

CITROËN AX



1987 to 1997 (**D** to **P** registration) Petrol & Diesel

Haynes **Service and Repair Manual**



Includes **Fault Finding** and **MOT Test Check** Sections

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Introduction to the Citroën AX

The Citroën AX was introduced in the UK in July 1987 (having been launched in France the previous September), the initial versions being three-door Hatchbacks. The five-door version was introduced in April 1988.

All engines are derived from the well-proven TU series engines which have appeared in many Peugeot and Citroën vehicles. The engine is of four-cylinder overhead camshaft design, mounted transversely, with the transmission mounted on the left-hand side. All models have a four- or five-speed manual transmission.

In early 1989, a 1.4 litre (1360 cc) Diesel engine was added to the range. In September 1991, the "second-generation" AX was introduced, with revised interior and exterior styling. A 1527 cc Diesel engine was introduced in July 1994 - however, at the time of writing, only limited technical information was available for this engine.

All models have fully-independent front and rear suspension. The rear suspension incorporates torsion bars and trailing arms.

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

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

About this manual

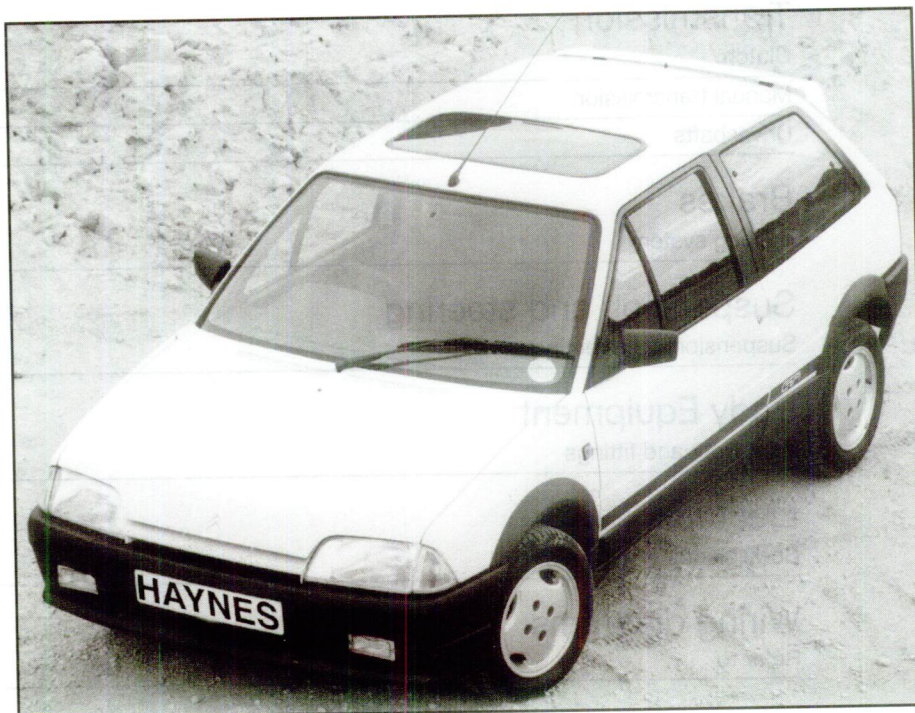
The aim of this manual is to help you get the best value from your vehicle. It can do so in several ways. It can help you decide what work must be done (even should you choose to get it done by a garage). It will also provide information on routine maintenance and servicing, and give a logical course 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 car 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" or "right" of the vehicle are in the sense of a person in the driving seat, facing forwards.



Citroën AX 11 TZX 5-door



Citroën AX GTi

Acknowledgements

Thanks are due to Champion Spark Plug who supplied spark plug information. Certain illustrations are the copyright of Citroën Cars Ltd, and are used with their permission. Thanks are also due to Sykes-Pickavant, who provided many of the workshop tools, and all those at Sparkford who assisted 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 any errors in, or omissions from, the information given.

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

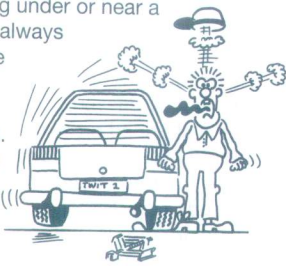
- Beware of burns from the exhaust system and from any part of the engine. Brake discs and drums can also be extremely hot immediately after use.

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

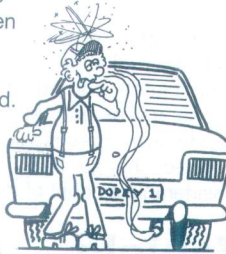
- Ignition HT voltage can be dangerous, especially to people with heart problems or a pacemaker. Don't work on or near the ignition system with the engine running or the ignition switched on.



- 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.

Buying spare parts

Spare parts are available from many sources; for example, Citroën garages, other garages and accessory shops, and motor factors. Our advice regarding spare part sources is as follows.

Officially-appointed Citroën garages - This is the best source for parts which are peculiar to your car, and are not generally available (eg complete cylinder heads, internal gearbox components, badges, interior trim etc). It is also the only place at which you should buy parts if the vehicle is still under warranty. To be sure of obtaining the correct parts, it will be necessary to give the storeman your car's vehicle identification number, and if possible, take the old parts along for positive identification. Many parts are available under a factory exchange scheme - any parts returned should always be clean. It obviously makes good sense to go straight to the specialists on your car for this type of part, as they are best equipped to supply you.

Other garages and accessory shops - These are often very good places to buy materials and components needed for the maintenance of your car (eg oil filters, spark plugs/glow

plugs, bulbs, drivebelts, oils and greases, touch-up paint, filler paste, etc). They also sell general accessories, usually have convenient opening hours, charge lower prices, and can often be found not far from home.

Motor factors - Good factors will stock all the more important components which wear out comparatively quickly (eg exhaust systems, brake pads, seals and hydraulic parts, clutch components, bearing shells, pistons, valves etc). Motor factors will often provide new or reconditioned components on a part-exchange basis - this can save a considerable amount of money.

Vehicle identification numbers

Modifications are a continuing and unpublicised process in vehicle manufacture, quite apart from major model changes. Spare parts lists are compiled upon a numerical basis, the individual vehicle identification numbers being essential to correct identification of the component concerned.

When ordering spare parts, always give as much information as possible. Quote the car

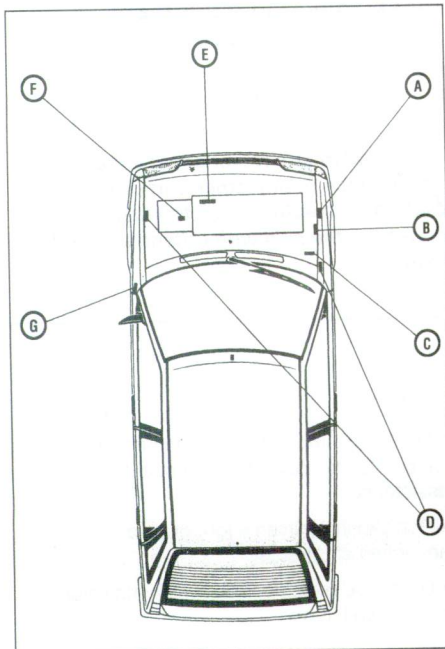
model, year of manufacture, body and engine numbers, as appropriate (see illustrations).

The **Vehicle Identification Number (VIN)** plate is located on the right-hand front wheel arch/wing valance on models manufactured up to June 1988 - on models manufactured from June 1988 onwards it is on the left-hand side or attached to the crossmember at the front of the engine compartment. The plate can be viewed once the bonnet is open. The plate carries the VIN and vehicle weight information.

The **chassis number** is stamped into the body, along the top inner edge of the right-hand wing, and can be viewed with the bonnet open (see illustration). On some models, the chassis number may also be etched into the windscreen and window glass.

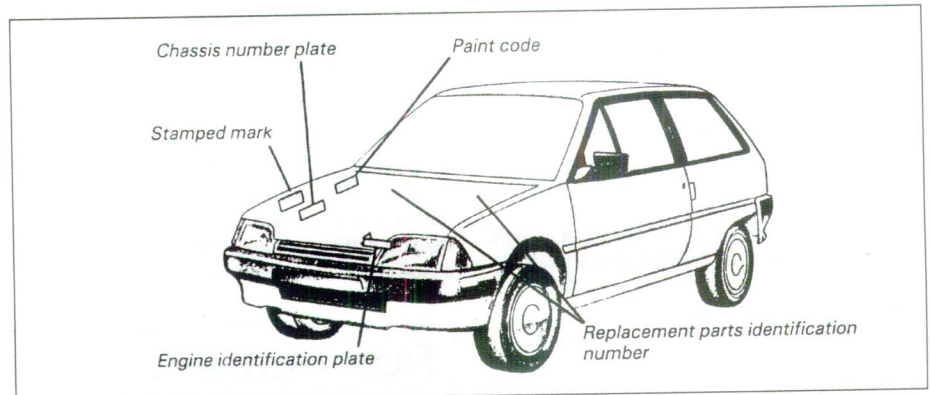
The **engine number** is situated on the left-hand end of the front face of the cylinder block. On models with an aluminium cylinder block, the number is stamped on a plate which is riveted to the block (see illustration); on models with a cast-iron cylinder block, the number is stamped on a machined surface on the cylinder block, at the flywheel end. The first part of the engine number gives the engine code - eg "H1A".

The **paint code** is stamped onto the right-hand front suspension turret.

