

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;

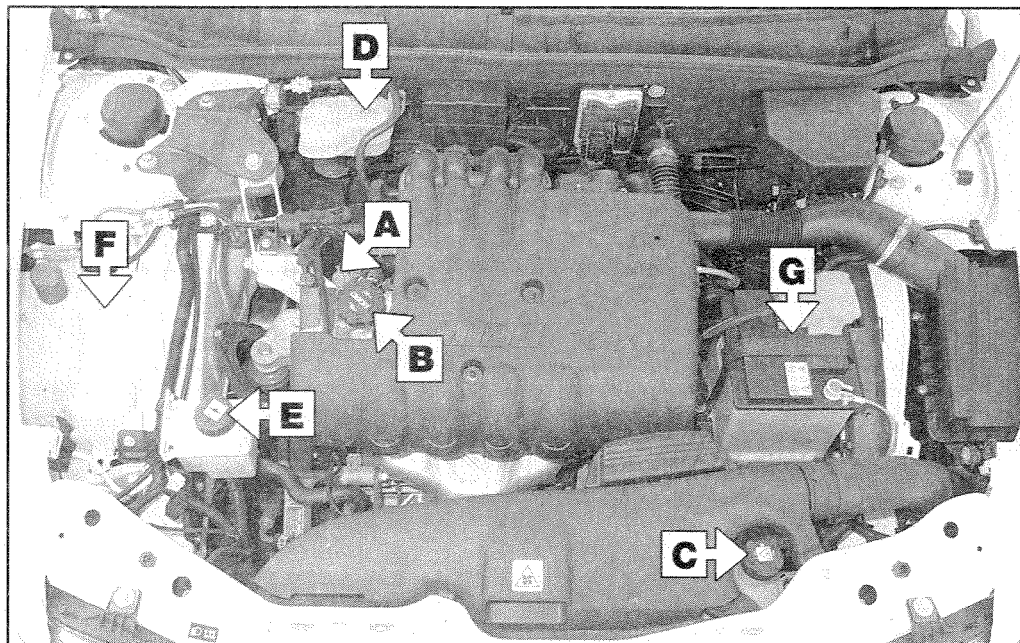
□ Keeping an eye on tyre condition and pressures, will not only help to stop them wearing out prematurely, but could also save your life.

□ 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.

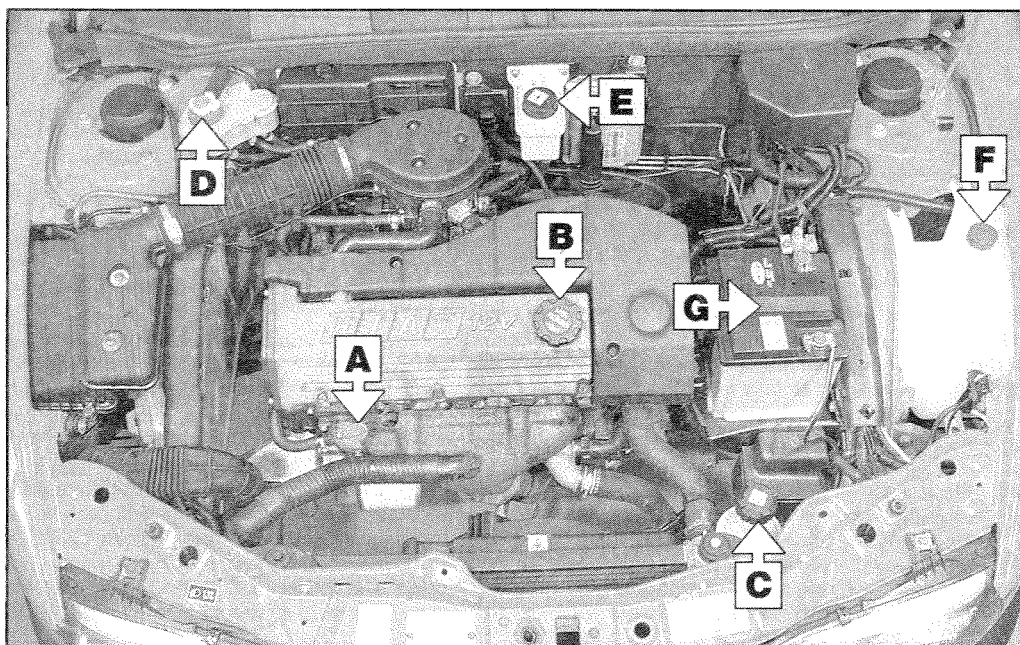
□ If the oil or coolant levels run low, the cost of repairing any engine damage will be far greater than fixing the leak, for example.

