

Smart earners



**Your Smart Route
to Safe Driving...**

Book One

Basic Skills

From SmartDriving

Acknowledgements

Many thanks to all the learner drivers and driving instructors who have taught, and continue to teach, me all I know - without them the SmartLearners project would not have been possible.

Also to my wife Phyl for her endless patience during the development of SmartDriving, SmartLearners and my other projects. J.F.

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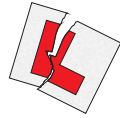
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Smart earners



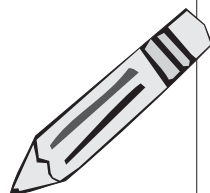
**Your Smart Route
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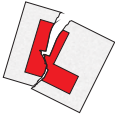
**Book One
Basic Skills**

Introduction

From SmartDriving

Driver's notes:





Introduction

SmartLearners is designed to help you to develop all the skills needed for everyday driving, ranging from slow-speed manoeuvres to high-speed motorway cruising.

But perhaps more important than basic driving skills, **SmartLearners** will help you think about your role as a driver, your responsibilities to yourself and to others who are sharing the road.

It doesn't matter if you've never driven before or if you have already had some driving experience, **SmartLearners** can help you make quick and easy progress towards your driving test and lay the foundations for a lifetime of good, safe driving.



Four steps to success

- Book One helps you to develop your basic car control skills.
- Book Two provides you with a good knowledge of road and traffic procedure.
- Book Three shows you how to use your skills and knowledge in a wide range of everyday situations.
- Book Four gives information about the driving test.
- Book Five offers help and advice about your safety after you have passed your basic driving test.

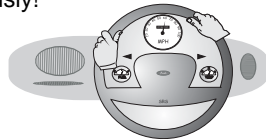
All of the books include information about understanding and dealing with the risks that you will meet on the road.

Structured training

SmartLearners is structured so that you learn new skills in a logical, progressive order. As you work through the course, each new skill will be introduced to build naturally on what you have already learned. However, because everyone is different it is impossible to provide an exact structure for your course; with this in mind, your instructor may vary the order of subjects to suit your needs and/or the local environment.

By using **SmartLearners** in conjunction with your practical training, you will get maximum value, and enjoyment, from every minute that you spend in the car.

Learning to drive, and driving should be enjoyable, but it's also important to remember that driving is a serious business. Sadly, many people are killed or disabled due to a moment's inattention or because someone forgets their responsibilities. Others spend years in prison, simply because of a thoughtless moment. Have fun – but take your driving seriously!



This book is designed as a handy reference that you can read anywhere, any time. In order to gain the maximum benefit from **SmartLearners** you should also prepare for each lesson using the web site resources at: www.SmartLearners.co.uk.

The online course covers all the information in this book, but goes into more detail about each aspect.



Lessons and quizzes

As you work your way through the course you will find a series of Practical Lessons, Quizzes and useful information.

The best and quickest way to learn is by doing your training in small, easy steps. In order to achieve this, ask your instructor what you will be covering next then read the relevant Practical Lesson information and answer the quiz questions (both online and in the book).

The course quizzes are designed so that you can mark them yourself. You won't find a list of answers in the book, or online; all the answers can be found in the **SmartLearners** web material the page before the quiz in this book or in The Highway Code.



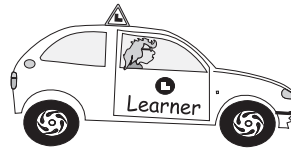
By searching for the answers you will reinforce your learning and accelerate your progress. If you prefer, you can cheat! Look for the answers first. Because of the easy-to-follow way that **SmartLearners** is designed, you will still learn quickly and easily.

Getting the most from your time in the car

You are already finding out how **SmartLearners** has been developed to help you to learn more quickly and to save you money on your practical lessons.

Remember that by reading about your

lesson and completing the quiz questions before you go out in the car, you will gain more benefit from your practice. Reading the same material after you drive will help you to remember and to better understand your positive in-car experiences.



Sometimes, a lesson in your car will include topics from more than one of the Practical Lessons in the course.

Alternatively you might take two or three lessons in the car to master one Practical Lesson from course. There is no fixed rule, every driver is different!

As you work through the book you can keep a record of your progress by signing off each lesson when you become competent.

Signing off is done at two levels:

1. When you cover a new subject for the first time but it is not yet fully mastered.
2. When you can perform the same skill unassisted for two or more lessons in succession.

By signing off your lessons you will ensure that you always have a clear and objective view of where you are in the course and how long it is likely to be before you are ready for your driving test. Your instructor will also keep comprehensive records and ask for your input when recording progress.



How many driving lessons will I need before my test?

You will find lots of people willing to offer advice on this subject. Well-meaning advice and guidance can often mislead.



Advice such as, 'You only need a few lessons to learn the test route' or 'I passed after 10 lessons – nobody needs more than that' can often leave new drivers feeling inadequate. People learn in different circumstances and at different rates; you are an individual and will learn at your own pace.

There is no reliable formula for working out how long it will take to learn to drive; the number of lessons needed varies from person to person. As a general rule, the older you are the longer it takes to learn. However, there are plenty of examples to prove this rule wrong.

No matter what age you are, you should expect to take at least 25 hours' training with a driving instructor and anything up to 60 hours.

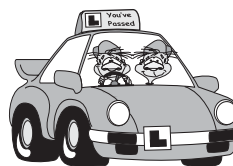
There's an old saying: 'Safe driving is no accident.' Remember, it's not learning quickly that makes a good driver, it's learning correctly.

Choosing your driving instructor

Some people learn to drive with friends and relatives, but as roads get busier it's wise for all learners to have some lessons with a professional instructor.

Make sure that your instructor is a qualified ADI (Driving Standards Agency Approved Driving Instructor), or alternatively a Trainee Instructor who has been licenced by the Driving Standards Agency to gain practical experience before fully completing the qualification process. It is illegal for anyone who is not an ADI to charge a fee for driving tuition.

Fully qualified instructors must (by law) display a green certificate in the windscreen when they are teaching. Trainee instructors display a pink



certificate. The certificates have a photograph of the instructor. Your instructor will guide you carefully through your training and ensure that you are fully prepared to drive safely.

Another valuable reason for taking lessons with an ADI is that you might be able to save money on your motor insurance by taking a post-test Pass Plus course. These courses help to build on your basic driver training and offer valuable experience, including motorway driving.



Practising with friends and family

If you have an opportunity to practise driving with friends or family members between lessons you should take it.



The more driving practice you can get, the quicker you will learn and pass your test.

Although you will learn quicker if you get more practice, I do have a word of warning. When practising with friends or relatives, remember that they are the ones with the experience. Listen to their advice and act upon it.

If the advice given by those who sit with you is different from that given by your instructor, find out why. Get them to talk to your instructor about modern and efficient driving methods. Some instructors run short sessions for supervisors offering advice and tips to help keep your practise productive and stress free.

Down to business

Now you know what to do, it's time to make a start. Take it step-by-step and always let your instructor know if you are not happy with any aspect of your lessons and you may well be surprised at just how easy learning can be.

You are responsible!

There are some important points that you must be aware of before you start to drive.

The first, and perhaps most important of all, is that as a driver you are **legally responsible** for your vehicle, your own safety and the safety of all those around you.

