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# CITROËN BERLINGO & PEUGEOT PARTNER

Haynes 4281

1996 to 2005 (**P** to **55** registration) Petrol & Diesel

# Owners Workshop Manual

step-by-step maintenance and repair


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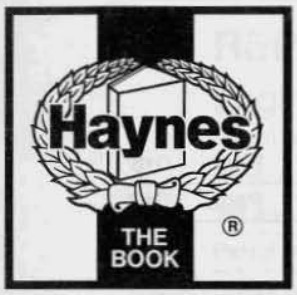


# Citroën Berlingo & Peugeot Partner

## Owners Workshop Manual

John S. Mead

**Models covered** *(4281 - 368)*

Citroen Berlingo Multispace & Van and Peugeot Partner Combi & Van, including special/limited editions
Petrol engines: 1.4 litre (1360cc) & 1.6 litre (1587cc)
Diesel engines: 1.8 litre (1769cc), 1.9 litre (1868cc & 1905cc) & 2.0 litre (1997cc), inc. turbo

*Does NOT cover models with 1.8 litre (1761cc) petrol engines*

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## Advanced driving


Many people see the words 'advanced driving' and believe that it won't interest them or that it is a style of driving beyond their own abilities. Nothing could be further from the truth. Advanced driving is straightforward safe, sensible driving - the sort of driving we should all do every time we get behind the wheel.

An average of 10 people are killed every day on UK roads and 870 more are injured, some seriously. Lives are ruined daily, usually because somebody did something stupid. Something like 95% of all accidents are due to human error, mostly driver failure. Sometimes we make genuine mistakes - everyone does. Sometimes we have lapses of concentration. Sometimes we deliberately take risks.

For many people, the process of 'learning to drive' doesn't go much further than learning how to pass the driving test because of a common belief that good drivers are made by 'experience'.

Learning to drive by 'experience' teaches three driving skills:

- ☐ Quick reactions. (Whoops, that was close!)
- ☐ Good handling skills. (Horn, swerve, brake, horn).
- ☐ Reliance on vehicle technology. (Great stuff this ABS, stop in no distance even in the wet...)

Drivers whose skills are 'experience based' generally have a lot of near misses and the odd accident. The results can be seen every day in our courts and our hospital casualty departments.

Advanced drivers have learnt to control the risks by controlling the position and speed of their vehicle. They avoid accidents and near misses, even if the drivers around them make mistakes.

The key skills of advanced driving are **concentration,** effective all-round **observation, anticipation** and **planning.** When **good vehicle handling** is added to these skills, all driving situations can be approached and negotiated in a safe, methodical way, leaving nothing to chance.

**Concentration** means applying your mind to safe driving, completely excluding anything that's not relevant. Driving is usually the most dangerous activity that most of us undertake in our daily routines. It deserves our full attention.

**Observation** means not just looking, but seeing and seeking out the information found in the driving environment.

**Anticipation** means asking yourself what is happening, what you can reasonably expect to happen and what could happen unexpectedly. (One of the commonest words used in compiling accident reports is 'suddenly'.)

**Planning** is the link between seeing something and taking the appropriate action. For many drivers, planning is the missing link.

If you want to become a safer and more skilful driver and you want to enjoy your driving more, contact the Institute of Advanced Motorists at www.iam.org.uk, phone 0208 996 9600, or write to IAM House, 510 Chiswick High Road, London W4 5RG for an information pack.

Working on your car can be dangerous. This page shows just some of the potential risks and hazards, with the aim of creating a safety-conscious attitude.

# General hazards

## Scalding

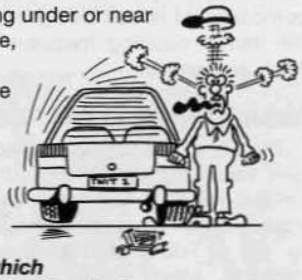
• Don't remove the radiator or expansion tank cap while the engine is hot.
• Engine oil, automatic transmission fluid or power steering fluid may also be dangerously hot if the engine has recently been running.

## Burning

• Beware of burns from the exhaust system and from any part of the engine. Brake discs and drums can also be extremely hot immediately after use.

## Crushing

• When working under or near a raised vehicle, always supplement the jack with axle stands, or use drive-on ramps. ***Never venture under a car which is only supported by a jack.***



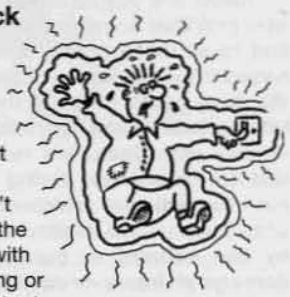
• Take care if loosening or tightening high-torque nuts when the vehicle is on stands. Initial loosening and final tightening should be done with the wheels on the ground.

## Fire

• Fuel is highly flammable; fuel vapour is explosive.
• Don't let fuel spill onto a hot engine.
• Do not smoke or allow naked lights (including pilot lights) anywhere near a vehicle being worked on. Also beware of creating sparks (electrically or by use of tools).
• Fuel vapour is heavier than air, so don't work on the fuel system with the vehicle over an inspection pit.
• Another cause of fire is an electrical overload or short-circuit. Take care when repairing or modifying the vehicle wiring.
• Keep a fire extinguisher handy, of a type suitable for use on fuel and electrical fires.

## Electric shock

• Ignition HT voltage can be dangerous, especially to people with heart problems or a pacemaker. Don't work on or near the ignition system with the engine running or the ignition switched on.



• Mains voltage is also dangerous. Make sure that any mains-operated equipment is correctly earthed. Mains power points should be protected by a residual current device (RCD) circuit breaker.

## Fume or gas intoxication

• Exhaust fumes are poisonous; they often contain carbon monoxide, which is rapidly fatal if inhaled. Never run the engine in a confined space such as a garage with the doors shut.

• Fuel vapour is also poisonous, as are the vapours from some cleaning solvents and paint thinners.

## Poisonous or irritant substances

• Avoid skin contact with battery acid and with any fuel, fluid or lubricant, especially antifreeze, brake hydraulic fluid and Diesel fuel. Don't syphon them by mouth. If such a substance is swallowed or gets into the eyes, seek medical advice.
• Prolonged contact with used engine oil can cause skin cancer. Wear gloves or use a barrier cream if necessary. Change out of oil-soaked clothes and do not keep oily rags in your pocket.
• Air conditioning refrigerant forms a poisonous gas if exposed to a naked flame (including a cigarette). It can also cause skin burns on contact.

## Asbestos

• Asbestos dust can cause cancer if inhaled or swallowed. Asbestos may be found in gaskets and in brake and clutch linings. When dealing with such components it is safest to assume that they contain asbestos.

# Special hazards

## Hydrofluoric acid

• This extremely corrosive acid is formed when certain types of synthetic rubber, found in some O-rings, oil seals, fuel hoses etc, are exposed to temperatures above 400°C. The rubber changes into a charred or sticky substance containing the acid. *Once formed, the acid remains dangerous for years. If it gets onto the skin, it may be necessary to amputate the limb concerned.*
• When dealing with a vehicle which has suffered a fire, or with components salvaged from such a vehicle, wear protective gloves and discard them after use.

## The battery

• Batteries contain sulphuric acid, which attacks clothing, eyes and skin. Take care when topping-up or carrying the battery.
• The hydrogen gas given off by the battery is highly explosive. Never cause a spark or allow a naked light nearby. Be careful when connecting and disconnecting battery chargers or jump leads.

## Air bags

• Air bags can cause injury if they go off accidentally. Take care when removing the steering wheel and/or facia. Special storage instructions may apply.

## Diesel injection equipment

• Diesel injection pumps supply fuel at very high pressure. Take care when working on the fuel injectors and fuel pipes.

***Warning: Never expose the hands, face or any other part of the body to injector spray; the fuel can penetrate the skin with potentially fatal results.***

# Remember...

## DO

• Do use eye protection when using power tools, and when working under the vehicle.
• Do wear gloves or use barrier cream to protect your hands when necessary.
• Do get someone to check periodically that all is well when working alone on the vehicle.
• Do keep loose clothing and long hair well out of the way of moving mechanical parts.
• Do remove rings, wristwatch etc, before working on the vehicle – especially the electrical system.
• Do ensure that any lifting or jacking equipment has a safe working load rating adequate for the job.

