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# Chapter 1

## Routine maintenance and servicing

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### Degrees of difficulty

**Easy**, suitable for novice with little experience



**Fairly easy**, suitable for beginner with some experience



**Fairly difficult**, suitable for competent DIY mechanic



**Difficult**, suitable for experienced DIY mechanic



**Very difficult**, suitable for expert DIY or professional



# 1.2 Servicing specifications

**Lubricants and fluids** ..... Refer to "Weekly Checks"

## Capacities

### Engine oil

Including filter:

All engines except DOHC (non-Ecotec) .....	4.0 litres
DOHC (non-Ecotec) .....	4.5 litres

Quantity of oil required to raise level from "MIN" to "MAX" ..... 1.0 litre

**Cooling system (approx.)** ..... 7.2 litres

### Transmission

Manual transmission ..... 1.9 litres

Automatic transmission:

At fluid change ..... 3.0 to 3.5 litres

Difference between dipstick MAX and MIN marks - approximate:

+ 20°C side ..... 0.25 litre

+ 80°C side ..... 0.40 litre

**Power steering fluid (approx.)** ..... 1.0 litre (approx.)

**Fuel tank (approx.)** ..... 63.0 litres

### Washer fluid

Without headlamp washers ..... 2.6 litres

With headlamp washers ..... 4.5 litres

## Engine

Oil filter ..... Champion G102

## Cooling system

Antifreeze mixture:

28% antifreeze ..... Protection down to -15°C

50% antifreeze ..... Protection down to -30°C

**Note:** Refer to antifreeze manufacturer for latest recommendations.

## Fuel system

**Note:** Idle speed adjustment is not possible on some models, shown for information only. For further details refer to Chapter 4A.

Idle speed:

SOHC engine ..... 800 ± 80 rpm

DOHC engine:

Non-Ecotec ..... 940 ± 80 rpm

Ecotec ..... 850 ± 160 rpm

Idle mixture CO content ..... 0.3 % (at 2800 to 3200 rpm)

Air filter element ..... Champion U554

Fuel filter ..... Champion L201

## Ignition system

Ignition timing ..... Refer to Chapter 5

Spark plugs:

SOHC engine

Type	Electrode gap*
Up to 1995 ..... Champion RN9YCC	0.8 mm
1996-on ..... Champion RC10DMC	Not adjustable

DOHC engine:

Non-Ecotec engine ..... Champion RC9MCC	0.8 mm
Ecotec engine ..... Champion RC10DMC	Not adjustable

\* Information on spark plug types and electrode gaps is as recommended by Champion Spark Plug. Where alternative types are used, refer to the manufacturer's recommendations

## Brakes

Minimum pad friction material thickness (including backing plate) ..... 7.0 mm

Minimum shoe friction material thickness ..... 0.5 mm above rivet heads

## Tyres

Pressures ..... See "Weekly checks"

## Torque wrench settings

	Nm	lbf ft
Automatic transmission drain plug .....	45	33
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The maintenance intervals in this manual are provided with the assumption that you, not the dealer, will be carrying out the work. These are the minimum maintenance intervals recommended by the manufacturer for vehicles driven daily. If you wish to keep your vehicle in peak condition at all times, you may wish to perform some of these procedures more often. We encourage frequent maintenance, because it enhances the efficiency, performance and resale value of your vehicle.

If the vehicle is driven in dusty areas, used to tow a trailer, or driven frequently at slow speeds (idling in traffic) or on short journeys,

more frequent maintenance intervals are recommended. Vauxhall recommend that the service intervals are halved for vehicles that are used under these conditions.

When the vehicle is new, it should be serviced by a factory-authorised dealer service department, to preserve the factory warranty.

Maintenance is essential for ensuring safety and for getting the best in terms of performance and economy from your vehicle. Over the years, the need for periodic lubrication - oiling, greasing, and so on - has been drastically reduced, if not eliminated. This has unfortunately tended to lead some

owners to think that because no action is required, components either no longer exist, or will last for ever. This is certainly not the case; it is essential to carry out regular visual examination comprehensively to spot any possible defects at an early stage before they develop into major expensive repairs.

The following service schedules are a list of the maintenance requirements, and the intervals at which they should be carried out, as recommended by the manufacturers. Where applicable, these procedures are covered in greater detail near the beginning of each relevant Chapter.

## Every 250 miles (400 km) or weekly

- Refer to "Weekly checks"

## Basic service, every 9000 miles (15 000 km) or 12 months - whichever comes sooner

Along with the items in "Weekly checks", carry out the following:

- Renew the engine oil and oil filter (Section 3).
- Renew the pollen filter (Section 4).
- Check all hoses and other components for fluid leaks (Section 5).
- Check the steering and suspension components (Section 6).
- Check the condition of the driveshaft rubber gaiters (Section 7).
- Check the automatic transmission fluid level (if applicable) (Section 8).
- Check the radiator for blockage (e.g. dead insects) and clean as necessary (Section 9).
- Check the idle speed and mixture (Section 10).
- Check the throttle linkage and lubricate if necessary (Section 11).
- Check the exhaust system for corrosion, leaks and security (Section 12).
- Check all wiring for condition and security (Section 13).
- Check and adjust the ignition timing (if applicable) (Section 14).
- Renew the brake fluid (Section 15).
- Check the brake pad friction material for wear (Section 16).
- Check the handbrake linkage (Section 17).
- Check the power steering fluid level (Section 18).
- Check the power steering pump drivebelt (if applicable) (Section 19).
- Check the bodywork (Section 20).
- Lubricate all locks and hinges (Section 21).
- Check the alternator V-belt (Section 22).
- Check the headlamp alignment (Section 23).
- Replace battery in the door lock key (if applicable) (Section 24).
- Carry out a road test (Section 25).

