

Car Safety Check List

The following safety checklist is not definitive and is provided as a guide only to help you identify the key areas of vehicle safety and maintenance that you should check on a regular basis.

Summer Motoring

In the lead up to summer motoring, a pre-summer check for your car should be a priority, whether you are going on holidays or staying put. The most common problem affecting motorists during summer is an overheated engine, but a few simple checks can identify potential problems and reduce the risk of being stranded by the roadside with an annoying and possibly expensive breakdown. The pre-summer checklist should include not only the radiator and cooling system, but also the electrical system, brakes and tyres, plus an overall "spring clean".

Cooling System

Radiator

Top up your radiator coolant to the required level, taking care to add the correct amount of coolant mixture as recommended by the vehicle manufacturer. Check all radiator hoses (including heater hoses) for firmness, replace any that are spongy or leaking, and keep spares of the main hoses and belts in the boot for emergencies.

Fan and Drive Belts

The fan belt and any other drive belts, such as for air-conditioning or power steering, need to be inspected thoroughly for fraying and correct tension so that they do not slip, and any belts that are even slightly frayed should be replaced.

Electrical

Batteries manufactured today are maintenance free but you should check the water levels and top them up if necessary. Use distilled water - never use tap water because it will harm the battery.

Routine maintenance should include removing any corrosion from the battery terminals, which should then be smeared with petroleum jelly to slow the corrosion process. An added precaution is to wipe the high tension leads, spark plugs and distributor cap with a dry cloth.

Tyres

All tyres, including the spare, should be properly inflated to cope with the demands of long trips and hot weather. Check the pressures when the tyres are cold; recommended tyre pressures are printed on a sticker affixed to most cars.

Tread depth should not be less than a match head (1.5mm), while many tyres now have tread wear indicators to remove the guesswork. Uneven wear of tyres may indicate a

fault with the steering, suspension or wheel alignment, and these items should be checked if in doubt.

Brakes

Consult a brake specialist if the car has a tendency to pull to one side when braking. Or if the brake pedal goes too close to the floor - or, for that matter, has any other symptoms which seem unusual.

Hand Brake

Check the handbrake as well: park the car on a hill, put it in neutral and, if it does not hold firm on the handbrake, have it checked and adjusted.

Clean Windows and Lights

Car windows should always be kept clean, as dirty glass can drastically reduce the driver's vision when driving towards oncoming headlights or a low sun and increases the effect of glare. Exterior dirt is easy enough to wash off, but it can be a constant battle to keep the inside of the glass free from the hazy film that builds up when a car is parked in the sun.

This haze can usually be wiped off with a chamois, methylated spirits, or most domestic glass or general cleaners, but there is no magic formula to eliminate the problem altogether. For good visibility, keep the windscreen washer bottle topped up, and clean headlights, tail lights and rear windows as well as windscreens whenever they start to become grimy.

Finally, to protect the interior from harsh sunlight use a front window sun screen, and for driver comfort a steering wheel sun screen/cover. Ensuring your car is maintained properly increases the value of your vehicle and also helps to reduce your fuel bill.

Winter Motoring

Servicing Your Car During Winter

It's cold and wet and you're late for work - and the car refuses to start! Sound familiar? Then this should act as a sign that your car needs to be serviced more regularly. Normal vehicle servicing is due usually every six months. If you keep your car serviced in line with the manufacturers recommended servicing schedule, then you should avoid problems. But if you don't, then the cold of winter could cause your car to be unreliable, or to not start at all.

In winter, your mechanic needs to pay particular attention to the cars electrical system. In cold weather the engine may be sluggish to turn over as it pulls more power from a battery that already has diminished performance because of the cold. Accessories like demisters, heater fans and additional lighting mean greater power consumption, and for some cars a slow battery drain even though the engine is running.

Electrical

If a battery is getting a bit run down, Winter is when it is likely to cause trouble. Check that the battery cells are topped up to the correct electrolyte level - unless it is a "low maintenance" or "maintenance free " battery. If the level is below the minimum marking, top up with distilled water only. You may also check that the terminals are clean, that they are tight, and that all electrical connections are firm.

A few points to remember: special care must be taken when handling a car battery to ensure that the electrolyte does not come into contact with eyes, skin or clothes. Never perform maintenance on a battery when the engine is running, and never smoke or have a naked flame near a battery. Also, smear battery terminals with petroleum jelly after cleaning; never use tap water in the battery; and replace a suspect battery sooner rather than later. If in doubt, ask your mechanic.