## DON'T

• Don't attempt to lift a heavy component which may be beyond your capability – get assistance.
• Don't rush to finish a job, or take unverified short cuts.
• Don't use ill-fitting tools which may slip and cause injury.
• Don't leave tools or parts lying around where someone can trip over them. Mop up oil and fuel spills at once.
• Don't allow children or pets to play in or near a vehicle being worked on.


Designed as a joint venture between Citroën and Peugeot, the Berlingo and Partner were introduced into the UK in 1996 as purpose-built Vans available in 600kg or 800kg payloads. To increase the appeal of the range, the Berlingo Multispace MPV was introduced in mid-1998. The Multispace is mechanically identical to the Van version but with the addition of rear seats, side windows and additional interior trim. Initially, all models were available only in three-door format, but in mid-1999, the option of a sliding side door on the right-hand side was added. The Peugeot MPV version, known as the Partner Combi, joined the model line-up for the 2001 model year, which also saw the introduction, on all models, of a second sliding side door for the left-hand side.

In the autumn of 2002, the entire range underwent a major facelift, with significant styling changes to the front bumpers, headlights, bonnet and front wings, together with numerous mechanical and electrical revisions.

During the production run a variety of petrol and diesels engines have been offered according to model and year of production. These include 1.4 litre (1360cc), and 1.6 litre (1587cc) petrol engines, and 1.8 litre (1769cc), 1.9 litre (1868cc &1905cc) and 2.0 litre (1997cc) diesel and turbo-diesel engines. A 1.8 litre (1761cc) petrol engine was also available for a limited period on early models, but is not covered in this manual. The engines are all of four-cylinder single- or double-overhead camshaft design and are versions of the well-proven units which have appeared in many Citroën and Peugeot vehicles over the years. All engines are fitted with a manual transmission as standard and are mounted transversely at the front of vehicle, with the transmission mounted on the left-hand end.


The front suspension is of the fully-independent MacPherson strut type, incorporating shock absorbers, coil springs and an anti-roll bar. The rear suspension is derived from the Peugeot 405 range and is of the semi-independent type with torsion bars and trailing arms. Rack-and-pinion steering gear is used with power assistance available on most models.

A wide range of standard and optional equipment is available within the range to suit most tastes, including power steering, central locking, engine immobiliser, electric windows, electric sunroof and airbags. An anti-lock braking system and air conditioning system are also available as options, or standard equipment on certain models.

Provided that regular servicing is carried out in accordance with the manufacturer's recommendations, the vehicle should prove reliable and very economical. The engine compartment is well-designed, and most of the items requiring frequent attention are easily accessible.

## Your Owner's Manual

The aim of this manual is to help you get the best value from your vehicle. It can do so in several ways. It can help you decide what work must be done (even should you choose to get it done by a garage), provide information on routine maintenance and servicing, and give a logical course of action and diagnosis when random faults occur. However, it is hoped that you will use the manual by tackling the work yourself. On simpler jobs it may even be quicker than booking the vehicle into a garage and going there twice, to leave and collect it. Perhaps most important, a lot of money can be saved by avoiding the costs a garage must charge to cover its labour and overheads.

The manual has drawings and descriptions to show the function of the various components so that their layout can be understood. Tasks are described and photographed in a clear step-by-step sequence.

References to the 'left-hand' and 'right-hand' sides of the vehicle are always in the sense of when viewed by a person sat in the driver's seat, facing forwards.

## Acknowledgements

Thanks are due to Draper Tools Limited, who provided some of the workshop tools, and to all those people at Sparkford who helped in the production of this Manual.

**We take great pride in the accuracy of information given in this manual, but vehicle manufacturers make alterations and design changes during the production run of a particular vehicle of which they do not inform us. No liability can be accepted by the authors or publishers for loss, damage or injury caused by errors in, or omissions from, the information given.**

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.

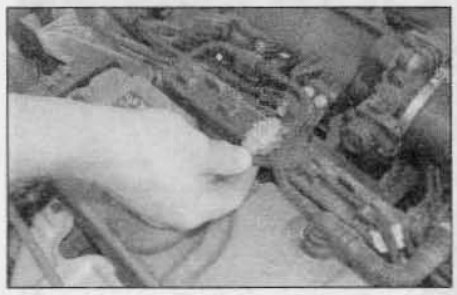
## If your car won't start and the starter motor doesn't turn

- ☐ 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.

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

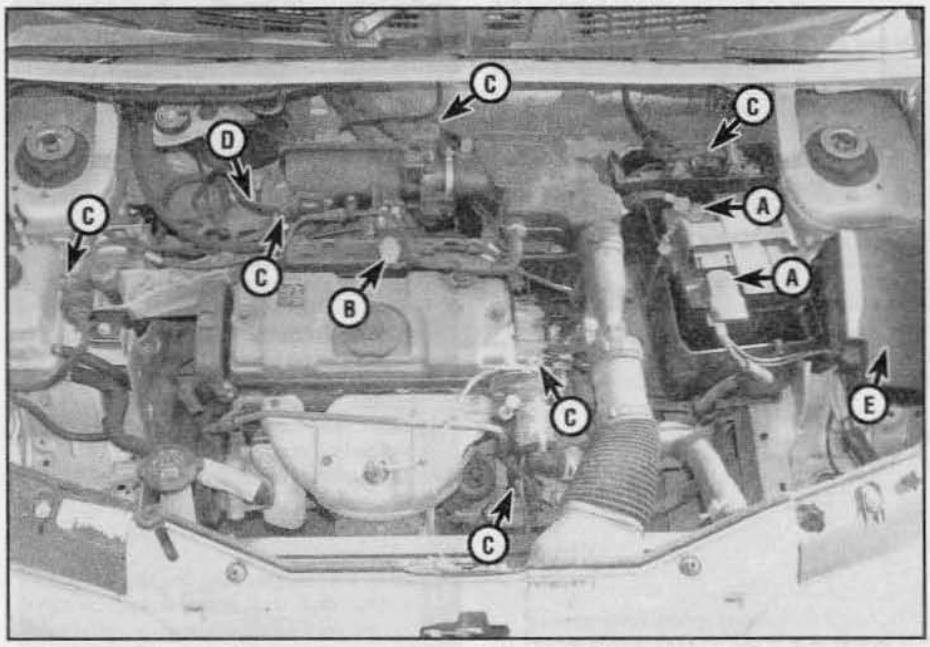
- ☐ Is there fuel in the tank?
- ☐ Is there moisture on electrical components under the bonnet? Switch off the ignition, then wipe off any obvious dampness with a dry cloth. Spray a water-repellent aerosol product (WD-40 or equivalent) on ignition and fuel system electrical connectors like those shown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

A Check the security and condition of the battery connections.

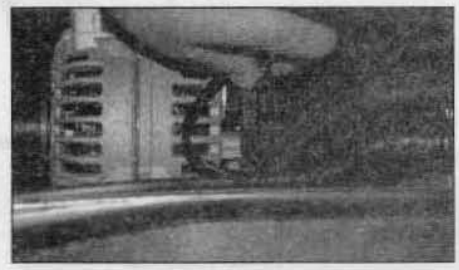


B On petrol engines check that the ignition HT coil wiring connector is securely connected (1.4 litre petrol model shown).

C Also check the security of the wiring connectors at the various engine management sensors such as the coolant temperature sensor.




Check that all electrical connections are secure (with the ignition switched off) and spray them with a water-dispersant spray like WD-40 if you suspect a problem due to damp.



D Check that the alternator wiring connectors are securely connected.

E Check that all fuses are still in good condition and none have blown.