**Note:** Vauxhall specify that an Exhaust Emissions Test should be carried out at least annually. However, this requires special equipment, and is performed as part of the MOT test (refer to the end of the manual).

## Full service, every 18 000 miles (30 000 km) or 24 months - whichever comes sooner

Along with the "basic service", carry out the following:

- Renew the coolant (Section 26).
- Renew the air cleaner element (Section 27).
- Renew the fuel filter (Section 28).
- Renew the spark plugs (SOHC only) (Section 29).
- Inspect and clean the distributor cap and HT leads (Section 30).
- Check the clutch cable adjustment (Section 31).
- Check the manual transmission fluid level (Section 32).
- Check the automatic transmission (Section 33).
- Check the brake shoes for wear (Section 34).

## Major service, every 36 000 miles (60 000 km) or 48 months - whichever comes sooner

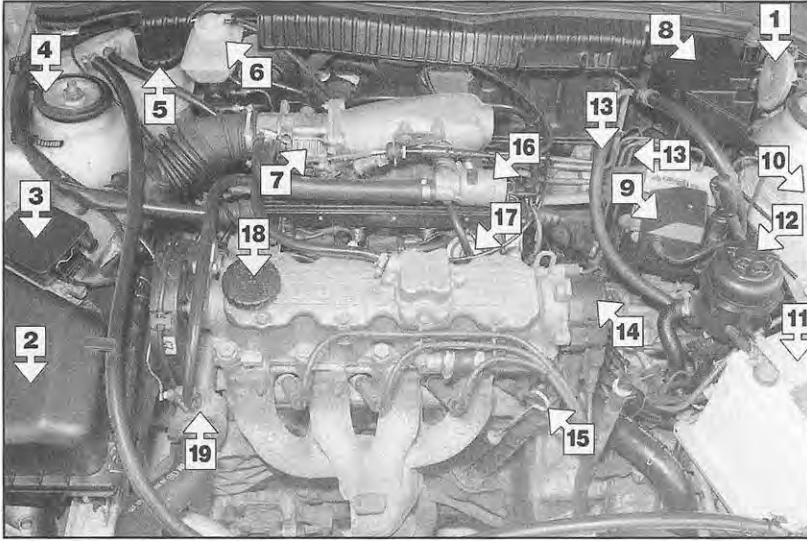
Along with the "full service", carry out the following:

- Renew the timing belt (Section 35).
- Renew the spark plugs (DOHC models only) (Section 36).
- Renew the automatic transmission fluid (Section 37)\*.

\* **Note:** If a vehicle is used for heavy-duty work (e.g. taxi work, caravan/trailer towing, mostly short-distance, stop-start city driving) the fluid must be changed every 36 months or 27 000 miles (45 000 km), whichever occurs first.

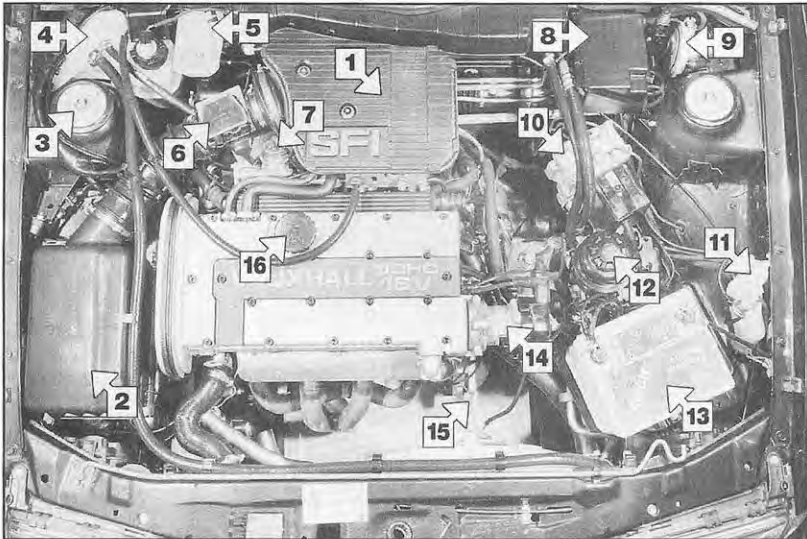
## 1•4 Maintenance - component location

### Underbonnet view of a SOHC engine with Motronic M1.5



- 1 Anti-theft alarm horn
- 2 Air cleaner casing
- 3 Airflow meter
- 4 Suspension strut top
- 5 Coolant expansion tank
- 6 Brake fluid reservoir
- 7 Throttle body
- 8 Relay box
- 9 ABS control unit
- 10 Washer fluid reservoir
- 11 Battery
- 12 Power steering fluid reservoir
- 13 Power steering fluid hoses
- 14 Distributor cap
- 15 Engine oil level dipstick
- 16 Idle speed adjuster
- 17 Fuel pressure regulator
- 18 Oil filler cap
- 19 Thermostat housing

### Underbonnet view of an early DOHC (non-Ecotec) engine with Motronic M2.5



- 1 Pre-volume chamber to throttle
- 2 Air cleaner casing
- 3 Suspension strut top
- 4 Coolant expansion tank
- 5 Brake fluid reservoir
- 6 Air mass meter (hot wire)
- 7 Fuel pressure regulator
- 8 Relay box
- 9 Anti-theft alarm horn
- 10 ABS hydraulic modulator
- 11 Washer fluid reservoir
- 12 Power steering fluid reservoir
- 13 Battery
- 14 Hall-effect distributor
- 15 Engine oil level dipstick
- 16 Oil filler cap