

Citroën BX

Service and Repair Manual

I M Coomber and Christopher Rogers

Models covered

(908 - 336 - 1AA12)

Citroën BX Hatchback & Estate models with petrol engines (inc. GTi, 16 valve & special/limited editions)
1360 cc, 1580 cc & 1905 cc

Does not cover diesel engine variants or 4x4 models

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A book in the Haynes Service and Repair Manual Series

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ISBN 1 85960 190 1

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ABCDE
FGHIJ
KLMNO
PQRST
1 2 3

Printed by J. H. Haynes & Co. Ltd, Sparkford, Nr Yeovil, Somerset
BA22 7JJ, England

Haynes Publishing
Sparkford, Nr Yeovil, Somerset BA22 7JJ, England

Haynes North America, Inc
861 Lawrence Drive, Newbury Park, California 91320, USA

Editions Haynes S.A.
147/149, rue Saint Honoré, 75001 PARIS, France

Haynes Publishing Nordiska AB
Fyrisborgsgatan 5, 754 50 Uppsala, Sverige

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0.4 Introduction

The Citroën BX was introduced in France in October of 1982 and became available in the UK in September 1983. The original models available in the range were the BX, BX 14 E, BX 14 RE, BX 16 RS and BX 16 TRS. The types of engine, transmission and equipment fitted being dependent on the model and the body design being that of a Hatchback.

For the 1985 model year, the BX 19 GT was made available for the driver requiring a higher performance model. Also in 1985, the BX Leader replaced the BX and BX 14 models, the Leader being fitted with the same engine and transmission as the BX 14. In the second half of 1985 the Estate was introduced, two versions being available, the BX 16 RS Estate and the BX 16 TRS Estate.

Changes for the 1987 model year included the introduction of the BX 16 RE Hatchback, the BX 19 GTi (fuel injection and ABS braking), the BX 19 GTi 16v (16 valve engine) and the replacement for the BX 19 GT, the BX 19 TRS. Also, a BX 19 TRS Estate fitted with automatic transmission became available. The facia and instruments were modified on all models, with round instruments being used. Other aesthetic improvements were made to improve the external appearance of certain models.



Citroën BX 16 TRS

For the 1988 model year, all BX 14 models were equipped with the K1G engine with 2CA type 4 or 5-speed manual gearbox.

For the 1989 model year, BX 16 and BX 19 models were equipped with the BE3 5-speed manual gearbox to replace the earlier BE1 5-speed type.

In early 1990, BX 19 TZi Hatchback and Estate models became available, these being equipped with catalytic converters.

In late 1992, BX 16 TXi catalytic converter equipped Hatchback and Estate models were added to the range.

On all models, the engine and transmission is mounted transversely and drives the front wheels through two driveshafts. The transmission available (depending on model type) is a 4 or 5-speed manual gearbox or a 4-speed automatic unit.

All models are extremely comfortable to ride in, thanks to the hydropneumatic suspension and luxurious interior trim. The unique design suspension is self-levelling and the ride height is maintained automatically over all road conditions. A ground clearance lever inside the car may be used to adjust the ride height when travelling over rough ground, this also makes changing a roadwheel much simpler.



Citroën BX 19 GTi

The Citroën BX Team

Haynes manuals are produced by dedicated and enthusiastic people working in close co-operation. The team responsible for the creation of this book included:

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Cover illustration & Line Art	Roger Healing

We hope the book will help you to get the maximum enjoyment from your car. By carrying out routine maintenance as described you will ensure your car's reliability and preserve its resale value.

Your Citroën BX 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 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. Then the tasks are described and photographed in a clear step-by-step sequence.

Acknowledgements

Thanks are due to Champion Spark Plug who supplied the illustrations showing spark plug conditions, and to Duckhams Oils, who provided lubrication data. Certain other illustrations are the copyright of Citroën (UK) Limited and are used with their permission. Thanks are also due to Sykes-Pickavant Limited, who supplied 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 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

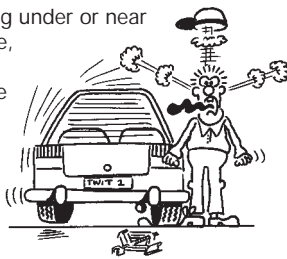
- Don't remove the radiator or expansion tank cap while the engine is hot.
- Engine oil, automatic transmission fluid or power steering fluid may also be dangerously hot if the engine has recently been running.