# 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).

**HAYNES HiNT** ***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.***

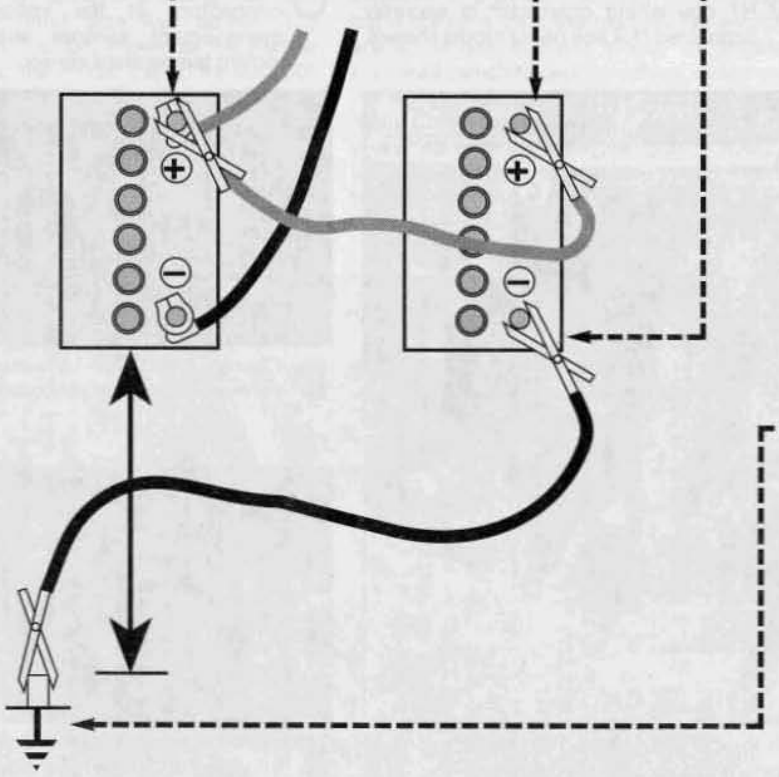
***2 The charging system is not working properly (alternator drivebelt slack or broken, alternator wiring fault or alternator itself faulty).***

***3 The battery itself is at fault (electrolyte low, or battery worn out).***

**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, drive-belts or other moving parts of the engine.

**6** Start the engine using the booster battery and run it at idle speed. Switch on the lights, rear window demister and heater blower motor, then disconnect the jump leads in the reverse order of connection. Turn off the lights etc.

# Wheel changing

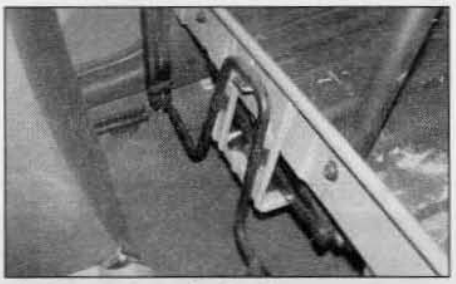
Some of the details shown here will vary according to model. For instance, the location of the spare wheel and jack is not the same on all vehicles. However, the basic principles apply to all vehicles.

***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.***

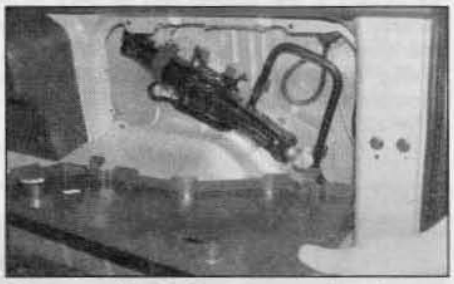
## Preparation

- ☐ 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.
- ☐ Chock the wheel diagonally opposite the one being removed – a chock is provided in the tool kit for this purpose.
- ☐ If the ground is soft, use a flat piece of wood to spread the load under the jack.

## Changing the wheel



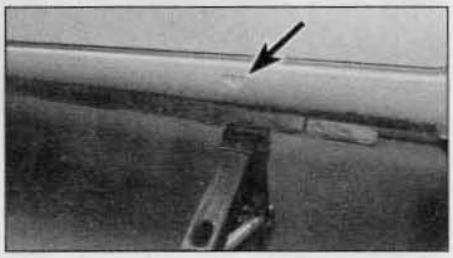
1 The jack and wheelbrace are stored behind the driver's seat on Van models . . .



2 . . . and behind a cover panel on the rear right-hand side on Multispace and Combi models.

3 At the rear of the load area, lift up the floor covering and use the wheelbrace to lower the spare wheel cradle.

4 Disengage the cradle from the lifting hook and slide the spare wheel out from under the vehicle. On Multispace and Combi models, remove the wheel chock from the centre of the spare wheel (on Van models, the chock is stored behind the driver's seat).

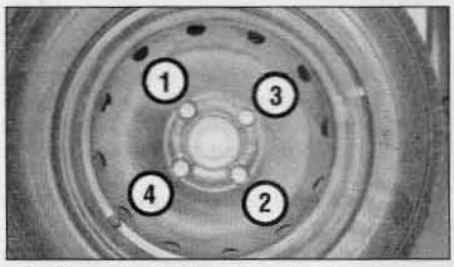


5 Position the jack on firm ground below the reinforced area on the sill (indicated by a triangle – arrowed). Using the wheelbrace, extend the jack until the jack head correctly engages with the sill. Using the chock supplied, chock the wheel diagonally opposite the one being removed.

6 On models with steel wheels, remove the wheel trim/hub cap (as applicable).

7 Using the wheelbrace, slacken each wheel bolt by half a turn. On models with alloy wheels, use the special tool to undo the locking wheel nuts.

8 Raise the jack until the wheel is clear of the ground, then unscrew the wheel bolts and remove the wheel. Place the wheel under the vehicle sill in case the jack fails. Fit the spare wheel and screw in the bolts. Lightly tighten the bolts with the wheelbrace, then lower the vehicle to the ground.




9 Securely tighten the wheel bolts in a diagonal sequence then refit the wheel trim/hub cap (as applicable).

## Finally...

- ☐ Remove the wheel chock.
- ☐ Stow the jack and tools in the correct locations in the vehicle.
- ☐ 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.

# Identifying leaks

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.

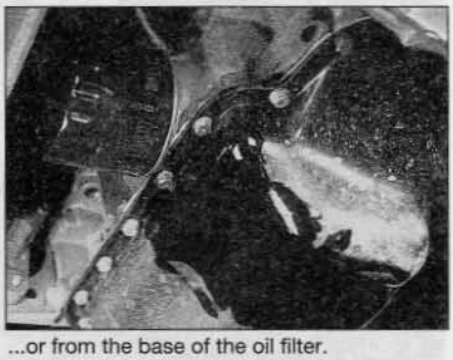
***Warning: Most automotive oils and fluids are poisonous. Wash them off skin, and change out of contaminated clothing, without delay.***

**HAYNES HINT** ***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 carefully and to park it over some clean paper overnight as an aid to locating the source of the leak.***
***Remember that some leaks may only occur while the engine is running.***

### Sump oil

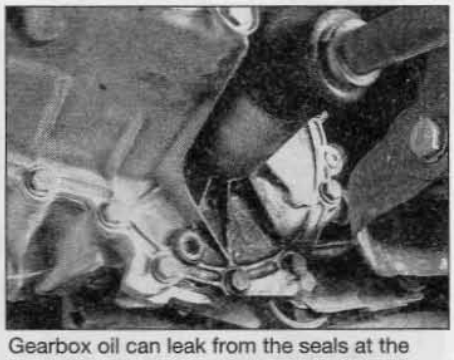
Engine oil may leak from the drain plug...

### Oil from filter



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

### Gearbox oil

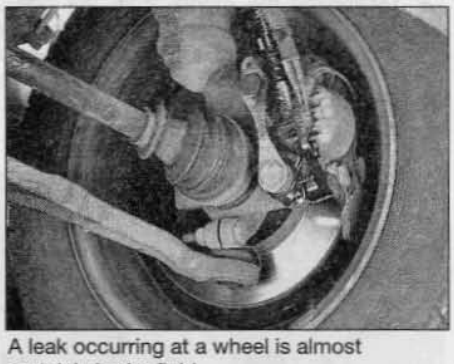


Gearbox oil can leak from the seals at the inboard ends of the driveshafts.

### Antifreeze

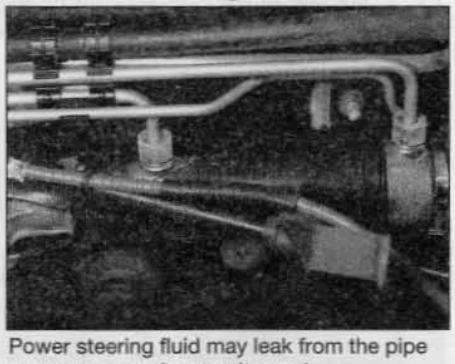
Leaking antifreeze often leaves a crystalline deposit like this.

### 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.

# Towing

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 eye provided at the front or rear of the vehicle.

☐ 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 vehicle 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.

# Introduction

There are some very simple checks which need only take a few minutes to carry out, but which could save you a lot of inconvenience and expense.

These *Weekly checks* require no great skill or special tools, and the small amount of time they take to perform could prove to be very well spent, for example:

☐ Keeping an eye on tyre condition and pressures, will not only help to stop them wearing out prematurely, but could also save your life.

☐ Many breakdowns are caused by electrical problems. Battery-related faults are particularly common, and a quick check on a regular basis will often prevent the majority of these.

