

Austin/MG Metro Service and Repair Manual

A K Legg LAE MIMI and Finn Deacon

Models covered

All Austin and MG Metro models including Turbo, Vanden Plas, automatic (inc. 1991 model), Van and special/limited edition models; 998 cc and 1275 cc

Does not cover revised Rover Metro range introduced May 1990

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FGHIJ
KLMNO
PQRST

A book in the Haynes Service and Repair Manual Series

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The Austin Metro was first introduced in October 1980 and was initially only on sale to the UK market, export sales to the European market following in early 1981.

The 998 cc and 1275 cc engines are fitted, with low compression and economy versions available.

The body is of computer-based design and is assembled and welded by computer-controlled robots. The "A-Plus" engine and gearbox assembly is similar to that fitted to the Mini range, although it is much improved, with durability and economy prime considerations. Drive is through the front wheels and the engine/gearbox unit is fitted transversely across the front of the car.

The most significant design characteristics are bolt-on front wings, self-cleaning distributor contact points, fully closed crankcase ventilation system, front-mounted aluminium radiator, dual circuit braking system, and Hydragas suspension. Instrumentation is comprehensive and includes a seat belt warning lamp, brake pad wear warning lamp, and handbrake warning lamp.

Later additions to the range include a luxurious Vanden Plas version, sporty MG and MG Turbo versions, and 1.0 and 1.3 Vans. The range from 1985 includes 5-door as well as 3-door versions.



Metro 1.3 HLS



Metro Vanden Plas

Your Metro Manual

The aim of this manual is to help you get the best from your car. 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 the 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 step-by-step sequence so that even a novice can do the work.

Its arrangement

The manual is divided into Chapters, each covering a logical subdivision of the vehicle. The Chapters are each divided into Sections, numbered with single figures, e.g. 5; and the Sections are divided into numbered paragraphs.

It is freely illustrated, especially in those parts where there is a detailed sequence of operations to be carried out. The reference numbers used in illustration captions pinpoint the pertinent Section and the paragraph within that Section. That is, illustration 3.2 means that the illustration refers to Section 3, and paragraph 2 within that Section.

There is an alphabetical index at the back of the manual, as well as a contents list at the front. Each Chapter is also preceded by its individual contents list.

References to the "left" or "right" of the vehicle are in the sense of a person in the driver's seat, facing forwards.

Unless otherwise stated, nuts and bolts are removed by turning anti-clockwise, and tightened by turning clockwise.

Vehicle manufacturers continually make changes to specifications and recommendations, and these, when notified, are incorporated into our manuals at the earliest opportunity.



MG Metro Turbo

Acknowledgements

Thanks are due to Champion Spark Plug, who supplied the illustrations showing spark plug conditions. Thanks are also due to Rover for the supply of technical information. Sykes-Pickavant Limited provided some of the workshop tools. Special thanks are due to all those people at Sparkford who helped in the production of this manual.

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

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

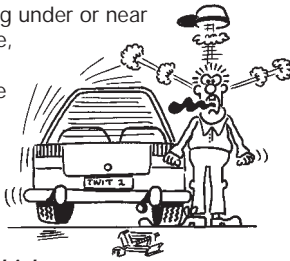
- Don't remove the radiator or expansion tank cap while the engine is hot.
- Engine oil, automatic transmission fluid or power steering fluid may also be dangerously hot if the engine has recently been running.

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.**



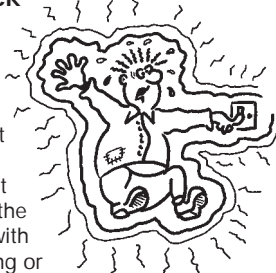
- Take care if loosening or tightening high-torque nuts when the vehicle is on stands. Initial loosening and final tightening should be done with the wheels on the ground.

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

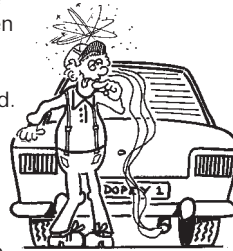
- Ignition HT voltage can be dangerous, especially to people with heart problems or a pacemaker. Don't work on or near the ignition system with the engine running or the ignition switched on.



- 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.

