I get my knowledge from?

The Highway Code is a valuable resource - this tells us all the legal requirements of driving on the road, as well as other advice and information to help us drive safely and responsibly

The Driving The Essential Skills book is our bible for driving. It is a comprehensive guide, and the 'driving manual'.

The Highway Code and Essential Skills are the two most important books to assist with your learning.

L IS FOR LANE DISCIPLINE

You should always follow lane markings, which are there for 2 reasons:

1. They make the best possible use of road space
2. They guide the traffic.

Keeping to the lane markings is vital.

Position yourself in good time. If you find you're in the wrong lane, don't try to change by cutting across other drivers at the last moment.

Carry on in your lane and find another way back to your route.

Changing lanes

Position your vehicle according to your route.

Always check your mirrors, and if necessary, take a quick sideways glance to make sure that you will not force another road user to change course or speed.

When it is safe to do so, signal in good time and when clear, move out.

- Never weave from lane to lane
- Never straddle 2 lanes
- Never change lane at the last minute
- Always stay in the middle of your lane until you need to change.

In heavy or slow-moving traffic - Don't:

- Change lanes suddenly
- Keep changing lanes
- Straddle lanes or lane markings
- Weave in and out
- Obstruct 'Keep Clear' markings. Check for these in congested, slow-moving traffic, for example, at exits for emergency vehicles.

Allow for:

- Pedestrians crossing
- Cyclists moving up the inside
- Large vehicles needing to straddle lanes before turning
- Motorcyclists turning
- Doors opening.

Driving Ahead

Keep to the left-hand lane wherever possible.

Don't use the right-hand lane just because you are travelling at speed (unless signs or road markings specify that you must use the right-hand lane).

On a carriageway with four or more lanes, don't use the lanes on the right unless signs or markings allow you to do so.

Peak hour 'tidal flow' systems might permit or forbid use of these lanes, depending on the time of day.

Bus and cycle lanes

These are separate lanes shown by signs and road markings.

Do not enter these lanes unless permitted by the signs.

M IS FOR MIRRORS

Using your driving mirrors regularly and sensibly is vital to good driving.

Learning to judge the speed and distance of vehicles behind you takes time.

Try the following exercise when your vehicle is stationary:

Compare the different impressions you get when you view vehicles through the interior mirror and the exterior mirrors.

The vehicles may seem smaller in the exterior mirrors. Then look over your shoulder to get the real view.

Also, while you're stationary, look for blind spots. These are the areas that your mirrors don't always show you.

Which mirror to use

Your use of the mirrors should be linked to the manoeuvre you intend to make and the type of vehicle you are driving.

Normally you should always use the interior mirror first, followed by the exterior ones.

Your use of the exterior mirrors will depend on the manoeuvre and the situation.

For example, before turning left in slow moving traffic, your nearside exterior mirror will help you look for cyclists filtering on your left.

When to use your mirrors

You should always use your mirrors in good time, that is:

- Well before you approach a hazard, slow down, change lane or begin any manoeuvre
- Act sensibly on what you see
- Begin the Mirrors, Signal, Manoeuvre (MSM) routine early.

And always use your mirrors before:

- Moving off
- Signalling
- Changing direction/lane, turning left, right, or overtaking
- Slowing down or stopping
- Opening your car door.

This is one of the few driving rules that is not subject to any exception or qualification, other than in an emergency.

What's behind you? Ask yourself:

- How close is traffic behind you?
- How fast is it moving?
- What's it doing?
- Is the manoeuvre safe?

It's also important to use the mirrors early enough to allow other road users time to react to any signal you need to give.

Use your mirrors to check their reaction.

N IS FOR NIGHT DRIVING

You will find that you're very much more limited by conditions at night.

You can't see as far as you can in daylight, so less information is available.

Problems vary widely with the type of road and amount of traffic.

You need to be aware that you can't safely drive as fast at night as you can in daylight.

This includes driving at dusk or dawn, even in good weather.

Speed at night

Never drive so fast that you can't stop well within the distance you can see to be clear. That is, within the range of your lights.

To enable you to see the greatest distance, you should normally use main beam headlights on unlit roads unless:

- You're following another vehicle
- You're meeting oncoming traffic.

On lit roads you should normally use dipped headlights.

If you can't stop safely within the range of your lights, you're going too fast.

Avoid dazzling others

If you meet any other road user, including cyclists and pedestrians, dip your headlights in good time to avoid dazzling them.

At dusk

You may find it best to put on your lights before lighting-up time.

Don't be afraid to be the first driver to switch on, it's better to see and be seen.

At dawn

The opposite applies.

Don't switch off your lights until you're sure it's safe. Make sure you can see and be seen.

If you are driving a dark coloured car, you should switch on earlier and switch off later.

When you drive with your lights on, other drivers can see you earlier and tell where you are going. This is often difficult in the half-light without lights.

Your eyes at night

You should have your eyesight checked regularly.

Ask yourself, “can I really see as well as I would like?”

If you can't see so well at night, it might be your eyes that are to blame, night driving may be highlighting the need for an eyesight check.

How far can you see?

Test yourself in a suitable place.

Pick an object within the range of your lights and see if you can stop when you reach it.

You'll be surprised how difficult this is with dipped lights on an unlit road and shows that you should take a good look before you dip your lights.

Lighter coloured objects are easier to see at night.

N IS FOR NIGHT DRIVING
(CONTINUED)

Adjusting to darkness

Give your eyes a minute or two to adjust to the darkness, particularly when you're coming out of a brightly lit area or building.

You can always use the time to clean your lights, mirrors, and windscreen.