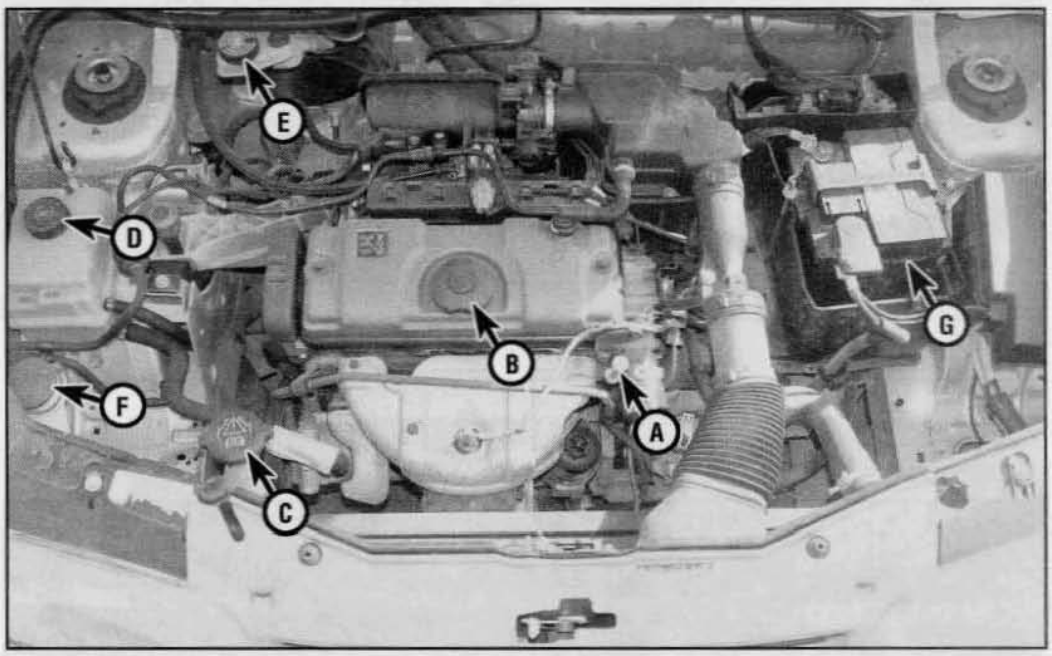
☐ If your vehicle develops a brake fluid leak, the first time you might know about it is when your brakes don't work properly. Checking the level regularly will give advance warning of this kind of problem.

☐ If the oil or coolant levels run low, the cost of repairing any engine damage will be far greater than fixing the leak, for example.

# Underbonnet check points

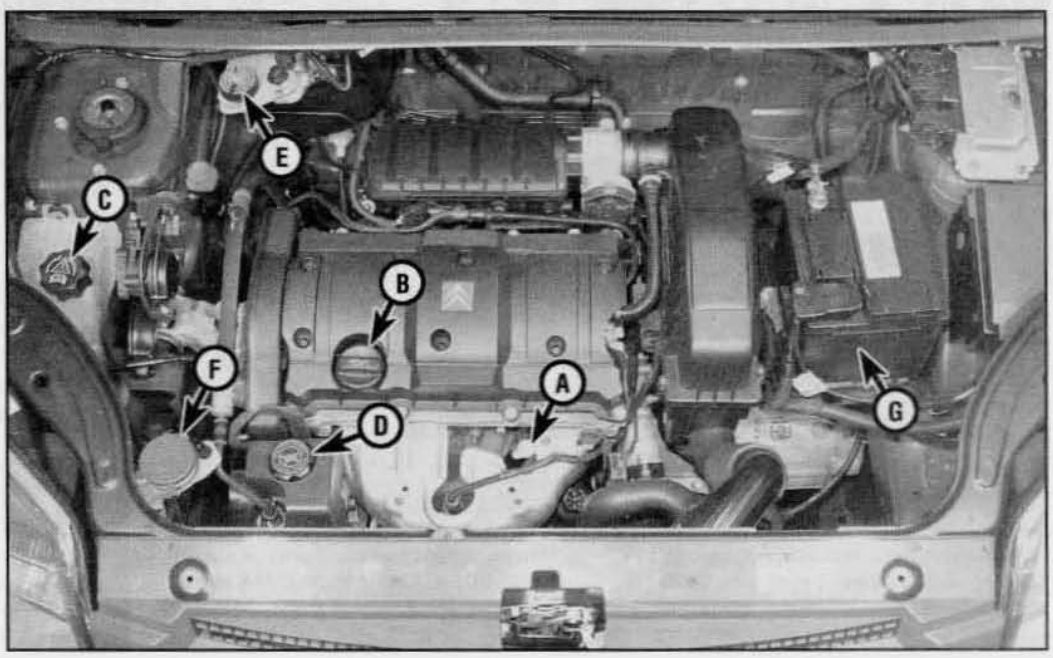
## ▶ 1.4 litre petrol engine (pre-September 2002)

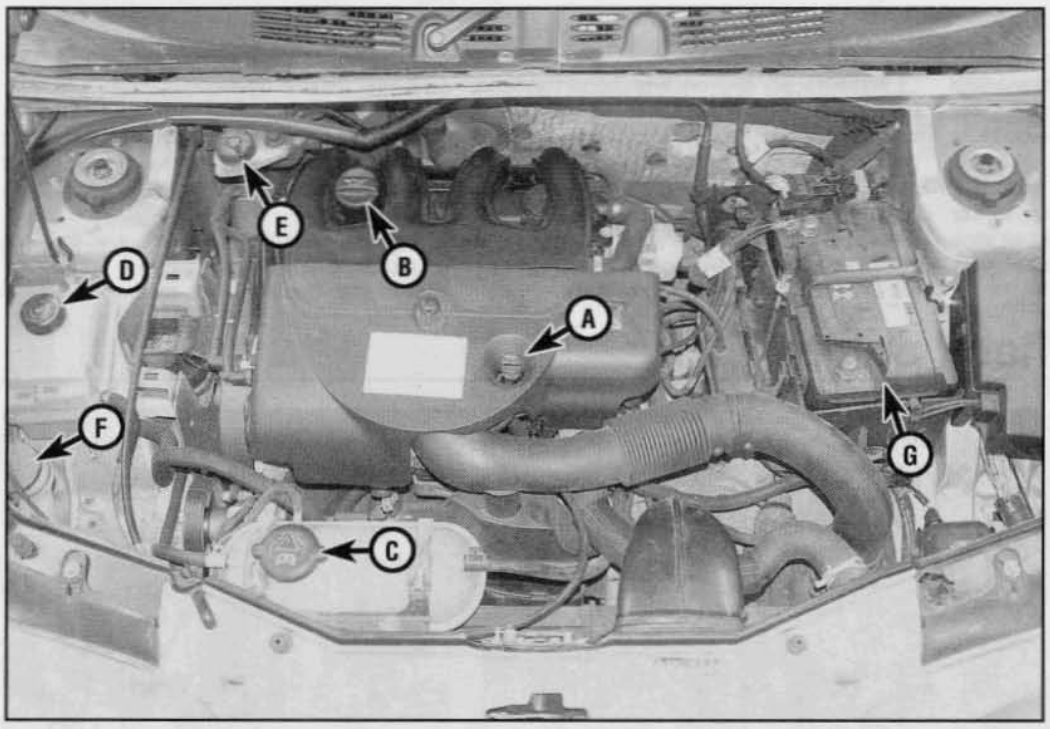
**A** *Engine oil level dipstick*
**B** *Engine oil filler cap*
**C** *Coolant expansion tank*
**D** *Power steering fluid reservoir*
**E** *Brake fluid reservoir*
**F** *Washer fluid reservoir*
**G** *Battery*