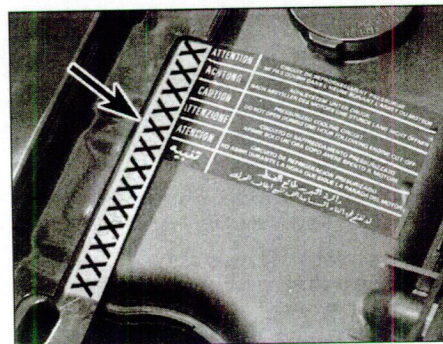


Identification plate locations (later models)

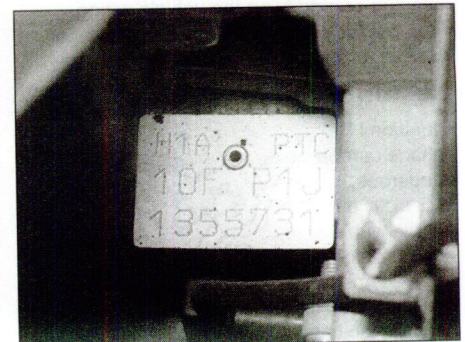
- A VIN location
- B Paint code
- C Replacement parts identification number
- D Chassis number
- E Engine number
- F Transmission number
- G Build code (date) stamped mark



Identification plate locations (early models)



The chassis number (arrowed) is stamped into the top inner edge of the right-hand wing



Engine number location - aluminium block engines. The first three letters of the plate indicate the engine code (H1A engine shown)

This is a guide to getting your vehicle through the MOT test. Obviously it will not be possible to examine the vehicle to the same standard as the professional MOT tester. However, working through the following checks will enable you to identify any problem areas before submitting the vehicle for the test.

Where a testable component is in borderline condition, the tester has discretion in deciding whether to pass or fail it. The basis of such discretion is whether the tester would be happy for a close relative or friend to use the vehicle with the component in that condition. If the vehicle presented is clean and evidently well cared for, the tester may be more inclined to pass a borderline component than if the vehicle is scruffy and apparently neglected.

It has only been possible to summarise the test requirements here, based on the regulations in force at the time of printing. Test standards are becoming increasingly stringent, although there are some exemptions for older vehicles. For full details obtain a copy of the Haynes publication *Pass the MOT!* (available from stockists of Haynes manuals).

An assistant will be needed to help carry out some of these checks.



The checks have been sub-divided into four categories, as follows:

1 Checks carried out **FROM THE DRIVER'S SEAT**

2 Checks carried out **WITH THE VEHICLE ON THE GROUND**

3 Checks carried out **WITH THE VEHICLE RAISED AND THE WHEELS FREE TO TURN**

4 Checks carried out on **YOUR VEHICLE'S EXHAUST EMISSION SYSTEM**

1 Checks carried out **FROM THE DRIVER'S SEAT**

Handbrake

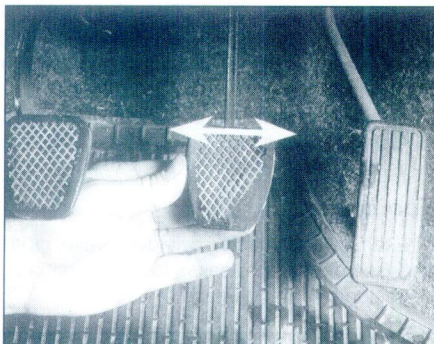
Test the operation of the handbrake. Excessive travel (too many clicks) indicates incorrect brake or cable adjustment.

Check that the handbrake cannot be released by tapping the lever sideways. Check the security of the lever mountings.



Footbrake

Depress the brake pedal and check that it does not creep down to the floor, indicating a master cylinder fault. Release the pedal, wait a few seconds, then depress it again. If the pedal travels nearly to the floor before firm resistance is felt, brake adjustment or repair is necessary. If the pedal feels spongy, there is air in the hydraulic system which must be removed by bleeding.



Check that the brake pedal is secure and in good condition. Check also for signs of fluid leaks on the pedal, floor or carpets, which would indicate failed seals in the brake master cylinder.

Check the servo unit (when applicable) by operating the brake pedal several times, then keeping the pedal depressed and starting the engine. As the engine starts, the pedal will move down slightly. If not, the vacuum hose or the servo itself may be faulty.

Steering wheel and column

Examine the steering wheel for fractures or looseness of the hub, spokes or rim.

Move the steering wheel from side to side and then up and down. Check that the steering wheel is not loose on the column, indicating wear or a loose retaining nut. Continue moving the steering wheel as before, but also turn it slightly from left to right.

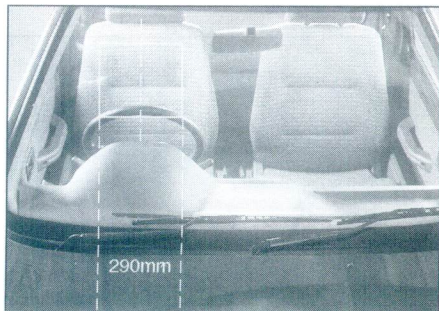
Check that the steering wheel is not loose on the column, and that there is no abnormal



movement of the steering wheel, indicating wear in the column support bearings or couplings.

Windscreen and mirrors

The windscreen must be free of cracks or other significant damage within the driver's field of view. (Small stone chips are acceptable.) Rear view mirrors must be secure, intact, and capable of being adjusted.





Seat belts and seats

Note: The following checks are applicable to all seat belts, front and rear.

- Examine the webbing of all the belts (including rear belts if fitted) for cuts, serious fraying or deterioration. Fasten and unfasten each belt to check the buckles. If applicable, check the retracting mechanism. Check the security of all seat belt mountings accessible from inside the vehicle.
- The front seats themselves must be securely attached and the backrests must lock in the upright position.

Doors

- Both front doors must be able to be opened and closed from outside and inside, and must latch securely when closed.

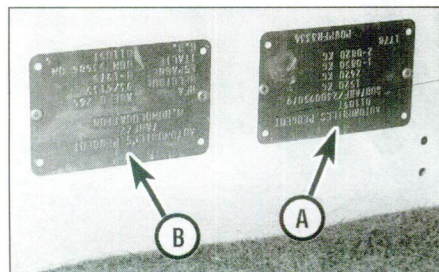
2 Checks carried out WITH THE VEHICLE ON THE GROUND

Vehicle identification

- Number plates must be in good condition, secure and legible, with letters and numbers correctly spaced – spacing at (A) should be twice that at (B).

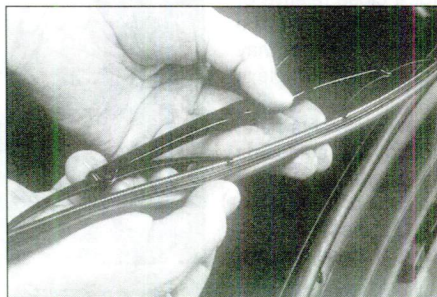


- The VIN plate (A) and homologation plate (B) must be legible.



Electrical equipment

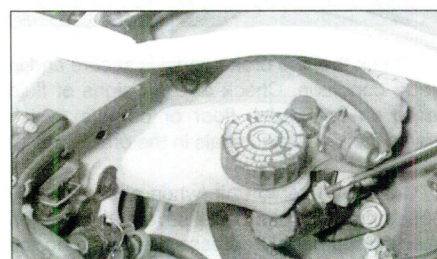
- Switch on the ignition and check the operation of the horn.
- Check the windscreen washers and wipers, examining the wiper blades; renew damaged or perished blades. Also check the operation of the stop-lights.



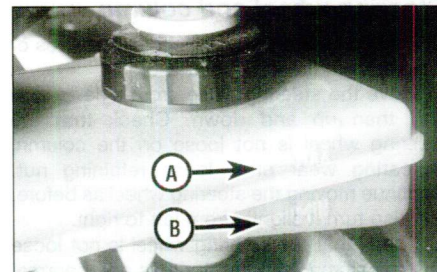
- Check the operation of the sidelights and number plate lights. The lenses and reflectors must be secure, clean and undamaged.
- Check the operation and alignment of the headlights. The headlight reflectors must not be tarnished and the lenses must be undamaged.
- Switch on the ignition and check the operation of the direction indicators (including the instrument panel tell-tale) and the hazard warning lights. Operation of the sidelights and stop-lights must not affect the indicators – if it does, the cause is usually a bad earth at the rear light cluster.
- Check the operation of the rear foglight(s), including the warning light on the instrument panel or in the switch.

Footbrake

- Examine the master cylinder, brake pipes and servo unit for leaks, loose mountings, corrosion or other damage.



- The fluid reservoir must be secure and the fluid level must be between the upper (A) and lower (B) markings.



- Inspect both front brake flexible hoses for cracks or deterioration of the rubber. Turn the steering from lock to lock, and ensure that the hoses do not contact the wheel, tyre, or any part of the steering or suspension mechanism. With the brake pedal firmly depressed, check the hoses for bulges or leaks under pressure.



Steering and suspension

- Have your assistant turn the steering wheel from side to side slightly, up to the point where the steering gear just begins to transmit this movement to the roadwheels. Check for excessive free play between the steering wheel and the steering gear, indicating wear or insecurity of the steering column joints, the column-to-steering gear coupling, or the steering gear itself.
- Have your assistant turn the steering wheel more vigorously in each direction, so that the roadwheels just begin to turn. As this is done, examine all the steering joints, linkages, fittings and attachments. Renew any component that shows signs of wear or damage. On vehicles with power steering, check the security and condition of the steering pump, drivebelt and hoses.
- Check that the vehicle is standing level, and at approximately the correct ride height.

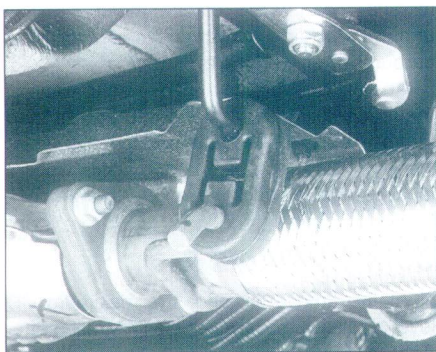
Shock absorbers

- Depress each corner of the vehicle in turn, then release it. The vehicle should rise and then settle in its normal position. If the vehicle continues to rise and fall, the shock absorber is defective. A shock absorber which has seized will also cause the vehicle to fail.