Remember this when you leave a motorway service area after a rest or refuelling stop.

A clean screen cuts down dazzle.

Don’t:

Wear tinted glasses or sunglasses (unless they are anti-dazzle night glasses)

Spray the windscreen or windows with tints.

O IS FOR OBSERVATION

A skilful driver constantly watches and interprets what's happening around them.

Always drive at such a speed that you can stop safely within the distance you can see to be clear.

A good driver will constantly scan the road ahead and to the side and, by frequent use of the mirrors, be aware of the situation behind.

Look at other road users and assess their:

- Speed
- Behaviour
- Possible intentions.

If you're not observing effectively, you can't assess a traffic situation correctly.

At junctions there's no point in just looking if your view is obstructed, for example, by parked vehicles.

You must also move carefully into a position where you can see without moving out into the path of oncoming traffic.

Look
Assess and
Decide before you
Act.

That's what effective observation is all about.

Approaching a bend - ask yourself:

- Can I see the full picture?
- How sharp is the bend?
- Am I in the right position?
- Is my speed right?
- What might I meet?
- Could I stop if I had to?

Approaching a junction - ask yourself:

- Have I seen the whole junction?
- Can other drivers see me?
- Am I sure that they have seen me?
- Have I got an escape route if they haven't?

It can be difficult to see some other road users, especially when you are emerging from a junction. Those who are particularly at risk are:

Pedestrians:

They frequently cross at a junction and often find it difficult to judge the speed and course of approaching traffic, especially if they are 'plugged-into' their phone.

Cyclists:

They can be difficult to see because they can be easily obscured by trees and other objects, especially if they are riding close to the side of the road or on the pavement. They may be approaching at a higher speed than you expect.

Motorcyclists:

Like cyclists they are often less easy to see than other traffic, but they are likely to be moving much faster than cyclists.

Never rely solely on a quick glance - give yourself time to take in the whole scene.

If another vehicle or a pedestrian is not in your zone of vision, you're not usually in theirs.

Making eye contact with other road users helps you know whether they have seen you.

P IS FOR PATIENCE

It is said that patience is a virtue, and this is certainly true when you are driving.

Sadly, incompetence, bad manners and aggression seem to be commonplace on our roads, but there is no excuse for this type of behaviour when driving.

You shouldn't let bad driving behaviour by other motorists lead to conflict.

If you do, you are well on the way to an accident.

Be prepared to make allowances for someone else's mistakes. In everyone's interest, try to ignore their behaviour.

Don't:

- Drive in a spirit of retaliation or competition
- Use aggressive language or gestures
- Try to teach other road users a lesson, even if they have caused you an inconvenience.

Do:

- Keep calm
- Show restraint
- Use sound judgement.

There is no better lesson than a good example.

Learner Drivers

Be patient if the vehicle ahead of you is being driven by a learner.

They may not be so skilful anticipating and responding to events as a more experienced driver.

Don't:

- Drive up close behind
- Rev the engine
- Become impatient if the other vehicle is slow to move off, anticipate that they may stall
- Overtake only to cut in again sharply.

Expect a learner to make mistakes and allow for them.

Don't harass them, learners may not take the action you expect, and remember, it takes them longer to do things.

Don't forget that we were all learners once.

Drivers who have recently passed their test may be displaying a green 'P' plate or other warning sign.

Older Drivers

Although they have the experience, their reactions may be slower than other drivers.

Make allowances for this.

Q IS FOR QUESTIONS

There are numerous questions that you may have before you start learning to drive.

Below are just a few of the most common things that you will need to consider before you take the step towards 'Driving Independence'.

Not made it to 17 yet?

If you're not yet 17 you can start practising on private land, such as on a farm, but remember that places like supermarket car parks are classed as public roads.

The area must be gated and remote from all public highways.

However, if the land is connected to any form of public highway, then, irrespective of its ownership, it is illegal under the Road Traffic Act for any under-age or unlicensed learner to drive there.

You can also get ahead by applying for your provisional licence three months before your 17th birthday.

And if you're disabled and receiving mobility allowance, you can start at 16.

Check your eyes

There's a minimum standard for driving so it's worthwhile to check your eyesight.

Make sure that you can read a car number plate from the minimum distance.

If you need glasses or contact lenses you must wear them whenever you drive and, of course, when you take your test.

You must be able to read an old-style number plate in daylight from 20.5 metres (67 feet).

The distance for the new-style number plates introduced in September 2001 is 20 metres (66 feet).

Get your ‘L’ Plates

As a learner driver, you must display 'L' plates in a highly visible place on the front and back of the vehicle you're driving.

And until the day you pass the Practical Test, you'll have to display these and drive with someone who has passed their test.

'L' plates must conform to a legal specification, so make sure you buy them rather than making your own.

Whenever the vehicle isn't driven by a learner, you should take off the plates or cover them.

Know your subject

Essential titles, like:

- The Highway Code
- The Official DSA Guide to Driving - The Essential Skills
- The Practical Test for Car Drivers

are a great place to start.

Also, starting to practise your driving theory and hazard perception on an app, PC or DVD could boost your skills and improve your chances of passing both the Theory and Practical Tests.

Apply for your licence

You can apply for your provisional licence quickly and easily online or by completing the D1 application form available at most Post Offices.

The current cost of a first provisional licence is £50.00.

If you apply using the D1 form, you'll need to send documents with it to confirm your identity.

Q IS FOR QUESTIONS

(CONTINUED)

If you're ahead of the game, you can apply for your licence up to three months before your 17th birthday.

But you'll have to wait until you're 17, and you've received and signed your provisional licence, before you can start driving and take your Theory Test.

