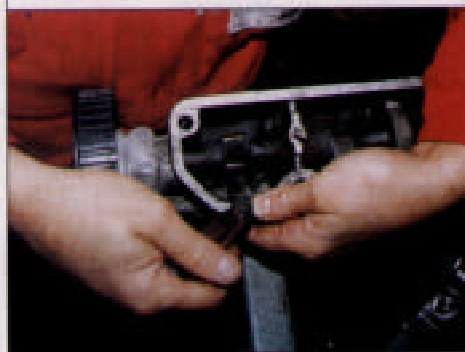


1 Check/adjust valve clearances

■ **Every 6000 miles, check valve clearances.** With engine cold, remove cam covers (secured by knurled edge Allen screws, requiring 10mm Allen key). In each case with cam lobe pointing away from shim/cam follower, check valve clearance. Consult manual specific to engine for correct gaps. Rotate engine and tackle clearance checks in easiest order as cam lobes rise in turn; make chalk mark on cam lobe as each is checked.

■ **If adjustment is required, use special tool to hold tappet down.** Rotate camshaft so cam lobe points away from shim/follower, and extricate shim (use brake cleaner spray to break oil 'stiction'). Calculate thickness of shim required (by subtraction) and insert. Remove special tool; re-check clearance.

■ **On completion, fit new cover gaskets.**



2 Change Cam Belt

■ **Fit new cam belt every 36,000 miles/ three years** (whichever comes first). Remove alternator belt, time valve gear at Top Dead Centre (TDC), per workshop manual specific to engine (highlight cam sprocket marks beforehand using white paint/Tipex). Auxiliary shaft (see photo) must also be correctly timed. Release crankshaft pulley nut; remove pulley. Release tensioner adjuster nut, slacken belt tension then lightly re-tighten nut. Remove old belt, install new, ensuring it is taut on drive side. Again release tensioner nut; spring-loaded self-tensioner should activate; re-tighten locknut. Re-fit crankshaft pulley/nut; tighten nut. Rotate engine slowly by hand, two complete revolutions; re-check timing and belt tension - should twist 90° under firm finger/thumb pressure midway along longest belt run (between crankshaft and left hand camshaft sprockets).



3 Change engine oil/filter

■ **Every 6000 miles change engine oil.** With engine warm, raise/support front of car, release sump plug (17mm socket/ring spanner). Unscrew filter too (easily reached - left of engine). When all oil drained, wipe/refit sump plug. Install new filter, having cleaned mating face for sealing ring, also threads on engine. Smear fresh oil on new filter's seal and threads, then screw on filter.

■ **At each service, check sump condition.** Sump is vulnerable to impact damage with kerbs/speed humps (especially with front wheels on full lock), and easily holed. Oil pressure is quickly lost, and bearings wrecked... Dents spell danger too, especially on 2-litre engines where easily fractured oil pick-up pipe runs close to sump bottom. If oil level is correct but pressure warning lamp illuminates when cornering, pipe is probably broken already.

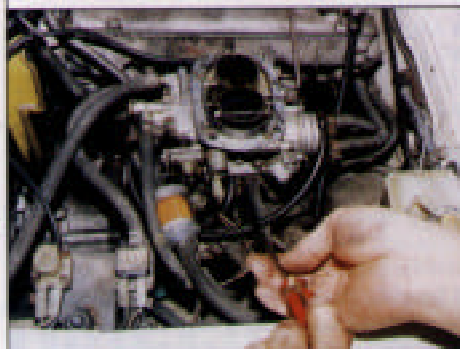


6 Check air filter, adjust carburettor

■ **Every 6000 miles check air filter element** (renew every 12,000 miles). Ensure all filter housing fasteners are secure (or they could enter carburettor air intake, and engine).

■ **At each service, check for leaks/wear in carburettor.** Spindles are often worn on high mileage units; car is then reluctant to start, refuses to idle and generally runs roughly. Replacement carburettors transform performance and economy.

■ **Check carburettor adjustments.** Assuming carburettor is in good condition, with engine warm and all valve clearance and ignition settings checked, alternately adjust mixture/idle speed screws to give optimum tickover (if available, use exhaust gas analyser to check emissions). On fuel injection models, check CO readings with exhaust gas analyser. If necessary, re-adjust (using long Allen key).

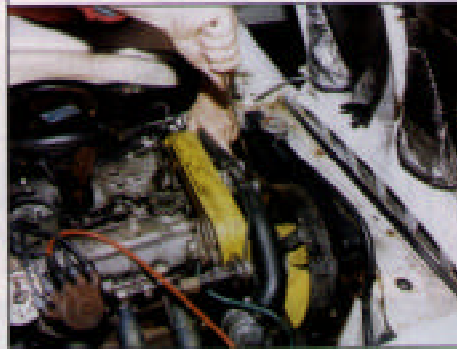


7 Maintain cooling system

■ **Scrutinise cooling system for potential problems.** Check hoses, radiator core and cooling fan. If car bought recently, ensure thermostat is working properly (on some vehicles it is fitted in the cylinder head, on others mounted remotely. Tony Castle-Miller has seen cars with thermostats in both locations - system will then work correctly!)

■ **Check antifreeze strength.** Aluminium cylinder head will corrode unless antifreeze containing corrosion inhibitors is used all year round.

■ **Every three years, drain coolant, reverse-flush system and re-fill with fresh antifreeze mixture.** It is notoriously difficult/impossible to bleed air from system on two-litre engines, if car is on ground. So raise front of vehicle as high as possible and support on axle stands, while filling/bleeding system.



8 Check condition of brake system

■ **Remove wheels and examine discs, pads, calipers, fixed pipework and flexible hoses;** check servo too. Renew disc pads in axle sets if friction material badly worn. Ensure front caliper 'sliders' free to move. If not, dismantle and clean all components. Re-assemble applying a little copper-based anti-seize compound to sliders.

■ **Check handbrake lever movement, cable adjustment and operation at each rear wheel.** Operating mechanisms within rear caliper assemblies can seize/fail. Replace for reliable long-term operation. If working but lever travel excessive, take up cable slack using adjuster beneath rear of car (10mm spanners for both adjuster and lock nuts). Ensure rear wheels are free to rotate with handbrake lever in fully off position.

■ **Every 36,000 miles/36 months (whichever comes first) change brake fluid.**