## ▶ 1.6 litre petrol engine

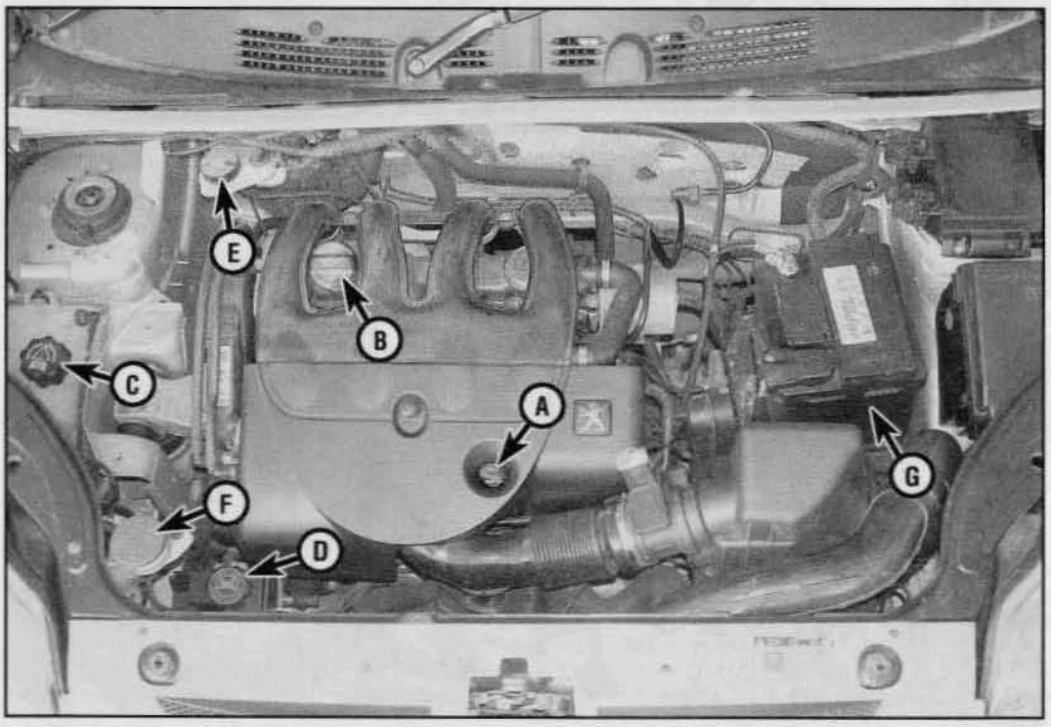
**A** *Engine oil level dipstick*
**B** *Engine oil filler cap*
**C** *Coolant expansion tank*
**D** *Power steering fluid reservoir*
**E** *Brake fluid reservoir*
**F** *Washer fluid reservoir*
**G** *Battery*





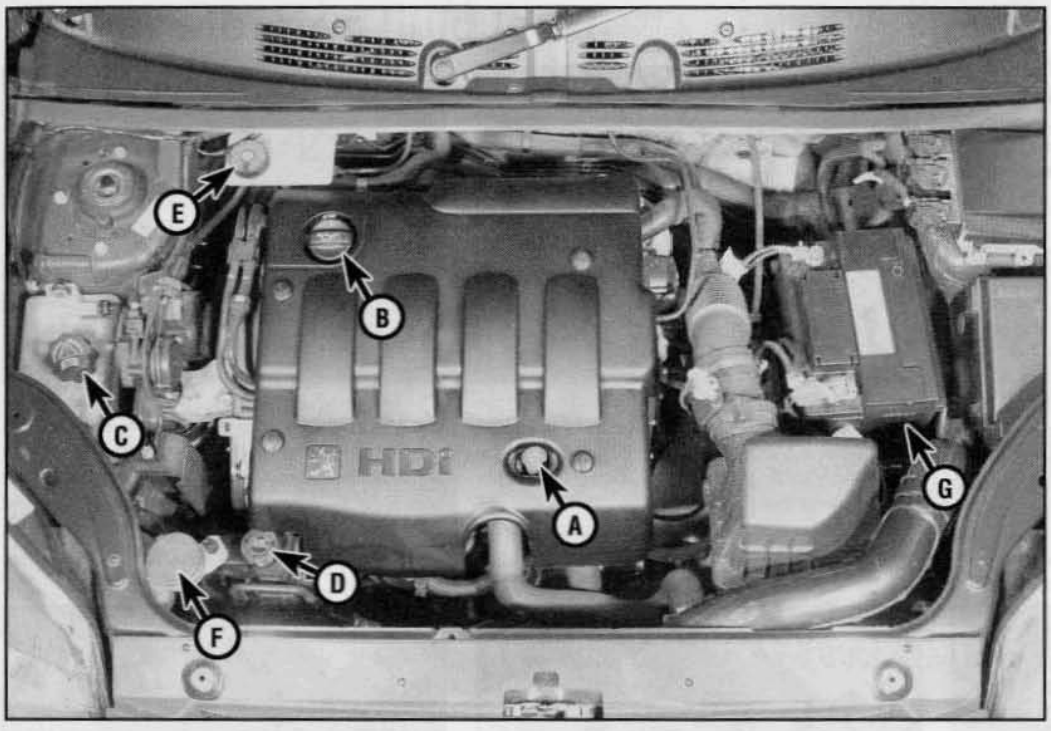

### 1.9 litre DW series diesel engine (pre-September 2002) – XUD series diesel similar

**A** *Engine oil level dipstick*
**B** *Engine oil filler cap*
**C** *Coolant expansion tank*
**D** *Power steering fluid reservoir*
**E** *Brake fluid reservoir*
**F** *Washer fluid reservoir*
**G** *Battery*




### 1.9 litre DW series diesel engine (post-September 2002)

**A** *Engine oil level dipstick*
**B** *Engine oil filler cap*
**C** *Coolant expansion tank*
**D** *Power steering fluid reservoir*
**E** *Brake fluid reservoir*
**F** *Washer fluid reservoir*
**G** *Battery*




## 2.0 litre DW series diesel engine (post-September 2002)

**A** *Engine oil level dipstick*
**B** *Engine oil filler cap*
**C** *Coolant expansion tank*
**D** *Power steering fluid reservoir*
**E** *Brake fluid reservoir*
**F** *Washer fluid reservoir*
**G** *Battery*

# Engine oil level

## Before you start

✔ Make sure that your vehicle is on level ground.
✔ Check the oil level before the vehicle is driven, or at least 5 minutes after the engine has been switched off.

HAYNES HiNT ***If the oil is checked immediately after driving the vehicle, some of the oil will remain in the upper engine components, resulting in an inaccurate reading on the dipstick.***

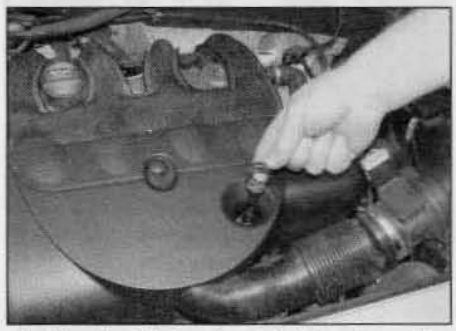
## The correct oil

Modern engines place great demands on their oil. It is very important that the correct oil for your vehicle is used (see *Lubricants and fluids*).

## Car Care

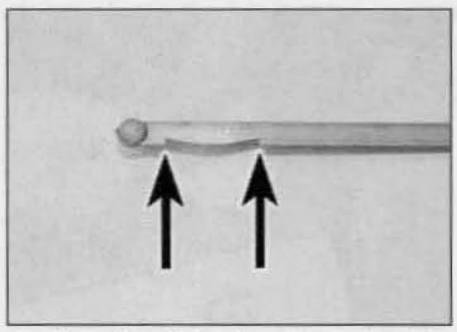
● If you have to add oil frequently, you should check whether you have any oil leaks. Place some clean paper under the vehicle overnight, and check for stains in the morning. If there are no leaks, the engine may be burning oil.

● Always maintain the level between the upper and lower dipstick marks (see photo 3). If the level is too low, severe engine damage may occur. Oil seal failure may result if the engine is overfilled by adding too much oil.

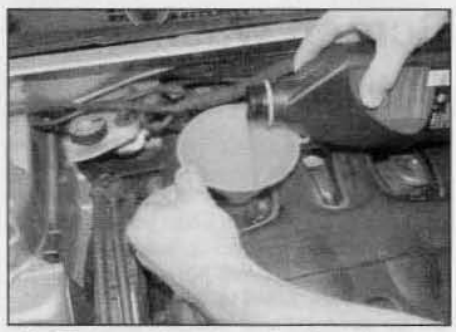


1 The dipstick is often brightly coloured for easy identification. Withdraw the dipstick.

2 Using a clean rag or paper towel, wipe all the oil from the dipstick. Insert the clean dipstick into the tube as far as it will go, then withdraw it again.



3 Note the oil level on the end of the dipstick, which should be between the upper (MAX) mark and lower (MIN) mark.



4 Oil is added through the filler cap. Unscrew the cap and top up the level; a funnel may help to reduce spillage. Add the oil slowly, checking the level on the dipstick often. Don't overfill (see *Car Care*).