This applies from the very first time you sit behind the wheel even though you are only learning to drive.

This responsibility means that even during driving lessons you could be liable for prosecution if you drive recklessly or dangerously.

It is also your responsibility to ensure that the vehicle that you are driving is roadworthy and that all paperwork is in order (insurance etc.) - even if the vehicle doesn't belong to you.

If you are a young driver and have your own car, ensure that it is correctly insured.

Some parents try to save money by claiming to be the main driver of a son or daughters car - this is illegal, will invalidate your insurance and could lead to prosecution and claims for damages running into £millions.

See the SmartLearners web site for great insurance deals.

Smart learners



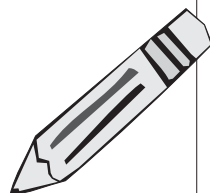
**Your Smart Route
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**Book One
Basic Skills**

Lessons

From SmartDriving

Driver's notes:





Before you start learning to drive

There are some important points that you must be aware of before you start to drive. The first, and perhaps most important of all, is that as a driver you are legally responsible for your vehicle, your own safety and the safety of all those around you. This applies from the very first time you sit behind the wheel even though you are only a learner.



Eligibility to drive

- You must be at least 17 years of age (unless registered disabled).
- You must hold a valid provisional licence for the vehicle that you are learning to drive in.
- You must comply with the conditions of your driving licence.
- You must be accompanied by someone over 21 years of age who has held a full driving licence for a minimum of three years.
- You must be properly insured to drive. If in doubt, check with your insurance company.

Your vehicle

- must be legally roadworthy
- must display a valid road tax disc
- must display clearly visible L plates to the front and rear. (Note that cars displaying L plates in Northern Ireland are restricted to 45 mph.)

Seatbelts and safety

Seatbelts are provided in modern cars to help ensure the safety of the driver and passengers. Seatbelts cannot guarantee your safety – only safe driving can do that. However, they will greatly reduce your risk of serious injury.

You must

- check the anchorages and fittings of your seatbelts and ensure that they are free from all obvious defects;
- wear a seatbelt when driving (unless you have been granted exemption);
- ensure that any passengers aged 14 years and under comply with the requirements to wear a seatbelt or suitable restraint.

Alcohol and the driver

Attempting to drive after drinking alcohol can lead to a lifetime of guilt and misery if you kill another innocent road user. There is no nice way to explain this message. Some people will try to tell you that one or two drinks won't do any harm. Don't listen; drinking and driving can wreck your life and the lives of others.



The only guaranteed safe level of alcohol when driving is none at all. Don't celebrate passing your driving test by losing your licence. **Drinking and driving wrecks lives ...**



SmartLearners quiz

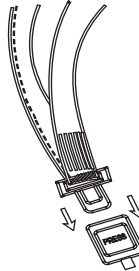
Before you start learning to drive

1 When visiting a friend who has a driving test later in the day, you find that he/she is very nervous. Would you advise your friend to (tick one answer):

- take a few deep breaths and try to relax?
- go for a 10-minute drive alone to boost his/her confidence?
- have a drink to calm the nerves?

2 Who is responsible for ensuring that a 13-year-old boy wears his seatbelt in a car that you are driving (tick one answer)?

- no one – it's up to him
- you, the driver
- the boy's parents



3 Complete the following sentence:

As a driver, I am legally responsible for ensuring that any car I drive is legally r..... , is displaying a r..... t..... disc and is properly i..... for me to drive.

Progress check

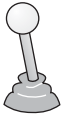


I know and understand my basic responsibilities as a driver.

Signed Date

I am fully aware of the restrictions that are placed on the holders of provisional driving licences.

Signed Date



Cockpit drill

Practical lesson

The cockpit drill is a routine that you will carry out each time you get into the driving seat. The drill is necessary to ensure that you can reach all the controls and that you have a clear view from the vehicle.

The items that you check in your cockpit drill are:

Doors

Make sure that all the car doors, including hatchbacks, are closed properly. This also entails using child locks if you are carrying young children.

Seat

Can you reach the pedals? You should be able to press the pedal on the left (the clutch pedal) down to the floor with your left foot without stretching your leg.

Steering

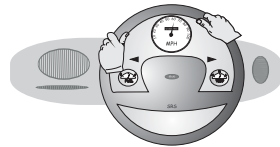
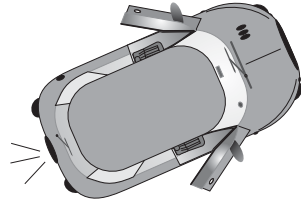
The backrest of your seat and steering height (if applicable) should be adjusted so that you can reach the steering wheel comfortably. Make sure that the head restraint is positioned with the middle part level with your ears.

Seatbelts

All car occupants must wear seatbelts, if they are fitted. As the driver, you are legally responsible for ensuring that seatbelts are worn by children aged 14 and under.

Mirrors

You must ensure that your mirrors are correctly positioned before you start to drive. Adjust the mirrors to give the best possible view behind with minimal head movement when sitting in your normal driving position.



Remember: DSSSM



SmartLearners quiz

Cockpit drill

1 Complete the following words to list the items in the cockpit drill:

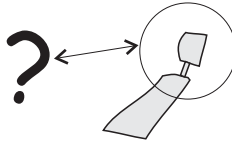
D **S** **S** **S** **M**

2 When checking your seat adjustment, you press down the clutch pedal.
If the seat is correctly adjusted your left leg should be (tick one answer):

- stretched out
- slightly bent

3 Head restraints should be adjusted so that the middle part is level with (tick one answer):

- the base of your neck
- the top of your head
- your ears



4 In some cars you may have to adjust the outside mirrors before you put on your seatbelt.

TRUE

FALSE



Progress check



I can complete my cockpit drill:

with help from my instructor

Signed Date

without help from my instructor

Signed Date



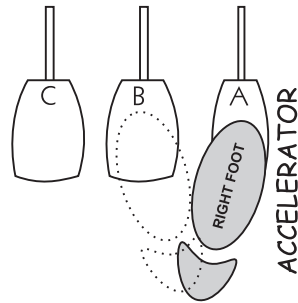
Foot controls

Training notes

Accelerator pedal

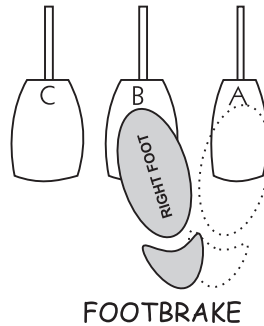
The accelerator is operated by your right foot and controls the power from the engine. When you press the accelerator the engine produces more power to make the car go faster; releasing the pedal reduces the power and will usually slow the car down (unless you are going downhill).

Your instructor may use the term 'gas pedal' when referring to the accelerator. This is done for ease of instruction and understanding – 'more gas', for example, would mean press the pedal a bit harder, 'less gas', a little less.



Footbrake pedal

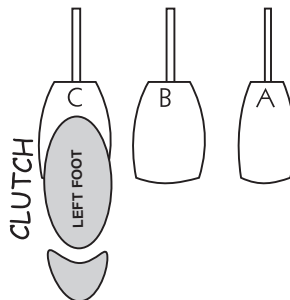
Like the accelerator, you operate the footbrake with your right foot. This pedal operates brakes on all the wheels to slow, or stop, the car. The footbrake also switches on the brake lights at the back of the car so that drivers behind you know that you are slowing down.



