

Symptom	Probable cause	Remedy
Engine, continued		
Fails to start	Out of fuel	Check gauge
	Damp in electrical circuits	Use anti-damp spray
Starter doesn't operate	Battery discharged (flat)	Charge or change battery
		Jump start
		Push start
Starter or solenoid clicks	Starter motor jammed	Rock vehicle backwards and forwards in gear with ignition off
		Turn 'square' end on starter with a spanner
Overheating	Fan belt snapped or hose leaking	Replace belt or hose
	Fuse blown on electric cooling fan	Tape hose for temporary repair Replace fuse

Maintenance

Check all levels and systems as recommended.

Changing filters and spark plugs at the recommended intervals will help keep your vehicle reliable and prolong its life.

Air filter

Replace the air filter at the intervals recommended by the manufacturer, or sooner if the vehicle is used in exceptionally dusty conditions.

Overhead camshaft engines

On this design of engine it's vital to have the camshaft drive belt (if fitted) replaced at the recommended intervals. Serious damage can be caused to the engine if the belt breaks.



Section fifteen

➔ Breakdowns

This section covers

- Be prepared
- If you break down
- Breakdowns on motorways
- Breakdowns on dual carriageways
- Punctures and blow-outs

➡ Be prepared

Reducing the chances of breaking down

You can reduce the chances of breaking down with preventive maintenance and regular vehicle checks. However, no matter how careful you are, your vehicle can still break down; for example, a puncture or engine problem is always possible.

Knowing how to deal with such a situation efficiently and safely is essential for every driver.

Many breakdowns are the result of

- failing to make the recommended vehicle checks
- poor vehicle maintenance
- harsh use of the vehicle.

Don't drive on, ignoring unusual noises or symptoms. If left uncorrected, a minor problem could develop into a serious fault, making the vehicle dangerous to drive.

Useful equipment

Carry a tool kit in your vehicle. The following items are useful to keep for emergency use or to make essential repairs during your journey.

- a warning triangle (or other permitted warning device)
- spare bulbs and fuses
- a torch
- vinyl tape
- wire
- jump leads
- a tow rope
- pliers
- a plastic container of water.



If you do break down, it's a good idea to wear high-visibility clothing so that you can be seen by other road users. Consider carrying a fluorescent and reflective waistcoat (fluorescent so it can be seen in daylight and reflective so it can be seen at night).

Warning devices

Permitted warning devices

There are various warning devices that you can buy to place on the road to warn other drivers when you've broken down. Don't use any of these warning devices

- on a motorway
- as an excuse to leave your car in a dangerous position.

Advance warning triangles

Advance warning triangles fold flat and don't take up much space in the car. You should carry one and use it to warn other road users if your car is obstructing the highway or is in a dangerous position as a result of a breakdown or a road traffic incident.



Where to position the triangle

You should place the triangle on the road, well back from the car.

- On a straight, level road, put the triangle 45 metres (147 feet) from your vehicle.
- On a winding or hilly road, put the triangle where drivers will see it before they have to deal with any bend or hump in the road.

- On a very narrow road, put the triangle on the nearside verge or footpath.

Always use your hazard warning lights as well as a warning triangle.

Other warning devices

These include traffic cones, collapsible traffic cones and traffic delineators (posts). At least four of any of these should be placed in a line behind your vehicle to guide traffic past. A flashing amber light may be used with any of these warning devices, but may not be used on its own.

Alternatively, a flexible yellow sheet displaying a red triangle can be placed on the vehicle as long as it doesn't obscure the number plate, lights or reflectors.

National breakdown/motoring organisations

By joining a national organisation or taking out breakdown insurance, you'll save a great deal of time and money if you break down.

Most services include an option to take your vehicle and passengers either to your destination or to your home.

The annual fee is usually less than the cost of a single motorway breakdown call-out.

➡ If you break down

As a general rule, brake as gently as possible and pull over as far to the left as possible to keep your vehicle away from approaching traffic.

If the breakdown affects your control of the car

- try to keep in a straight line by holding the steering wheel firmly
- avoid braking severely
- steer gently on to the side of the road as you lose speed.

If possible, get your car off the road and

- use your hazard warning lights to warn others

- keep your sidelights on if it's dark or visibility is poor
- wear high-visibility clothing to help other road users see you if you need to get out of your car
- don't stand behind your vehicle where you might obscure the lights
- use a warning device, particularly if you've broken down near a bend or over the brow of a hill. Don't use one if you've broken down on a motorway.

Keep children and animals under control, and away from the road.

Always take great care when you're placing or retrieving a warning device.

