

0.6 Roadside repairs

The following pages are intended to help in dealing with common roadside emergencies and breakdowns. You will find more detailed fault finding information at the back of the manual, and repair information in the main chapters.

If your car won't start and the starter motor doesn't turn

- If it's a model with automatic transmission, make sure the selector is in 'P' or 'N'.
- Open the bonnet and make sure that the battery terminals are clean and tight.
- Switch on the headlights and try to start the engine. If the headlights go very dim when you're trying to start, the battery is probably flat. Get out of trouble by jump starting (see next page) using a friend's car.



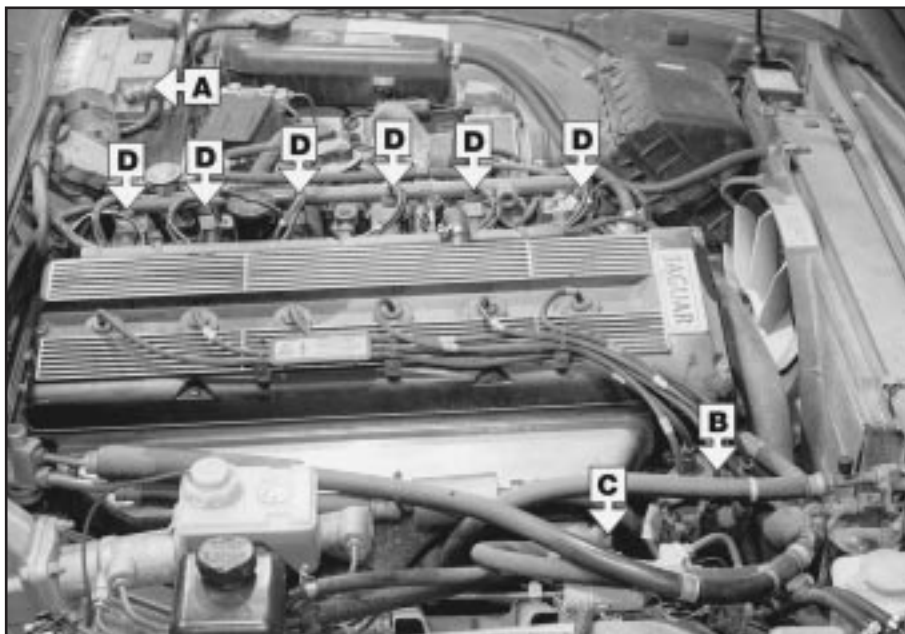
A Check the condition and security of the battery connections.



B Check that the spark plug HT leads are securely connected by pushing them onto the plugs and distributor connections.



C Check that the HT leads and wiring connectors are securely connected to the ignition coil.



Check that electrical connections are secure (with the ignition switched off) and spray them with a water dispersant spray like WD40 if you suspect a problem due to damp



D Check that the wiring connectors are securely connected to the injectors and various fuel system sensors and switches.

If your car won't start even though the starter motor turns as normal

- Is there fuel in the tank?
- Is there moisture on electrical components under the bonnet? Switch off the ignition, then wipe off any obvious dampness with a dry cloth. Spray a water-repellent aerosol product (WD-40 or equivalent) on ignition and fuel system electrical connectors like those shown in the photos. Pay special attention to the ignition coil wiring connector and HT leads.



Jump starting will get you out of trouble, but you must correct whatever made the battery go flat in the first place. There are three possibilities:

- 1) *The battery has been drained by repeated attempts to start, or by leaving the lights on.*
- 2) *The charging system is not working properly (alternator drivebelt slack or broken, alternator wiring fault or alternator itself faulty).*
- 3) *The battery itself is at fault (electrolyte low, or battery worn out).*

Jump starting

When jump-starting a car using a booster battery, observe the following precautions:

- ✓ Before connecting the booster battery, make sure that the ignition is switched off.
- ✓ Ensure that all electrical equipment (lights, heater, wipers, etc) is switched off.
- ✓ Take note of any special precautions printed on the battery case.

- ✓ Make sure that the booster battery is the same voltage as the discharged one in the vehicle.
- ✓ If the battery is being jump-started from the battery in another vehicle, the two vehicles **MUST NOT TOUCH** each other.
- ✓ Make sure that the transmission is in neutral (or PARK, in the case of automatic transmission).