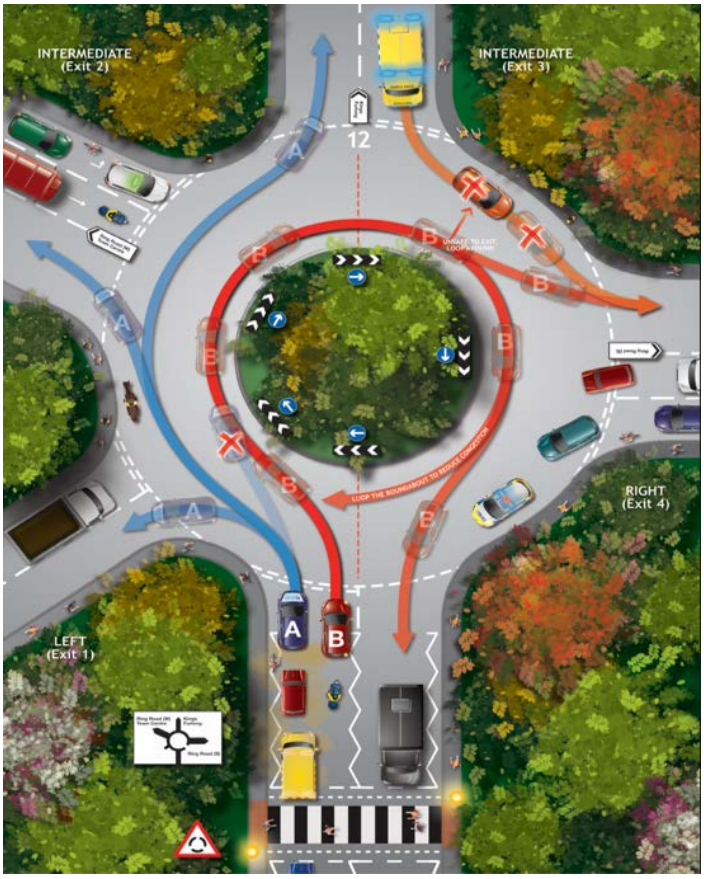
There are various classifications of licence, which authorise what type and size of vehicle you are allowed to drive, and some of the vehicle types require additional accreditation or training.

In general, the minimum age for driving on British roads is:

- 16 years for mopeds
- 17 years for small vehicles and motorcycles, agricultural or forestry tractors
- 21 years for medium/large sized vehicles, minibuses, and buses.

If you already have a full motorcycle licence and you got this before 1 February 2001, you'll still need to take the Practical Test, but you'll be exempt from the Car Theory Test.

R IS FOR ROUNDABOUTS



Roundabouts allow traffic from different roads to merge or cross without necessarily stopping.

Priority

Before you enter a roundabout, you normally give way to any traffic approaching from your immediate right.

However, you should keep moving if the way ahead is clear.

Always use the MSM/PSL:

Mirror, Signal, Manoeuvre, Position, Speed, Look

routine on approach.

Approaching a roundabout

Always look well ahead for the advance warning sign.

At large or complex roundabouts, this will give you a clear picture or the layout of the roundabout, together with route directions.

The sign will enable you to select the most suitable lane in which to approach the roundabout.

Watch out also for advance warnings of appropriate traffic lanes at the roundabout.

These are often backed-up by road markings, which usually include route numbers.

- Get in the correct lane in good time
- Don't straddle lanes
- Never change lanes at the last moment.

Where possible it's a good idea to look across the roundabout and identify the exit you are aiming to take.

This will help you plan the safest course on the roundabout itself.

Procedure

Adopt the following procedures unless road signs or markings indicate otherwise.

Going left (Car A)

- Indicate left as you approach
- Approach in the left-hand lane
- Keep to that lane on the roundabout
- Maintain a left turn signal through the roundabout.

Going ahead (Car A)

- No signal is necessary
- Approach in the left-hand lane. If you can't use the left-hand lane because, for example, it's blocked, or it is a left turn only lane, use the next lane to it
- Keep to the selected lane on the roundabout
- Check your mirrors, especially the nearside exterior mirror
- Indicate left after you have passed the exit just before the one you intend to take.

R IS FOR ROUNDABOUTS
(CONTINUED)

Going right or full circle (Car B)

- Indicate right as you approach
- Approach in the right-hand lane
- Keep to that lane and maintain the signal on the roundabout
- Check your mirrors, especially the nearside exterior mirror
- Indicate left after you have passed the exit just before the one you intend to take.

More than 3 lanes

Where there are more than 3 lanes at the approach to the roundabout, make sure you check the signage on approach and on the road, and keep to your selected lane on approach and on the roundabout.

These 'complex' roundabouts are usually 'lane controlled' which means that you stay in your selected lane throughout, and because they are mainly on faster roads, it can be extremely dangerous to swap lanes.

If you find that you are in the wrong lane, follow your lane around the roundabout and then find a safe place to turn back to approach the roundabout again from a different direction.

Defensive driving

Always keep an eye on the vehicle in front as you're about to enter the roundabout.

Don't assume that the driver in front will keep going. They may stop while you're still looking to the right.

Many rear-end collisions happen this way.

Make sure the vehicle in front has moved away before you move forward.

Hazards

Roundabouts can be particularly hazardous areas. While negotiating the roundabout you should be especially aware of:

Pedestrians

In many areas, zebra or traffic light crossings are located near the entrances and exits to roundabouts.

Even if there are no formal crossings, pedestrians may attempt to cross at these junctions. Always be aware of pedestrians who may be trying to cross the road.