Underbonnet check points



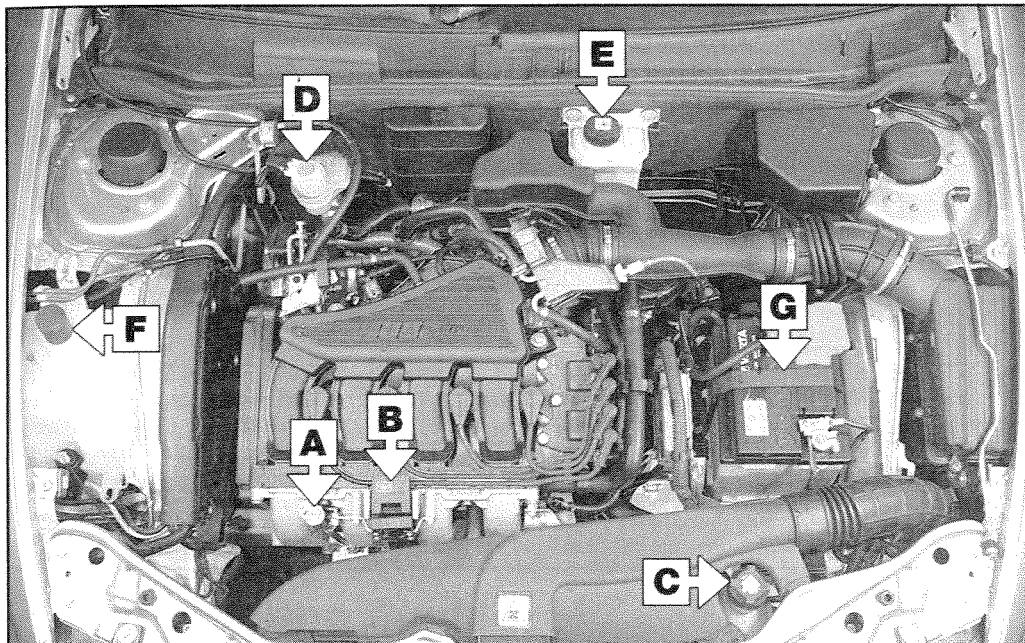
◀ 1.2 litre engine

- A** Engine oil level dipstick
- B** Engine oil filler cap
- C** Coolant expansion tank
- D** Brake and clutch fluid reservoir
- E** Power steering fluid reservoir
- F** Screen washer fluid reservoir
- G** Battery