Exhaust system

□ Start the engine. With your assistant holding a rag over the tailpipe, check the entire system for leaks. Repair or renew leaking sections.



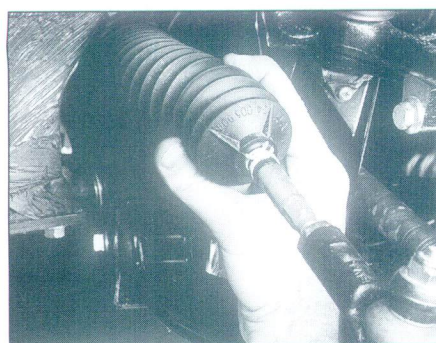
3 Checks carried out WITH THE VEHICLE RAISED AND THE WHEELS FREE TO TURN

Jack up the front and rear of the vehicle, and securely support it on axle stands. Position the stands clear of the suspension assemblies. Ensure that the wheels are clear of the ground and that the steering can be turned from lock to lock.

Steering mechanism

□ Have your assistant turn the steering from lock to lock. Check that the steering turns smoothly, and that no part of the steering mechanism, including a wheel or tyre, fouls any brake hose or pipe or any part of the body structure.

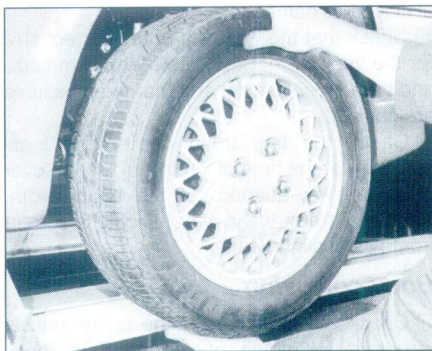
□ Examine the steering rack rubber gaiters for damage or insecurity of the retaining clips. If power steering is fitted, check for signs of damage or leakage of the fluid hoses, pipes or connections. Also check for excessive stiffness or binding of the steering, a missing split pin or locking device, or severe corrosion of the body structure within 30 cm of any steering component attachment point.



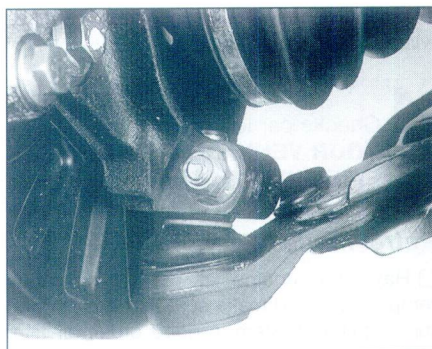
Front and rear suspension and wheel bearings

□ Starting at the front right-hand side, grasp the roadwheel at the 3 o'clock and 9 o'clock positions and shake it vigorously. Check for free play or insecurity at the wheel bearings, suspension balljoints, or suspension mountings, pivots and attachments.

□ Now grasp the wheel at the 12 o'clock and 6 o'clock positions and repeat the previous inspection. Spin the wheel, and check for roughness or tightness of the front wheel bearing.



□ If excess free play is suspected at a component pivot point, this can be confirmed by using a large screwdriver or similar tool and levering between the mounting and the component attachment. This will confirm whether the wear is in the pivot bush, its retaining bolt, or in the mounting itself (the bolt holes can often become elongated).



□ Carry out all the above checks at the other front wheel, and then at both rear wheels.

Springs and shock absorbers

□ Examine the suspension struts (when applicable) for serious fluid leakage, corrosion, or damage to the casing. Also check the security of the mounting points.

□ If coil springs are fitted, check that the spring ends locate in their seats, and that the spring is not corroded, cracked or broken.

□ If leaf springs are fitted, check that all leaves are intact, that the axle is securely attached to each spring, and that there is no deterioration of the spring eye mountings, bushes, and shackles.

□ The same general checks apply to vehicles fitted with other suspension types, such as torsion bars, hydraulic displacer units, etc. Ensure that all mountings and attachments are secure, that there are no signs of excessive wear, corrosion or damage, and (on hydraulic types) that there are no fluid leaks or damaged pipes.

□ Inspect the shock absorbers for signs of serious fluid leakage. Check for wear of the mounting bushes or attachments, or damage to the body of the unit.

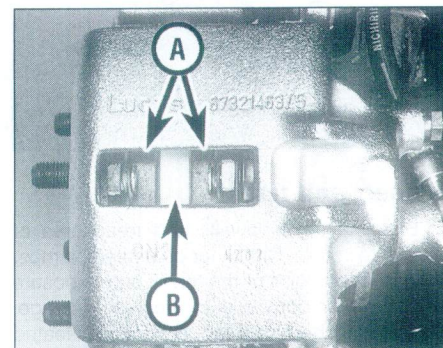
Driveshafts (fwd vehicles only)

□ Rotate each front wheel in turn and inspect the constant velocity joint gaiters for splits or damage. Also check that each driveshaft is straight and undamaged.



Braking system

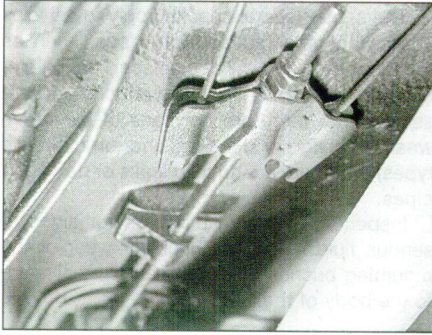
□ If possible without dismantling, check brake pad wear and disc condition. Ensure that the friction lining material has not worn excessively, (A) and that the discs are not fractured, pitted, scored or badly worn (B).



□ Examine all the rigid brake pipes underneath the vehicle, and the flexible hose(s) at the rear. Look for corrosion, chafing or insecurity of the pipes, and for signs of bulging under pressure, chafing, splits or deterioration of the flexible hoses.

□ Look for signs of fluid leaks at the brake calipers or on the brake backplates. Repair or renew leaking components.

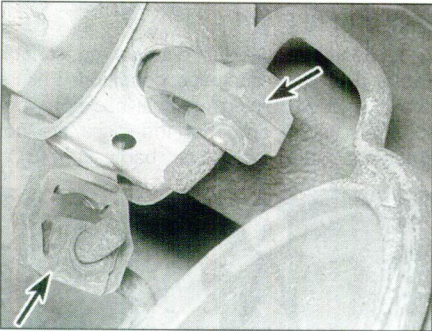
□ Slowly spin each wheel, while your assistant depresses and releases the footbrake. Ensure that each brake is operating and does not bind when the pedal is released.



- Examine the handbrake mechanism, checking for frayed or broken cables, excessive corrosion, or wear or insecurity of the linkage. Check that the mechanism works on each relevant wheel, and releases fully, without binding.
- It is not possible to test brake efficiency without special equipment, but a road test can be carried out later to check that the vehicle pulls up in a straight line.

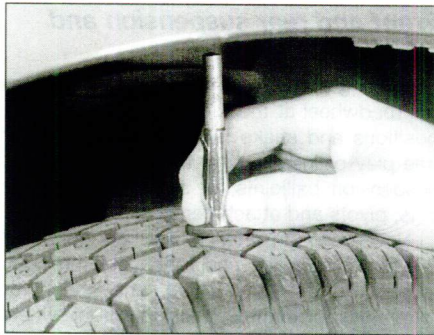
Fuel and exhaust systems

- Inspect the fuel tank (including the filler cap), fuel pipes, hoses and unions. All components must be secure and free from leaks.
- Examine the exhaust system over its entire length, checking for any damaged, broken or missing mountings, security of the retaining clamps and rust or corrosion.



Wheels and tyres

- Examine the sidewalls and tread area of each tyre in turn. Check for cuts, tears, lumps, bulges, separation of the tread, and exposure of the ply or cord due to wear or damage. Check that the tyre bead is correctly seated on the wheel rim, that the valve is sound and



- properly seated, and that the wheel is not distorted or damaged.
- Check that the tyres are of the correct size for the vehicle, that they are of the same size and type on each axle, and that the pressures are correct.
- Check the tyre tread depth. The legal minimum at the time of writing is 1.6 mm over at least three-quarters of the tread width. Abnormal tread wear may indicate incorrect front wheel alignment.

Body corrosion

- Check the condition of the entire vehicle structure for signs of corrosion in load-bearing areas. (These include chassis box sections, side sills, cross-members, pillars, and all suspension, steering, braking system and seat belt mountings and anchorages.) Any corrosion which has seriously reduced the thickness of a load-bearing area is likely to cause the vehicle to fail. In this case professional repairs are likely to be needed.
- Damage or corrosion which causes sharp or otherwise dangerous edges to be exposed will also cause the vehicle to fail.

4 Checks carried out on YOUR VEHICLE'S EXHAUST EMISSION SYSTEM

Petrol models

- Have the engine at normal operating temperature, and make sure that it is in good tune (ignition system in good order, air filter element clean, etc).
- Before any measurements are carried out, raise the engine speed to around 2500 rpm, and hold it at this speed for 20 seconds. Allow the engine speed to return to idle, and watch

for smoke emissions from the exhaust tailpipe. If the idle speed is obviously much too high, or if dense blue or clearly-visible black smoke comes from the tailpipe for more than 5 seconds, the vehicle will fail. As a rule of thumb, blue smoke signifies oil being burnt (engine wear) while black smoke signifies unburnt fuel (dirty air cleaner element, or other carburettor or fuel system fault).