Cyclists

They often keep to the left of the roundabout even when intending to turn right. Take extra care and allow them plenty of room. It is often difficult to see cyclists and motorbikes on a roundabout.

Long vehicles

Because of their length, they might take a different course or straddle lanes as they approach the roundabout and as they go around it.

Watch out for their signals and allow for the rear of their vehicle cutting in.

R IS FOR ROUNDABOUTS

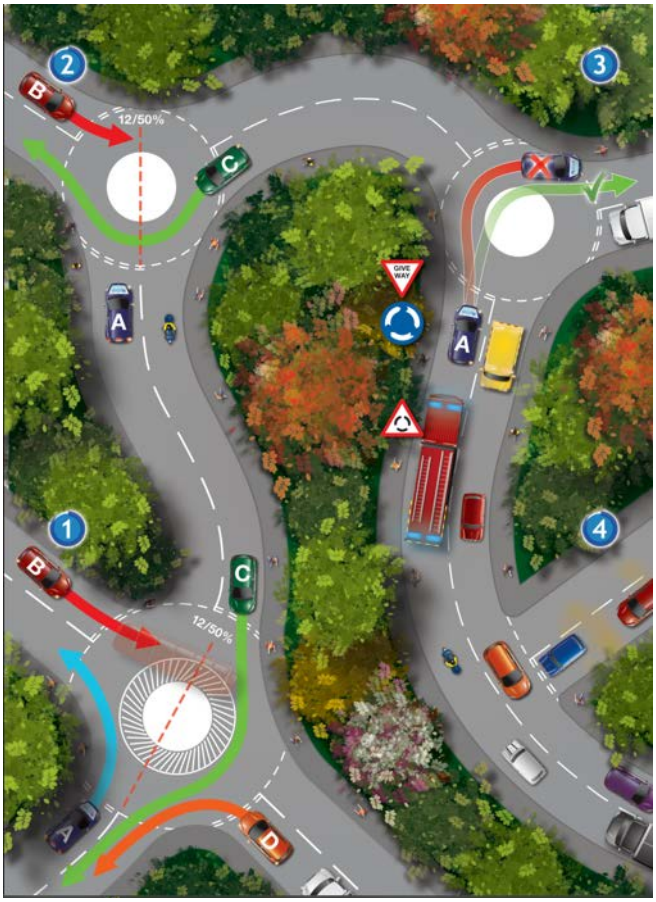
(CONTINUED)

All vehicles

Be prepared for vehicles to cross your path to leave at the next exit. Always be on the lookout for their signals.

Road surface

This can become polished and slippery when wet. Avoid braking and severe acceleration when on the roundabout.



Mini roundabouts

In the illustration above at (1), vehicle A can emerge as vehicle B is to their left and therefore does not have priority over them.

Also, both vehicles C and D are taking paths that do not cross into the left half and therefore will not collide with vehicle A when it emerges.

There is a 'ghost' of a bus to illustrate that we should all pass around the solid white lined centre circle unless your vehicle is too large to do so.

Split the roundabout down the centre into two halves - left half and right half - broken red line.

If any vehicle on the right half is taking a route that crosses your path into the left half, then you need to give way to them.

In other words, give way to any vehicle approaching from your right.

At (2) vehicle A cannot yet move due to vehicle C approaching their right side.

Approach these in the same way as a larger roundabout, slow down and be prepared to give way to traffic from the right.

Remember however, there's less space to manoeuvre and less time to signal.

For example, there's often insufficient time to signal left when leaving.

Vehicles coming towards you might want to turn right. Give way to them.

Be sure any vehicle on the roundabout is going to leave it before you join it.

Beware of drivers who are using the roundabout for a U-turn.

You must pass around the central markings unless you are driving a large vehicle or a trailer, which is physically incapable of doing so.

Try to avoid using a mini roundabout to make a U-turn but be aware that other drivers may do this.

Double mini roundabouts

Treat each roundabout separately and give way to traffic from your right.

Take careful all-round observation before you enter.

Look and assess - keep a good lookout and assess the situation at every roundabout.

Look for direction signs well in advance.

S IS FOR SIGNALS

Signals are normally given by direction indicators and/or brake lights.

It's important that you use the correct signal.

Use signals:

- To let others know what you intend to do
- To help all other road users, including pedestrians
- In good time and for long enough to allow other road users to see the signal and act upon it
- Signal in good time, particularly before:
    - Turning right or left
    - Overtaking another moving vehicle
    - Moving from one lane to another.

Signalling too soon can confuse rather than help, for example, when there are several side roads very close together.

Signalling too late can cause vehicles behind you to brake hard or swerve.

Watch out for situations which call for special timing in signalling.

For example, when you signal to pull up on the left, make sure there isn't a junction just before the place you intend to stop. If you signal left too soon, a driver waiting at that junction might think that you intend to turn left.

Delay signalling until you're in a position where your signal can't be misunderstood.

Unnecessary signals

A signal may not be necessary where there is no-one to benefit from it, or where the signal could confuse other road users.

Consider if a signal is necessary before:

- Moving off
- Pulling up
- Passing stationary vehicles when you can position early and maintain a steady course.

Don't:

- Signal carelessly
- Wave pedestrians across the road
- Fail to check if the signal is cancelled after your movement is completed
- Mislead other road users.

Always use the correct signal.

Remember: Mirrors - Signal - Manoeuvre.

Signalling with brake lights

Brake in good time. If necessary, lightly press the brake pedal early, or more than once, to show your brake lights to traffic behind you.

Flashing your headlights

Flashing the headlights should only be used to warn other road users that you are there.