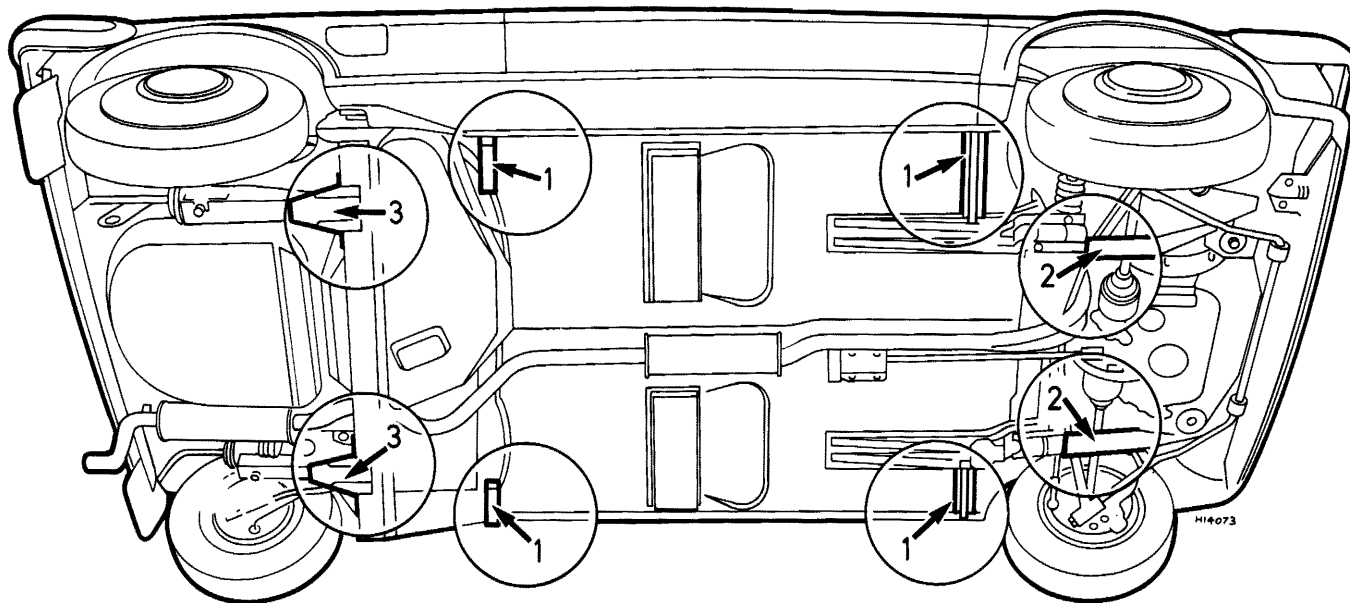
Jacking and vehicle support

The jack provided with the vehicle is designed primarily for emergency wheel changing, and its use for servicing and overhaul work on the vehicle is best avoided. Instead, a more substantial workshop jack (trolley jack or similar) should be used. Whichever type is employed, it is essential that additional safety support is provided by means of axle stands designed for this purpose. Never use makeshift means such as wooden blocks or piles of house bricks, as

these can easily topple or, in the case of bricks, disintegrate under the weight of the vehicle. When jacking up the car with a trolley jack, lift under the widest points of the subframe (see illustration). To raise both wheels at the same time use a 36 in (914 mm) length of square steel tubing placed beneath the subframes with a central spigot to fit the jack. Never jack up the car beneath the suspension arms. To support the car, place axle stands under the jacking points beneath

the sills or under the widest points of the subframe.

If removal of the wheels is not required, the use of drive-on ramps is recommended. Caution should be exercised to ensure that they are correctly aligned with the wheels, and that the vehicle is not driven too far along them so that it promptly falls off the other ends, or tips the ramps.



Jacking and support points

1 Jacking brackets

2 Front jacking points (servicing)

3 Rear jacking points (servicing)

Towing

Provided a fault has not developed in the gearbox or final drive, the car may be towed on its four wheels using either lashing eye located on the front subframe. The lashing eye located beneath the left-hand rear underbody is intended for use on a transporter only, and should not be used for towing another vehicle (see illustration).

On automatic transmission models always check that the engine oil level is correct before towing the car. Do not tow the car at speeds greater than 30 mph (50 km/h) or for a distance of more than 30 miles (50 km). If these conditions cannot be met, or if transmission damage is suspected, the car must be towed with the front wheels clear of the ground.