- An exhaust gas analyser capable of measuring carbon monoxide (CO) and hydrocarbons (HC) is now needed. If such an instrument cannot be hired or borrowed, a local garage may agree to perform the check for a small fee.

CO emissions (mixture)

- At the time of writing, the maximum CO level at idle is 3.5% for vehicles first used after August 1986 and 4.5% for older vehicles. From January 1996 a much tighter limit (around 0.5%) applies to catalyst-equipped vehicles first used from August 1992. If the CO level cannot be reduced far enough to pass the test (and the fuel and ignition systems are otherwise in good condition) then the carburettor is badly worn, or there is some problem in the fuel injection system or catalytic converter (as applicable).

HC emissions

- With the CO emissions within limits, HC emissions must be no more than 1200 ppm (parts per million). If the vehicle fails this test at idle, it can be re-tested at around 2000 rpm; if the HC level is then 1200 ppm or less, this counts as a pass.
- Excessive HC emissions can be caused by oil being burnt, but they are more likely to be due to unburnt fuel.

Diesel models

- The only emission test applicable to Diesel engines is the measuring of exhaust smoke density. The test involves accelerating the engine several times to its maximum unloaded speed.

Note: It is of the utmost importance that the engine timing belt is in good condition before the test is carried out.

- Excessive smoke can be caused by a dirty air cleaner element. Otherwise, professional advice may be needed to find the cause.

General dimensions and weights

Note: All figures are approximate, and may vary according to model. Refer to manufacturer's data for exact figures.

Dimensions

Overall length:	
All models except AX GT/AX Forté and GTi	3525 mm
AX GT/AX Forté and GTi models	3517 mm
Overall width:	
All models except AX GT/AX Forté and GTi	1555 mm
AX GT/AX Forté and GTi models	1596 mm
Overall height (unladen):	
All models except AX GT/AX Forté and GTi	1355 mm
AX GT/AX Forté models	1344 mm
AX GTi models	1340 mm
Wheelbase	2280 mm
Front track:	
AX 10, AX 11 and AX Diesel models	1380 mm
AX 14 models	1370 mm
AX GT/AX Forté models	1392 mm
AX GTi models	1390 mm
Rear track:	
AX 10, AX 11 and AX Diesel models	1300 mm
AX 14 models	1290 mm
AX GT/AX Forté models	1312 mm
AX GTi models	1331 mm

Weights

Kerb weight	655 to 795 kg*
Maximum gross vehicle weight**	1110 to 1240 kg*
Maximum roof rack load	50 kg
Maximum towing weight**:	
Braked trailer	500 to 700 kg*
Unbraked trailer	325 to 395 kg*
Maximum trailer nose weight	45 to 50 kg*

*Depending on model and specification.

**Refer to Citroën dealer for exact recommendations.

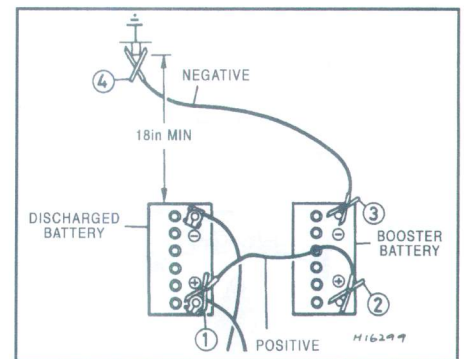
Booster battery (jump) starting

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.
- 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.
- Take note of any special precautions printed on the battery case.

Connect one jump lead between the positive (+) terminals of the two batteries. Connect the other jump lead first to the negative (-) terminal of the booster battery, and then to a good earthing point on the vehicle to be started, such as a bolt or bracket on the engine block, at least 45 cm (18 in) from the battery if possible (**see illustration**). Make sure that the jump leads will not come into contact with the fan, drivebelts or other moving parts of the engine.

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.



Jump start lead connections for negative-earth vehicles – connect leads in order shown

Radio/cassette unit anti-theft system - precaution

On later models, the radio/cassette unit fitted as standard equipment by Citroën is equipped with a built-in security code, to deter thieves. If the power source to the unit is cut, the anti-theft system will activate. Even if the power source is immediately reconnected, the radio/cassette unit will not function until the

correct security code has been entered. Therefore, if you do not know the correct security code for the radio/cassette unit, **do not** disconnect the battery negative terminal of the battery, or remove the radio/cassette unit from the vehicle.

To enter the correct security code, follow

the instructions provided with the radio/cassette player handbook.

If an incorrect code is entered, the unit will become locked, and cannot be operated.

If this happens, or if the security code is lost or forgotten, seek the advice of your Citroën dealer.

Jacking

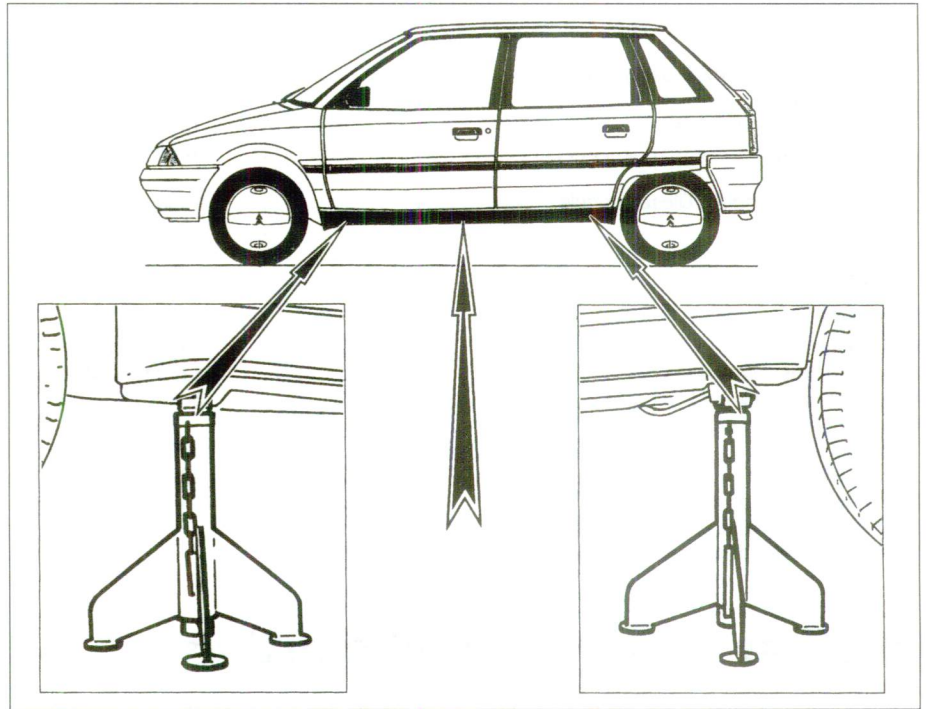
The jack supplied with the vehicle tool kit should only be used for changing the roadwheels - see "Wheel changing" later in this Section. When carrying out any other kind of work, raise the vehicle using a hydraulic (or "trolley") jack, and always supplement the jack with axle stands positioned under the vehicle jacking points (see illustration).

To raise the front of the vehicle, locate a beam transversely under the inboard mounting points of the front suspension arms, and position a trolley jack centrally beneath the beam (see illustration). **Do not** jack the vehicle under the sump, or any of the steering or suspension components.

To raise the rear of the vehicle, position the jack head underneath the rear crossmember (see illustration).

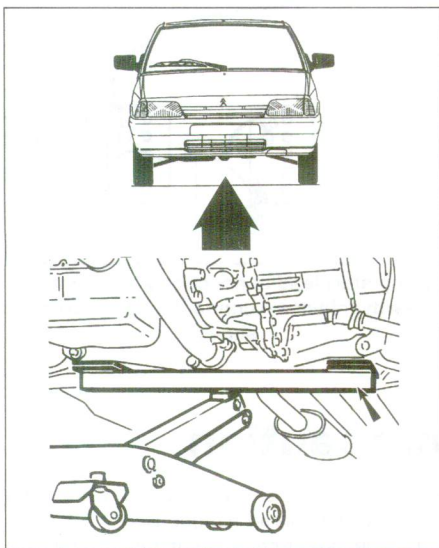
The jack supplied with the vehicle locates in the jacking points positioned centrally on the body sills on each side of the car. Ensure that the jack head is correctly engaged before attempting to raise the vehicle.

Never work under, around, or near a raised vehicle, unless it is adequately supported in at least two places.