Avoid flashing your headlights to:

- Instruct other road users
- Reprimand another road user
- Intimidate a driver ahead.

Other drivers flashing their lights

Some drivers flash their headlights for a variety of reasons, including:

- Inviting you to pass before them
- Thanking you for your courtesy
- Warning you of some fault with your vehicle
- Telling you that your headlights are dazzling them.

S IS FOR SIGNALS (CONTINUED)

When other drivers flash their headlights, don't rely on what you think they mean. Use your own judgement, the signal:

- Might not mean what you think
- Might not be intended for you
- Make sure you know their intention before you act on the signal.

Remember, flashing of headlights might not be an invitation.

The other driver might have flashed someone else or have flashed accidentally.

T IS FOR THINKING DISTANCE

Thinking distance depends on how quickly you react.

It takes well over half a second for most people to react.

If you are tired or unwell, it will take longer.

If you are driving at 20 mph, you'll travel about 6 metres (20 feet) before your brakes even begin to act:

- At 30 mph, 9 metres (30 feet)
- At 40 mph, 12 metres (40 feet)

And so on.

Braking Distance

This depends greatly on your speed and the size and weight of your vehicle.

It has even more effect on the overall stopping distance.

At 20 mph, good brakes will stop your vehicle in about 6 metres (20 feet) on a dry road.

At 40 mph (twice the speed), they will take 24 metres (80 feet) - FOUR times the distance.

You need to allow much more time and room to brake in bad weather.

On wet roads allow double the normal stopping distance and ten times where the roads are icy.

Also, your tyres won't grip the road surface so well:

- On loose road surfaces
- If there is any diesel spilt on the road.

In these conditions allow much more time and room to brake.

The Two Second Rule

Far too many accidents are caused by drivers getting too close to the vehicle in front.

It's essential that every driver can judge a safe separation distance in all roads, traffic, and weather conditions.

The safety of you and your passengers depends on it.

In good dry conditions an alert driver, who is driving a vehicle with first class tyres and brakes, needs to be at least two seconds behind the vehicle in front.

In bad conditions, double the safety gap to at least four seconds or even more.

How to measure the Two Second Gap?

Choose an obvious stationary reference point ahead, such as a bridge, a tree, or a road sign.

When the vehicle ahead passes the object say to yourself:

"Only a Fool breaks the two-second rule".

If you reach the object before you finish saying it, you're too close.

Multiple collisions often happen because the drivers involved were driving too close and were unable to brake in time.

You can avoid such accidents by looking well ahead and keeping your distance.

Give yourself time to react.

U IS FOR UNDERSTEER

All vehicles vary in how they behave when turning at various road speeds.

Some respond less than you expect in relation to the amount of turn you give the wheel (understeer). Some respond more (oversteer).

You must get to know the characteristics of your vehicle, before you drive in traffic, and drive extra carefully until you are familiar with its behaviour.

Turning

When turning the steering wheel, avoid crossing your hands except at low speeds.

This can reduce your control and can cause an accident.

Feed the rim of the steering wheel through your hands.

Vary your hand movements according to the amount of lock you want.

This is called the pull-push technique.

To turn left:

- Slide your left hand up the wheel, but not beyond 12 o'clock
- Pull the wheel downwards with your left hand. At the same time, slide your right hand down the wheel against the direction that the wheel is turning
- Grip and push up with your right hand while you slide your left hand up the wheel
- Repeat the second and third steps as necessary.

To turn right:

- Slide your right hand up the wheel, but not beyond 12 o'clock
- Pull the wheel downwards with your right hand. At the same time, slide your left hand down the wheel against the direction that the wheel is turning
- Grip and push up with your left hand while you slide your right hand up the wheel
- Repeat the second and third steps as necessary.

To straighten up after the turn:

Feed the wheel back through your hands in the opposite direction.

Try not to allow the wheel to spin back uncontrolled.

On the open road, hold the wheel at ten-to-two or quarter-to-three, and turn the wheel as necessary to maintain a steady course.

Looking well ahead will help you to avoid straightening up too late.

V IS FOR VISION

The biggest single danger to any driver is being unable to see properly. You won't be able to make the right decisions if you can't see the road clearly.

Always keep your windscreen, mirrors, and windows clean and clear.

Wipers and washers

Make sure your wiper blades are efficient.

Make sure washers are working and keep the reservoir filled. Use an additive, it helps:

- To prevent freezing in winter
- To clear dead insects and smears off the windscreen in summer.

Misting up

Misting up of the mirror and glass inside the car affects your ability to see. Even on a summer's day a sudden shower can make the glass mist up inside.

- Keep a dry cloth handy and clean all inside glass
- Wipe the windows dry before you set out
- Use your demisters. If your car has a heated windscreen, use it early
- Also use your heated rear window to maintain your rear vision
- Open your windows to clear mist, if necessary
- If your car is fitted with air conditioning, this can assist with clearing windows.

Read your vehicle owner's handbook and follow the maker's suggestions for effective heating and ventilation.

