

Road Safety Campaign E-Book

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Introduction

Tips and Advice

No matter whether you have a new car or an old car, all cars need regular maintenance to run efficiently.

A regular maintenance schedule can minimize the risks of breaking down while you are driving on the road.

This chapter provides some basic maintenance checklist so you can do a DIY check on your vehicle and fix it quickly when something is wrong.



Chapter 1

Tips and Advice

If you are new to the driving experience, this guide provides tips and advice on car maintenance, car care, basic driving strategies, driving etiquette, and driving tactics on the road to help keep you safe and comfortable.

However, for the experienced drivers, this guide may be able to help you improve on your already existing driving skills or gain extra knowledge on taking care of your vehicle.



Brake Fluid

For most vehicles, the reservoir for brake fluid is clear. It allows you to check the brake fluid without removing the cap. There will be a marking on the reservoir that indicates the minimum and maximum level. Make sure that the brake fluid level is always between these two marks.

When you buy a new bottle of brake fluid, it will look almost clear with a hint of yellow to it. It does stay this clear after 5 years of use!

If your brake fluid appears dark brown or black in color, then you need to have it flushed out so new brake fluid can be poured in.

When your brake fluid color changes, it means that it has been collecting grime and debris from the braking system and it might even have absorbed some water.

Types of brake fluid

One important characteristic of brake fluid is its boiling point. The boiling point is very important when it comes to brake fluid because high temperature can cause it to work incorrectly in the braking system.



Extra Tips:

1. NEVER shake a bottle of brake fluid before using it. You'll add tiny air bubbles to the fluid, which is exactly what you're trying to remove when you're taking care of your car's braking system.
2. Don't get brake fluid on anything that's painted because it eats paint. If you spill any fluid, wipe it up immediately and dispose of the rag safely.
3. Don't get grease or oil in your brake fluid, the petroleum products are rapidly and selectively absorbed by brake system rubber parts, resulting in a high degree of softening, dimensional swelling, and general deterioration of the functional properties of these rubber parts. This type of brake fluid contamination will result in unsafe braking action and may be the direct cause of complete brake failure.
4. Close the brake fluid reservoir as quickly as possible so that oxygen or water vapor in the air doesn't contaminate the fluid. As that moisture causes the fluid to chemically break down and the moisture begins to rust metal components in the system as a whole, you can end up with contaminated brake fluid. Contaminated brake fluid can have catastrophic consequences, which is why any issue with your braking system should not be taken lightly.
5. If your vehicle has an anti-lock braking system (ABS), consult your owner's manual before checking your brake fluid. Some ABS systems require you to pump the brake pedal approximately 25 to 30 times before opening and inspecting the fluid reservoir.



Engine oil

Most engines have a dipstick to indicate the oil level. First, you need to turn the engine off and remove the dipstick. Next, wipe off the end of the dipstick with a rag or paper towel and put the dipstick back in. Lastly, take the dipstick out to look at the level at the tip. Make sure the mark on the dipstick is between the maximum and minimum level.



How to add engine oil

1. To add the engine oil, remove the oil filter cap, usually located on top of the engine.
2. Since overfilling the oil is bad for the engine, you should pour the oil a little at a time.
3. Start by adding about half a quart. Using a funnel helps to avoid spills.
4. Wait a minute or so and check the dipstick gain. If the level is still below or near the minimum mark, add in the rest of the quart.
5. Unless your engine is leaking or burning oil (or if you haven't checked it in a while) you will rarely need to add more than a quart.
6. However, if a second quart is needed, add that in slowly as well, monitoring as you go.
7. Screw the oil filter cap back on securely, and you're done.

Extra Tips:

1. Avoid overfilling your crankcase with oil

- Don't overfill your engine crankcase with oil. It can rise into the crankshaft, where air bubbles will get churned into the oil.
- Your oil pump can't do a good job if its circulating oil with air bubbles.
- This can cause overheating and stress on engine components.
- Overfilling can also foul your spark plugs. In fact, overfilling is a bad idea with any automotive fluids. Less is definitely better.