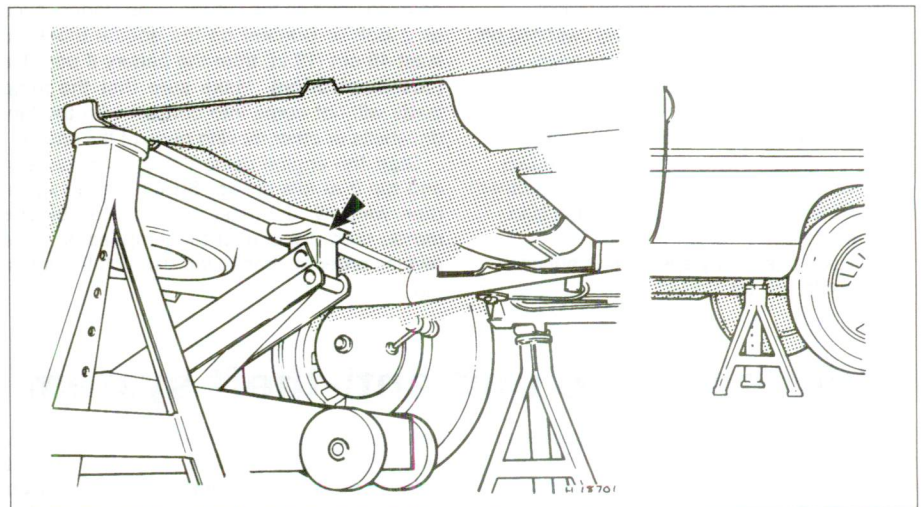


Location points for axle stands

Centre arrow indicates position for vehicle jack



When raising the front of the vehicle, locate a beam (arrowed) transversely under the inboard mounting points of the front suspension arms

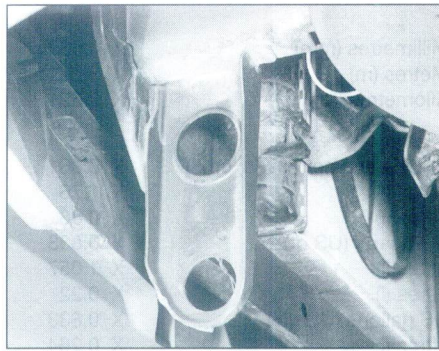


When raising the rear of the vehicle, position the jack head (arrowed) underneath the rear crossmember

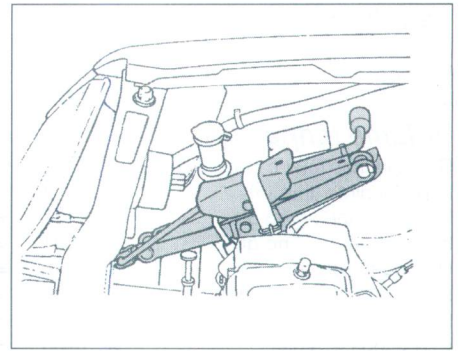
Towing

Towing eyes are fitted to the front and rear of the vehicle for attachment of a tow rope. On early models, the towing eyes are located beneath the front or rear bumpers (see illustration). On later models, they are located behind a plastic cover in the relevant bumper. Always turn the ignition key to position "M" when the vehicle is being towed, so that the steering lock is released, and that the direction indicator and brake lights will work.

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 (or vacuum pump, on Diesel models) is only operational with the engine running.



Front towing eye on early models



Jack location on early models

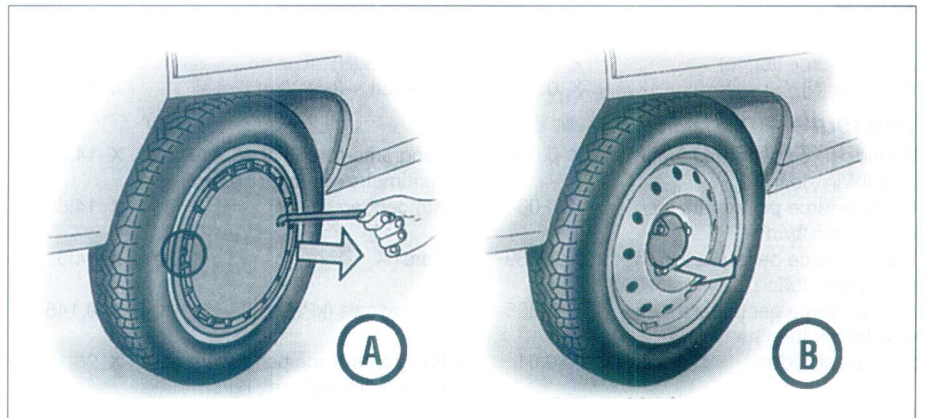
Wheel changing

The spare wheel is located in a cradle under the rear of the vehicle. On early models, the brace and jack are located on the right-hand side of the engine compartment (see illustration). On later models, the brace is located behind a cover on the right-hand side of the luggage compartment, and the jack is located in the spare wheel itself. For access to the spare wheel, proceed as follows:

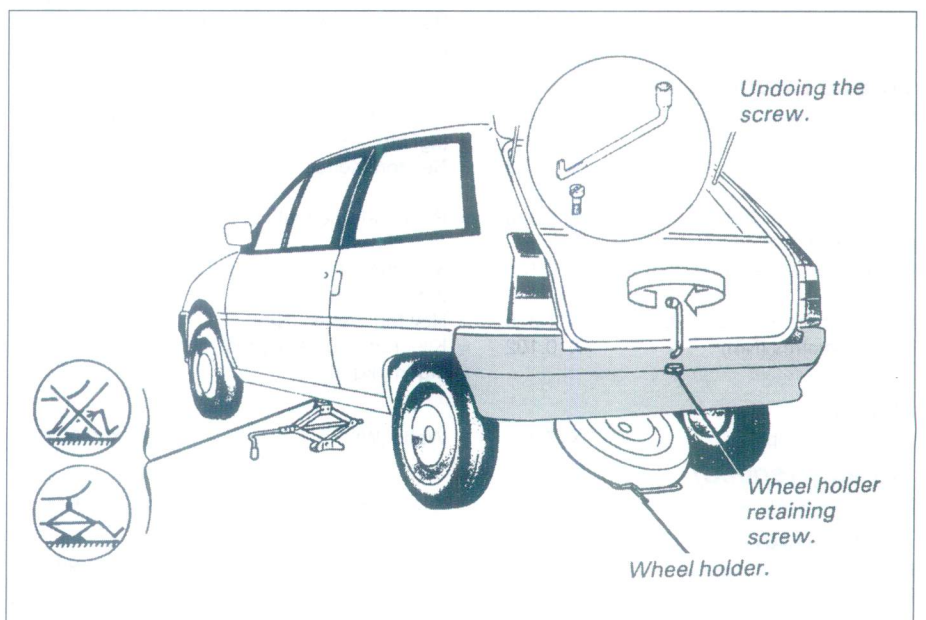
- Loosen the cradle securing bolt in the load area floor, using the end of the wheel brace.
- Lift the cradle sufficiently to disengage it from the latch.
- Lower the cradle, and lift out the spare wheel.

To change a wheel, remove the spare wheel, jack and wheel brace, as described previously, then proceed as follows.

Apply the handbrake, and place chocks at the front and rear of the wheel diagonally opposite the one to be changed. Select first or reverse gear, and make sure that the vehicle is located on firm, level ground. Prise off, and remove, the wheel trim where applicable (see illustration). Slightly loosen the wheel bolts with the brace provided. Locate the jack head in the jacking point in the centre of the sill on the relevant side, and raise the jack by turning the handle (see illustration). When the wheel is clear of the ground, remove the bolts and lift off the wheel. Remove the hub embellisher, where applicable, and fit it to the spare wheel. Fit the spare wheel, and moderately tighten the bolts. Lower the vehicle, and then tighten the bolts fully in a diagonal sequence. Refit the wheel trim, where applicable. If possible, check the tyre pressure on the spare wheel, and adjust as necessary. Remove the chocks, and stow the jack, tools and the punctured tyre in the luggage compartment. Hook the cradle back onto the latch, and raise the cradle back into position. Have the punctured tyre repaired, or renew it, as soon as possible.



Wheel trim (A) and hub embellisher (B) removal. Note that (B) is removed when wheel bolts are slackened



View showing jack location under body sill and spare wheel location/removal

Length (distance)

Inches (in)	X 25.4	= Millimetres (mm)	X 0.0394	= Inches (in)
Feet (ft)	X 0.305	= Metres (m)	X 3.281	= Feet (ft)
Miles	X 1.609	= Kilometres (km)	X 0.621	= Miles

Volume (capacity)

Cubic inches (cu in; in ³)	X 16.387	= Cubic centimetres (cc; cm ³)	X 0.061	= Cubic inches (cu in; in ³)
Imperial pints (Imp pt)	X 0.568	= Litres (l)	X 1.76	= Imperial pints (Imp pt)
Imperial quarts (Imp qt)	X 1.137	= Litres (l)	X 0.88	= Imperial quarts (Imp qt)
Imperial quarts (Imp qt)	X 1.201	= US quarts (US qt)	X 0.833	= Imperial quarts (Imp qt)
US quarts (US qt)	X 0.946	= Litres (l)	X 1.057	= US quarts (US qt)
Imperial gallons (Imp gal)	X 4.546	= Litres (l)	X 0.22	= Imperial gallons (Imp gal)
Imperial gallons (Imp gal)	X 1.201	= US gallons (US gal)	X 0.833	= Imperial gallons (Imp gal)
US gallons (US gal)	X 3.785	= Litres (l)	X 0.264	= US gallons (US gal)

Mass (weight)

Ounces (oz)	X 28.35	= Grams (g)	X 0.035	= Ounces (oz)
Pounds (lb)	X 0.454	= Kilograms (kg)	X 2.205	= Pounds (lb)

Force

Ounces-force (ozf; oz)	X 0.278	= Newtons (N)	X 3.6	= Ounces-force (ozf; oz)
Pounds-force (lbf; lb)	X 4.448	= Newtons (N)	X 0.225	= Pounds-force (lbf; lb)
Newtons (N)	X 0.1	= Kilograms-force (kgf; kg)	X 9.81	= Newtons (N)

