19 Engine - initial start-up after overhaul

Warning:
If the camshafts have been removed, observe the recommended delays between installing the camshafts and starting the engine - refer to the relevant camshaft removal and installation procedure in Chapter 2A or 2B , as applicable for details.

1 With the engine refitted in the vehicle, double-check the engine oil and coolant levels. Make a final check that everything has been reconnected, and that there are no tools or rags left in the engine compartment.

2 Disable the ignition and fuel injection systems by removing the DME master relay, and the fuel pump relay, located in the main relay box (see Chapter 12), then turn the engine on the starter motor until the oil pressure warning light goes out.

3 Install the relays (and ensure that the fuel pump fuse is fitted), and switch on the ignition to prime the fuel system.

4 Start the engine, noting that this may take a little longer than usual, due to the fuel system components having been disturbed. **Caution:** *On four-cylinder engines, if the timing chain tensioner has been removed* (see Chapter 2A) *, the engine must be run at 3500 rpm for 20 seconds as soon as it starts - this is to ensure that the tensioner is primed with oil.*

5 While the engine is idling, check for fuel, water and oil leaks. Don't be alarmed if there are some odd smells and smoke from parts getting hot and burning off oil deposits.

6 Assuming all is well, keep the engine idling until hot water is felt circulating through the top hose, then switch off the engine.

7 After a few minutes, recheck the oil and coolant levels (see Chapter 1), and top-up as necessary.

8 If new pistons, rings or crankshaft bearings have been fitted, the engine must be treated as new, and run-in for the first 500 miles. *Do not* operate the engine at full- throttle, or allow it to labor at low engine speeds in any gear. It is recommended that the oil and filter are changed at the end of this period.

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