# Coolant level

***Warning: DO NOT attempt to remove the expansion tank pressure cap when the engine is hot, as there is a very great risk of scalding. Do not leave open containers of coolant about, as it is poisonous.***

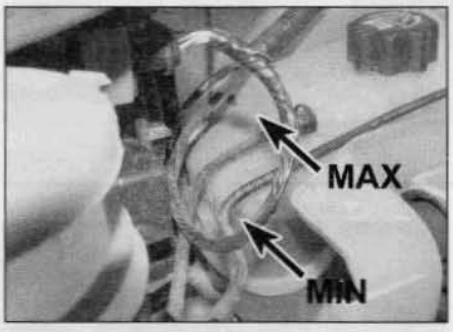
## Car Care

- Adding coolant should not be necessary on a regular basis. If frequent topping-up is required, it is likely there is a leak. Check the radiator, all hoses and joint faces for signs of staining or wetness, and rectify as necessary.

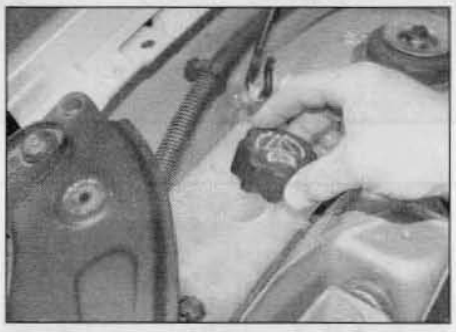
- It is important that antifreeze is used in the cooling system all year round, not just during the winter months. Don't top-up with water alone, as the antifreeze will become too diluted.

1 The coolant level varies with engine temperature. On pre-September 2002 petrol models, the level is checked in the expansion tank, which is built into the right-hand side of the radiator. When the engine is cold, the coolant level should be between the MAX and MIN marks.

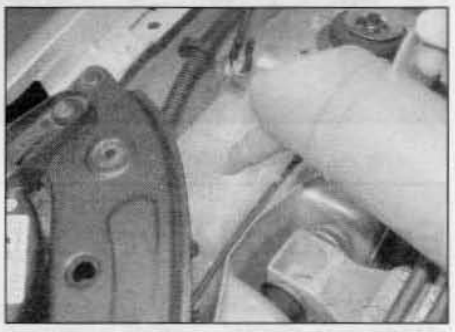

2 On pre-September 2002 diesel models, the expansion tank is located above the radiator, and the level can only be checked by removing the expansion tank cap (see step 4). When the engine is cold, the level is correct when it is just below the MAXI mark indicated on the side of the tank.




3 On all post-September 2002 petrol and diesel models, the level is checked in the expansion tank located on the right-hand side of the engine compartment. When the engine is cold, the coolant level should be between the MAX and MIN marks indicated on the side of the tank.



4 If topping-up is necessary, **wait until the engine is cold** then turn the expansion tank cap slowly anti-clockwise, and pause until any pressure remaining in the system is released. Unscrew the cap and lift off.

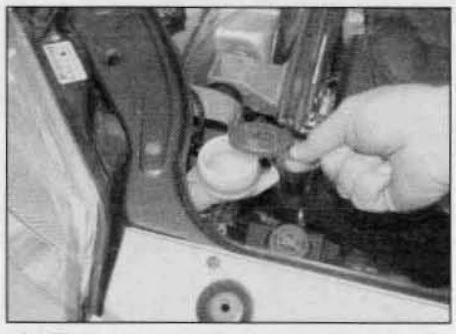


5 Add a 50/50 mixture of water and antifreeze to the expansion tank, until the coolant level is up to the MAX level mark. Refit the cap, turning it clockwise as far as it will go until it is secure.

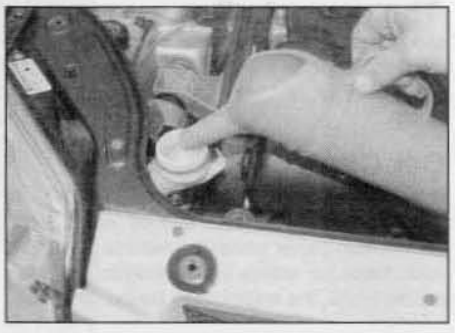
# Screen washer fluid level

Screenwash additives not only keep the windscreen clean during foul weather, they also prevent the washer system freezing in cold weather – which is when you are likely to need it most. Don't top-up using plain water as the screenwash will become too diluted, and will freeze during cold weather.

***On no account use coolant antifreeze in the washer system – this could discolour or damage paintwork.***



1 The washer fluid reservoir is located at the front right-hand side of the engine compartment. To check the fluid level, open the cap and look down the filler neck.



2 If topping-up is necessary, add water and a screenwash additive in the quantities recommended on the bottle.

# Power steering fluid level

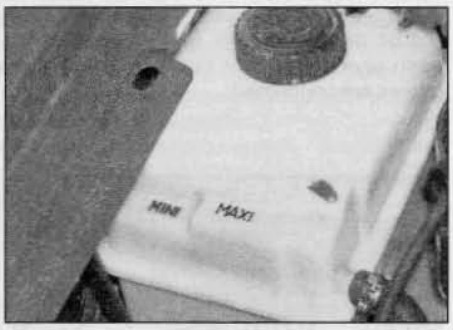
## Before you start

✔ Park the vehicle on level ground.
✔ Set the steering wheel straight-ahead.
✔ The engine should be turned off.

**HAYNES HiNT** ***For the check to be accurate, the steering must not be turned once the engine has been stopped.***

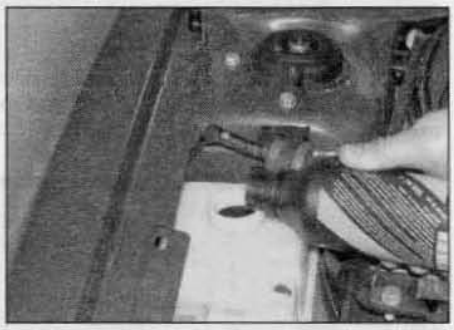
## Safety First!

● The need for frequent topping-up indicates a leak, which should be investigated immediately.

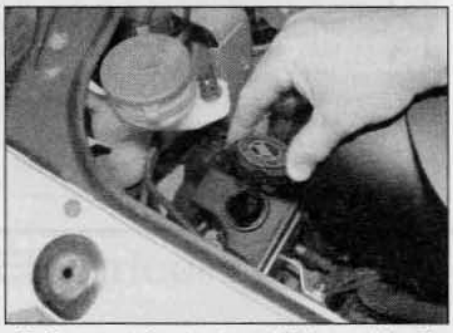



1 On pre-September 2002 models, the power steering fluid reservoir is located on the right-hand side of the engine compartment. The fluid level should be checked with the engine stopped. A translucent reservoir is fitted, with MAX and MIN markings on the reservoir.

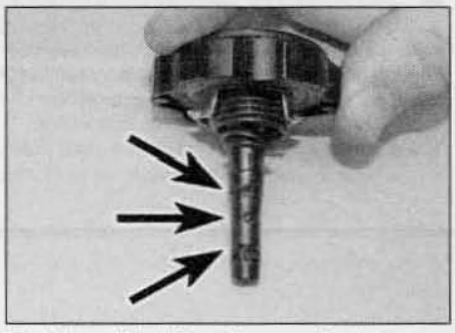
2 The fluid level should be between the MAX and MIN marks. If topping-up is necessary, and before removing the cap, wipe the surrounding area so that dirt does not enter the reservoir.



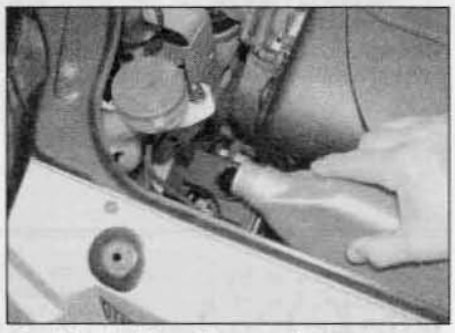
3 Unscrew the cap, allowing the fluid to drain from the bottom of the cap as it is removed. Top up the fluid level to the MAX mark, using the specified type of fluid (do not overfill the reservoir), then refit and tighten the filler cap.



4 On post-September 2002 models, the power steering fluid reservoir is integral with the power steering pump, located at the front of the engine. With the engine stopped, wipe clean the area around the reservoir filler neck, and unscrew the filler cap from the reservoir.