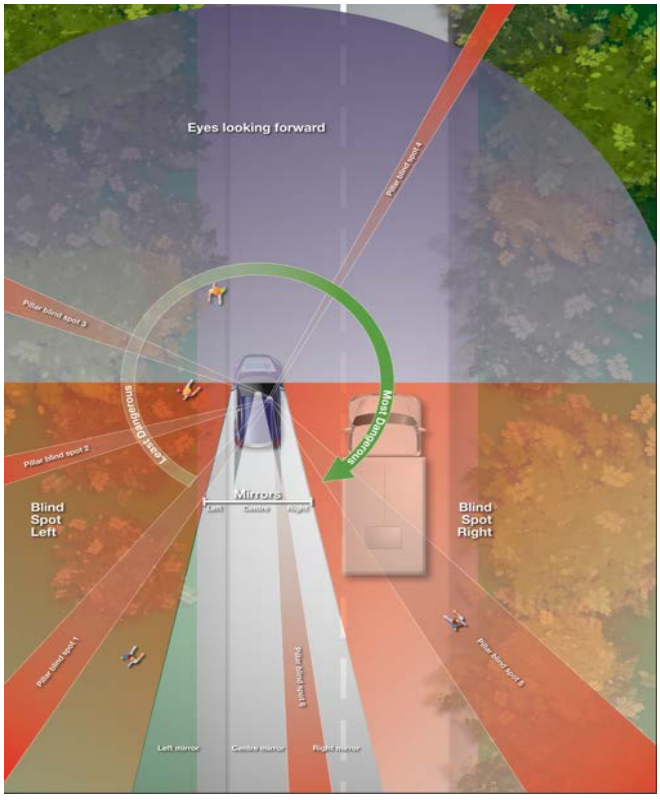
Many anti-mist and anti-frost accessories are available, including:

- Liquid for keeping glass clear
- De-icers
- Prepared cloths
- Electrically heated glass.

Warm, dry air works best, is by the far cheapest and is usually in plentiful supply once the engine has warmed up.

However, when you start from cold, you won't be able to create warm air, use a dry cloth or a chamois leather.

If you have a passenger, ask them to help keep side windows clear, essential when manoeuvring.



V IS FOR VISION (CONTINUED)

Icy weather

If the weather is particularly icy, your windows and screen can be frozen over.

Give yourself plenty of time to clear the screen.

Before setting out, wait until your demister and heater are working well enough to keep the whole of the screen and rear window clear.

Take care not to damage wiper blades, which may have frozen onto the windscreen or rear screen.

Never use boiling water to clear the windscreen, you could break the glass.

Rain

Use dipped headlights in poor visibility (such as rain, drizzle, mist, or very poor light) so that other drivers can see you.

Rain can drastically reduce your view through the windscreen and windows and the outside driving mirrors.

The cleaner the glass, the sooner the wipers can clear the outside of the screen.

Always keep the washer bottle topped up.

Keep your speed down in very wet weather.

Some windscreen wipers are not efficient enough to deal with very heavy rain.

In dirty weather conditions, clean your windscreen, windows, indicators, and lights as often as necessary.

Remember: Whatever the weather, don't drive unless you can see properly all around.

W IS FOR WET ROADS

Stopping Distance

Wet roads reduce tyre grip, so slow down. Give yourself plenty of time and room for slowing down and stopping. Keep well back from other vehicles.

On a wet road, you should allow at least double the stopping distance for a dry road.

After a spell of dry weather, rain on the road can make the surface even more slippery. Take extra care, especially when cornering.

Be aware that different road surfaces might affect the grip of your tyres.

Remember, the less tread on your tyres, the greater the increase in breaking distance.

Consider others: Pedestrians and cyclists can easily get drenched by passing vehicles.

Look well ahead and show consideration by slowing down or giving them more room when it is safe to do so.

Also give cyclists room to pull out to avoid large puddles.

Aquaplaning

A great danger when driving at speed in very wet weather is the build-up of water between the tyre and the road surface.

As a result, your vehicle slides forwards on a thin film of water as your tyres lose contact with the road surface.

Even good tyres cannot grip in this situation. It is called aquaplaning.

A clear indication that you are aquaplaning can be that the steering suddenly feels very light.

When this happens slow down by easing off the accelerator.

Never brake or try to change direction, because when you are aquaplaning, you've no control at all over steering or braking.

The higher speed on a wet road, the more likely you are to aquaplane.

You must keep your speed down and watch for water pooling on the road surface.

Even at lower speeds, if the front and rear tyres on one side of the vehicle hit a patch of deeper water, the vehicle may swerve because the tyres are not gripping the road on that side.

Spray

Another reason for keeping your speed down on wet roads is the amount of water thrown up by other vehicles.

Overtaking or being overtaken by heavy vehicles on a motorway can be an unnerving experience.

If necessary, slow down to increase the distance between you and the large vehicle, remembering to look in your mirrors before you do so.

Sometimes, even working at full speed, wipers can't keep the windscreen clear.

This results in the driver being temporarily blinded to conditions ahead, you may need to slow down.

If water sprays up under the bonnet, it can stop the engine or affect electronic controls.

Dealing with floods

When you must pass through a flood, take your time. Stop and assess how deep the water is. Don't just drive into it.

Sometimes roads likely to flood have depth gauges. Check the depth on these.

W IS FOR WET ROADS

(CONTINUED)

Deep water: If the water seems too deep for your vehicle, turn back, and go around the flood by another road. It might take a little longer, but that's better than finding yourself stranded.

If water is too deep, it could:

- Flood the exhaust causing the engine to stop
- Find its way into the air intake on some vehicles, causing serious engine damage.

Shallow water: If the water is not too deep, drive on slowly but be sure to keep to the shallowest part.

Remember, because of the camber of the road, the water is probably deepest near the kerb and shallowest at the crown.

Driving through floodwater: Drive in first gear as slowly as possible (Blue Car) but keep the engine speed high and steady by slipping the clutch:

- If the engine speed is too low, you might stall
- If you go too fast, you could create a bow wave (Red Car). Water will flood the engine and it could cut out.

Engines and water: Some types of diesel engine will tolerate a certain amount of water, but many modern fuel systems are electronically controlled and are, therefore, affected by water.