Contact the police if your vehicle is causing an obstruction, and a breakdown service if you're unable to rectify the fault yourself.

Don't

- accept a lift from a stranger, however helpful they may be in the situation
- leave your vehicle for any longer than you really have to.

Drivers travelling alone

You might feel vulnerable if you're travelling alone and you break down – especially on an isolated stretch of road, a dual carriageway or a motorway.

When you telephone for assistance, make it clear to the operator that you're travelling alone. Priority will often be given in these cases.



Being recovered

If your vehicle can't be repaired where it has broken down, it will need to be moved.

There are three options

- being recovered by your breakdown organisation (the best option)
- calling out a local garage (probably the most costly)

- being towed by a friend (the most dangerous – in no circumstances should an inexperienced driver consider this).

If you're being towed, remember that the braking won't be as effective and the steering will feel heavier if the engine isn't running.



Free recovery at roadworks

If you break down on a stretch of road with roadworks, and the road is managed by Highways England, you'll be able to get free recovery if

- there's no access to hard shoulders and lay-bys
- the standard lane widths have been reduced
- the use of emergency telephones has been suspended.

See www.gov.uk/highways for more information.

➡ Breakdowns on motorways

According to a survey by the Highways Agency (now Highways England), 11 200 people ran out of petrol on the English motorway network between April 2010 and September 2011. Before you join a motorway, make sure that you have enough fuel to reach your destination. If you find that you're running low, pull in to the nearest service station rather than risk running your vehicle on an empty tank, as this can lead to dirt and sediment clogging your fuel filter or injectors.

If you know that you're going to need to fill up more than once on your journey, plan ahead by looking at the intervals between service stations on your route. You should be able to find this information online by using station locator and route planner tools. Most satellite navigation (sat-nav) systems will also have service stations marked on their maps.

If you do break down on the motorway, try and reach the next exit or service area. If you can't do this, steer your vehicle onto the hard shoulder as safely as possible, and as far to the left as you can, away from traffic.

When you stop, it's a good idea to have your wheels turned to the left so that, if you're hit from behind, your vehicle isn't pushed onto the main carriageway.

When you stop

Once you've stopped

- switch on your hazard lights to warn other drivers that you've broken down
- make sure your sidelights are on in poor visibility or at night
- don't open the offside doors
- warn your passengers of the dangers of passing vehicles
- keep animals inside
- with your passengers, leave the vehicle by the nearside door away from the traffic. Lock all doors, except the front passenger door
- ask your passengers to wait near the vehicle, but on the embankment away from the hard shoulder

- telephone the emergency services. (Let them know if you're a vulnerable motorist such as a disabled or older person, or are travelling alone or with young children.) If possible, use a roadside emergency telephone, which will pinpoint your position, rather than a mobile phone.

Never

- attempt even simple repairs on the motorway
- place any kind of warning device on the carriageway or hard shoulder.

Disabled drivers

If you have any kind of mobility difficulty, you should stay in your vehicle and

- keep your seat belt fastened
- switch on your hazard warning lights
- display a 'help' pennant or use a mobile phone, if you have one in your vehicle, and be prepared to advise the emergency services of your location.

If you pass a broken-down vehicle displaying a 'help' pennant, you may feel you should do something to help. However, you mustn't stop and approach the vehicle. If you think the incident needs to be reported, you should leave the motorway or dual carriageway at the next exit or service area and report what you've seen, making sure you know the location of the vehicle before you call.

Calling for help

Emergency telephones

These telephones are connected to control centres and are on most stretches of motorway at one-mile intervals.

Look for a telephone symbol and arrow on marker posts 100 metres (328 feet) apart along the hard shoulder.

The arrow directs you to the nearest phone on your side of the carriageway. Walk to the telephone, keeping on the inside of the hard shoulder.

Never cross the carriageway or an exit or entry slip road to reach a telephone or for any other purpose.



Using the emergency telephone

The telephone connects you to a control centre, which will put you through to a breakdown service. Always face the traffic when you speak on the telephone.

You'll be asked for

- the number on the telephone, which gives your precise location
- details of your vehicle and your membership details, if you belong to one of the motoring organisations
- details of the fault.

If you're a vulnerable motorist, such as a woman travelling alone, make this clear to the operator. You'll be told approximately how long you'll have to wait.

Mobile phones

If you're unable to use an emergency telephone, use a mobile phone if you have one in your vehicle.

However, before you call, make sure that you can provide precise details of your location. Marker posts on the side of the hard shoulder identify your location and you should provide these details when you call.



Find out more about what to do if you break down on a motorway at this link.

survivegroup.org/pages/safety-information/stopping-on-the-hard-shoulder



Waiting for the emergency services

Wait on the bank near your vehicle, so you can see the emergency services arriving.