Rear lashing eye - not to be used for towing

Wheel changing

To change a roadwheel, remove the spare wheel and tool kit from the well in the rear compartment (see illustration). Apply the handbrake and chock the wheel diagonally opposite the one to be changed. Make sure that the car is located on firm level ground. Lever off the hub cover (see illustration) and slightly loosen the wheel nuts with the

spanner provided. Raise the jack and insert the peg in the nearest jacking point to the wheel being removed (see illustration). Using the handle provided, raise the jack until the wheel is free of the ground (see illustration). Unscrew the wheel nuts and remove the wheel, then remove the wheel finisher if fitted.

Fit the finisher to the spare wheel and fit the

wheel on the studs. Fit and tighten the wheel nuts with their tapered ends towards the wheel. Lower the jack, then finally tighten the wheel nuts and refit the hub cover. Remove the chock, and refit the wheel and tool kit to the rear compartment.



Spare wheel compartment



Levering off the hub cover



Body jacking point



Jacking the car

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



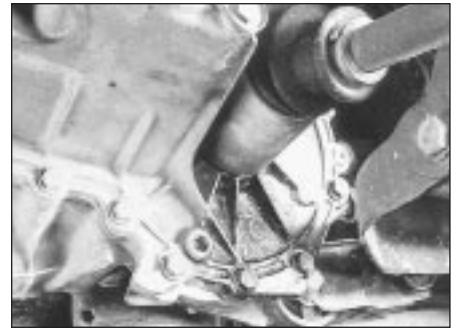
Engine oil may leak from the drain plug...

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



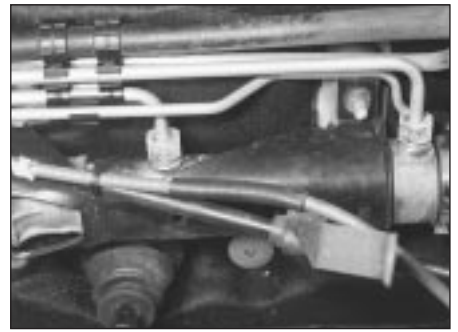
Leaking antifreeze often leaves a crystalline deposit like this.

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.

Jump starting

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.

- ✓ 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).



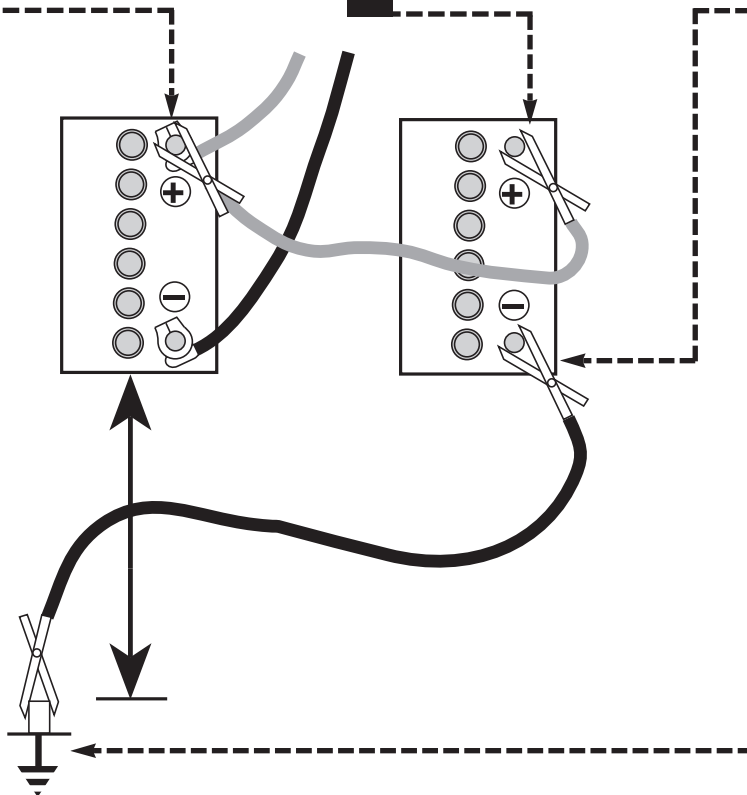
1 Connect one end of the red jump lead to the positive (+) terminal of the flat battery



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.