Clutch pedal

The clutch pedal is operated with your left foot. When the pedal is pressed down the link between the engine and the driving wheels is broken; this allows you to change gear and stop the car without stopping the engine.

As soon as you have learned the basic skill of moving off and stopping you will learn about 'clutch control'. This is a way of using the clutch pedal to make the car move very slowly and is an essential skill in many driving situations.



? SmartLearners quiz

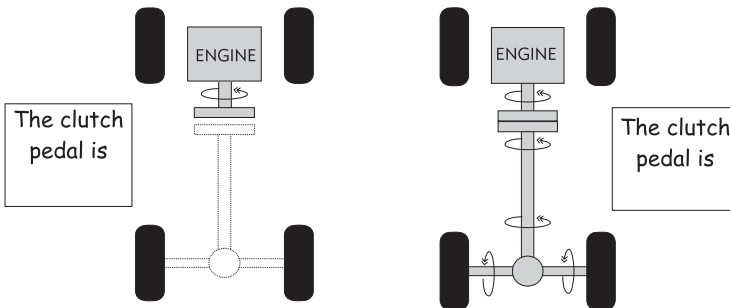
Foot controls

1 Your instructor may use an alternative name for the accelerator; is this (tick one answer):

- the gas pedal?
- the power pedal?
- the speed pedal?

2 When you press the footbrake pedal the car will slow down. What else does the footbrake pedal do?

3 The diagrams below show a simple representation of the clutch. Mark each diagram to show whether you think the clutch pedal is up or down (based upon the information about the clutch on the previous page).



Progress check



I can locate and explain the purpose and use of the foot controls:

with help from my instructor

Signed Date

without help from my instructor

Signed Date

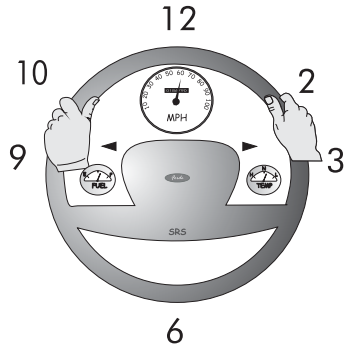


Hand controls

Practical lesson

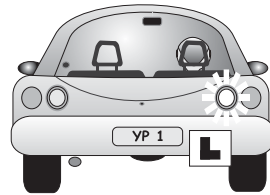
Steering wheel

The steering wheel turns the car to the left or right. One of the best ways to remember where to position your hands on the wheel is to imagine a clock face. Your hands should be horizontally opposite, with your left hand between 9 and 10 and your right hand between 2 and 3. Holding the steering wheel like this will usually give you maximum control over the car, especially in an emergency situation.



Indicator switch

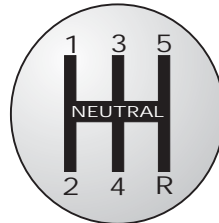
This switch is usually mounted behind the steering wheel and 'fingertip-operated'; it activates the flashing indicators to the front, rear and sides of the car. By using the indicators **before** you change direction, you can show other road users which way you intend to go (signals are covered in detail on pages 41–2).



Gear lever

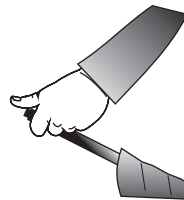
Most cars have four or five forward gears and one reverse gear. The gears are used to drive at different speeds and can be selected by pressing the clutch pedal down and then moving the gear lever to the appropriate position (changing gear is covered in detail on pages 25–6).

Thinking of the gear layout for the first four gears as an **H** shape will help you to remember where they are. The position of reverse gear varies from car to car.



Handbrake

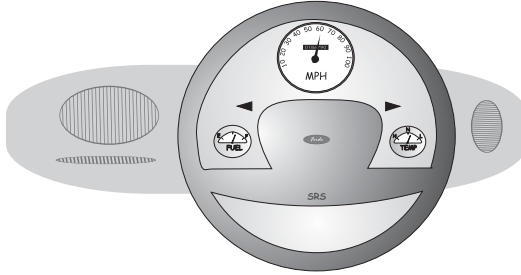
The handbrake is used to secure the car after it has stopped. It might help to think of it as a parking brake. You must never use the handbrake when the car is moving.



? SmartLearners quiz

Hand controls

1 Mark the steering wheel below to show where you would place your hands for maximum control.



2 You should never use the handbrake when the car is moving.

TRUE FALSE

3 The indicator switch is mounted behind the steering wheel; it should be operated by (tick one answer):

- the palm of your hand
- a tight grip
- your fingertips

Progress check

I can explain the purpose of the hand controls. Signed Date

I can use the hand controls with help and/or prompting from my instructor. Signed Date

I can use the hand controls without any assistance. Signed Date



Light switches

Training notes

So many switches!

Your instructor will not cover all the controls when first introducing you to the car. The reasons for this are:

- 1 you would have too much to remember;
- 2 you could easily become bored with so much theory;
- 3 the sooner you can start driving the car the better.

The following controls will be introduced as and when they are needed.

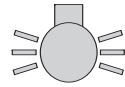
Light switches

Light switches are in different places in different cars. However, they all usually have two positions. The first position switches on the side lights (parking lights). In modern cars the side lights brighten up as soon as the ignition is switched on; this setting, dim-dip, is automatic. Dim-dip lights are considered to be safer than side lights when driving in built-up areas at night because it makes cars easier to see. The second position switches on the headlights (these can be dipped or full-beam).

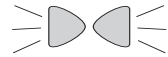
In addition to the main light switch there is a 'dip' switch. This switch is often mounted behind the steering wheel and may be incorporated into the indicator switch. The dip switch allows you to easily change from dipped beam (a short beam that won't dazzle other drivers) to full beam (a long beam for use on clear, open roads).

Other light switches might include front and rear fog lights and spot lights. Front fog lights are primarily for use when driving at night in the fog. They are designed so that the light is not reflected back to the driver (by the moisture droplets in the air) so giving you better vision. You must switch off your headlights when using front fog lights at night in order to gain maximum benefit.

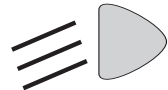
Rear fog lights are high-intensity red lights for use in very poor visibility. Think of your rear fog lights as signals to let other drivers know that you are there. As soon as there is a car close behind, switch them off. You should take great care in the use of these lights as they can dazzle drivers behind you and mask the effect of your brake lights.



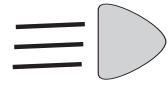
Main light switch



Parking lights



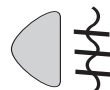
Dipped headlights



Full-beam headlights



Front fog lights



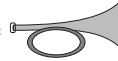
Rear fog lights



Other controls

Horn

The horn is often situated on the same stalk switch as the indicators, but some cars have the horn switch placed in the centre of the steering wheel. You should only use the horn to warn other drivers of your presence. Avoid using the horn when your car is stationary, or at night in a built-up area.



Heater

Most cars are fitted with a heater to keep passengers warm and comfortable. The heater usually has three switches: these control the temperature setting, the 'blower' (fan) speed and the direction of the airflow. By varying the settings of these switches you can control the temperature inside the car.