All petrol engines can be seriously affected by even small amounts of water being splashed onto the electronic components, such as engine management systems, coil distributor, leads and so on.

Crossing a ford

The depth of water at a ford varies with the weather and is usually greater in winter.

There may even be a depth gauge.

If the water is not too deep for your vehicle, cross using the same technique as you would for a flood.

Remember to test your brakes after you cross. There might be a notice reminding you to do so.

Don't try to displace the water by 'charging' at the ford or flood.

- You could lose control
- Your vehicle will probably stall
- You could end up blocking the road.

Test your brakes

Water can reduce the effectiveness of your brakes, so test your brakes when you have passed through water on the road.

When you've driven safely through, check your mirrors first and then test your brakes.

If they do not work properly, it will help to dry them out if you apply light pressure to the brake pedal while driving along slowly.

Do not drive at normal speed until you are sure they are working normally.

X IS FOR CROSSROADS

Crossroads are often accident black spots, so take extra care, especially on roads carrying fast-moving traffic.

Accidents often involve vehicles turning right.

The procedure when turning at crossroads is much the same as any other junction.

You'll need to assess the crossroads on approach.

So, look well ahead and check for road signs and markings which might indicate priority.

Driving on the major road

- Watch for road signs and markings
- Watch for emerging traffic.

Be especially careful of vehicles trying to cut across, using gaps in the traffic. They may misjudge your speed.

Adjust your speed approaching crossroads.

Turning right

Getting your position and speed correct is vital. Look out for traffic on the road you're joining, as well as on the road you're leaving.

Check your mirrors before starting to turn, especially if you've had to wait.

Turning right when an oncoming vehicle is also turning right

When two vehicles approaching from opposite directions both want to turn right there are two methods that can be used.

Either method is acceptable, but will usually be determined by:

- The layout of the crossroads
- What course the other driver decides to take
- Road markings.

Turning offside to offside

The advantage of this method is that both drivers can see oncoming traffic.

In congested traffic conditions, leave a space for approaching traffic to turn right.

Turning nearside to nearside (Cars A & B)

This method is less safe because the view of oncoming vehicles is not clear.

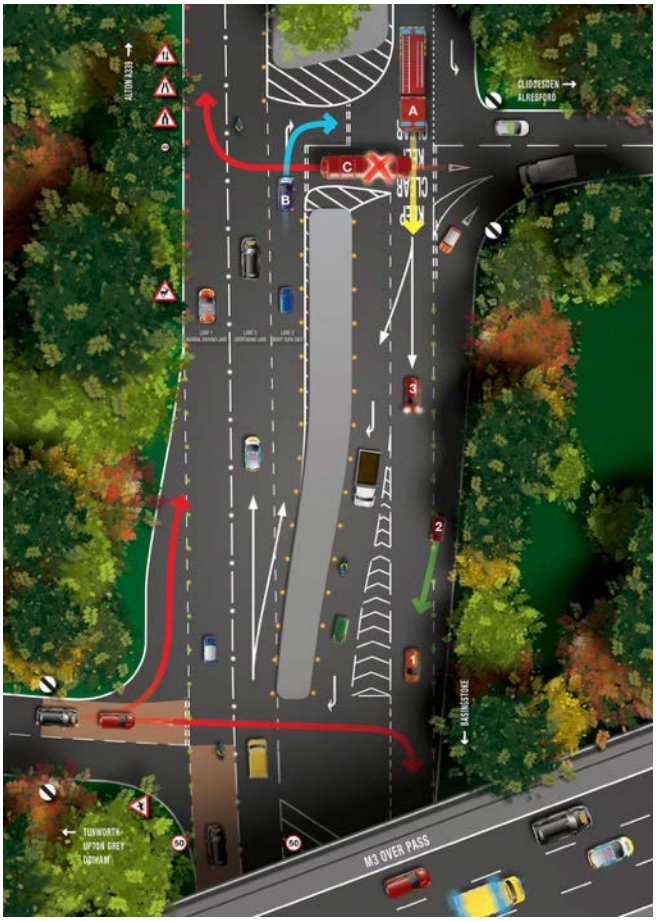
Watch out for oncoming traffic hidden by larger vehicles.

Motorcyclists and cyclists are particularly vulnerable as they would be hidden by any type of vehicle.

Be ready to stop for oncoming vehicles.

X IS FOR CROSSROADS

(CONTINUED)



Above, a Staggered Crossroad with Filter Lanes

Defensive driving

Try to get eye contact with the driver of the approaching vehicle to determine which course is best.

Your speed should allow you to stop if the other driver cuts across your path.

Approaching on a minor road

If you approach the crossroads on one of the minor roads and want to turn onto the major road, if the minor road opposite is clear, you should treat it as if you are emerging from a T-junction.

If you want to turn onto the major road, and another vehicle is approaching the crossroads from the minor road opposite, then:

- If you are turning left or going straight ahead, you should proceed with extra caution and make sure no vehicle from the opposite direction is going to cross your path
- If you are turning right and the other vehicle is going ahead or turning left, you should normally wait for the other vehicle to clear the junction before you make your turn, because you would otherwise be cutting across their path
- If you are turning right and the other vehicle is turning right, you should try to make eye contact with the other driver to establish who should proceed as neither of you have priority.

Unmarked crossroads

Treat unmarked crossroads with extreme caution since neither road has priority.

Priority

Never assume you have priority if there are no signs or markings.

