

## **Vehicle Care Tips**

### **Engine oil and filter (Recommended to replace at every 10,000km Interval)**

Engine oil tends to degrade gradually over time, which results in a proportionate reduction to the protection provided to the engine against wear & tear. Engine oil and oil filter should be changed regularly to provide protection against daily wear and tear.

The oil filter separates carbon and other fine metallic deposits, which are residues from the combustion process and wear. When there is a high level of harmful chemicals in the oil, it reacts with the oil and this affects the protection the engine oil provides to the engine parts. Therefore, it is necessary to replace the engine oil and filter at stipulated mileage to ensure good quality of engine oil in the lubrication system.

### **Drive belts**

It is essential to carry out preventive maintenance of drive belts to ensure they are not cracked and the tension is right. A cracked belt can snap and cause unnecessary breakdowns and loss of valuable time. Belt tension has to be the right tension to avoid belt slippage on the pulleys and causing screeching noise. When belts are loose, they generate heat on the belt ribs and this caused the belt material to harden. A hardened belt cracks easily and may eventually snap.

### **Tyre rotation**

All tyres installed onto a vehicle are subjected to different kinds of stress and wear, depending on the type of road they are driven on. Tyre manufacturers recommend tyre rotation at an interval of 10000km. most of the cars today have front-wheel drive arrangements. Thus, the front tyres tend to wear out faster than the rear ones.

Tyre rotation at an interval of every 10,000km will minimise the difference in wear rate between the front and rear wheels. Tyres that have abnormal wear tend to produce noise and can make the drive unpleasant and also lead to a shorter tyre lifespan.

### **Air-con filter**

The air conditioning is an important element in your vehicle. It is necessary to keep your vehicle's air conditioning system well maintained. This is to avoid the build-up of unpleasant odour and also to prolong the lifespan of the air conditioning system.

It is advisable to have the air-con filter change at every 20,000km or 1 year, as dust and other particles will accumulate and choke the filter.

**Brake fluid (Recommended to replace every 40,000km interval for Mitsubishi & Citroen; recommended to replace first at 30,000km and subsequently at every 20,000km interval for Kia)**

Brake fluid, due to its chemical composites, absorbs moisture more readily, especially when our weather has a very high humidity level. New brake fluid has a very high boiling point. Once they are exposed to the environment, they absorb moisture. As the moisture level gets higher, the boiling point of brake fluid decreases.

Driving a vehicle with a low quality brake fluid may cause brake failure as a result of the decrease in boiling point. This is apparent when there is extensive use of the brakes, for example, driving downhill for quite a distance. The effectiveness of the brake will diminish greatly and this can be disastrous.

Other than the effect of the boiling point on brake fluid, we should look at the effect moisture has on brake parts. When there is a certain amount of moisture in the brake fluid, it can cause corrosion in the metal parts of the brake components due to the presence of oxygen in the brake fluid.

Regular brake fluid replacement is recommended at an interval of 40,000km annually. The brake system is a safety-related feature of any vehicle and customers should not compromise or neglect it.

### **Automatic transmission fluid**

An automatic transmission provided comfort and minimises stress to the driver. By the time the vehicle has covered 40,000km, the condition of the ATF would have deteriorated and needs to be drained. This happens as a result of multiple engagement and disengagement in the parts of an automatic transmission, which takes place during the 40,000km of drive.

When the transmission is subjected to frequent overloading and uphill driving, the ATF heats up easily and become thinner. Another situation where the ATF is likely to heat up is when the selector level is left in the D position while in a traffic jam or in a prolonged stop-and-go situation. In the above conditions, the ATF temperature within the torque converter tends to rise.

In such situations, the ATF is thinned and the protection provided to the brakes and clutch becomes insufficient. When the transmission is subjected to this kind of treatment continuously, there will be an increase on the wear-and-tear of the transmission parts.

In some cases, the colour of the ATF may indicate that it has degraded even before reaching 40,000km. In these cases, it is advisable to replace the ATF even if the mileage covered is bellowed 40,000km, to restore the ATF's performance. Thus, a regular ATF change will enable the transmission to go a long way.

**Caution: Do not use any other type of auto transmission fluid other than the one recommended by the manufacturer.**

**Fuel Filter (Recommended to replace every 20,000km interval for Mitsubishi & Kia; every 60,000km interval for Citroen)**

As we are aware due to environmental reasons, most car manufacturers have switched from the carburettor system to electronic fuel injection. Such systems are highly efficient in providing fuel economy, power and response. More importantly, it emits less harmful gases into the environment through the exhaust system.

To increase the service life of the injectors, the fuel that is delivered to the injectors has to be very well filtered via fuel straining material. If there are some fine arties that escape the filtering stage, the injector valves may stick during operation. Operating an engine with a clogged fuel filter can cause engine stalling, a jerky drive, loss of power and poor acceleration. There symptoms can jeopardise the vehicle at dangerous spots on the road and puts all the occupants of the vehicle in danger.

Fuel injectors are costly and as such, unforeseen and unpleasant incidents can be overcome by replacing the fuel filters at a regular interval of 20,000km for Mitsubishi & Kia; 60,000km for Citroen.

**Timing Belt (Recommended to replace on every 80,000km interval)**

Modern engines use overhead camshafts and they are inked to the crankshaft via a timing belt. With this arrangement, the reciprocal operation of a 4-cycle engine provides all the power that you need.

This rubber belt is made of a mixture of various materials to give it strength, resistance to heat, enough flexibility to make the loop to go round the sprockets and tensioners as well as some resistance to moisture.

Our manufacturers recommend a replacement of the timing belt at an interval of 80000km as the material of the belt would have hardened and the top surface turned glossy at that mileage. At this stage it is vulnerable to cracks and will eventually lose some of its teeth. Neglecting these signs of wear-and-tear or a recommended replacement at this mileage may cause misalignment of the camshaft and crankshaft.

When the 2 vital shafts are misaligned, there is a very high probability of valves and pistons hitting each other. Eventually, the valves will bend and in some cases, the valve guides and piston tops will also be damaged. This will result in a major repair such as replacing the cylinder head, valves and pistons.

By replacing the timing belt at the recommended mileage, you can avoid incurring such costly repairs.

**Note: This is not applicable for vehicle fitted with timing chain.**