De-misters

In cold or wet weather the car windows often get misted up. To help avoid this problem your car has a de-mister system. The windscreen de-mister is often an integral part of the heating system. The rear de-mister is usually a series of heated wires that are embedded in the glass of the screen. Although many rear de-misters switch off automatically after a set time period, you should always check to ensure that they are not left on unnecessarily; the high power consumption could drain your car battery.



Windscreen wipers

The front wipers (and washers) are often operated by a fingertip stalk switch behind the steering wheel. Most modern cars have a two-speed setting and an intermittent setting. Rear wipers are sometimes operated by the same switch as the front wipers. However, some cars have a separate switch on the dashboard.



Choke

When a petrol engine is cold, it needs a different mixture of fuel and air to run efficiently. The choke control adjusts this mixture. The choke gets its name because it 'chokes' off some of the air supply to the engine, thus making the petrol mixture stronger.



Hazard warning lights

The switch for the hazard warning lights turns on all the indicators simultaneously; it is usually large and orange. Hazard warning lights are not an excuse for bad parking; they should only be used if your vehicle becomes an obstruction and/or danger on the road.





Rear view mirrors

Practical lesson

Why you need mirrors

When you are driving, you need to know what is happening all around you, all the time. Before making a decision to change your speed or position you must know exactly where the traffic behind you is and how fast it's travelling. This information is essential for safety. If when you check your mirrors you find that there is a problem behind, you may need to change your plans. This forms the basis of the **Mirrors – Signal – Manoeuvre** routine.

Two types of mirror

There are two types of mirror fitted to motor cars – flat and convex. In most cars (but not all) the interior mirror is flat and the door mirrors are convex.

When you see a vehicle in the slightly curved, convex mirror it may seem further away than it actually is. Although convex mirrors give a wider field of view than flat mirrors, the image is slightly distorted. This is why you should always use your interior and door mirrors in conjunction with one another in order to get a true picture of the road behind.



What you can't see in your mirrors

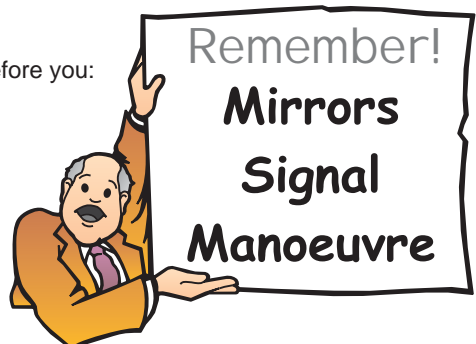
What you can't see in your mirrors is often just as important as what you can see. There are some areas behind that are not visible in your mirrors; these areas are called 'blind spots'. To compensate for this, in some situations you will need to look around over your shoulder in addition to checking your mirrors.



When to use your mirrors

Mirrors should always be used well before you:

- move off
- give a signal
- change your direction
- slow down or stop
- overtake
- open your car door





SmartLearners quiz

Rear view mirrors

1 The following routine is essential for safe driving:

MI RRORS - SI GNAL - MANOEUVRE

TRUE

FALSE

2 Do vehicles following behind appear to be closer or further away when viewed in convex mirrors as opposed to flat mirrors (tick one answer):

nearer?

further away?

3 There are six specific situations in which you must always use your mirrors and four of them are listed below. Fill in the two missing 'mirror' situations.

moving off



.....



changing direction



.....



overtaking

opening your car door

Progress check



I can explain the limitations of mirrors and also how and when they should be used.

Signed Date

I have demonstrated my ability to use my rear view mirrors correctly.

Signed Date



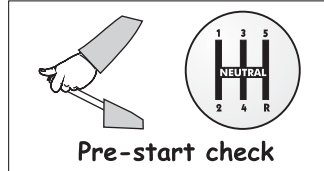
Moving off Practical lesson

The 'prepare, observe, move' routine

This routine provides an easy way to remember the steps needed to safely move away from the side of the road.

Prepare

Before starting the engine you must ensure that the handbrake is on and that the gear lever is in the neutral position.



Clutch down, select first gear.

Press the gas pedal gently and hold it still ('set the gas').

Bring the clutch pedal up to 'biting point' (this is the point at which the engine sound changes) and keep both feet still. The car is now ready to move off but you must first make sure that the road is clear and it is safe to move.

Observe

Check your mirrors and blind spots.
Take special care when signalling your intention to others.



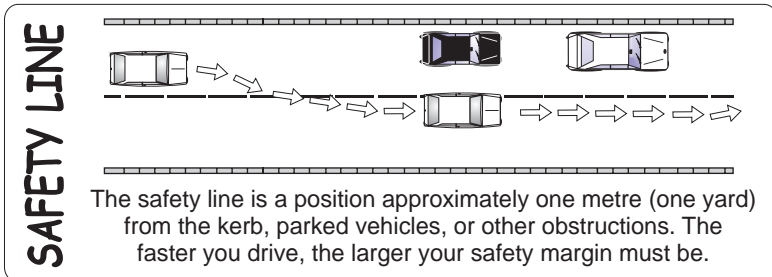
Move

Release the handbrake.

Bring the clutch up gently and when the car moves hold both feet still.

Turn the steering wheel slightly and move out to the 'safety line'.

Gently increase the pressure on the gas pedal and bring the clutch up fully.



? SmartLearners quiz

Moving off

1 Complete the following sentence to define the two checks that you should make before turning the key to start the engine:

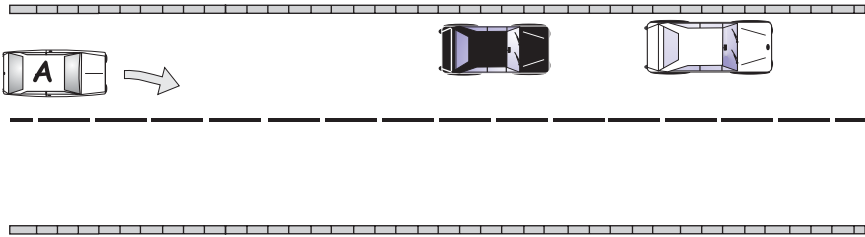
Before I start the engine I always check that the h..... is on and that the g..... l..... is in the neutral position.

2 You should *always* check your rear view mirrors before giving a signal to move off.

TRUE

FALSE

3 Draw a continuous line on the diagram below to show the safety line that car A should follow.



Progress check

I can move off safely and under full control with help from my instructor.

Signed Date

I can move off safely and under full control without help from my instructor.

Signed Date



Lights and instruments

Training notes

Dashboard lights

On your instrument panel there is a range of warning lights. These lights vary from car to car and some cars have more than others. Some of the lights come on as soon as the ignition key is turned to the second position (your instructor will tell you more about this). The lights shown on this page are the most common.

Ignition light: This red light shows that the ignition circuit has been activated. When this light is on all the electrical accessories will work. If this light comes on when the engine is running normally, it indicates that there is an electrical problem.



Oil warning light: If this red light comes on when the engine is running normally, it is a warning of low oil pressure. If you ever get this warning you should stop as soon as possible, or risk severe damage to your engine.



Indicator lights: Some cars have two green indicator warning lights, one each for left and right; others simply have one light to let you know that you are indicating.