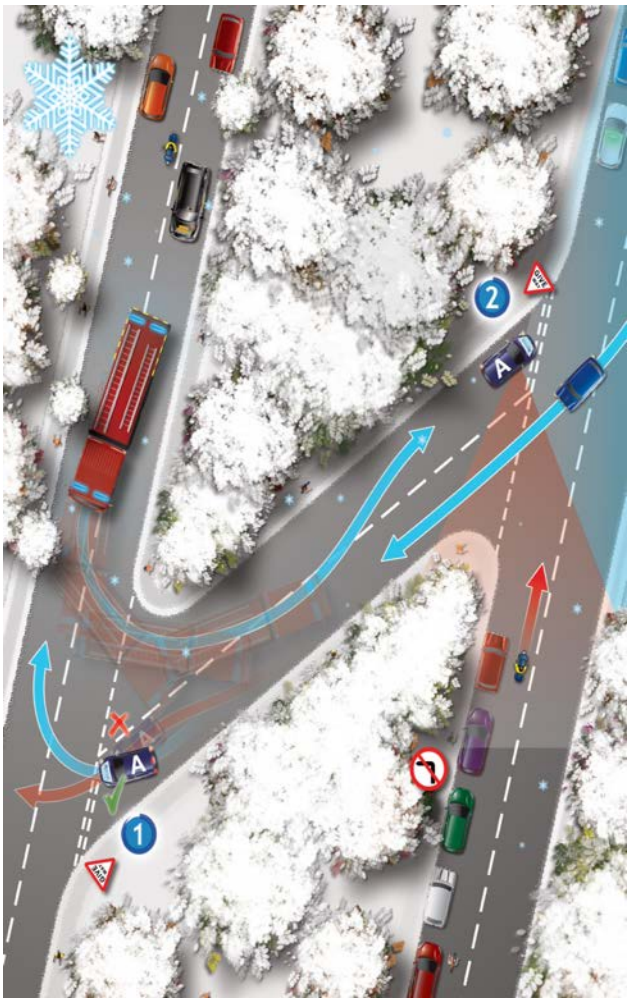
Drivers approaching on other roads might also assume they have priority, and an accident could result.

Proceed only when you're sure it's safe to do so.

Remember, you must LOOK, ASSESS and DECIDE before you ACT.

Take extra care when your view is restricted by vehicles, walls, and hedges, for example.

Y IS FOR Y-JUNCTIONS



Y-junctions can be deceptive because they often call for little change in direction.

Normally, the road going straight ahead has priority and minor roads have either 'Give Way' or 'Stop' signs.

However, there are many exceptions.

Watch out for oncoming vehicles positioned incorrectly.

The drivers might have misjudged the junction.

Going straight ahead on the major road

Look well ahead for road signs and markings

- Watch out for vehicles emerging to turn left or right
- You must not overtake when approaching any junction.

Emerging from a minor road

If the angle of approach to the major road is very sharp and from the right, the view to your left may be restricted.

if you position your vehicle towards the major road at a right angle as you approach the 'Stop' or 'Give Way' lines, you will improve your view.

This is especially important if your vehicle has no rear side windows - a van for example.

At (1) note vehicle A wishing to emerge to their right

Due to the shape of this junction exit the normal positioning just inside the centre hazard line risks them being unable to complete the emerge safely, shown with the red arrow.

Instead, they have positioned at an angle to the centre line, pointing the nose of the car more towards where they wish to end up.

Also note the ghosted fire engine which due to being a long vehicle would require swinging out to take a much wider turn, occupying the opposite side of the road both on approach and upon entry to the side road.

This could result in vehicle A needing to hang back to let the fire engine in before proceeding forwards to the give-way line.

At (2) vehicle A is positioned to emerge left

This time, due to the angle of the junction the driver must consider blind spots created by their centre and ‘A’ pillars and position their head to see around them.

Z IS FOR ZONE OF VISION

Your Zone of Vision is what you can see as you look forward and to the side from your vehicle.

For example, Car (A) cannot see either Car (B) or (4) in the illustration above.

As you approach a junction, your zone of vision onto the other road usually improves.

You may need to get very close before you can look far enough into another road to see if it's safe to proceed.

The last few feet are often critical.

Sometimes parked vehicles restrict your view so much that you need to stop and inch forward for a proper view before you emerge.

Stop, then Peep & Creep forward. Look in every direction before you emerge. Keep looking as you join the other road.

Be ready to stop

Use all information available to you - look through the windows of parked vehicles.

Use reflections in shop windows to observe oncoming traffic.

Screen pillar obstruction

The windscreen pillars can cause obstructions to your view of the road. You should be aware of this effect, particularly when:

- Approaching junctions and bends
- Emerging from junctions
- You should be aware that some 4x4s have very large blind spots - they can obscure groups of pedestrians, a motorcyclist, or a small car.

Other road users

It can be difficult to see some other road users, especially when you are emerging from a junction. Those who are particularly at risk are:

- Pedestrians: They frequently cross at a junction and often find it difficult to judge the speed and course of approaching traffic
- Cyclists: They can be difficult to see because they can be easily obscured by trees and other objects, especially if they are riding close to the side of the road. They might be approaching at a higher speed than you expect
- Motorcyclists: Like cyclists They are often less easy to see than other traffic, but they are likely to be moving much faster than cyclists.

  Think Once, Think Twice, Think Bike.

Z IS FOR ZONE OF VISION

(CONTINUED)

Always make sure it's safe to proceed.

Remember – LSPSM:

Look in your mirrors
Signal to other road users
Position your vehicle
Slow down, then
Manoeuvre.

Never rely solely on a quick glance, give yourself time to take in the whole scene.

If another vehicle or a pedestrian is not in your zone of vision, you're not usually in theirs.

Making eye contact with other road users helps you to know whether they have seen you.