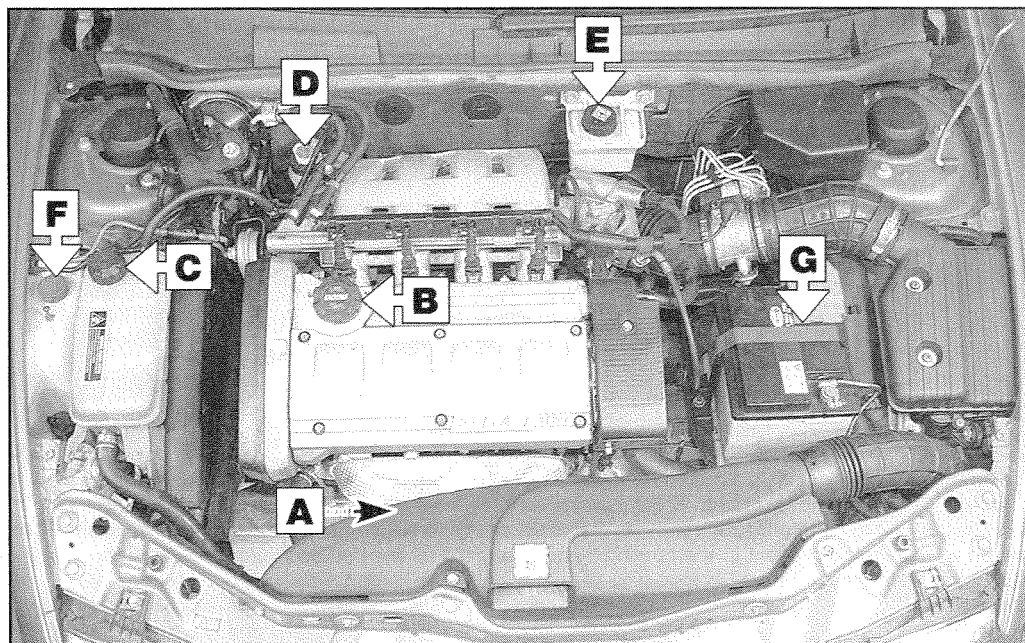
◀ 1.4 litre engine

- A** Engine oil level dipstick
- B** Engine oil filler cap
- C** Coolant expansion tank
- D** Brake and clutch fluid reservoir
- E** Power steering fluid reservoir
- F** Screen washer fluid reservoir
- G** Battery



◀ 1.6 litre engine

- A** Engine oil level dipstick
- B** Engine oil filler cap
- C** Coolant expansion tank
- D** Brake and clutch fluid reservoir
- E** Power steering fluid reservoir
- F** Screen washer fluid reservoir
- G** Battery



◀ 1.8 litre engine

- A** Engine oil level dipstick
- B** Engine oil filler cap
- C** Coolant expansion tank
- D** Brake and clutch fluid reservoir
- E** Power steering fluid reservoir
- F** Screen washer fluid reservoir
- G** 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.



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

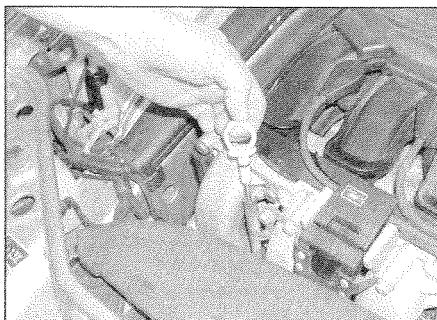
The correct oil

Modern engines place great demands on their oil. It is very important that the correct oil for your car is used (See Lubricants and fluids on page 0•17).

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.

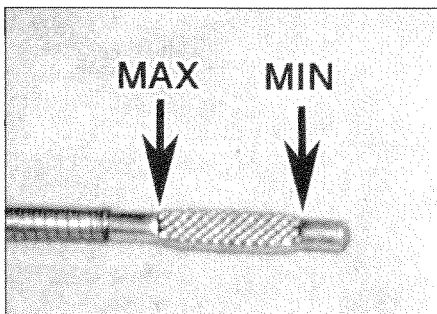
- Always maintain the level between the upper and lower dipstick marks (see photo 3). If the level is too low severe engine damage may occur. Oil seal failure may result if the engine is overfilled by adding too much oil.



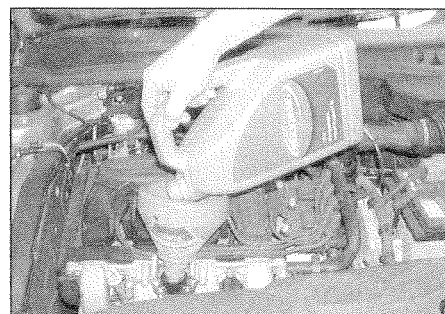
- 1 The dipstick top is brightly coloured for easy identification, and is situated at the front of the engine compartment (see *Underbonnet check points* on pages 0•10 and 0•11). Withdraw the dipstick



- 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 in the hatched area 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.

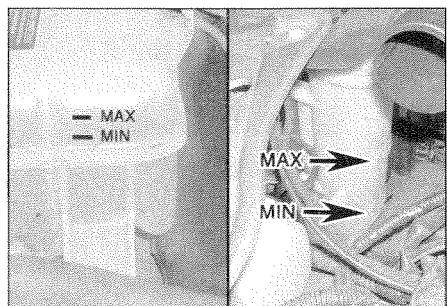


- 4 Oil is added through the filler cap. Unscrew the cap and top-up the level; a funnel may help to reduce spillage. Add the oil slowly, checking the level on the dipstick often. Don't overfill (see 'Car Care' left).