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.**



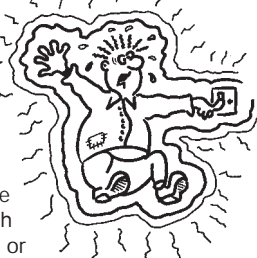
- Take care if loosening or tightening high-torque nuts when the vehicle is on stands. Initial loosening and final tightening should be done with the wheels on the ground.

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

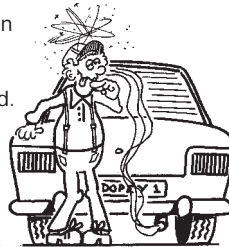
- Ignition HT voltage can be dangerous, especially to people with heart problems or a pacemaker. Don't work on or near the ignition system with the engine running or the ignition switched on.



- 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.

0.6 Roadside repairs

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

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

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



A Check that the HT lead connections at the distributor are clean and secure.



B Check that the HT lead connections at the spark plugs are clean and secure.



C Check that the HT and LT lead connections at the ignition coil are clean and secure.



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

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

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



D Check the security and condition of the battery connections.



E Check all wiring block connectors are clean and secure.

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).

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.

Jump starting

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



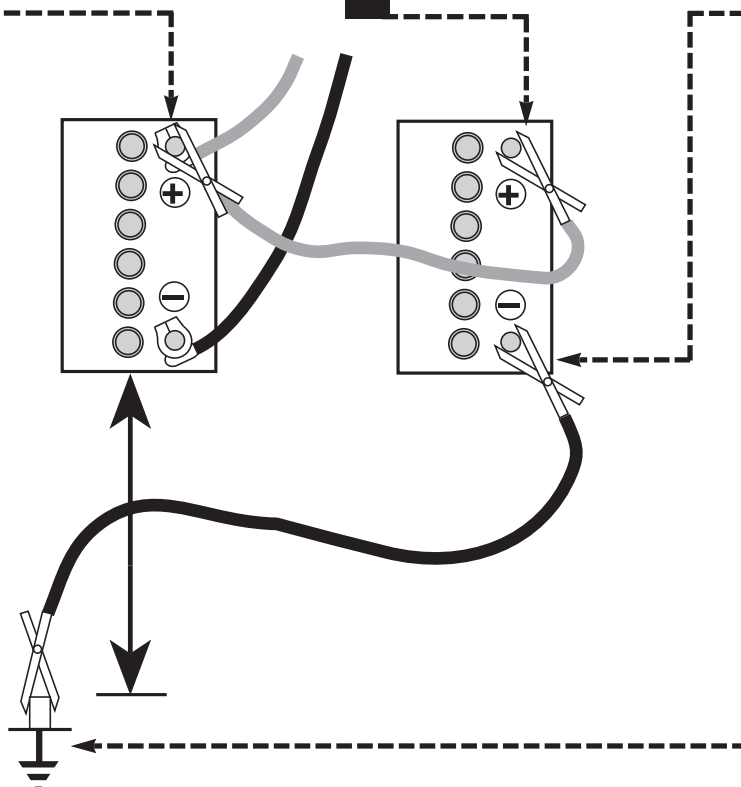
1 Connect one end of the red jump lead to the positive (+) terminal of the flat battery



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



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



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

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

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

Wheel changing

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

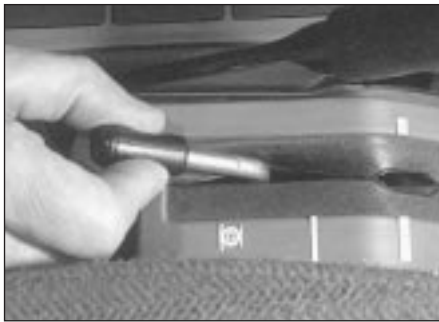


Warning: Do not change a wheel in a situation where you risk being hit by other traffic. On busy roads, try to stop in a lay-by or a gateway. Be wary of passing traffic while changing the wheel – it is easy to become distracted by the job in hand.