Handbrake warning light: This red light shows that your handbrake is applied. If it lights up when you are driving, check that the handbrake is fully released.



Brake warning light: This red light shows a problem with the braking system. In some cars it may be safe to drive slowly to a garage with this light on. Consult your car handbook for advice. If in doubt, park the car and call a mechanic – you might be left with no brakes.



Seatbelt warning light: This red light comes on if you, or one of your passengers, is not wearing a seatbelt.



Full beam warning: This blue light shows when your headlights are on full beam.



Fog light indicators: These lights show when your fog lights are on, usually amber for rear fog lights and green for front fog lights.



Rear screen de-mister: This amber light shows if your rear de-mister is switched on.



Pre-heater light: This is found on diesel-engined cars. You should not start your engine until this light goes out.



Choke warning light: This light (usually amber) shows when the choke is activated.

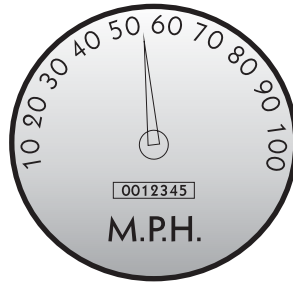




Instruments

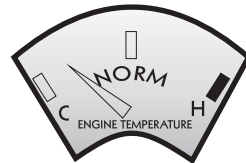
The instruments (or gauges) on your dashboard will give information essential for safe driving.

Speedometer: The speedometer shows how fast the car is travelling. It is usually calibrated in both miles per hour (MPH) and kilometres per hour (KPH). The speedometer also incorporates an milometer (odometer) for logging the total number of miles that the car has covered in its lifetime. Some speedometers also have a 'trip counter' for measuring the length of individual journeys.



Rev-counter: This looks like the speedometer, but instead of showing the speed of the car, it shows the speed of the engine. Rev-counters are normally found in sporty or upmarket cars. The rev-counter helps the driver monitor how hard the engine is working and ensures that there is no engine damage caused by over-revving (making the engine spin too fast). The rev-counter is calibrated in single units, each one representing 1,000 engine revolutions per minute.

Temperature gauge: This shows the engine temperature. Engines are designed to operate at maximum efficiency within a set temperature range. If your engine is too hot or too cold, damage may occur and fuel consumption will increase.

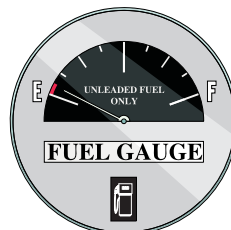


Oil pressure gauge: This has a similar function to the oil light. However, it gives more information, showing a reading for the oil pressure at all times.

Battery charging gauge: This shows how much charge is going to the battery at any given time.

Turbo gauge: In cars with turbo-chargers this gauge shows the amount of turbo 'boost'.

Fuel gauge: The purpose of this gauge should be fairly obvious – it shows how much fuel you have in your tank. You should never let your tank get too low; this can lead to sediment, from the bottom of the tank, causing your engine to run unevenly.





Using the forward gears

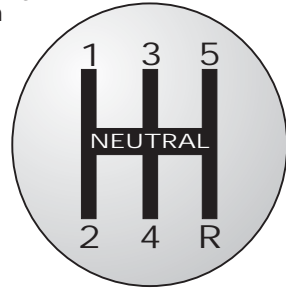
Practical lesson

Why we need gears

Gears are fitted to motor cars so that the driver can use the engine as efficiently as possible. The gears allow the car to be easily controlled in a range of situations, at a range of speeds. The basic rule: change up through the gears as the speed increases, down through the gears when you need more power from the engine and there is not enough power in your current gear.

When do I change gear?

Gear changes are generally made when the car changes its speed range. Each gear has a range of speeds for which it is best suited; when you need to move outside this range, by either driving faster or slower, you change gear.



It is not necessary to change through the gears in any specific order; you can, for example, change directly from fourth to second gear. It is, however, very important to ensure that your speed will match the gear that you select.

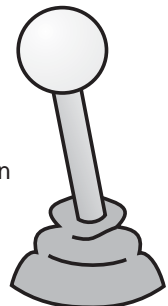
Experienced drivers develop a 'feel' for when to change gear. You will quickly learn to develop this feel (with your instructor's guidance) by listening to the sound of the engine, feeling the vibration of the car or watching a rev-counter.

Making gear changes

The sequence for changing gear is quite easy and will soon become habitual.

Changing up clutch down
release the gas pedal
move the gear lever
clutch up gently
press the gas pedal gently

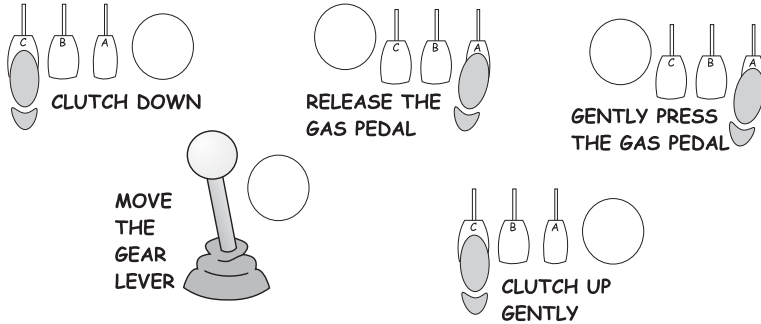
Changing down reduce speed by decelerating or braking
stay off the gas pedal, and press the clutch down
move the gear lever
clutch up gently
press the gas pedal gently



? SmartLearners quiz

Using the forward gears

1 Number each of the steps shown below to demonstrate how you would change up from second to third gear.



2 It is good driving practice to sometimes miss out a gear when making a gear change, for example, by changing direct from fourth to second gear.

TRUE FALSE

3 Mark this diagram to show the position of first, second, third, fourth and fifth gears.



Note: Some cars have only four forward gears and in others – usually high performance sports cars – the positions of the gears may vary slightly

Progress check



I can change through all the forward gears with help from my instructor.

Signed Date

I can change through all the forward gears without help from my instructor.

Signed Date



Stopping the car safely

Practical lesson

How to stop

Just as there is a routine for moving off and changing gear, there is also a routine for stopping.

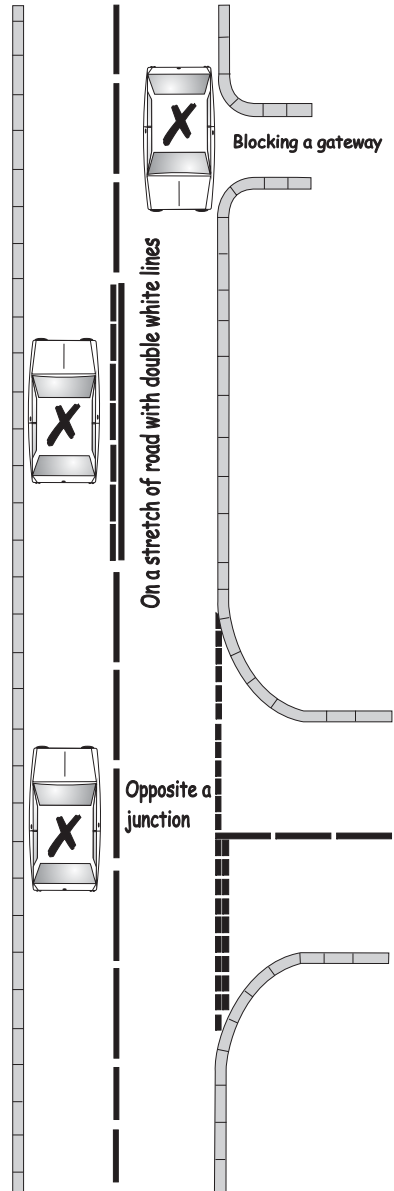
The routine is as follows:

- check your mirrors
- consider the need for a signal and give one if necessary
- foot off the gas
- brake gently
- look well ahead – not down at the kerb
- press the clutch pedal down just before the car stops
- pull on the handbrake **after** the car has stopped
- select neutral **before** releasing the clutch and footbrake
- relax!