Coolant level



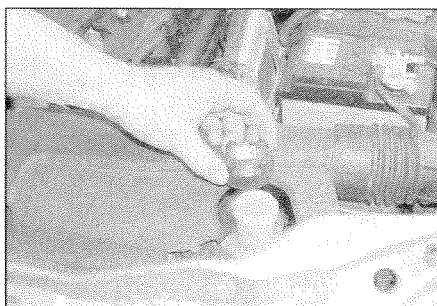
Warning: DO NOT attempt to remove the expansion tank pressure cap when the engine is hot, as there is a very great risk of scalding. Do not leave open containers of coolant about, as it is poisonous.



- 1 The coolant expansion tank is located in one of two places (see *Underbonnet check points* on pages 0•10 and 0•11). The coolant level can vary with engine temperature. When cold, it should be between the MAX and MIN marks. When the engine is hot, the level may rise slightly above the MAX mark.

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.



- 2 If topping up is necessary, **wait until the engine is cold**. Slowly unscrew the expansion tank cap, to release any pressure present in the cooling system, and remove it.



- 3 Add a mixture of water and antifreeze to the expansion tank until the coolant level is halfway between the level marks. Refit the cap and tighten it securely.

Brake (and clutch*) fluid level

*On models with a hydraulically-operated clutch, this information is also applicable to the clutch fluid level.



Warning:

● Brake fluid can harm your eyes and damage painted surfaces, so use extreme caution when handling and pouring it.

● Do not use fluid that has been standing open for some time, as it absorbs moisture from the air, which can cause a dangerous loss of braking effectiveness.



• Make sure that your car is on level ground.
• The fluid level in the reservoir will drop slightly as the brake pads wear down, but the fluid level must never be allowed to drop below the MIN mark.

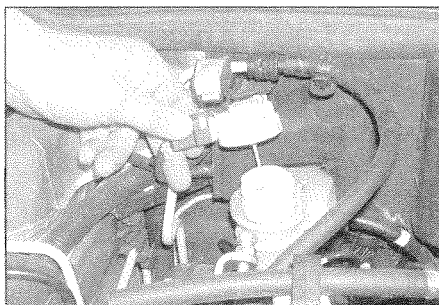
Safety First!

● If the reservoir requires repeated topping-up this is an indication of a fluid leak somewhere in the system, which should be investigated immediately.

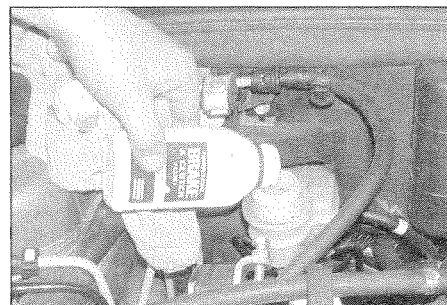
● If a leak is suspected, the car should not be driven until the braking system has been checked. Never take any risks where brakes are concerned.



1 The MAX and MIN marks are indicated on the reservoir. The fluid level must be kept between the marks at all times



2 If topping-up is necessary, first wipe clean the area around the filler cap to prevent dirt entering the hydraulic system. Unscrew the reservoir cap and carefully lift it out of position, holding the wiring connector plug and taking care not to damage the level sender float. Inspect the reservoir; if the fluid is dirty, the hydraulic system should be bled through (see Chapter 1).



3 Carefully add fluid, taking care not to spill it onto the surrounding components. Use only the specified fluid; mixing different types can cause damage to the system. After topping-up to the correct level, securely refit the cap and wipe off any spilt fluid. Reconnect the fluid level wiring connector.