Preparation

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

Changing the wheel



1 With the handbrake applied and engine set to idle, move ground clearance selector lever to maximum height position.



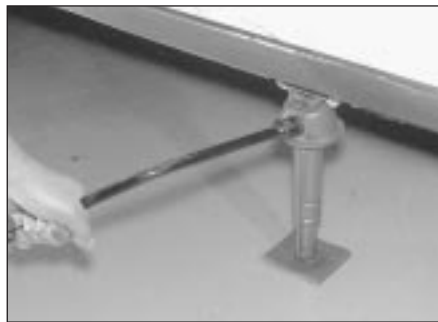
2 Turn the wheel brace 6 to 8 turns to lower the spare wheel carrier.



3 Remove the spare wheel and jack.



4 Use the wheel brace to slightly loosen the bolts of the wheel to be removed.



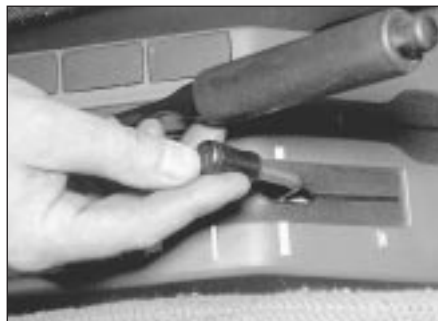
5 Locate the jack in the correct jacking point and raise the vehicle so that the wheel is clear of the ground.



6 Undo and remove the wheel bolts and remove the wheel.



7 Fit the spare wheel, nipping tight the bolts. Lower to the ground and tighten the bolts to correct torque setting.



8 Reset the ground clearance lever to normal driving position before using the vehicle.

Finally...

- Remove the wheel chocks.
- Stow the jack and tools in the correct locations in the car.
- 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.



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



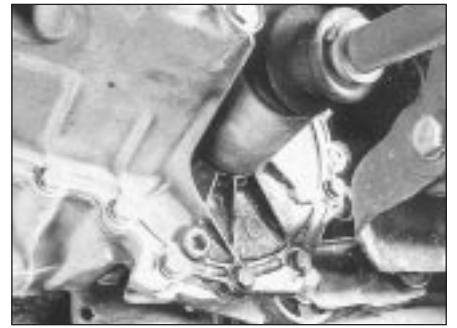
Engine oil may leak from the drain plug...

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



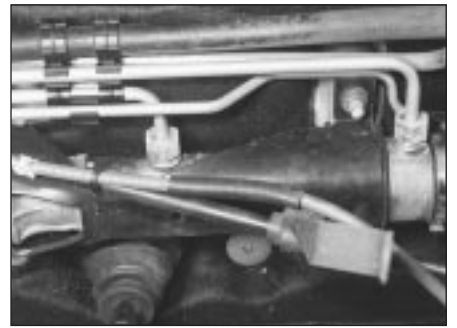
Leaking antifreeze often leaves a crystalline deposit like this.

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.

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

- Use a proper tow-rope – they are not expensive. The vehicle being towed must display an 'ON TOW' sign in its rear window.
- Always turn the ignition key to the 'on' position when the vehicle is being towed, so that the steering lock is released, and that the direction indicator and brake lights will work.
- Only attach the tow-rope to the towing eyes provided.

- Before being towed, release the handbrake and select neutral on the transmission (Refer to the **Warning** on the right).
- The driver of the car being towed must keep the tow-rope taut at all times to avoid snatching.
- Make sure that both drivers know the route before setting off.
- Only drive at moderate speeds and keep the distance towed to a minimum. Drive smoothly and allow plenty of time for slowing down at junctions.
- Remember that if the engine is not running, there will be no hydraulic pressure (Refer to the **Warning** on the right).