Don't wait in your vehicle unless another vehicle pulls up near you and you feel at risk.

Motorway deaths have been caused by vehicles being driven into people on the hard shoulder. When you're on the hard shoulder you're much more likely to be injured by motorway traffic than suffer a personal attack.



If you're approached by anyone you don't recognise as a member of the emergency services, think carefully before you speak to them.

If they try to speak to you, ask for some identification and tell them that the police or control centre have been told and the emergency services are coming.

A traffic officer or a person claiming to be from the emergency services should have

- an identity card
- your details: your name and information about the breakdown.

Leave your vehicle again as soon as you feel the danger has passed.

If you can't get your vehicle onto the hard shoulder, switch on your hazard warning lights and leave your vehicle only when you can safely get clear of the carriageway.

Rejoining the motorway

Use the hard shoulder to build up speed before joining the other traffic when it's safe to do so. Don't try to move out from behind another vehicle or force your way into the stream of traffic.

Remember to switch off your hazard warning lights before moving off.

➡ Breakdowns on dual carriageways

Some dual carriageways are similar to motorways; they have

- a hard shoulder
- emergency telephones at regular intervals.

Most dual carriageways don't have a hard shoulder. If you break down here, get your car safely away from the road if you can – onto the grass verge or lay-by if there is one.

Don't stop on unprotected lay-bys on dual carriageways if at all possible. Unprotected lay-bys are those where there's no kerbed island between the main carriageway and the lay-by.



Fatal incidents involving stopped vehicles on dual carriageways have happened at unprotected lay-bys. Try to find a protected lay-by if at all possible; you'll be much safer there.

If you have to stop on a grass verge, take care as long grass could be set on fire by the heat of a catalytic converter.

You should also

- use your hazard warning lights
- use your warning triangle or other device – but only if it's safe to do so
- move your passengers to a safe position off the carriageway, well away from the vehicle
- go to the nearest telephone and arrange assistance
- keep animals safely in the car.

➡ Punctures and blow-outs

If your car suddenly becomes unstable or you begin to notice steering problems, you might have a puncture or a blow-out (burst tyre).

Try not to panic.

- Take your foot off the accelerator.
- Don't brake suddenly.
- Try to keep a straight course by holding the steering wheel firmly.
- Stop gradually at the side of the road.
- Get the vehicle away from the traffic (onto the hard shoulder if you're on a motorway).

If you have to move the vehicle, do so very slowly to avoid further damage to the tyre or wheel rim.

On a motorway, never attempt to change a wheel yourself. Always use the emergency telephones to call for assistance.

On all other roads, get the vehicle to a place of safety before attempting repairs or changing the wheel.

Changing a wheel

If you do have to change a wheel and can do so safely, follow this procedure.

- Pull in at the nearest available lay-by or designated parking place. If neither of these options is available to you, then try and stop somewhere that's far enough from the highway to avoid causing a safety hazard. Don't try and change your wheel at the side of the road. If you can't get off the road altogether, use your warning triangle, or any other permitted warning device, to warn other drivers, particularly if you're near a bend. If necessary, wait for assistance.
- Some new cars have puncture repair kits rather than spare wheels. If your car doesn't have a spare wheel as standard, follow the manufacturer's directions to use the kit to provide a temporary fix.

- Don't try and change the wheel on soft or loose ground as jacking up the car on this kind of surface could cause an accident.

- Turn off the engine and make sure that you switch on your hazard warning lights.

- Make sure the handbrake is applied and the car is in first gear.



- Take out the jack and the spare wheel from the car. These are usually stored under the lining in the boot of your vehicle. The spare wheel may be screwed in – if this is the case, then carefully undo the screw bolt and lift the wheel out of the boot.
- Remove the wheel cap.
- Use the wheel nut wrench to slightly loosen the wheel nuts. Most nuts turn anti-clockwise.
- Place the jack underneath a lifting point that's near the wheel that you're removing.
- Turn the jack's handle until the head of the jack is flush against the lifting point. Keep turning until the car is slightly raised. If you need more information about lifting your car with a jack, your manufacturer's handbook should be able to help you.
- Jack up your vehicle until the wheel is raised off the ground. Fully remove the wheel nuts and carefully lift the wheel off the hub.
- Place the spare wheel on the hub, replace the wheel nuts, then tighten each nut by hand. The nuts will normally tighten in a clockwise direction.
- Tighten the top nut first, then tighten the others in a diagonal pattern.
- Lower the jack until your vehicle's wheel is touching the ground. Use the wrench to tighten the nuts until the wheel is fully secured.