Pressure

Pounds-force per square inch (psi; lbf/in ² ; lb/in ²)	X 0.070	= Kilograms-force per square centimetre (kgf/cm ² ; kg/cm ²)	X 14.223	= Pounds-force per square inch (psi; lbf/in ² ; lb/in ²)
Pounds-force per square inch (psi; lbf/in ² ; lb/in ²)	X 0.068	= Atmospheres (atm)	X 14.696	= Pounds-force per square inch (psi; lbf/in ² ; lb/in ²)
Pounds-force per square inch (psi; lbf/in ² ; lb/in ²)	X 0.069	= Bars	X 14.5	= Pounds-force per square inch (psi; lbf/in ² ; lb/in ²)
Pounds-force per square inch (psi; lbf/in ² ; lb/in ²)	X 6.895	= Kilopascals (kPa)	X 0.145	= Pounds-force per square inch (psi; lbf/in ² ; lb/in ²)
Kilopascals (kPa)	X 0.01	= Kilograms-force per square centimetre (kgf/cm ² ; kg/cm ²)	X 98.1	= Kilopascals (kPa)
Millibar (mbar)	X 100	= Pascals (Pa)	X 0.01	= Millibar (mbar)
Millibar (mbar)	X 0.0145	= Pounds-force per square inch (psi; lbf/in ² ; lb/in ²)	X 68.947	= Millibar (mbar)
Millibar (mbar)	X 0.75	= Millimetres of mercury (mmHg)	X 1.333	= Millibar (mbar)
Millibar (mbar)	X 0.401	= Inches of water (inH ₂ O)	X 2.491	= Millibar (mbar)
Millimetres of mercury (mmHg)	X 0.535	= Inches of water (inH ₂ O)	X 1.868	= Millimetres of mercury (mmHg)
Inches of water (inH ₂ O)	X 0.036	= Pounds-force per square inch (psi; lbf/in ² ; lb/in ²)	X 27.68	= Inches of water (inH ₂ O)

Torque (moment of force)

Pounds-force inches (lbf in; lb in)	X 1.152	= Kilograms-force centimetre (kgf cm; kg cm)	X 0.868	= Pounds-force inches (lbf in; lb in)
Pounds-force inches (lbf in; lb in)	X 0.113	= Newton metres (Nm)	X 8.85	= Pounds-force inches (lbf in; lb in)
Pounds-force inches (lbf in; lb in)	X 0.083	= Pounds-force feet (lbf ft; lb ft)	X 12	= Pounds-force inches (lbf in; lb in)
Pounds-force feet (lbf ft; lb ft)	X 0.138	= Kilograms-force metres (kgf m; kg m)	X 7.233	= Pounds-force feet (lbf ft; lb ft)
Pounds-force feet (lbf ft; lb ft)	X 1.356	= Newton metres (Nm)	X 0.738	= Pounds-force feet (lbf ft; lb ft)
Newton metres (Nm)	X 0.102	= Kilograms-force metres (kgf m; kg m)	X 9.804	= Newton metres (Nm)

Power

Horsepower (hp)	X 745.7	= Watts (W)	X 0.0013	= Horsepower (hp)
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Velocity (speed)

Miles per hour (miles/hr; mph)	X 1.609	= Kilometres per hour (km/hr; kph)	X 0.621	= Miles per hour (miles/hr; mph)
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Fuel consumption*

Miles per gallon, Imperial (mpg)	X 0.354	= Kilometres per litre (km/l)	X 2.825	= Miles per gallon, Imperial (mpg)
Miles per gallon, US (mpg)	X 0.425	= Kilometres per litre (km/l)	X 2.352	= Miles per gallon, US (mpg)

Temperature

Degrees Fahrenheit = (°C x 1.8) + 32	Degrees Celsius (Degrees Centigrade; °C) = (°F - 32) x 0.56
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* It is common practice to convert from miles per gallon (mpg) to litres/100 kilometres (l/100km), where mpg (Imperial) x 1/100 km = 282 and mpg (US) x 1/100 km = 235

Chapter 1

Routine maintenance and servicing

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Front brake pad check	23	Tyre checks	4
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Fuel filter renewal - Diesel models	10	Wiper blade check	7
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Degrees of difficulty

Easy, suitable for novice with little experience



Fairly easy, suitable for beginner with some experience



Fairly difficult, suitable for competent DIY mechanic



Difficult, suitable for experienced DIY mechanic



Very difficult, suitable for expert DIY or professional



Lubricants and fluids

Engine (petrol)	Multigrade engine oil, viscosity SAE 10W/40, 15W/40 or 15W/50, to API SG/CD (<i>Duckhams QXR Premium Petrol Engine Oil, or Duckhams Hypergrade Petrol Engine Oil</i>)
Engine (diesel)	Multigrade engine oil, viscosity SAE 10W/40, 15W/40 or 15W/50, to API SG/CD (<i>Duckhams QXR Premium Diesel Engine Oil, or Duckhams Hypergrade Diesel Engine Oil</i>)
Cooling system	Ethylene glycol-based antifreeze (<i>Duckhams Antifreeze and Summer Coolant</i>)
Manual transmission	Total transmission oil BV 75W/80W (<i>Duckhams Hypoid Gear Oil 75W-80W GL-5</i>)
Braking system	Universal brake fluid to DOT 4 (<i>Duckhams Universal Brake and Clutch Fluid</i>)
General greasing	Multi-purpose lithium-based grease (<i>Duckhams LB 10</i>)

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. By introducing a simplified and improved range of engine oils, Duckhams has taken away the confusion and made it easier for you to choose the right oil for your engine.

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.**

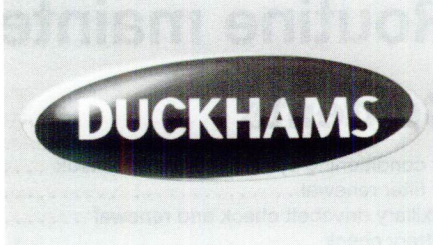


DUCKHAMS ENGINE OILS

For the driver who demands a premium quality oil for complete reassurance, we recommend synthetic formula **Duckhams QXR Premium Engine Oils**.

For the driver who requires a straightforward quality engine oil, we recommend **Duckhams Hypergrade Engine Oils**.

For further information and advice, call the Duckhams UK Helpline on 0800 212988.



Capacities

Engine oil

Excluding filter:

954 cc, 1124 cc and 1360 cc petrol models	3.2 litres
1360 cc Diesel models	3.5 litres
1527 cc Diesel models	4.5 litres

Including filter:

954 cc, 1124 cc and 1360 cc petrol models	3.5 litres
1360 cc Diesel models	3.75 litres
1527 cc Diesel models	4.75 litres

Difference between MAX and MIN dipstick marks:

954 cc, 1124 cc and 1360 cc petrol and Diesel models	1.4 litres
1527 cc Diesel models	2.0 litres

Cooling system (approximate) 4.8 litres

Transmission 2.0 litres

Fuel tank

Early 954 cc models	36 litres
Later 954 cc models, and all other models	43 litres

Washer reservoirs

Windscreen washers only	1.5 litres
Windscreen and tailgate washers	2.8 litres

Citroën AX maintenance schedule

1 The maintenance intervals in this manual are provided with the assumption that you will be carrying out the work yourself. These are the minimum maintenance intervals recommended by the

manufacturer for vehicles driven daily. If you wish to keep your vehicle in peak condition at all times, you may wish to perform some of these procedures more often. We encourage frequent maintenance, because it enhances the efficiency, performance and resale value of your vehicle.

2 If the vehicle is driven in dusty areas, used to tow a trailer, or driven frequently at slow speeds (idling in traffic) or on short journeys, more frequent maintenance intervals are recommended. Citroën actually recommend that the service intervals are halved for vehicles which are used under these conditions.

3 When the vehicle is new, it should be serviced by a factory-authorised dealer service department, in order to preserve the factory warranty.

Every 250 miles (400 km) or weekly

- Check the engine oil level (Section 3).
- Check the engine coolant level (Section 3).
- Check the brake fluid level (Section 3).
- Check the windscreen/tailgate washer fluid level (Section 3).
- Visually examine the tyres for tread depth, and wear or damage (Section 4).
- Check and adjust the tyre pressures (Section 4).
- Check the condition of the battery (Section 6).
- Check the operation of the horn, all lights, and the wipers and washers (Sections 5 and 7).

Every 6000 (10 000 km) (or 12 months – whichever comes first)

In addition to all the items listed above, carry out the following:

- Renew the engine oil and filter (Section 8).
- Check all underbonnet components and hoses for fluid leaks (Section 9).
- Renew the fuel filter - Diesel models (Section 10).
- Check the steering and suspension components for condition and security (Section 11).
- Check the condition of the driveshaft rubber gaiters (Section 12).

Every 12 000 (20 000 km)

In addition to all the items listed above, carry out the following:

- Check the condition of the air conditioning system refrigerant - where applicable (see Section 13).
- Renew the spark plugs (Section 14).
- Renew the fuel filter - carburettor models (Section 15).
- Drain any water from the fuel filter - Diesel models (Section 16).
- Check the ignition system and ignition timing - petrol models (Section 17).
- Check the idle speed and mixture adjustment - petrol models (Section 18).
- Check the idle speed and anti-stall speed - Diesel models (Section 19).
- Check the condition of the emission control system hoses and components (Section 20).
- Check the condition of the auxiliary drivebelt, and renew if necessary (Section 21).
- Check the clutch adjustment (Section 22).
- Lubricate the clutch control mechanism (Section 22).
- Check the condition of the front brake pads, and renew if necessary (Section 23).
- Check the operation of the handbrake (Section 24).
- Carry out a road test (Section 25).

Every 18 000 (30 000 km)

In addition to all the items listed above, carry out the following:

- Lubricate all hinges and locks (Section 26).

Every 24 000 (40 000 km)

In addition to all the items listed above, carry out the following:

- Renew the air filter (Section 27).
- Check the condition of the rear brake shoes, and renew if necessary (Section 28).
- Renew the brake fluid (Section 29).

Every 36 000 (60 000 km)

In addition to all the items listed above, carry out the following:

- Check the manual transmission oil level, and top-up if necessary (Section 30).

Every 48 000 (80 000 km)

In addition to all the items listed above, carry out the following:

- Renew the fuel filter - fuel-injected petrol models (Section 31).

Every 72 000 (120 000 km)

In addition to all the items listed above, carry out the following:

- Renew the timing belt (Section 32).