Where to stop

The diagram opposite shows some of the places where you should avoid stopping. Whenever you stop, consider if you may be causing inconvenience to others and, of course, make absolutely sure that you are parked legally.

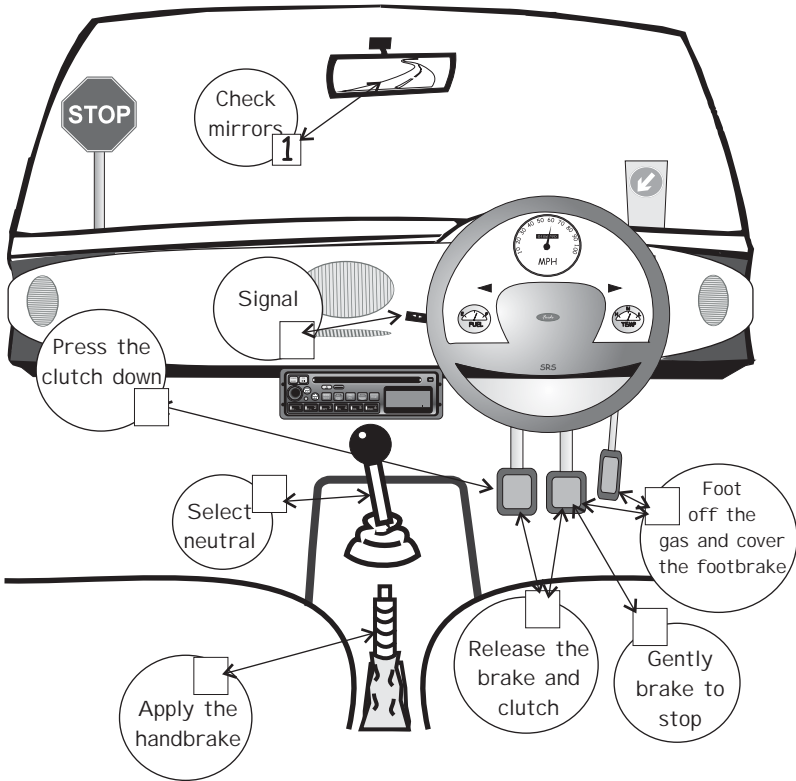
You can find out more about waiting and parking by reading the section entitled 'Waiting and parking' in *The Highway Code*.



? SmartLearners quiz

Stopping the car safely

Number the boxes on the diagram below to show the order in which each action is carried out when stopping. Box number 1 has already been completed for you.



Progress check



I can choose a safe parking place and stop safely with help from my instructor.

Signed Date

I can choose a safe parking place and stop safely without help from my instructor.

Signed Date ...



Steering

Practical lesson

Getting around things

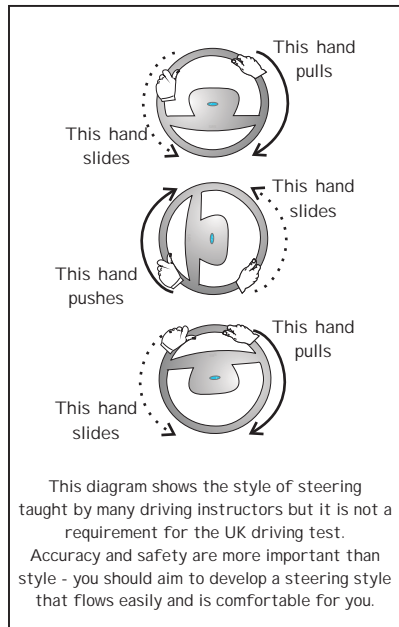
When you have mastered the basics of moving off and initial clutch control you need to be able to steer the car. In order to steer the car effectively it will help if you understand the importance of the link between observation and steering.

In order to steer effectively, your eyes need to send the correct information to your brain so that it can send the appropriate commands to your arms and hands. Bearing this in mind, **the first rule of steering is: look at what you want to hit!** This isn't as silly as it sounds. What it means is: if you want to hit the gaps between obstructions you look at the gaps.

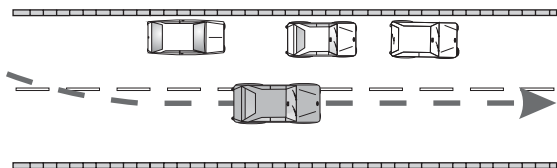
As a pedestrian you will be used to looking about five metres (five yards) ahead. This is fine when walking around at two or three miles per hour. However, when driving a car you are going much faster than this. At 30 mph (walking speed x 15) you will need to look much further ahead. **The second rule of steering is: look well ahead.**

Because there are things happening all round when you are driving (and the scene can change quickly) you need to keep your eyes moving. This is similar to watching a film from the front row of a wide screen cinema. If you don't move your eyes you won't get the big picture. **So the third rule is: keep your eyes moving.**

If you apply the steering rules above you will always follow a safety line (the imaginary line plotting the path of your vehicle ahead). Finally, you must decide where the car is going well before you get there!



Look well ahead to follow an imaginary safety line that will keep you at least one metre (one yard) from the kerb or any obstructions



SmartLearners quiz

Steering

1 When steering you should concentrate on parked cars to avoid hitting them.

TRUE FALSE

2 In order to steer correctly you need to scan the road, looking all around and into the distance. As a minimum, how far should you look into the distance when travelling at 30 mph (tick one answer):

- 30 metres (100 feet)?
- 50 metres (165 feet)?
- 75 metres (245 feet)?

3 What is the safety line (tick one answer):

- a white line used to separate traffic?
- the stopping place at traffic lights?
- an imaginary line projected ahead for safe steering?
- the rope used to secure loads on your roof rack?

Progress check

I can steer the car safely with help from my instructor.

Signed Date

I can steer the car safely without help from my instructor.

Signed Date



Looking after your car

Better driving tips

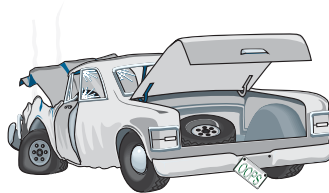
Don't break down!

A breakdown, at best, is an inconvenience, at worst it can leave you stranded in the middle of nowhere, make you late for an appointment, etcetera. In short, breakdowns can leave you vulnerable and create all sorts of problems. The best way to avoid breakdowns is to plan not to break down. You can do this by carrying out a series of quick and easy vehicle checks and by having your car serviced at the regular intervals recommended by the manufacturer. A few minutes each week can greatly reduce the risk of a breakdown. The checks you should make are split into two areas – daily and weekly.