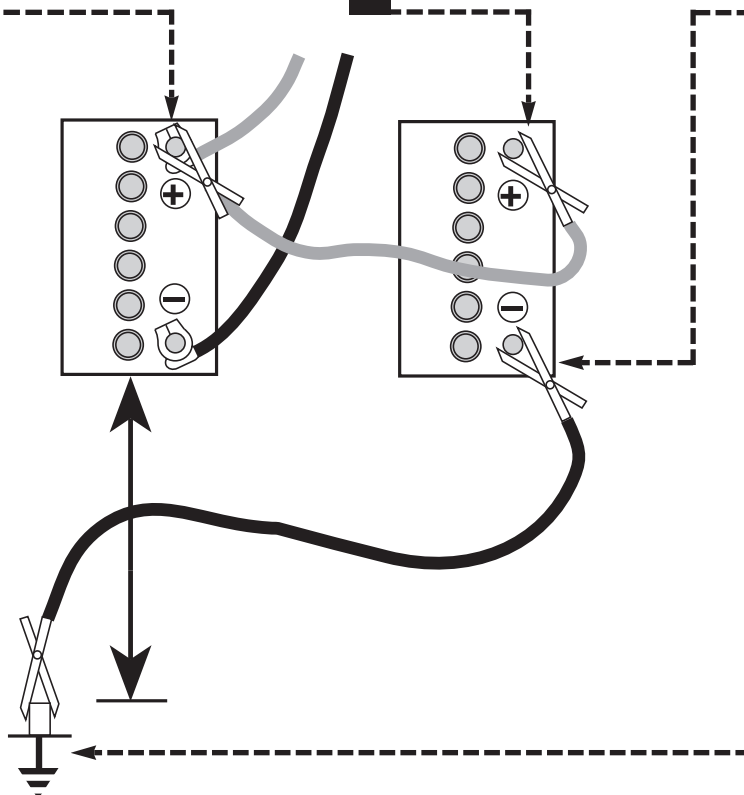
1 Connect one end of the red jump lead to the positive (+) terminal of the flat battery



2 Connect the other end of the red lead to the positive (+) terminal of the booster battery



3 Connect one end of the black jump lead to the negative (-) terminal of the booster battery



4 Connect the other end of the black jump lead to a bolt or bracket on the engine block, well away from the battery, on the vehicle to be started

5 Make sure that the jump leads will not come into contact with the fan, drivebelts or other moving parts of the engine

6 Start the engine using the booster battery, then with the engine running at idle speed, disconnect the jump leads in the reverse order of connection

Wheel changing

Some of the details shown here will vary according to model. For instance, the location of the spare wheel and jack is not the same on all cars. However, the basic principles apply to all vehicles.



Warning: Do not change a wheel in a situation where you risk being hit by other traffic. On busy roads, try to stop in a lay-by or a gateway. Be wary of passing traffic while changing the wheel – it is easy to become distracted by the job in hand.

Preparation

- When a puncture occurs, stop as soon as it is safe to do so.
- Park on firm level ground, if possible, and well out of the way of other traffic.
- Use hazard warning lights if necessary.
- If you have one, use a warning triangle to alert other drivers of your presence.
- Apply the handbrake and engage first or reverse gear (or Park on models with automatic transmission).
- Chock the wheel diagonally opposite the one being removed – a couple of large stones will do for this.
- If the ground is soft, use a flat piece of wood to spread the load under the jack.

Changing the wheel



1 The spare wheel and tools are stored in the boot. Remove the carpet cover then unscrew the retainer and lift out the spare wheel from the boot.



2 Remove the jack and wheelbrace its holder which is located behind the spare wheel.



3 With the vehicle on the ground, remove the trim cap (where fitted) and slacken each wheel nut by half a turn.



4 Remove the plastic cover from the end of the vehicle jack lifting point tube, nearest to the wheel that is being changed.



5 Slide the lifting bracket of the jack fully into the lifting point tube. Make sure the jack is located on firm ground.



6 Raise the jack until the wheel is raised clear of the ground. Unscrew the wheel nuts and remove the wheel. Fit the spare wheel and screw on the nuts. Lightly tighten the nuts then lower the vehicle to the ground.