2. Synthetic oil

- There are two types of lubricants available, conventional mineral oils and synthetic oils.
- Both types are made from crude oil. The difference between the two is that synthetic oils are made from more advanced refining processes and are of a higher purity and quality than conventional mineral oils. This removes the impurities of the crude oil and enables individual molecules in the oil to be tailored to the demanding modern engines.
- Synthetic oil is suitable for extremely high or extremely low temperatures or very heavy loads as synthetic lubricants may overcome the challenges better than non-synthetic lubricants.
- Synthetic oil improves thermal stability, oxidation resistance, has a high viscosity index, low-temperature properties, lower evaporation losses, reduced flammability, and a lower tendency to form residue.



Power steering fluid

If there is a clear reservoir for power steering fluid, then it can be checked the same way as the brake fluid described above.

However, if the power steering fluid is not in a clear reservoir then it will have a dipstick.

Low power steering fluid is an indication of a leak and it should be investigated.

At that point, the driver might notice the changes in steering performance.

Coolant

Never open the cooling system when the engine is hot.

Opening the cap while the engine is hot can shoot a six-foot geyser into the air and burn anything it touches. Which would probably be you.

The best time to check the coolant is in the morning before the car is driven.

A low coolant level indicates a possible leak which should be investigated. If there is more than one quart of coolant, that can also indicate a problem.





Windshield washer fluid

Open the top of the reservoir and check the level of the windshield washer fluid.

If the fluid is low, fill the fluid to bring the level up to the top of the reservoir.