Visibility

Cleanliness is also half the battle in seeing and being seen on cold winter days so make it a routine chore to keep all windows and lights clean, and make sure the lights are working while you are at it. Also, ensure that wiper blades are in good condition, washer jets are correctly aimed, demister fan is working, and the demister actually gets hot when it should.

Some hints for a clearer view are:

- Carry a chamois and a clean cloth to clean windows and lights along the way.
- Road grime on a headlight can cut light output by nearly half, so wipe those lights any time you stop on a long trip in damp weather.
- Air conditioning is the fastest way to demist windows (because it dries the air).
- Check your car's rear lights by reflecting them in a service station window; it's quick and easy, and you're in the right place to buy replacement bulbs if needed.

Belts

Although the "fan belt" on many modern cars no longer drives the fan, it does drive the water pump and alternator, plus options such as power steering and air conditioning - which makes it one of the most important components of the car.

To check whether belts need replacing, rub your finger around the inside of the belt - NOT while the engine is running - and feel for cuts, separations and fraying. Adjust the belt tension so it's not too loose, not too tight (your mechanic can advise you), and carry a spare to be on the safe side.

Tyres

Check all tyres to see that they have enough tread and no damage to the sidewalls (inside and out) and check pressures at least every month. If in doubt about the tyre consult a tyre specialist and remember: if you find a slow leak, it is usually cheap and easy to have it fixed.

Fluid Checks

Oil leaks can spell disaster any time of the year. It is best to check the oil level when the engine has not been running for a while. If you need to top up regularly, try to hunt down any leaks, or have your mechanic check for leaks, so they can be fixed. Apart from risking engine damage, oil leaks contribute to slippery roads when it rains.

Radiator coolant also warrants winter attention, not only to ensure the engine is protected but also to keep the heater and demister hot when they should be, so check the overflow tank in sealed systems, or the radiator itself in older systems.

If the system needs topping up, use the right coolant mixture to improve cooling, avoid freezing and inhibit corrosion (especially in engines with alloy components). Do not use tap water to top up. If the cooling system needs to be topped up regularly, see your mechanic so that the cause of the problem can be fixed.

The final fluid check is the windscreen washers, which are worth keeping topped up ready for action; in hatchbacks and wagons, there is often a separate rear washer bottle somewhere in the cargo area, so check this too from time to time. Maintaining your vehicle properly increases the value and also helps to reduce your fuel bill.

Winter Driving

Driving Tips

- Slow down! You have precious little grip on the road. Do not exceed 40 km/h with chains.
- Maintain slow, steady, even driving, avoid low gear wheel-spin or auto kickdown and be as smooth as possible when accelerating.
- Allow more space between vehicles avoid braking when cornering, try a safe practice application to get an idea of using them on snow.
- Vehicles going up a hill have right of way as they are harder to get going.
- Park where instructed with the vehicle in gear, the hand-brake **off**, wheels turned away from the slope and if possible positioned to drive out forward.

In the Snow

- Use air conditioner in conjunction with heater for quick demisting.
- Your cars cooling system must have the right anti-freeze mix.
- Snow chains are mandatory in alpine areas, but importantly, know how to use them before you are battling freezing conditions. Chains are fitted to the driving wheels, front or rear, but front on 4WD vehicles.
- Vital equipment to carry is primarily a spade, tow rope, jumper leads, ground sheet, rubber gloves, plastic ice scraper, torch, warm cloths and handy rag.
- Fill the fuel tank, you may experience long delays and dual fuel LPG vehicles should stay on petrol. Diesel vehicles should use alpine diesel, available in alpine areas.

Preparing the Car for that Holiday

Many happy holidays have been ruined by car trouble. More often than not all the inconvenience and expense could have easily been avoided with a little preparation and preventative maintenance.

A few simple checks can identify potential problems and reduce the risk of being stranded by the roadside. The pre-holiday checklist should include fluid levels, the radiator and cooling system, electrical system, service, tuning, tyres and brakes, plus an overall "spring-clean".

It does not matter whether you own a 1952 model Morris Minor or the latest Mercedes Benz, the fundamentals are the same. They all have four wheels, hydraulic brakes, steering, lights and an internal combustion engine which requires fuel, oil and water. Firstly, locate your car's owner's handbook. This is one of the best resources available for basic jobs because it relates specifically to your car. It provides specifications, procedures and will help you find various items. Remember, safety first; it is always better to err on the side of caution. If in any doubt seek help from a professional.