5 Wipe all fluid from the cap dipstick with a clean rag. Refit the filler cap, then remove it again and note the fluid level on the dipstick. When the engine is cold the fluid level should be between the lower (ADD) mark and the middle (C) mark on the dipstick. If the engine is warm, the fluid level may be up to the upper (H) mark.



6 If the fluid level is on or below the lower (ADD) mark, top-up the fluid level to the middle (C) mark, using the specified type of fluid (do not overfill). When the level is correct, securely refit the filler cap.

# Brake fluid level

***Warning:***

- ***Brake fluid can harm your eyes and damage painted surfaces, so use extreme caution when handling and pouring it.***
- ***Do not use fluid that has been standing open for some time, as it absorbs moisture from the air, which can cause a dangerous loss of braking effectiveness.***

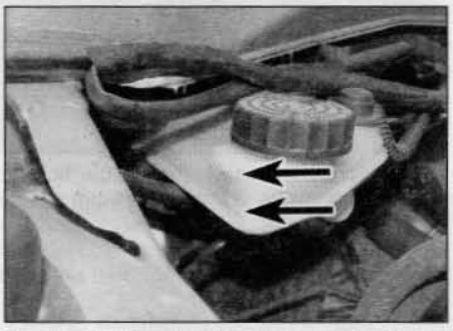
**HAYNES HINT**

***• Make sure that your vehicle is on level ground.***

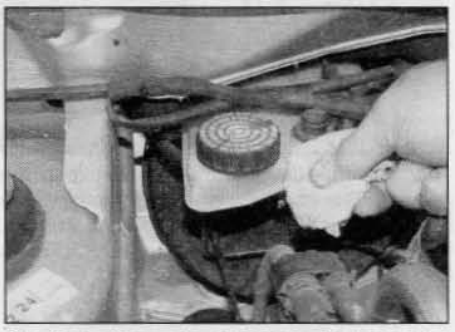
***• The fluid level in the reservoir will drop slightly as the brake pads and shoes wear down, but the fluid level must never be allowed to drop below the MIN mark.***

## Safety First!

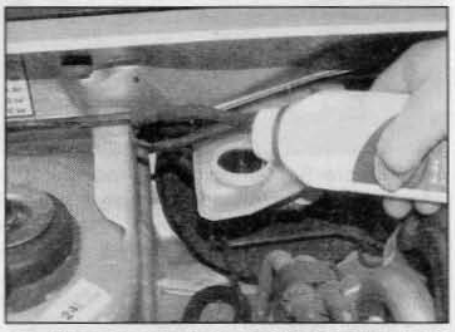
- If the reservoir requires repeated topping-up this is an indication of a fluid leak somewhere in the system, which should be investigated immediately.
- If a leak is suspected, the vehicle should not be driven until the braking system has been checked. Never take any risks where brakes are concerned.



1 The MAX and MIN marks are indicated on the side of the reservoir, which is located on the front of the vacuum servo unit in the engine compartment. The fluid level must be kept between these two marks.

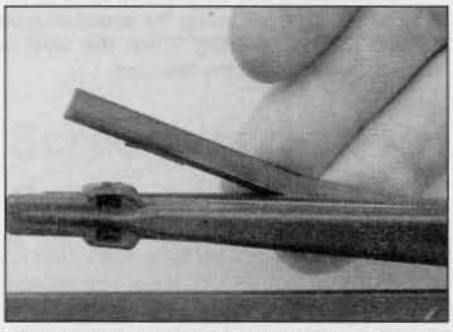


2 If topping-up is necessary, first wipe the area around the filler cap with a clean rag before removing the cap. When adding fluid, it's a good idea to inspect the reservoir. The system should be drained and refilled if dirt is seen in the fluid (see Chapter 9).

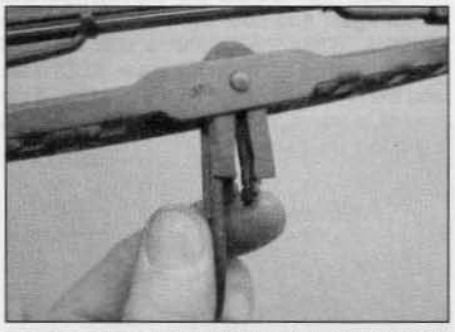


3 Carefully add fluid, avoiding spilling it on surrounding paintwork. Use only the specified hydraulic fluid; mixing different types of fluid can cause damage to the system and/or a loss of braking effectiveness. After filling to the correct level, refit the cap securely and wipe off any spilt fluid.

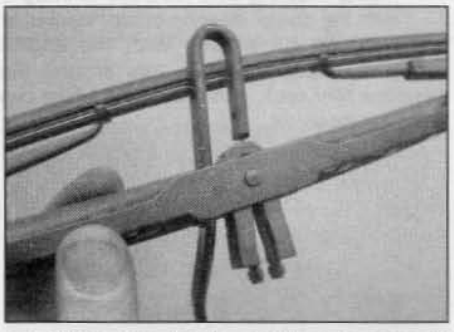
# Wiper blades



1 Check the condition of the wiper blades; if they are cracked or show any signs of deterioration, or if the glass swept area is smeared, renew them. Wiper blades should be renewed annually.



2 To remove a windscreen wiper blade, pull the arm fully away from the screen until it locks. Swivel the blade through 90°, then depress the locking clip at the base of the mounting block.



3 Move the blade down the arm to disengage the mounting block, then slide the blade from the arm. Don't forget to check the rear wiper blade(s) as well (where applicable).

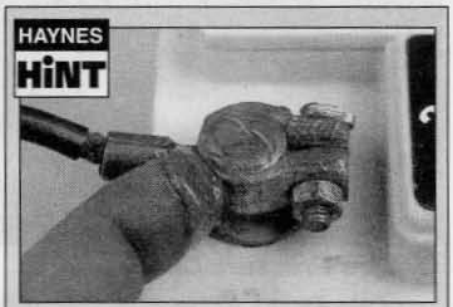
# Battery

***Caution: Before carrying out any work on the vehicle battery, read the precautions given in 'Safety first!' at the start of this manual.***

✔ Make sure that the battery tray is in good condition, and that the battery is secure. Corrosion on the tray and the battery itself can be removed with a solution of water and baking soda. Thoroughly rinse all cleaned areas with water. Any metal parts damaged by corrosion should be covered with a zinc-based primer, then painted.

✔ Periodically (approximately every three months), check the charge condition of the battery as described in Chapter 5A.

✔ If the battery is flat, and you need to jump start your vehicle, see *Roadside Repairs*.



HAYNES HiNT

***Battery corrosion can be kept to a minimum by applying a layer of petroleum jelly to the clamps and terminals after they are reconnected.***

1 The battery is located on the left-hand side of the engine compartment. The exterior of the battery should be inspected periodically for damage such as a cracked case or cover.

2 Check the tightness of the battery cable clamps to ensure good electrical connections. You should not be able to move them. Also check each cable for cracks and frayed conductors.

3 If corrosion (white, fluffy deposits) is evident, remove the cables from the battery terminals, clean them with a small wire brush, then refit them. Automotive stores sell a useful tool for cleaning the battery post . . .

4 . . . as well as the battery cable clamps.

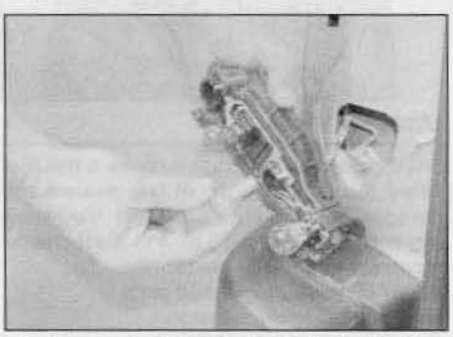
# Electrical systems

✔ Check all external lights and the horn. Refer to the appropriate Sections of Chapter 12 for details if any of the circuits are found to be inoperative.

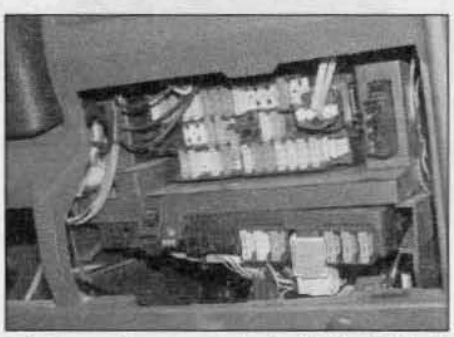
✔ Visually check all accessible wiring connectors, harnesses and retaining clips for security, and for signs of chafing or damage.