Warning: BX, BX14 and Leader with manual gearbox and all automatic transmission models should be towed with the front wheels clear of the ground. If this is impossible, restrict towing speed to 30 MPH and distance to 30 miles maximum. Disregard of these instructions may cause transmission damage due to lack of lubrication. If in doubt, do not tow, or transmission damage may result. Once the reserve of hydraulic pressure has been exhausted, the footbrake will not work and the handbrake will have to be used instead. Power steering assistance (when applicable) will also be lost.

Towing

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;

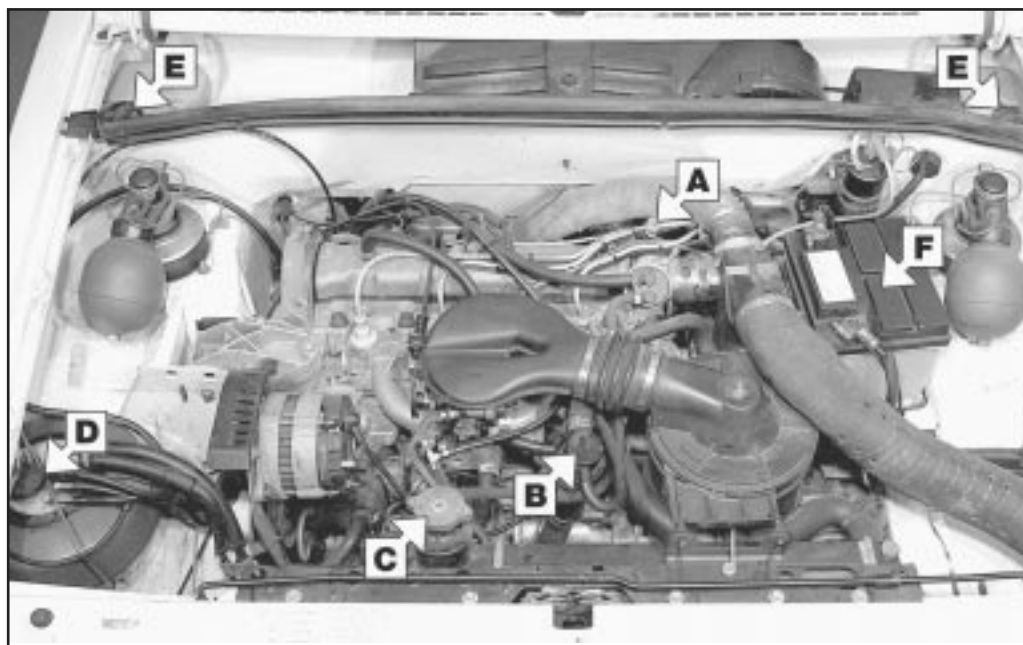
Keeping an eye on tyre condition and pressures, will not only help to stop them wearing out prematurely, but could also save your life.

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 car 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



◀ BX 16 RE

All other models similar

A Engine oil level dipstick (may be at front or rear of engine)

B Engine oil filler cap

C Coolant filler cap

D Hydraulic fluid reservoir

E Screen washer fluid reservoir

F Battery

Engine oil level

Before you start

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

HAYNES *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!*

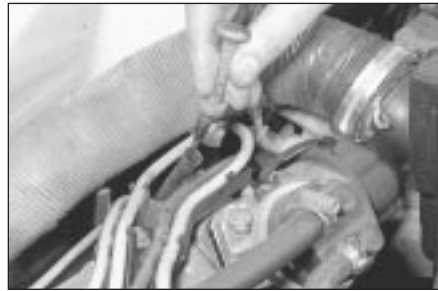
HiNT

The correct oil

Modern engines place great demands on their oil. It is very important that the correct oil for your car is used (See "Lubricants, fluids and capacities").

