Hints & Tips

MAINTAINING THE COOLING SYSTEM

What will I need to... Replace a Water Pump

- A quality branded water pump
- Grease
- Replacement hoses
- Summer coolant/anti-freeze
- A flat screwdriver
- Suitable ring flat spanner
- Hand cleaner
- Mutton cloth

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MAINTAINING THE COOLING SYSTEM

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Maintaining the Cooling System

A well maintained cooling system is a small price to pay for peace of mind. When an engine is running above the normal operating temperatures, a thorough and definite process of elimination should be followed to identify and solve the cooling irregularity.

CAUSE 1: Check the fan belt for signs of slippage indicated by shiny pulleys in the belt grooves. Also check for fan belt movement and incorrect adjustment of the fan belt.

CAUSE 2: Under bonnet temperatures can perish and fatigue radiator hoses, and this can lead to a loss of coolant / water due to the damaged hoses. This will also result in high operating temperatures

CAUSE 3: Check the radiator pressure caps as these are also prone to fatigue and wear, and this can result in the loss of pressure control.

CAUSE 4: Incorrect coolant levels, or lack of coolant in the cooling system, can contribute to severe radiator sediment build-up. This will result in blockages and / or the restriction of sufficient water circulation in the cooling system.

CAUSE 5: Severe overheating of the engine can also be caused by incorrect engine valve timing or late ignition timing. This condition is related to engine power loss and hard starting. A faulty vacuum control valve on the ignition system is also a possible cause of high engine temperatures.

CAUSE 6: Engine operating temperatures can be increased by binding brakes, or incorrectly releasing callipers and brake pistons.

CAUSE 7: Thermostats can wear and become stuck in the closed position. This will result in poor circulation and extremely poor cooling of the engine.

CAUSE 8: Hoses should be checked regularly for internal damage. The suction of the water pump's rotation can cause the inside wall of the hose to collapse, restricting free water flow.

CAUSE 9: Check the calibration of the carburettor. Incorrect calibration can also result in higher than normal operating temperatures.

The above could all point to the cause of the overheating problem. If not, then the water pump may need to be replaced. These are the steps required to replace a water pump:

STEP 1: Inspect the radiator for any visual damage or leaks. Should any damage be visible, remove the radiator and send it to professionals for a complete recondition. If no damage is visible, flush the cooling system and inspect both the upper and lower hoses on the radiator. Replace the hoses if necessary.

STEP 2: Drain the cooling system and remove the old water pump. Clean the cavity and mating surface of the gasket where the pump is going to be secured.

STEP 3: Put the new sealing gasket into position after lubricating both sides with a light smear of grease.

STEP 4: Carefully place the new water pump into position. DO NOT HAMMER ON THE SHAFT. Tighten the screws cross-wise and tighten gradually.

STEP 5: Turn the shaft of the water pump by hand in order to test it's free rotation.

STEP 6: Install the hoses of the water pump, fill the cooling system. Check that there are no visible leaks. Check the manufacturers handbook to ensure that the correct volume and glycol ratio of summer coolant / anti-freeze is used. Add the correct volume to the cooling system.

STEP 7: Visually check the radiator caps and thermostat for any signs of wear and / or restrictions. Replace where necessary.

USEFUL TIP 1: It is always advisable to replace the thermostat and / or radiator cap when installing a new water pump.

USEFUL TIP 2: A corrosion inhibitor in the cooling system as well as an all year anti-freeze will definitely enhance the life of your vehicle's water pump, radiator and engine.