7 Securely tighten the wheel nuts in a diagonal sequence then (where necessary) refit the wheel trim cap. Stow the tools and punctured wheel and back in the luggage compartment and secure them in position. Note that the wheel nuts should be slackened and retightened to the specified torque at the earliest possible opportunity.

Finally...

- Remove the wheel chocks.
- Check the tyre pressure on the wheel just fitted. If it is low, or if you don't have a pressure gauge with you, drive slowly to the nearest garage and inflate the tyre to the right pressure.
- Have the damaged tyre or wheel repaired as soon as possible.

Puddles on the garage floor or drive, or obvious wetness under the bonnet or underneath the car, suggest a leak that needs investigating. It can sometimes be difficult to decide where the leak is coming from, especially if the engine bay is very dirty already. Leaking oil or fluid can also be blown rearwards by the passage of air under the car, giving a false impression of where the problem lies.



Warning: Most automotive oils and fluids are poisonous. Wash them off skin, and change out of contaminated clothing, without delay.

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The smell of a fluid leaking from the car may provide a clue to what's leaking. Some fluids are distinctively coloured. It may help to clean the car and to park it over some clean paper as an aid to locating the source of the leak. Remember that some leaks may only occur while the engine is running.

Sump oil



Engine oil may leak from the drain plug...

Oil from filter



...or from the base of the oil filter.

Gearbox oil



Gearbox oil can leak from the seals at the inboard ends of the driveshafts.

Antifreeze



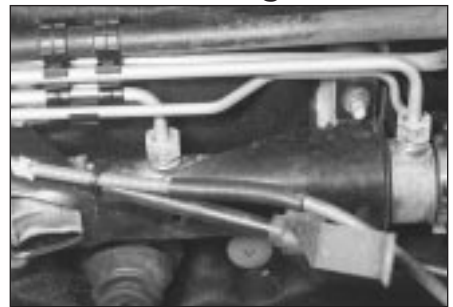
Leaking antifreeze often leaves a crystalline deposit like this.

Brake fluid



A leak occurring at a wheel is almost certainly brake fluid.

Power steering fluid



Power steering fluid may leak from the pipe connectors on the steering rack.

When all else fails, you may find yourself having to get a tow home – or of course you may be helping somebody else. Long-distance recovery should only be done by a garage or breakdown service. For shorter distances, DIY towing using another car is easy enough, but observe the following points:

- Use a proper tow-rope – they are not expensive. The vehicle being towed must display an 'ON TOW' sign in its rear window.
- Always turn the ignition key to the 'on' position when the vehicle is being towed, so that the steering lock is released, and that the direction indicator and brake lights will work.
- Only attach the tow-rope to the towing eyes provided. On some models with energy-absorbing bumpers there are no front towing eyes; on these vehicles the tow-rope should

be attached around the rear arm of the lower control arm so that the rope passes on the inside of the coil spring.

- Before being towed, release the handbrake and select neutral on the transmission.
- Note that greater-than-usual pedal pressure will be required to operate the brakes, since the vacuum servo unit is only operational with the engine running.
- On models with power steering, greater-than-usual steering effort will also be required.
- The driver of the car being towed must keep the tow-rope taut at all times to avoid snatching.
- Make sure that both drivers know the route before setting off.
- Only drive at moderate speeds and keep the distance towed to a minimum. Drive

smoothly and allow plenty of time for slowing down at junctions.

- On models with automatic transmission, special precautions apply. If in doubt, do not tow, or transmission damage may result.

Caution: On models with automatic transmission, if the vehicle is to be towed with its rear wheels on the ground, and extra 1.7 litres of fluid should be added to the transmission, prior to towing (this extra fluid must be drained before driving the vehicle). Even with the extra fluid added to the transmission, do not tow the vehicle at speeds in excess of 30 mph (50 kmh) or for a distance of greater than 15 miles (25 km). If towing speed/distance are to exceed these limits, then the vehicle must be towed with its rear wheels off the ground.

Towing

JAGUAR XJ6

1988 thru 1994 □ All models

49011



Automotive Repair Manual



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