Car Care

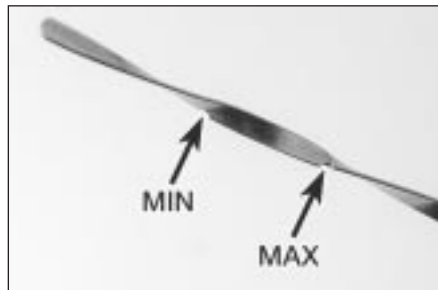
- If you have to add oil frequently, you should check whether you have any oil leaks. Place some clean paper under the car overnight, and check for stains in the morning. If there are no leaks, the engine may be burning oil (see "Fault Finding").
- Always maintain the level between the upper and lower 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 Depending on engine type, the dipstick is located either at the back or the front of the engine (see "Underbonnet Check Points" on pages 0•10 for exact location). Withdraw the dipstick.



2 Using a clean rag or paper towel remove all 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. Approximately 1.0 litre of oil will raise the level from the lower mark to the upper 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" left).

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

- With a sealed-type cooling system, 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. To check the level, wait until the engine is **cold** then unscrew the filler cap until a hissing sound is heard. When the hissing ceases, indicating that all pressure is released, slowly unscrew and remove the cap. If more hissing is heard, wait until it stops before unscrewing the cap completely. At all times keep well away from the filler opening.



2 On early BX models, the coolant depth, when cold, must be 250 to 300 mm from the top of the filler neck. The engine oil dipstick can be used to check the level but wipe it off before and after use. Later models have a tubular dipstick in the filler neck, the coolant must be between the MIN and MAX marks on the dipstick.



3 If necessary, add the recommended mixture of water and antifreeze through the filler orifice, until the coolant is up to the maximum level. Refit the cap, ensuring it is secure.

Hydraulic fluid level



Warning:

● Use only LHM mineral hydraulic fluid in the hydraulic system of the Citroën BX. The use of any other fluid will ruin the rubber rings and seals. LHM fluid is green in colour. Keep the fluid, carefully sealed, in its original container.

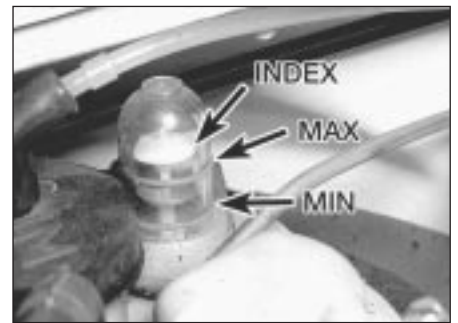


• Make sure that your car is on level ground.

• Cleanliness is of great importance when dealing with the hydraulic system, so take care to clean around the reservoir cap before topping-up. Use only clean LHM fluid.



1 With the engine idling, move the ground clearance selector lever to the maximum height position.

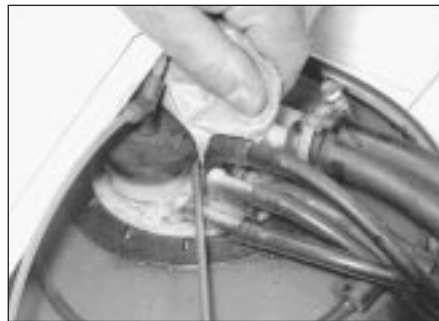


2 The hydraulic fluid reservoir is located on the front of the right-hand side engine bay bulkhead. Locate the hydraulic fluid sight level indicator on the top of the reservoir. The yellow indicator float (index) must be between the two red rings on the sight level glass.

Safety First!

● If the reservoir requires repeated topping-up, this is an indication of a fluid leak somewhere in the hydraulic system, which should be investigated immediately. The Citroën BX relies on the main hydraulic reservoir to supply the hydropneumatic suspension, the braking system and the power steering (where fitted).

● If a leak is suspected, the car should not be driven until the suspension, braking and steering systems have been checked. Never take any risks where any of these systems are concerned.



3 If topping-up is necessary, clean the filler cap and the surrounding area then remove the cap.



4 Using genuine green LHM fluid, top-up the reservoir until the indicator reaches the upper red mark, then refit the cap and switch off the engine. The difference between the upper and lower red rings is approximately 0.45 litre of fluid.

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 reservoirs for the windscreen and rear window washer systems are located on either side of the engine compartment, at the rear.