HAYNES HiNT

***If you need to check your brake lights and indicators unaided, back up to a wall or garage door and operate the lights. The reflected light should show if they are working properly.***



1 If a single indicator light, brake light or headlight has failed, it is likely that a bulb has blown and will need to be renewed. Refer to Chapter 12 for details. If both brake lights have failed, it is possible that the brake/stop-light switch operated by the brake pedal has failed. Refer to Chapter 9 for details.



2 If more than one indicator light or tail light has failed it is likely that either a fuse has blown or that there is a fault in the circuit (see Chapter 12). The main fuses are located behind the cover in the facia on the driver's side . . .

3 . . . and in the fuse/relay box in the engine compartment. To renew a blown fuse, remove it, where applicable, using the plastic tool provided. Fit a new fuse of the same rating, available from vehicle accessory shops. It is important that you find the reason that the fuse blew (see *Electrical fault finding* in Chapter 12).

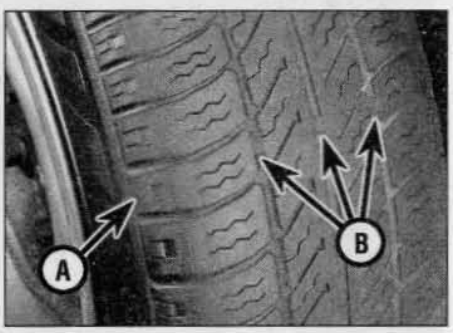
# Tyre condition and pressure

It is very important that tyres are in good condition, and at the correct pressure - having a tyre failure at any speed is highly dangerous. Tyre wear is influenced by driving style - harsh braking and acceleration, or fast cornering, will all produce more rapid tyre wear. As a general rule, the front tyres wear out faster than the rears. Interchanging the tyres from front to rear ("rotating" the tyres) may result in more even wear. However, if this is completely effective, you may have the expense of replacing all four tyres at once!

Remove any nails or stones embedded in the tread before they penetrate the tyre to cause deflation. If removal of a nail does reveal that the tyre has been punctured, refit the nail so that its point of penetration is marked. Then immediately change the wheel, and have the tyre repaired by a tyre dealer.

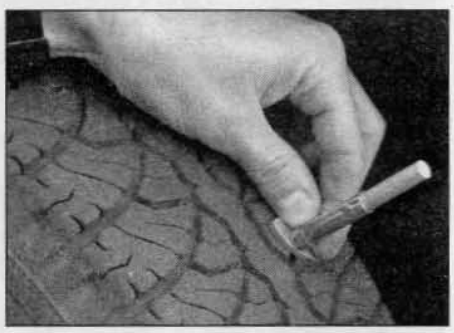
Regularly check the tyres for damage in the form of cuts or bulges, especially in the sidewalls. Periodically remove the wheels, and clean any dirt or mud from the inside and outside surfaces. Examine the wheel rims for signs of rusting, corrosion or other damage. Light alloy wheels are easily damaged by "kerbing" whilst parking; steel wheels may also become dented or buckled. A new wheel is very often the only way to overcome severe damage.

New tyres should be balanced when they are fitted, but it may become necessary to re-balance them as they wear, or if the balance weights fitted to the wheel rim should fall off. Unbalanced tyres will wear more quickly, as will the steering and suspension components. Wheel imbalance is normally signified by vibration, particularly at a certain speed (typically around 50 mph). If this vibration is felt only through the steering, then it is likely that just the front wheels need balancing. If, however, the vibration is felt through the whole car, the rear wheels could be out of balance. Wheel balancing should be carried out by a tyre dealer or garage.



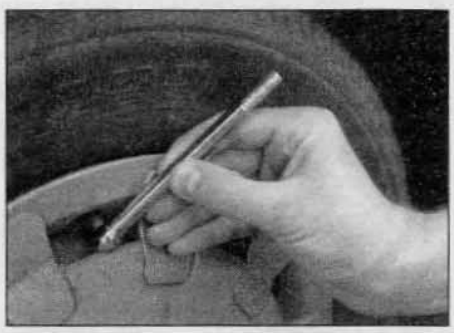

**1 *Tread Depth - visual check***

The original tyres have tread wear safety bands (B), which will appear when the tread depth reaches approximately 1.6 mm. The band positions are indicated by a triangular mark on the tyre sidewall (A).



**2 *Tread Depth - manual check***

Alternatively, tread wear can be monitored with a simple, inexpensive device known as a tread depth indicator gauge.



**3 *Tyre Pressure Check***

Check the tyre pressures regularly with the tyres cold. Do not adjust the tyre pressures immediately after the vehicle has been used, or an inaccurate setting will result. Tyre pressures are shown on page 0•20.

# Tyre tread wear patterns

***Shoulder Wear***

**Underinflation (wear on both sides)**
Under-inflation will cause overheating of the tyre, because the tyre will flex too much, and the tread will not sit correctly on the road surface. This will cause a loss of grip and excessive wear, not to mention the danger of sudden tyre failure due to heat build-up.
*Check and adjust pressures*
**Incorrect wheel camber (wear on one side)**
*Repair or renew suspension parts*
**Hard cornering**
*Reduce speed!*

***Centre Wear***

**Overinflation**
Over-inflation will cause rapid wear of the centre part of the tyre tread, coupled with reduced grip, harsher ride, and the danger of shock damage occurring in the tyre casing.
*Check and adjust pressures*

*If you sometimes have to inflate your car's tyres to the higher pressures specified for maximum load or sustained high speed, don't forget to reduce the pressures to normal afterwards.*

***Uneven Wear***

Front tyres may wear unevenly as a result of wheel misalignment. Most tyre dealers and garages can check and adjust the wheel alignment (or "tracking") for a modest charge.
**Incorrect camber or castor**
*Repair or renew suspension parts*
**Malfunctioning suspension**
*Repair or renew suspension parts*
**Unbalanced wheel**
*Balance tyres*
**Incorrect toe setting**
*Adjust front wheel alignment*
**Note:** *The feathered edge of the tread which typifies toe wear is best checked by feel.*

**Haynes Manual Repair Citroen Berlingo Peugeot Partner 1996-2005**
Full download: http://manualplace.com/download/haynes-manual-repair-citroen-berlingo-peugeot-partner-1996-2005/



# Lubricants and fluids

| | |
|---|---|
| **Engine:** | |
| Petrol | Synthetic or semi-synthetic multigrade engine oil, viscosity SAE 5W-40, 10W-40 or 5W-30* to specification API SH/SJ and/or ACEA A3: ESSO ULTRA/ULTRON or TOTAL QUARTZ |
| Diesel | Synthetic or semi-synthetic multigrade engine oil, viscosity SAE 5W-40, 10W-40 or 5W-30* to specification API CD and/or ACEA B3: ESSO ULTRA/ULTRON or TOTAL QUARTZ |
| **Cooling system** | Mixture of monoethylene glycol based antifreeze (PROCOR TM 108, GLYSANTIN G33 or REVKOGEL 2000) and clean de-ionised water |
| **Manual gearbox** | ESSO BV 75W-80W or TOTAL TRANSMISSION BV 75W-80 |
| **Power steering fluid reservoir** | ESSO ATF D or TOTAL FLUIDE AT42 |
| **Brake fluid reservoir** | Hydraulic fluid to SAE J1703, DOT 4 |

** SAE 5W-30 engine oil may only be used in vehicles manufactured from the 2000 model year onward.*

# Choosing your engine oil

Engines need oil, not only to lubricate moving parts and minimise wear, but also to maximise power output and to improve fuel economy.

## HOW ENGINE OIL WORKS

### • Beating friction

Without oil, the moving surfaces inside your engine will rub together, heat up and melt, quickly causing the engine to seize. Engine oil creates a film which separates these moving parts, preventing wear and heat build-up.

### • Cooling hot-spots

Temperatures inside the engine can exceed 1000° C. The engine oil circulates and acts as a coolant, transferring heat from the hot-spots to the sump.

### • Cleaning the engine internally

Good quality engine oils clean the inside of your engine, collecting and dispersing combustion deposits and controlling them until they are trapped by the oil filter or flushed out at oil change.

## OIL CARE - FOLLOW THE CODE

To handle and dispose of used engine oil safely, always:


- *Avoid skin contact with used engine oil. Repeated or prolonged contact can be harmful.*
- *Dispose of used oil and empty packs in a responsible manner in an authorised disposal site. Call 0800 663366 to find the one nearest to you. Never tip oil down drains or onto the ground.*

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