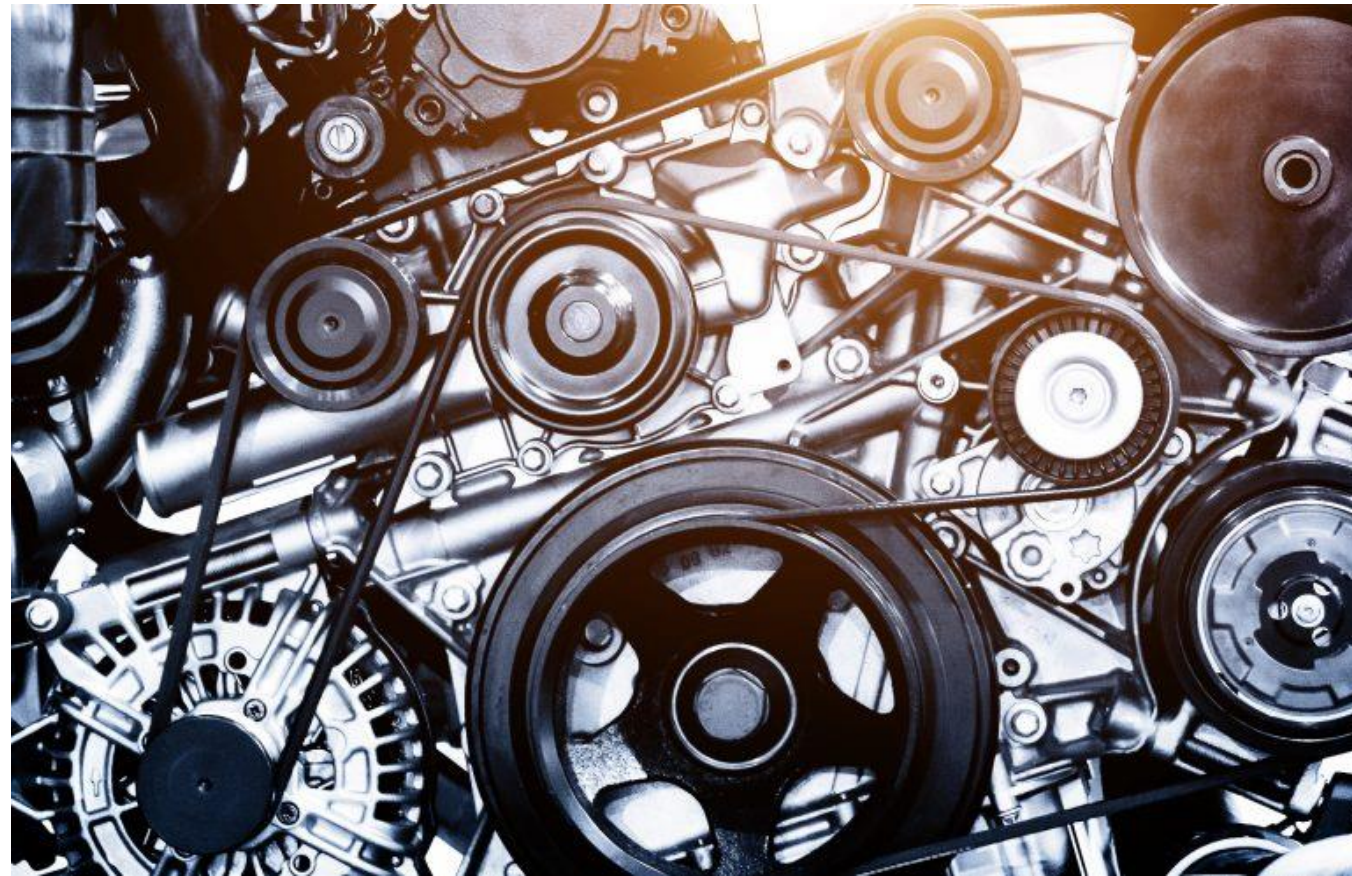


Transmission fluid

Some of the vehicles have a dipstick but some do not have one. In some vehicles you have to go underneath the vehicle to check this fluid.

If the fluid is low, then there is a leak and it should be investigated.

The fluid should be red but if the fluid is black or has a burnt smell then there is a problem with the transmission.



Belts

If a belt squeals, squeaks or is just downright noisy after starting the engine or while driving, this indicates a problem with it.

Belts can be checked by self-inspection. Touch the belt to check for glazing, cracking, chunking or misalignment – the signs of a worn belt have to be taken seriously.

Any belt should be changed when it shows signs of excessive wear. But many new composite belts don't show signs of wear until the failure occurs.



Hoses

Hoses can be checked by touching for signs of cracking, swelling or leaks. Squeeze the hose to check for softness when the engine is cool.

Feel for soft or mushy spots. A good hose will have a firm yet pliant feel.

Experts recommend, however, that all hoses be replaced at least every four years or when one fails.

Tire

Tires should be checked for the tread depth. You must pay close attention to the tread wear indicator and change the tire before the depth reaches the level of the tread indicator. It would be safer for the tire to be changed before the tread depth is less than 3mm.

Aside from the tire itself, you will also need to check your tire pressure monthly as well as the spare tire. You can find the recommended pressure for your tire on a sticker on the driver's side door jam, the trunk lid, the console, the fuel door, or on the tire itself.

From the sticker, you will find tire size, tire brand, and tire pressure information. The number on the sticker might look something like '35 PSI' (meaning pounds per square inch) and it indicates the minimum amount of air pressure needed to support the weight of your vehicle.

It is very important that you should NOT use the 'MAX PSI' listed on the sidewall of the tire. This is only the maximum pressure, not the optimum or recommended tire pressure.

TIP:

The best time to check the tires when they are cold. If the tire is warm from driving, you might get a less accurate reading when checking your tires. This is because the air pressure rises when the tires are hot.



Tool Kits

Even new cars can encounter problems on the road so it's better to be prepared for every travel. Below are the suggested items that you need to keep in your car.

1. Spare tire
2. Tire wrench
3. Tire pressure gauge
4. Wheel lock opener
5. Car jack
6. Oil and other engine fluids
7. Reflective triangle
8. Jumper cables
9. Multi-tool
10. Screen wash
11. First aid kit
12. Flashlight
13. Water
14. Duct tape
15. WD-40
16. Car repair information
17. Seat belt cutter and window breaker



Stay tuned for Chapter 2!

We'll be sending more exclusive content your way.
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