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;

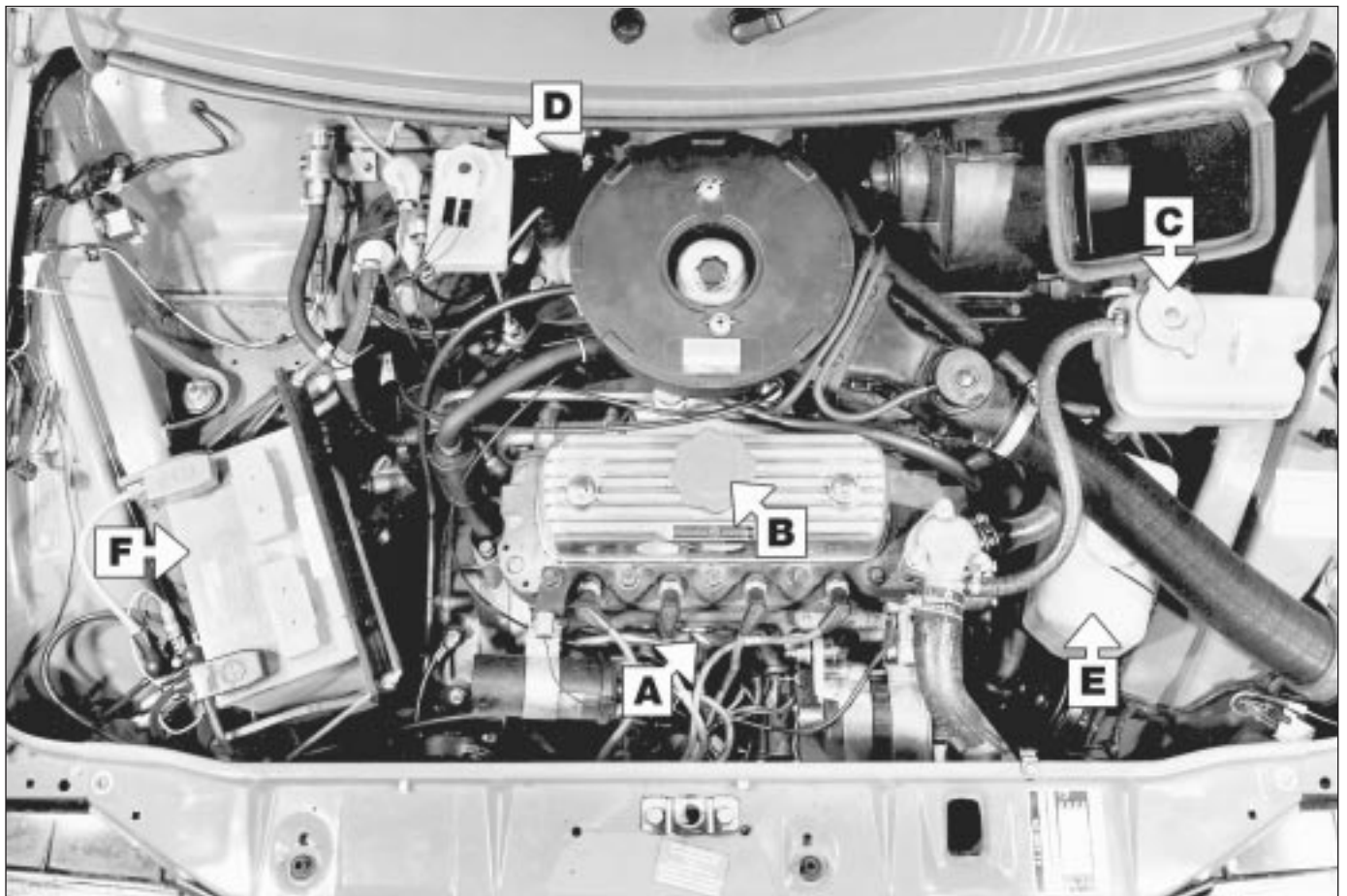
□ Keeping an eye on tyre condition and pressures, will not only help to stop them wearing out prematurely, but could also save your life.

□ 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



A Oil level dipstick

B Engine oil filler cap

C Coolant expansion tank cap

D Brake fluid reservoir

E Windscreen washer 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.



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").

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 The engine oil level is checked with a dipstick that extends through the dipstick tube on the side of the cylinder block and into the sump at the bottom of the engine.



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 0.5 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 frequently. Avoid overfilling (see "Car Care").

Coolant level



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

Car Care

- 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 the temperature of the engine. When the engine is cold, the coolant level should be as shown. When the engine is hot, the level may rise slightly above the "MAX" mark.