Power steering fluid level

Before you start:

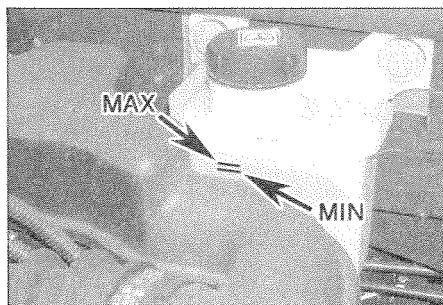
- ✓ Park the vehicle on level ground.
- ✓ Set the steering wheel straight-ahead.
- ✓ The engine should be turned off.



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

Safety First!

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



1 On most models, the reservoir is mounted at the rear of the engine, next to the brake fluid reservoir; 1.2 litre models have the reservoir by the engine (see *Underbonnet check points* on page 0•10). The fluid level can be viewed through the reservoir body, and should be between the MIN and MAX marks; if not, a dipstick is incorporated in the filler cap.



2 If topping-up is necessary, use the specified type of fluid - do not overfill the reservoir. When the level is correct, securely refit the cap.



3 Start the engine and wait for the fluid level in the reservoir to stabilise before proceeding. With the engine running, turn the steering wheel fully left and right several times, returning to the straight-ahead position. Wait for the level to stabilise, then check the fluid level once more, and top-up if necessary. Switch off the engine on completion.

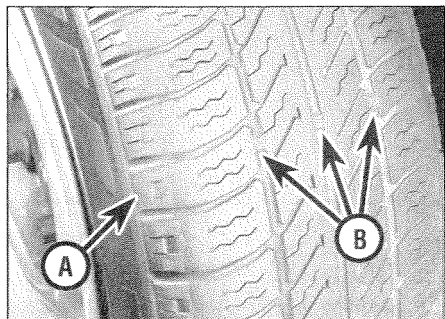
Tyre condition and pressure

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

the tyre has been punctured, refit the nail so that its point of penetration is marked. Then immediately change the wheel, and have the tyre repaired by a tyre dealer.

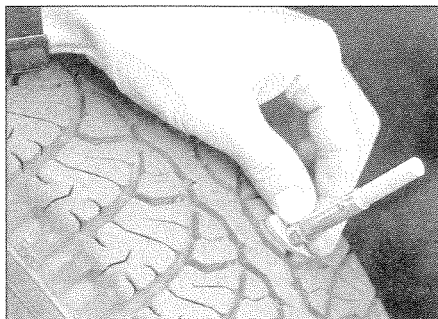
Regularly check the tyres for damage in the form of cuts or bulges, especially in the sidewalls. Periodically remove the wheels, and clean any dirt or mud from the inside and outside surfaces. Examine the wheel rims for signs of rusting, corrosion or other damage. Light alloy wheels are easily damaged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

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



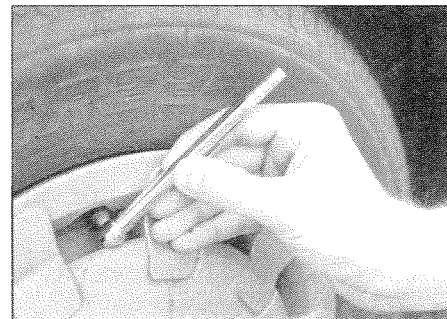
1 Tread Depth - visual check

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



2 Tread Depth - manual check

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



3 Tyre Pressure Check

Check the tyre pressures regularly with the tyres cold. Do not adjust the tyre pressures immediately after the vehicle has been used, or an inaccurate setting will result. Tyre pressures are shown on page 0•17.

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.

Battery

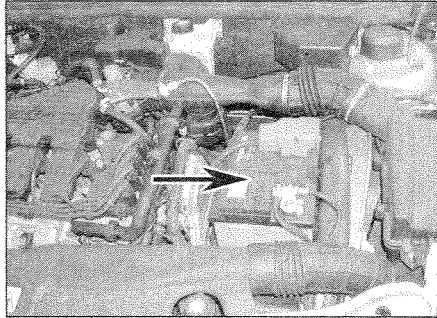
Caution: Before carrying out any work on the vehicle battery, read the precautions given in *Safety first!* at the start of this manual.

✓ 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.