2 When topping-up each reservoir, a screenwash additive should be added in the quantities recommended on the bottle.



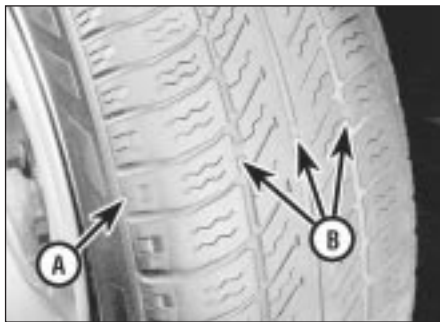
3 Check the operation of the windscreen and rear window washers. Check that the screenwash supply pipe to each wiper blade is correctly connected and free from blockage.

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. The tyre pressures are shown on page 0•15.

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.*

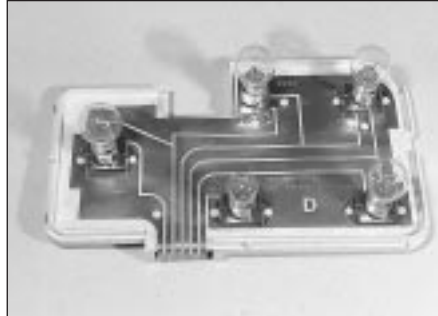
Electrical systems

✓ Check all external lights and the horn. Refer to the appropriate Sections of Chapter 13 for details if any of the circuits are found to be inoperative.



1 If a single indicator light, stop-light or headlight has failed, it is likely that a bulb has blown and will need to be replaced. Refer to Chapter 13 for details. If both stop-lights have failed, it is possible that the switch has failed (see Chapter 10).

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



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 13). The fuses are located in the passenger compartment, beneath the lower trim panel.

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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.



3 To remove a blown fuse, pull it from position. Fit a new fuse of the same rating, available from car accessory shops. It is important that you find the reason for the fuse blowing (see Chapter 13).

Battery

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

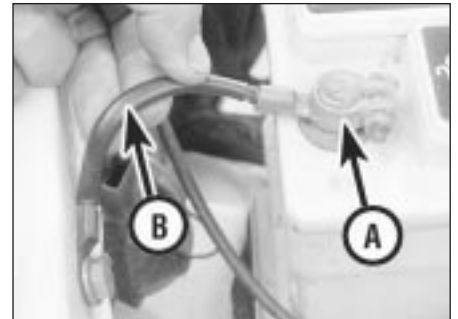
✓ Make sure that the battery tray is in good condition, and that the clamp is tight. Corrosion on the tray, retaining clamp and the battery itself can be removed with a solution of water and baking soda. Thoroughly rinse all cleaned areas with water. Any metal parts damaged by corrosion should be covered 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**.



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. If necessary, top-up using distilled water, so that the plates are covered by 6 mm of electrolyte.



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



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

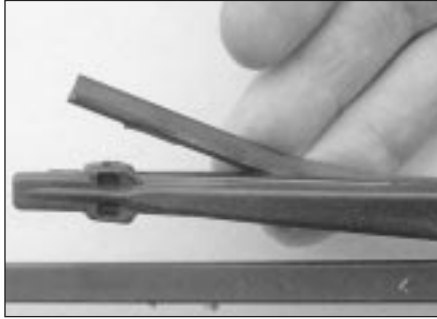


3 If corrosion (white, fluffy deposits) is evident, remove the cables from the battery terminals, clean them with a small wire brush, then refit them. Automotive stores sell a tool for cleaning the battery post . . .



4 . . . as well as the battery cable clamps

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°, press the locking tab with your fingers and slide the blade out of the arm's hooked end.