Daily vehicle checks

Every day you should make sure that the following items are clean:

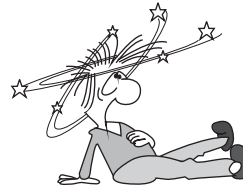
- windows
- mirrors
- lights
- rear red reflectors
- indicators
- number plates



The alternative to good maintenance

Keeping these items clean will mean that you can see other drivers and other drivers can see you! (The law requires that your number plates must be clean and visible at all times.) You should also check the correct operation of the following:

- headlights
- parking lights
- brake lights
- horn
- windscreen wipers
- windscreen washers



What poor maintenance can do for you !!

It is illegal to drive the car with any of the items listed above inoperative.

Tyres: Make a quick visual check of the tyres each day and check the tyre pressures weekly. Walk around the car and look for any obvious tyre damage. Don't wait until your tyre bursts at 60 mph.



Weekly vehicle maintenance exercise

The best way to learn about vehicle checks listed on this page is to do them. Carry out the following checks with help from a friend or relative, using their car, or with your driving instructor. If you have a car of your own, use that. Look at the car's handbook to find out about each check and then make the checks while being supervised. The checks should be repeated every week.

Work through the list, and tick each item after you have checked it.



- Engine oil level** Too much or too little oil can lead to engine damage that may be expensive to repair.
- Engine coolant level** If there is a leak, or if the level is low, the car can overheat and break down – a common but easily avoidable problem.
- Brake and clutch fluid levels** This sounds complicated but it is simply a matter of looking to see how full the relevant reservoir is. If these levels are low you should consult a mechanic.
- Screen-wash level and wiper blade condition** If you check this weekly you should never run out. Dirty windscreens have led to several serious accidents – some fatal. They could have been avoided by this two-minute check.
- Battery electrolyte level** These days most car batteries are maintenance free; if this is the case there are no checks to make. Most calls to breakdown companies are because of flat batteries. A well-maintained battery will last longer and will always start your car.

Tyres: You should also make a detailed inspection of your tyres once a week. This involves checking the tyre pressure, looking for damage on the inside edges (be careful of your hands when doing this in case there is glass or other debris embedded in the tyre) and removing any stones or other material from the tread of the tyre.



By performing your weekly vehicle checks, not only will you be safer on the road, but you will also be keeping your running costs down. Badly kept tyres wear out more quickly, neglected engines use more fuel and break down more frequently. The checks only take a few minutes and can be done at the same time that you wash your car or get fuel.



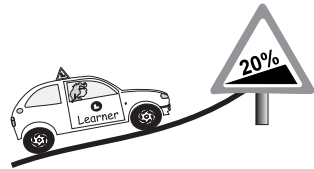
Skill development

Practical lesson

Practice makes perfect

You have now gained a range of basic skills. You need to practise these skills as much as possible before moving on. To help with this practice you will learn to use these skills in different ways with three new manoeuvres:

- uphill starts
- downhill starts
- angle starts



Uphill starts

Uphill starts are similar to level starts; however, you have to make the engine work a bit harder. You do this by using more gas. Because it will take more time to build up speed, you may need a bigger gap in the traffic than you have been used to before starting to move.

Downhill starts

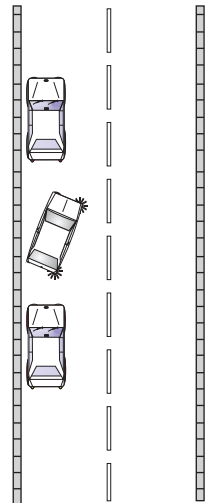
When moving off downhill, gravity provides the power to get the car moving. To take advantage of this you need to press the footbrake **before** you release the handbrake; this will hold the car still. When you release the footbrake the car will start to roll, and you can then bring up the clutch and press the gas pedal (if necessary). If the hill is quite steep it may be appropriate to move off in second gear.



Moving off at an angle

Like the uphill start, this manoeuvre might be tested during your driving test. However, that isn't the main reason for learning it. When you have passed your test you will often have to move out from 'tight' situations. This exercise requires excellent clutch control, and you must ensure that you get all the practice needed to develop this skill.

When moving out at an angle you need to pay particular attention to traffic approaching from both the front and behind. From the front because you may swing into its path, from behind because you will be moving out slowly and other cars will catch up quickly. It is also a good idea to look around at least twice as you move to double check that there is enough room to move out safely.



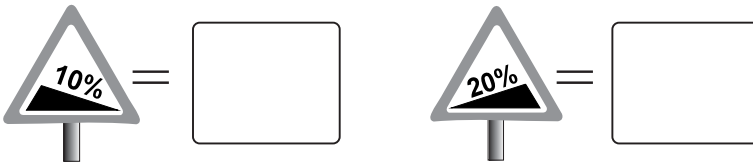
? SmartLearners quiz

Skill development

1 When moving off uphill do you need (tick one answer):

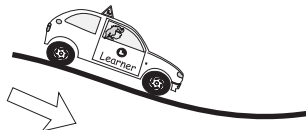
- more gas than on a level road?
- less gas than on a level road?
- the same amount of gas as on a level road?

2 What do these warning signs mean (refer to *The Highway Code*)?



3 At least two of the statements made below about **downhill starts** are correct. Tick the correct statements.

- The handbrake is released before the footbrake.
- You must always use first gear.
- You may sometimes use second gear.
- It is not necessary to press the gas pedal before bringing the clutch up.
- The footbrake is released before the handbrake.



Progress check



I can move off uphill, downhill and from behind a parked vehicle with help from my instructor.

Signed Date

I can move off uphill, downhill and from behind a parked vehicle without help from my instructor.

Signed Date



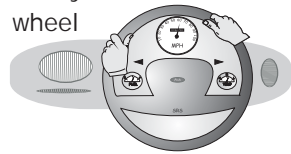
Emergency stops

Practical lesson

Stopping quickly

With the advice given in this book, and a safe and sensible attitude to other road users, you should rarely, if ever, have to make an emergency stop. However, we are all human. You may, at some time over the years to come, have a lapse of attention or meet another road user who suddenly does something that could not have been anticipated. In this situation you will need to be able to stop quickly and safely.

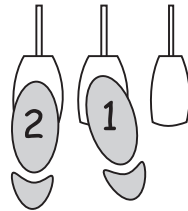
Keep both hands firmly on the wheel



Controlling the car

Control when stopping quickly is easy if you follow the two basic rules below:

- keep both hands on the steering wheel until after the car has stopped;
- press the footbrake **before** the clutch.



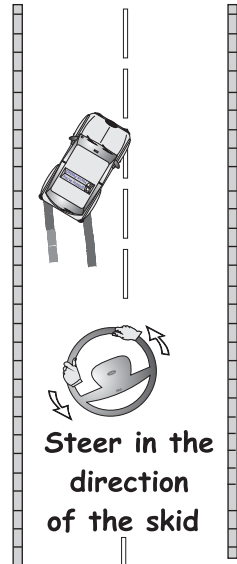
**Brake before
clutch**

Dealing with skids

Skids are caused by driving too fast for the conditions, accelerating too hard, steering roughly or braking excessively. Although skids are more likely in poor weather conditions, you must remember that **you are responsible** for your safety and the safety of others. Always drive to suit the road and weather conditions in order to avoid skids.