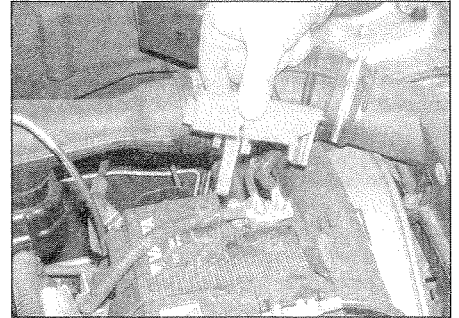
✓ Periodically (approximately every three months), check the charge condition of the battery as described in Chapter 5A.

✓ On batteries which are not of the maintenance-free type, periodically check the electrolyte level in the battery - see Chapter 1.

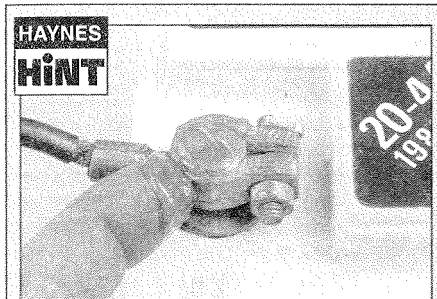
✓ If the battery is flat, and you need to jump start your vehicle, see *Roadside repairs*.



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



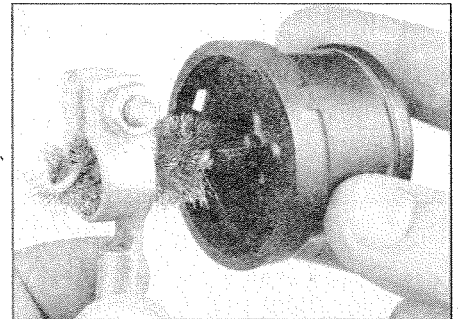
2 Lift off the terminal covers, and check the tightness of battery clamps to ensure good electrical connections. Also check each cable for cracks and frayed conductors.



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

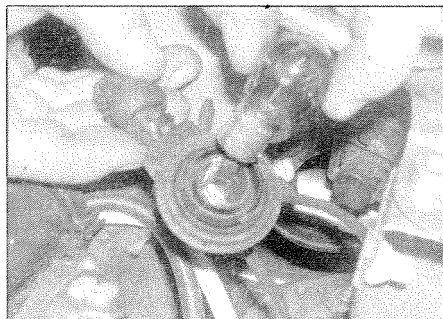
Bulbs and fuses

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

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



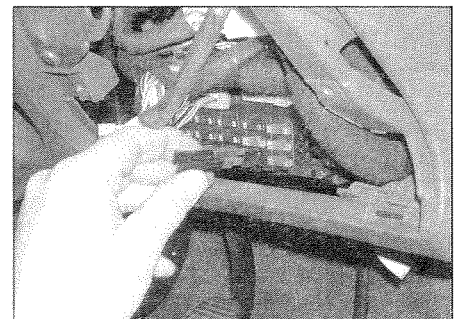
If you need to check your brake lights and indicators unaided, back up to a wall or garage door and operate the lights. The reflected light should show if they are working properly.



1 If a single indicator light, stop-light or headlight has failed, it is likely that a bulb has blown and will need to be replaced. Refer to Chapter 12 for details. If both stop-lights have failed, it is possible that the stop-light switch is faulty (see Chapter 9).



2 If more than one indicator light or headlight has failed, it is likely that either a fuse has blown or that there is a fault in the circuit (see Chapter 12). The main fuses are located in the fusebox situated to the right of the steering wheel. Additional fuses are located behind the glovebox, with several engine-related fuses on the engine compartment bulkhead or next to the battery.



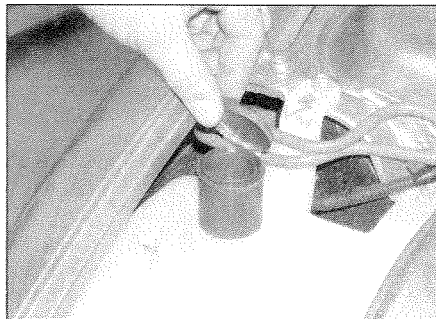
3 To replace a blown fuse, simply pull it out using the plastic tweezers provided. Fit a new fuse of the same rating (see Chapter 12). If the fuse blows again, it is important that you find out why - a complete checking procedure is given in Chapter 12.