Tyre pressures (cold)

	Front (bar)	Rear (bar)
BX	1.9	2.0
BX 14	1.9	2.0
BX 14 Estate	2.2	2.5
BX 16	1.9	2.1
BX 16 - automatic transmission (from 1987)	2.2	2.2
BX 16 Estate	2.3	2.5
BX 19	2.0	2.2
BX 19 RE	2.0	2.0
BX 19 Estate	2.3	2.5
BX 19 GTi:		
No ABS	2.2	2.2
ABS	2.0	2.2
BX 19 GTi 16v:		
Pre March 1989	2.2	2.1
From March 1989	2.1	2.0

Recommendations may vary. Consult owners handbook or a tyre specialist if in doubt

0.16 Lubricants, fluids and capacities

Component or system	Lubricant or fluid	Capacity
Engine:		
BX and BX14 (with gearbox) pre-August 1988	Multigrade engine oil, viscosity SAE 15W/40 or 20W/50, (Duckhams QXR, QS, Hypergrade Plus or Hypergrade)	150A engine - 4.5 litres (oil change) 150C engine - 5.0 litres (oil change)
BX (from August 88)	As above	K1G engine - 3.5 litres (with filter)
BX16 and BX19	As above	171/159 engine 5.0 litres (oil change)
BX19 GTi 16v	As above	D6C engine - 5.3 litres (with filter)
Cooling system	Ethylene - glycol based antifreeze (Duckhams Antifreeze and Summer Coolant). Mixture in temperate climate - 25% antifreeze to 75% water	D6A/C/D engine - 7.1 litres Others - 6.5 litres
Manual gearbox:		
BX and BX14 pre-Aug. 88	N/A	With engine
Later BX 14 (MA type)	Gear oil, viscosity 75W/80W (Duckhams PT75W/80 Gear Oil)	2 litres
BX16 and BX19 (Type BE1)	As above	2 litres
BX16 and BX19 (Type BE3/5)	As above	Up to serial No. 2445106 - 2.2 litres From serial No. 2445106 - 1.8 litres
Automatic transmission	Dexron IID type ATF (Duckhams Uni-Matic)	From dry - 6.5 litres Drain and refill - 2.5 litres
Hydraulic system	Green LHM fluid (Duckhams LHM fluid)	-
Fuel system	97 to 99 RON leaded or 95 RON unleaded *	BX/BX14 - 44 or 52 litres BX16/BX19 - 52 or 66 litres

* **Note:** Models fitted with catalytic converters **MUST** use unleaded fuel at all times

Choosing your engine oil

Oils perform vital tasks in all engines. The higher the engine's performance, the greater the demand on lubricants to minimise wear as well as optimise power and economy. Duckhams tailors lubricants to the highest technical standards, meeting and exceeding the demands of all modern engines.

HOW ENGINE OIL WORKS

• **Beating friction**

Without oil, the surfaces inside your engine which rub together will heat, fuse and quickly cause engine seizure. Oil, and its special additives, forms a molecular barrier between moving parts, to stop wear and minimise heat build-up.

• **Cooling hot spots**

Oil cools parts that the engine's water-based coolant cannot reach, bathing the combustion chamber and pistons, where temperatures may exceed 1000°C. The oil assists in

transferring the heat to the engine cooling system. Heat in the oil is also lost by air flow over the sump, and via any auxiliary oil cooler.

• **Cleaning the inner engine**

Oil washes away combustion by-products (mainly carbon) on pistons and cylinders, transporting them to the oil filter, and holding the smallest particles in suspension until they are flushed out by an oil change. Duckhams oils undergo extensive tests in the laboratory, and on the road.



Note: It is antisocial and illegal to dump oil down the drain. To find the location of your local oil recycling bank, call this number free.

Engine oil types

Mineral oils are the "traditional" oils, generally suited to older engines and cars not used in harsh conditions. *Duckhams Hypergrade Plus* and *Hypergrade* are well suited for use in most popular family cars. Diesel oils such as *Duckhams Diesel* are specially formulated for Diesel engines, including turbocharged models and 4x4s. Synthetic oils are the state-of-the-art in lubricants, offering ultimate protection, but at a fairly high price. One such is *Duckhams QS*, for use in ultra-high performance engines. Semi-synthetic oils offer high performance engine protection, but at less cost than full synthetic oils. *Duckhams QXR* is an ideal choice for hot hatches and hard-driven cars.

For help with technical queries on lubricants, call Duckhams Oils on 0181 290 8207