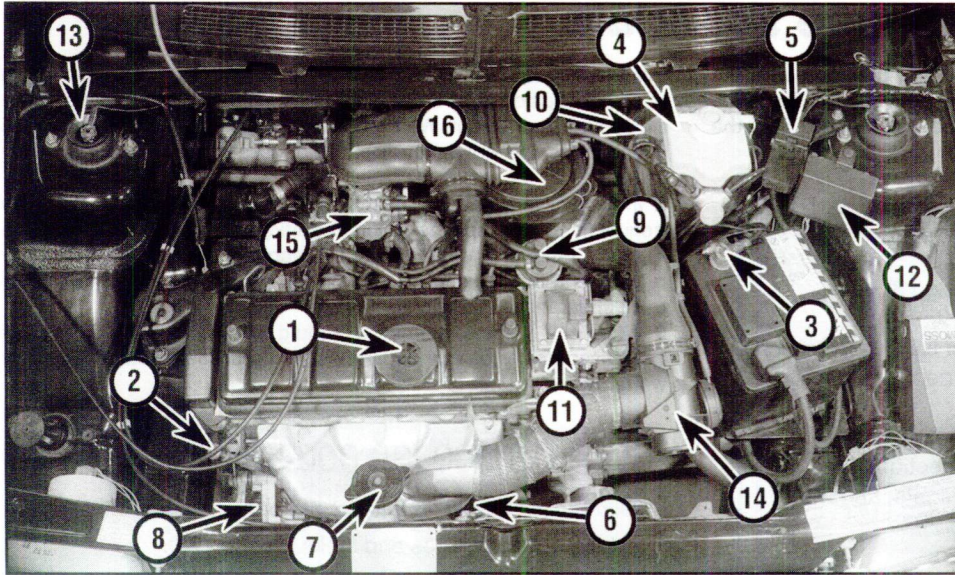
Note: Citroën recommend that the timing belt renewal interval is halved to 36 000 miles (60 000 km) on vehicles which are subjected to intensive use, ie. mainly short journeys or a lot of stop-start driving. The actual belt renewal interval is therefore very much up to the individual owner. That being said, it is highly recommended to err on the side of safety, and renew the belt at this earlier interval, bearing in mind the drastic consequences resulting from belt failure.

Every 2 years (regardless of mileage)

In addition to all the items listed above, carry out the following:

- Lubricate all hinges and locks (Section 26).

Maintenance Schedule

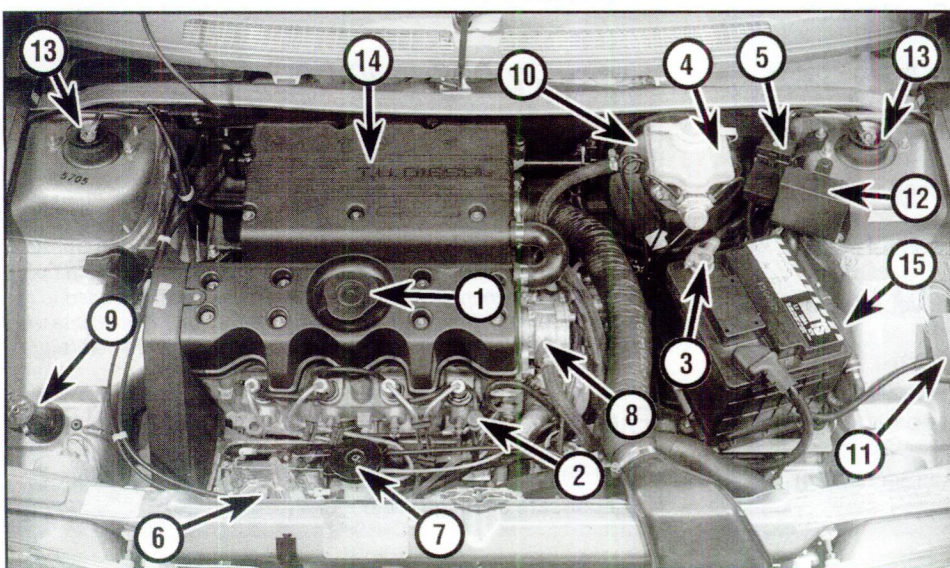
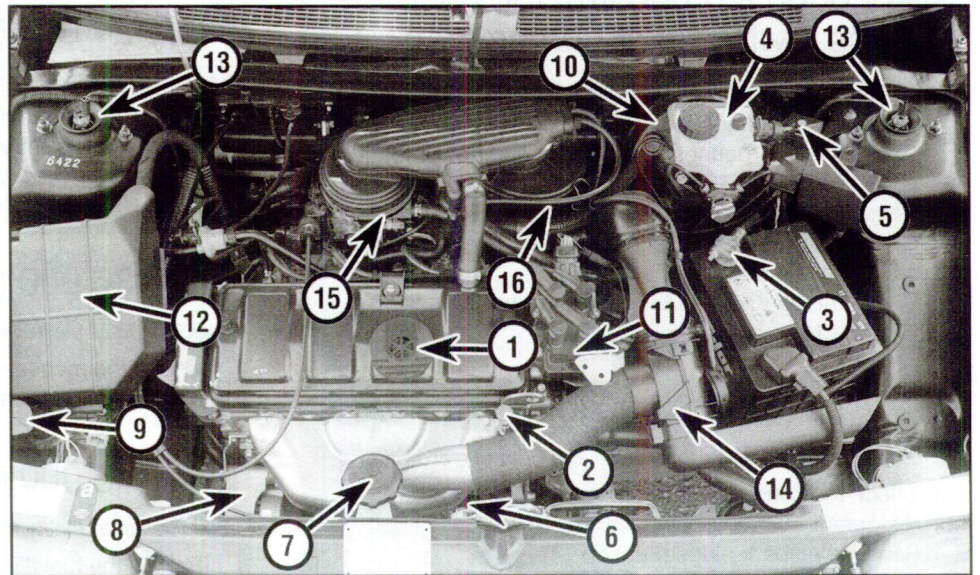


Underbonnet view of an 1124 cc (H1A engine) carburettor model

- 1 Engine oil filler cap
- 2 Engine oil dipstick
- 3 Battery earth (negative) terminal
- 4 Master cylinder/brake fluid reservoir
- 5 Auxiliary fusebox
- 6 Engine oil filter
- 7 Radiator filler cap
- 8 Alternator
- 9 Fuel pump
- 10 Braking system vacuum servo unit
- 11 Ignition HT coil
- 12 Relay box
- 13 Suspension strut upper mounting
- 14 Air cleaner air temperature control valve
- 15 Carburettor
- 16 Air cleaner housing

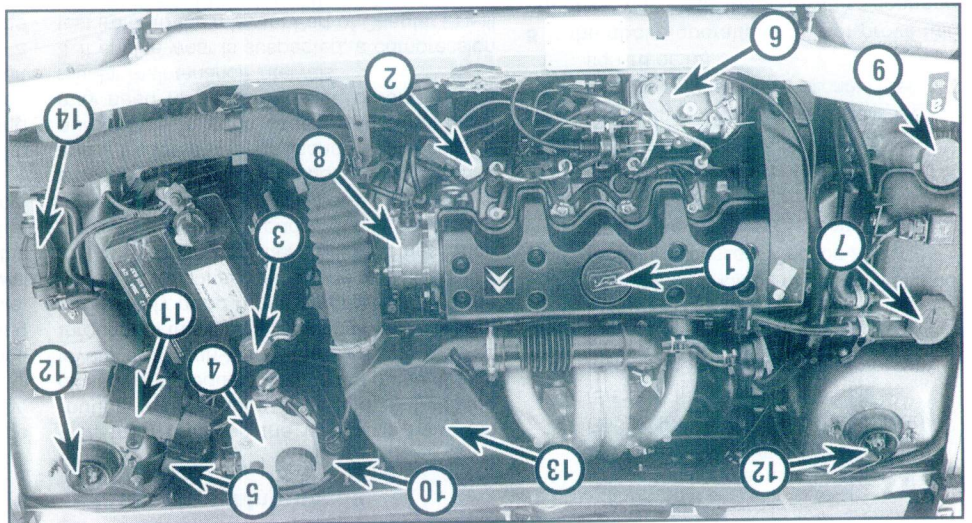
Underbonnet view of an 1124 cc (HDY engine) single-point fuel-injected model

- 1 Engine oil filler cap
- 2 Engine oil dipstick
- 3 Battery earth (negative) terminal
- 4 Master cylinder/brake fluid reservoir
- 5 Auxiliary fusebox
- 6 Engine oil filter
- 7 Radiator filler cap
- 8 Alternator
- 9 Washer fluid reservoir filler cap
- 10 Braking system vacuum servo unit
- 11 Ignition HT coil
- 12 Plastic box containing fuel injection ECU, relay unit and injector resistor
- 13 Suspension strut upper mounting
- 14 Air cleaner air temperature control valve
- 15 Throttle body assembly
- 16 Air cleaner housing