Washer fluid level

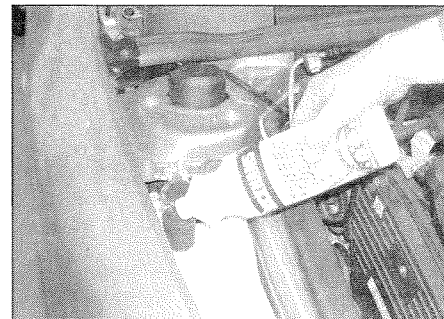
● The windscreen washer reservoir also supplies the tailgate washer jet. On models so equipped, the same reservoir also serves the headlight washers.

● 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 On most models, the washer fluid reservoir filler is located at the rear right-hand side of the engine compartment; 1.4 litre models have the reservoir on the left-hand side. Release the cap and observe the level in the reservoir by looking down the filler neck. Models with headlight washers have a dipstick which can be used to verify the level.

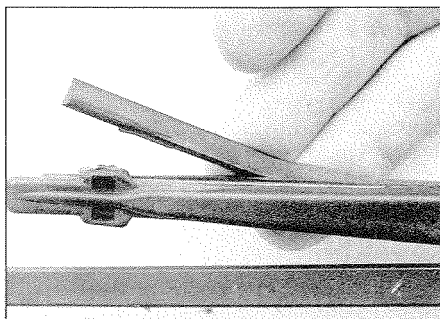


2 To top-up the level, pull the filter inside the filler neck upwards until it clicks - this can now be used as a funnel. When topping-up the reservoir, a screenwash additive should be added in the quantities recommended on the bottle.

Wiper blades

Caution: Take care during the fitting of new blades that the wiper arms do not accidentally strike the windscreen or tailgate glass.

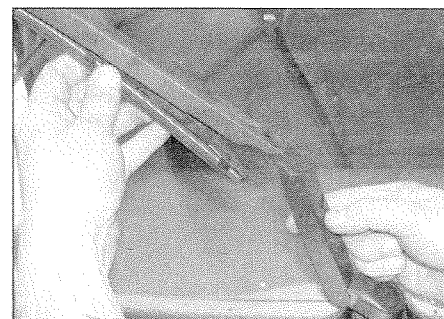
Note: Fitting details for wiper blades vary according to model, and according to whether genuine FIAT wiper blades have been fitted. Use the procedures and illustrations shown as a guide for your car.



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 wiper blade, pull the arm fully away from the glass 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.



3 Don't forget to check the rear wiper blade as well. To remove the blade, press in the catch at the base of the arm, and slide the blade and upper section of the arm out.

Lubricants and fluids

Engine	Synthetic-based multigrade engine oil, viscosity SAE 10W/40, to ACEA A3, API SJ or better (Duckhams QXR Premium Petrol Engine Oil)
Cooling system	Ethylene glycol-based antifreeze (Duckhams Antifreeze and Summer Coolant)
Manual transmission	Gear oil, viscosity SAE 75W/80, to API GL5 (Duckhams Hypoid Gear Oil 75W-80W GL-5)
Automatic transmission	Dexron II type automatic transmission fluid (Duckhams ATF Autotrans III)
Braking system	Brake and clutch fluid to DOT 4 (Duckhams Universal Brake & Clutch Fluid)
Power steering	Dexron type ATF (Duckhams ATF Autotrans III)

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.



Tyre pressures (cold)

Note: Pressures apply only to original-equipment tyres, and may vary if other makes or type is fitted; check with the tyre manufacturer or supplier for correct pressures if necessary.

	Front	Rear
Normal load:		
Except 185/55 R15 and 195/50 R15 tyres	2.2 bar (32 psi)	2.2 bar (32 psi)
185/55 R15 and 195/50 R15 tyres	2.2 bar (32 psi)	2.3 bar (33 psi)
Full load	2.3 bar (33 psi)	2.5 bar (36 psi)
Spare wheel:		
Normal (full-width) wheel	2.8 bar (41 psi)	2.8 bar (41 psi)
Space saver (narrow) wheel	4.2 bar (61 psi)	4.2 bar (61 psi)