Emergency stop skids are caused by excessive braking. If you start to skid, take away the cause by quickly releasing, and then reapplying, the footbrake. By doing this, you will maintain some steering grip at the front wheels and possibly be able to avoid any danger or obstruction ahead.

If the car skids to the left or right, look well ahead and steer for safety. By looking where you want to go (as opposed to where the car is pointing) you will naturally turn the wheel in the direction of the skid; this in turn will straighten the car and help you to regain full control.



? SmartLearners quiz

Emergency stops

1 Which of the following is the correct sequence of actions for stopping in an emergency (tick one answer):

- clutch before brake?
- brake before clutch?
- handbrake and footbrake together?

2 What do these signs mean?

A
 B
 C
 D

3 Which way would you turn the steering wheel to correct this skid?

LEFT RIGHT

4 What is the shortest stopping distance, on a dry road, for a car travelling at 30 mph?

- 12 metres (40 feet)
- 23 metres (75 feet)
- 53 metres (175 feet)

(You will find the answers for questions 2 and 4 in *The Highway Code*)

Progress check



I can stop safely in a simulated emergency with help from my instructor. Signed Date

I can stop safely in a simulated emergency without help from my instructor. Signed Date

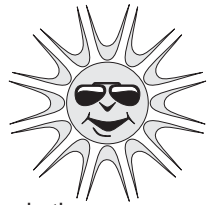


All-weather driving

Better driving tips

Bright sunlight

Although sunshine is normally welcome it can cause severe problems for drivers when it reflects off snow or wet roads. Bright sunlight can reduce visibility as much as thick fog when it shines onto a dirty windscreen.



Be especially careful when driving into morning and evening sun in the spring and autumn. Keep your speed down and be prepared to stop if you can't see the road ahead. Take extra care when entering tunnels or tree-shaded areas on bright summer days. Sunglasses provide the best solution to prevent sunshine dazzle. You can choose from polarised lenses which reduce reflected glare (good for winter sun and bright wet roads), photochromic lenses that get darker as the light gets brighter, or simple tinted lenses.

F-O-G – Foot Off the Gas

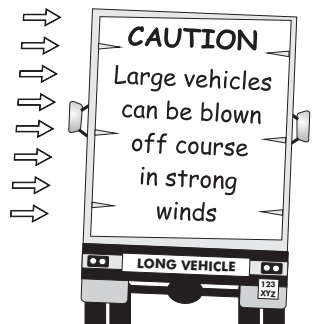
Fog is caused by droplets of moisture in the air. At its worst you can barely see the bonnet of your car. In these conditions it would be extremely unwise to drive.

Always use dipped headlights (or front fog lights) and high-intensity rear lights when visibility is seriously reduced. You must remember, however, that rear fog lights should not be used simply because it is dark, raining, or misty. Never follow close to the tail lights of another vehicle as this would reduce your available stopping distance in an emergency.

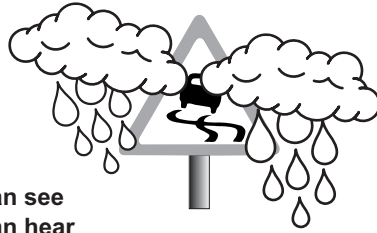
Holding your foot on the brake pedal at junctions will keep the brake lights on; this will help drivers approaching from behind to see you sooner. Open your window at junctions to listen for other traffic, then use your horn and listen for a reply before emerging. Keep your windows and lights clean and use your windscreen wipers and washers often.

Wind

The wind can cause severe problems for road users. Be especially careful when passing gaps on sheltered roads. A gap in the shelter that is offered by walls or hedges can affect cyclists, who may be blown into your path, and people, especially the elderly, who may lose their balance. Gaps in hills or rows of buildings can affect lorries and vehicles with trailers (for example, caravans). Cars travelling at speed can also be unstable in high wind.



Rain



Rain affects three things:  what you can see
 what you can hear
 your grip on the road

What you can see: In wet weather your windows are more likely to mist up; avoid this by using the heater fan to keep air circulating. Windscreen wipers can become overloaded in heavy rain, but leave smears on the screen in light rain; get to know the different windscreen wash and wipe settings for your car to help deal with this. Other vehicles are harder to see in the rain; by using dipped headlights it will be easier for other drivers to see you.

What you can hear: Other vehicles will be harder to hear. This is because of the noise from the rain and from your heater fan; you can make extra visual checks through the side windows and door mirrors to help compensate for this.







Your grip on the road: There are no tyres available that will grip the road equally well in both wet and dry conditions. You can help your tyres (and yourself) by making sure that your tyres comply with the legal tread depth requirements. The tread allows water to be displaced and lessen the chance of aquaplaning, which occurs when a car is driven at speed through heavy surface water; the tyres skim the surface of the water (like a water ski), leaving the driver with little steering and braking control.

Beware! A light shower after a long dry spell in the summer can leave the road as slippery as ice. You will expect to come across ice in the winter – you are less likely to expect an ice-like surface in the summer!

Snow and ice

Perhaps this is the most obvious weather hazard of all. Despite this, many people have accidents in winter conditions every year. Get ready for winter by ensuring that both you and your car are fully prepared. Get your car ready by having it serviced at the start of the cold weather and by keeping a winter emergency kit in the boot (boots, warm clothes, shovel, torch, food, extra fuel can, etcetera).

The basic advice for driving in snow and ice is:

-  don't drive at all if you can avoid it
-  be fully prepared before setting out
-  be gentle with all the controls
-  use the highest gears when driving on snow
-  slow down earlier than normal
-  leave bigger safety gaps all around



About the Author ...

John Farlam entered the driver training industry in 1979.

His main focus of attention is developing the skills of instructor trainers (the people who teach driving instructors) to help to improve the standards of driver training in the UK; his unique methods are gaining momentum within the industry and having a dramatic and positive effect.

With experience training learners, instructors, advanced drivers, skid control and even *blind drivers*, to the development of structured training packages and classroom courses covering all aspects of motoring and driving school operation John is one of the most experienced individuals in the driver training business.

As a well known figure in the business, John's writing featured regularly in the UK driver training industry journals 'Driving School News', 'The PDI Guide' and 'ADI News' from 1993 until 2001. His current articles appear in 'Driving Magazine' and 'The Driving Instructor' and in weekly articles for over 1700 driving instructors.

John's own publications have proved to be popular as have those where he has been consulted for his technical expertise (such as the Haynes Book of Driving).

Underlying all of John Farlam's work there is a strong belief that road safety can be improved through better driver education and by helping people to enjoy their time behind the wheel...

In addition to being a skilled trainer and author, John is also qualified in Counselling, Hypnotherapy and NLP to help further the personal development of his clients.

John says:

"Deep down people know what they should be doing and have the resources to achieve their goals; my job is simply helping them to believe this. As time goes on I continue studying and learning more - the more I learn, the more I can help ...

I am always mindful of a quote from Richard Henry Dann which says:

'He who dares to teach must never cease to learn'

I hope that I never stop learning; and I hope that I never stop teaching!"

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