2 If topping-up is necessary, wait until the engine is cold. Slowly turn the expansion tank cap anti-clockwise to relieve the system pressure. Once any pressure is released, turn the cap anti-clockwise until it can be lifted off.



3 Add a mixture of water and antifreeze through the expansion tank filler neck until the coolant reaches the "MAX" level mark. Refit the cap, turning it clockwise as far as it will go until it is secure.

Screen washer fluid level

Screenwash additives not only keep the windscreen clean during foul weather, they also prevent the washer system freezing in cold

weather - which is when you are likely to need it most. Don't top up using plain water as the screenwash will become too diluted, and will

freeze during cold weather. On no account use engine antifreeze in the washer system - this could discolour or damage paintwork.



1 On all MG Turbo models, a combined reservoir is mounted in the left-hand rear of the luggage compartment



2 Early models have separate reservoirs for the windscreen and tailgate, being located on the left-hand front of the engine compartment and the left-hand rear of the luggage compartment



3 Later models with front and rear washers have a combined reservoir in the left-hand front of the engine compartment. Models with windscreen washers only, have a single reservoir.

Brake fluid level



Warning: Brake hydraulic 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 master cylinder 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 brake reservoir is mounted on the right-hand side next to the air filter. The "MAX" and "MIN" marks are indicated on the side of the reservoir. The fluid level must be kept between the marks.



2 If topping-up is necessary, first wipe the area around the filler cap with a clean rag before removing the cap.



3 When adding fluid, it's a good idea to inspect the reservoir. The system should be drained and refilled if dirt is seen in the fluid (see Chapter 9 for details).



4 Carefully add fluid avoiding spilling it on surrounding paintwork. Use only the specified hydraulic fluid; mixing different types of fluid can cause damage to the system. After filling to the correct level, refit the cap securely, to prevent leaks and the entry of foreign matter. Wipe off any spilt fluid.

Clutch fluid level (if applicable)



Warning: Brake and clutch hydraulic 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.

Before you start:

- ✓ Park the vehicle on level ground.
- ✓ The engine should be turned off.



For improved access, remove the air cleaner as described in Chapter 4



1 The clutch master cylinder (if fitted) is located next to the brake master cylinder. Unscrew the filler cap and top-up the clutch master cylinder to the bottom of the filler neck with hydraulic fluid.

Safety First:

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

Electrical system

✓ 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.

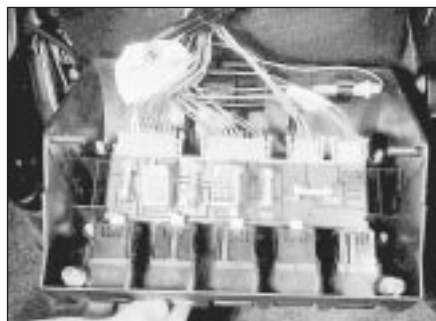
✓ Visually check all wiring connectors, harnesses and retaining clips for security, and for signs of chafing or damage.



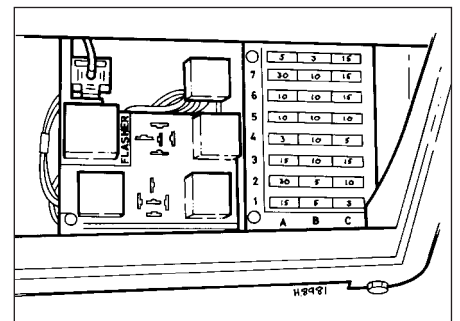
If you need to check your brake lights and indicators unaided, back up to a wall or garage door and operate the lights. The reflected light should show if they are working properly.



1 If a single indicator light, brake 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 brake lights have failed, it is possible that the brake light switch above the brake pedal needs adjusting. This simple operation is described in 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 (refer to "Electrical fault-finding" in Chapter 12). On early models, the fuses are located behind the switch panel on the right-hand side of the facia. Access is gained by removing the two screws from the switch panel, and pivoting the panel downwards.



3 Later (1985-on) models have a fusebox located below the right-hand side of the facia. Remove the cover by twisting the retainers using a coin. To replace a blown fuse, simply prise it out. Fit a new fuse of the same rating, available from car accessory shops. It is important that you find the reason that the fuse blew - a checking procedure is given in Chapter 12.