Under the Bonnet

Since the advent of self service petrol stations, the regular check of oil, water, brake fluid and the battery has become neglected, but is still an extremely important part of good maintenance. Locate these items and identify correct levels. Regular checks provide a good picture of the car's condition and any sudden change can be a warning of developing problems. Catching the problem early may prevent serious and expensive damage. Having to regularly top up the radiator indicates a cooling system problem.

The fix may be as simple as taking two minutes to tighten a radiator hose clamp. But the person who does not bother with checking will eventually run out of water (coolant) and destroy the engine - doing thousands of dollars worth of damage. Similarly, a regular check of the brake fluid should show almost no change from week to week. A sudden drop indicates a problem.

You can then seek expert help before it becomes a life threatening disaster. Make sure all the levels are correct before leaving on your trip and check them during the holiday to make sure nothing has changed.

The battery top and terminals must be kept clean and if applicable the electrolyte level checked. The operation of lights and horn can also be checked at the same time. To change a globe, follow the procedure in your owner's handbook. Correct head light aim is important, not only to see properly at night but also to avoid dazzling on-coming motorists.

Drive Belts

(Fan belt) and radiator hoses should be inspected closely, looking for loose, cracked or fraying belts, and perished, swollen, hardened or cracking hoses. If in doubt replace. The cost of a belt or hose is much less than the expense and inconvenience of a cooked engine.

Windscreen Wipers

The rubber blades wear when the wipers are used, and perish in sunlight. Replace the rubbers if they are obviously damaged or have not been changed in the last 12 months. Once again refer to your handbook for instruction.

Windscreen Washers

The jet of water should hit the screen in the centre of each wiper's sweep. If the flow is not as good as it used to be, the washer jets can be cleared using a fine needle or pin. Don't use force or the jets may be damaged. Most washer jets can also be re-aimed using the same needle. Oil from exhaust fumes and road grime builds up on the windscreen, so a regular wipe with a good quality glass cleaner and windscreen washer additive in the washer bottle will help improve visibility and wiper rubber life. Do not use ordinary household detergents as they can leave streaks and cause rust.

Service and Tuning

Unburnt fuel, combustion by-products and condensation contaminates engine oil in normal operation. It is generally recommended to change the oil and filter every six months or 10,000 km, whichever ever occurs first. Owners wishing to do the job themselves can consult their handbook for the quantity and grade of oil as well as the correct procedure.

Correct engine tuning will restore lost performance, reduce fuel consumption and lower harmful emissions. These days engine tuning and major servicing (once a year) are usually best attended to by a specialist or qualified mechanic. Many service centres offer safety checks for a minimal charge.

Tyres

Tyres are one of the most important things on a car, yet they are often neglected. Tyres with adequate tread depth are absolutely essential for safe driving. The grooved tread pattern on tyres is designed to clear water away from the contact patch area. A minimum of 1.5 mm depth in the shallowest groove is vital.

All tyres, including the spare, need to be properly inflated to cope with the demands of long trips and hot weather. Incorrect pressures also adversely effect grip, tyre wear, steering, ride and fuel economy. Tyre pressures must be checked before leaving on any trip. This should only be done when the tyres are cold, and always replace the valve caps to keep out dust and water. Recommended minimum pressures are shown on the tyre placard, which is usually inside the driver's door jamb, or the glovebox lid. Increasing these pressures by 15 to 35 kilopascals helps improve grip and handling, with the penalty of a slightly harder ride.

When checking your car's tyres look out for tyre damage, uneven wear or low tread - less than 1.5 mm (a match head) and it's time for a new tyre. Many tyres now have tread wear indicator to take away the guess work. Remember if you plan to travel long distances the tyres will wear during the trip, if they are getting close to the limit, it may be best to replace them before you leave.

Uneven tyre wear may indicate a problem in the steering suspension or wheel alignment, while vibration through the steering is usually a sign the wheels require balancing. These items should be attended to by a specialist.

Brakes

Brakes too are an essential safety item and a wearing part. Before setting off on a long trip it would be well worth having wheels removed and the amount of wear checked - once again preferably by a specialist.

Consult a brake specialist if the car has a tendency to pull to one side when braking, or if the brake pedal goes too close to the floor - or, for that matter, has any other symptoms which seem unusual. Check the handbrake as well: park the car on a hill, put it in neutral and, if it does not hold firm on the handbrake, have it checked and adjusted.

Spring Cleaning

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Getting to know your car and spending a little time and money on preventative maintenance can have significant safety benefits and result in huge savings in the long term. When driving, become familiar with the sound and feel of your car. Any changes, such as a rattle developing, increased movement in steering or pedals etc. needs to be checked. Seek professional advice if necessary.

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