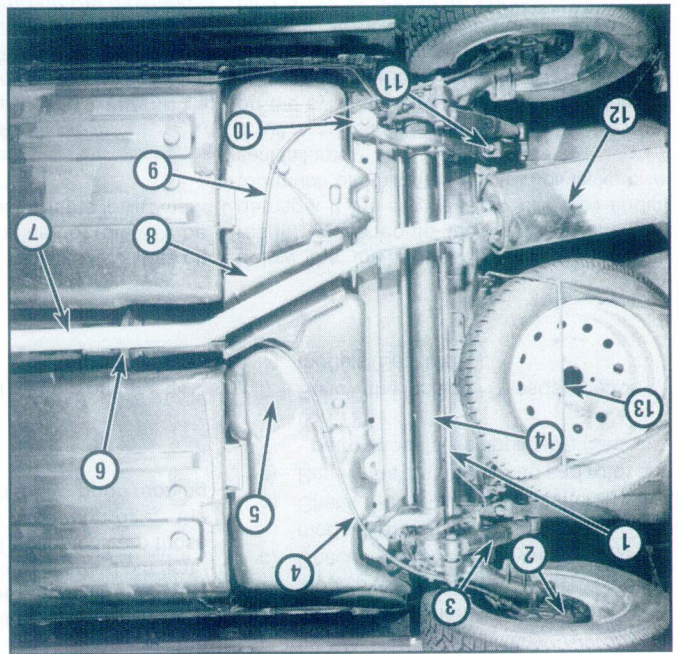


Underbonnet view of a 1360 cc (K9B engine) Diesel model

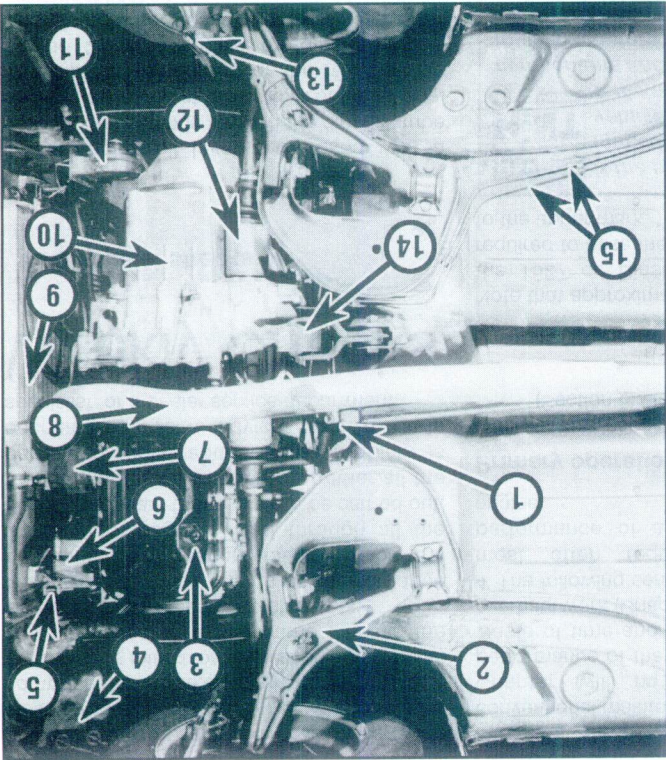
- 1 Engine oil filler cap
- 2 Engine oil dipstick
- 3 Battery earth (negative) terminal
- 4 Master cylinder/brake fluid reservoir
- 5 Auxiliary fusebox
- 6 Fuel injection pump
- 7 Radiator filler cap
- 8 Braking system vacuum pump
- 9 Washer fluid reservoir filler cap
- 10 Braking system vacuum servo unit
- 11 Preheating control unit
- 12 Relay box
- 13 Suspension strut upper mounting
- 14 Air cleaner housing
- 15 Fuel system priming bulb



- Underbonnet view of a 1527 cc (VJZ engine) Diesel model
- 1 Engine oil filler cap
 - 2 Engine oil dipstick
 - 3 Battery earth (negative) terminal
 - 4 Master cylinder/brake fluid reservoir
 - 5 Auxiliary fusebox
 - 6 Fuel injection pump
 - 7 Expansion tank filler cap
 - 8 Braking system vacuum pump
 - 9 Washer fluid reservoir filler cap
 - 10 Braking system vacuum servo unit
 - 11 Relay box
 - 12 Suspension strut upper mounting
 - 13 Air cleaner housing
 - 14 Fuel system priming bulb



- Rear underbody view - 1124 cc petrol model (Diesel models similar)
- 1 Torsion bar
 - 2 Rear brake drum
 - 3 Shock absorber
 - 4 Handbrake cable (to right-hand rear brake)
 - 5 Fuel tank
 - 6 Handbrake cable equaliser
 - 7 Exhaust pipe
 - 8 Heat shield
 - 9 Handbrake cable (to left-hand rear brake)
 - 10 Rear axle mounting (front)
 - 11 Rear axle mounting (rear)
 - 12 Exhaust silencer
 - 13 Spare wheel carrier
 - 14 Rear axle



- Front underbody view - 1124 cc petrol model (Diesel models similar)
- 1 Gearshift rod
 - 2 Suspension arm
 - 3 Engine sump drain plug
 - 4 Windscreen/tailgate window washer reservoir
 - 5 Alternator drivebelt adjuster
 - 6 Alternator
 - 7 Engine oil filter
 - 8 Exhaust pipe
 - 9 Radiator
 - 10 Manual transmission
 - 11 Horn
 - 12 Driveshaft
 - 13 Front brake caliper
 - 14 Rear engine mounting link
 - 15 Brake pipes

Weekly Checks

1 Introduction

1 This Chapter is designed to help the home mechanic maintain his/her vehicle for safety, economy, long life and peak performance.

2 The Chapter contains a master maintenance schedule, followed by Sections dealing specifically with each task in the schedule. Visual checks, adjustments, component renewal and other helpful items are included. Refer to the accompanying illustrations of the engine compartment and the underside of the vehicle for the locations of the various components.

3 Servicing your vehicle in accordance with the mileage/time maintenance schedule and the following Sections will provide a planned maintenance programme, which should result in a long and reliable service life. This is a comprehensive plan, so maintaining some items but not others at the specified service intervals, will not produce the same results.

4 As you service your vehicle, you will discover that many of the procedures can - and should - be grouped together, because of the particular procedure being performed, or because of the close proximity of two otherwise-unrelated components to one another. For example, if the vehicle is raised for any reason, the exhaust can be inspected at the same time as the suspension and steering components.

5 The first step in this maintenance programme is to prepare yourself before the actual work begins. Read through all the Sections relevant to the work to be carried out, then make a list and gather together all the parts and tools required. If a problem is encountered, seek advice from a parts specialist, or a dealer service department.

2 Intensive maintenance

1 If, from the time the vehicle is new, the routine maintenance schedule is followed closely, and frequent checks are made of fluid levels and high-wear items, as suggested throughout this manual, the engine will be kept in relatively good running condition, and the need for additional work will be minimised.

2 It is possible that there will be times when the engine is running poorly due to the lack of regular maintenance. This is even more likely if a used vehicle, which has not received regular and frequent maintenance checks, is purchased. In such cases, additional work may need to be carried out, outside of the regular maintenance intervals.

3 If engine wear is suspected, a compression test (refer to the relevant Part of Chapter 2) will provide valuable information regarding the overall performance of the main internal components. Such a test can be used as a basis to decide on the extent of the work to be carried out. If, for example, a compression test indicates serious internal engine wear, conventional maintenance as described in this Chapter will not greatly improve the performance of the engine, and may prove a waste of time and money, unless extensive overhaul work (Chapter 2C) is carried out first.

4 The following series of operations are those most often required to improve the performance of a generally poor-running engine:

Primary operations

- Clean, inspect and test the battery (Section 6).

- Check all the engine-related fluids (Section 3).
- Check the condition and tension of the auxiliary drivebelt (Section 21).
- Renew the spark plugs - petrol models (Section 14).
- Inspect the distributor cap, rotor arm and HT - petrol models, as applicable (Section 17).
- Check the condition of the air filter, and renew if necessary (Section 27).
- Check the fuel filter (Section 10, 15, 16, or 31, as applicable).
- Check the condition of all hoses, and check for fluid leaks (Section 9).
- Check the idle speed, anti-stall, and mixture settings, as applicable (Section 18 or 19).

5 If the above operations do not prove fully effective, carry out the following secondary operations:

Secondary operations

All items listed under "Primary operations", plus the following:

- Check the charging system (Chapter 5A).
- Check the ignition system - petrol models (Chapter 5B).
- Check the preheating system - Diesel models (Chapter 5C).
- Check the fuel system (Chapter 4).
- Renew the distributor cap and rotor arm - petrol models, as applicable (Section 17).
- Renew the ignition HT leads - petrol models (Section 17).

Weekly Checks

3 Fluid level checks



Engine oil

1 The engine oil level is checked with a dipstick that extends through the dipstick tube and into the sump at the bottom of the engine. The dipstick is located at the front of the engine. On later models, the dipstick top is brightly-coloured (usually blue or yellow) for easy identification.

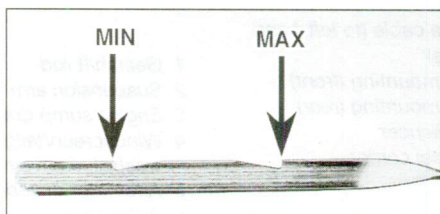
2 The oil level should be checked with the vehicle standing on level ground, with the engine switched off. Check the level before the vehicle is driven, or wait at least 5 minutes after the engine has been switched off.

3 Withdraw the dipstick from the tube, and wipe all the oil from the end with a clean rag or paper towel. Insert the clean dipstick back into the tube as far as it will go, then withdraw it once more. Note the oil level on the end of the dipstick. Add oil as necessary until the level is between the upper ("MAX") mark and lower ("MIN") mark on the dipstick (see illustration).

Note that approximately 1.4 litres (2.0 litres on the 1527 cc Diesel engine) of oil will be required to raise the level from the lower mark to the upper mark.

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

4 Always maintain the level between the two dipstick marks. If the level is allowed to fall



3.3 Engine oil level dipstick markings

below the lower mark, oil starvation may result, which could lead to severe engine damage. If the engine is overfilled by adding too much oil, this may result in oil leaks or oil seal failures.

5 Oil is added to the engine via the filler cap on the cylinder head cover. Unscrew the cap and top-up the level (see illustration); an oil can spout or funnel may help to reduce spillage. Always use the correct grade and type of oil, as shown in "Lubricants fluids and capacities".



3.5 Topping-up the engine oil - Diesel engine shown