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. The exterior of the battery should be inspected periodically for damage such as a cracked case or cover.

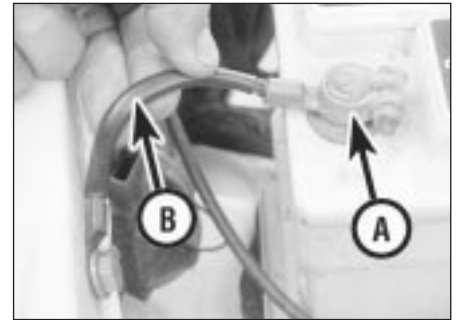
✓ Periodically (approximately every three months), check the charge condition of the battery as described in Chapter 5.

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

✓ If the battery is of maintenance-free type, it is not possible to check the electrolyte level.



1 The battery is located on the left-hand side of the engine compartment. The electrolyte level may be checked and if necessary topped up. If the battery is of standard or low-maintenance type, check that the level of electrolyte is approximately 15 mm above the tops of the cell plates. If necessary top-up the level, using only distilled or demineralised water.



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.

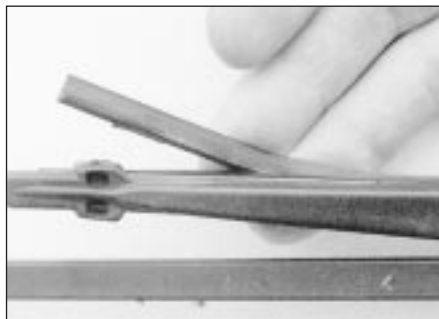


3 If corrosion (white, fluffy deposits) is evident, remove the cables from the battery terminals, clean them with a small wire brush, then refit them. Accessory stores sell a useful tool for cleaning the battery post ...



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. For maximum clarity of vision, wiper blades should be renewed annually, as a matter of course.



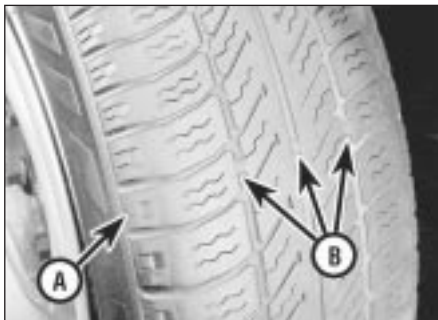
2 To remove a wiper blade, pull the arm fully away from the glass until it locks. Swivel the blade through 90°, press the locking tab(s) with your fingers, and slide the blade out of the arm's hooked end. On refitting, ensure that the blade locks securely into the arm.

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.



Tread Depth - visual check

1 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).



Tread Depth - manual check

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



Tyre Pressure Check

3 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 the next page.

4 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.*

Lubricants and fluids

Engine/gearbox (transmission)	Multigrade engine oil, viscosity SAE 15W/50 (pre August 1983) or 10W/40 (August 1983-on)
Suspension grease points	Multi-purpose lithium based grease
Distributor	Multigrade engine oil, viscosity SAE 15W/50 or 10W/40
Carburettor piston damper	Multigrade engine oil, viscosity SAE 15W/50 or 10W/40
Brake and clutch fluid reservoirs	Hydraulic fluid to FMVSS 166 DOT 3 or SAE J1703C

Capacities (approx.)

Engine/manual gearbox oil (without filter)	8.5 pints (4.8 litres)
Oil filter (manual gearbox)	0.6 pint (0.3 litres)
Engine/automatic transmission oil (without filter)	8.8 pints (5.0 litres)
Oil filter (automatic transmission)	1.0 pint (0.6 litre)
Cooling system (including heater)	8.5 pints (4.8 litres)
Fuel tank:	
(early models)	6.6 Imp gals (30 litres)
1986-on models	7.8 Imp gals (35 litres)

Tyre pressures

Pressures (cold) - psi (bar)	Front	Rear
135 SR 12	32 (2.2)	28 (2.0)
165/70R 12	32 (2.2)	26 (1.8)
165/60 HR 13	28 (2.0)	28 (2.0)
150/65 R315	30 (2.1)	28 (2.0)
155/70 SR 12	28 (2.0)	32 (2.2)
165/65 HR 13	28 (2.0)	28 (2.0)
160/65 R315	28 (2.0)	26 (1.8)
185/55 13	29 (2.0)	29 (2.0)

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