

CHAPTER 5

Fuel

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If car converted to gas refer separate LPG supplement in glovebox.

Warning: Cars fitted with a supercharger should never be converted to LPG.

PETROL

EXHAUST WARNING - CARBON MONOXIDE POISONING

Exhaust gases can produce carbon monoxide, a dangerous gas, which can cause unconsciousness and even death to both humans and animals.

You could inhale the gases if the exhaust system on your car is faulty.

To protect against exhaust gases entering the car, the exhaust system and body should be inspected:

- each time the car is serviced,
- whenever a change is noticed in the sound of the exhaust system,
- whenever the exhaust system, underbody or rear of the car is damaged.

Take the car to your Holden Dealer if you think your car needs inspecting for any of the above reasons.

DO NOT SIT (OR LEAVE CHILDREN OR PETS) IN A PARKED CAR FOR ANY EXTENDED PERIOD OF TIME WITH THE ENGINE RUNNING. DO NOT RUN THE ENGINE IN AN ENCLOSED AREA (SUCH AS THE GARAGE) ANY LONGER THAN IS NEEDED TO MOVE THE CAR.

Driving with the boot or tailgate open is not recommended. If you must travel with the boot or tailgate open, close all windows, ensure that the heater controls are set to outside (rather than re-circulate) with air directed to the face and the fan on the highest speed. Do not exceed 50 km/h unless necessary.

PETROL CAUTION:

- Petrol is extremely flammable and highly explosive.
- Always turn off the engine and any mobile phones when refuelling.
- Do not smoke or allow open flames or sparks near the car when refuelling.
- If petrol fumes are smelt while driving, the cause should be found and corrected without delay.

Petrol - general

The use of any fuel, other than the fuel specified on the following page, may seriously damage the engine of your car and may void your Warranty. Only clean petrol of good quality should be used.

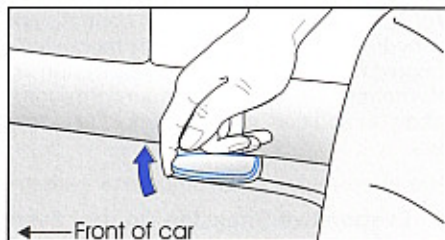
Petrol tanks should always be filled at the intermediate or fast fill rate. Don't add any more petrol after the petrol filler first clicks off or petrol blows back - as this allows room for the petrol to expand inside the tank.

It is only permissible to "trickle fill" petrol tanks when the car is to be driven for more than 50 km straight after the tank is filled. However, this is not recommended on days over 30°C.

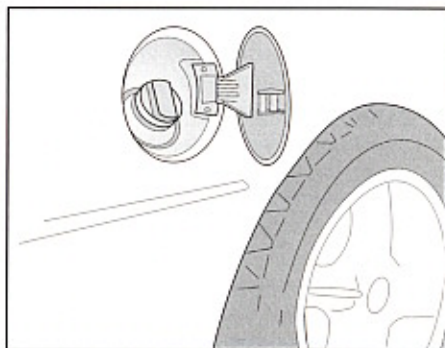
Wipe off any overflowing petrol immediately from the car; spray or splash with water (close the fuel opening before spraying with water).

PETROL cont.

Pull up the release lever on the floor (to the right of the driver's seat) to release the petrol flap.



The petrol cap (under the petrol flap) is a screw-on, ratchet type. After refilling, tighten the cap clockwise until a clicking noise is heard and then close the petrol flap.

**Tank capacity**

Both sedans and wagons have 75 litre fuel tanks.

Supercharged engines

The supercharged engine is designed to run most efficiently, for performance and fuel consumption, on premium (95 octane) UNLEADED petrol. However, it will perform satisfactorily on regular (91 octane) UNLEADED petrol.

Warning: Cars fitted with a supercharger should never be converted to LPG.

Non - supercharged engines

Use UNLEADED PETROL of 91 octane rating, or higher. High octane unleaded petrol ("Premium" etc.) may be used, but is not required by your car.

EMISSION CONTROL

Your car is fitted with emission control systems which are designed to reduce the amount of hydrocarbons (HC), carbon monoxide (CO), and oxides of nitrogen (NOx) that are emitted from the engine and fuel system into the atmosphere. Hydrocarbons and oxides of nitrogen, when exposed to sunlight under certain conditions, contribute to photochemical smog. In addition, carbon monoxide is toxic when it becomes highly concentrated in the air.

The three major emission control systems fitted to your car are:

1. Evaporative Emission Control System (Australian Cars Only)

This system is designed to prevent the escape of fuel vapour from the fuel system and recycle them through the normal combustion process.

2. Crankcase Emission Control System

This system is designed to prevent blow-by gases from escaping into the atmosphere and recycle them through the combustion process.

3. Exhaust Emission Control System

The various components of this system operate collectively to limit HC, CO and NOx emissions in the exhaust gas. The exhaust Emission Control System is comprised of components including electronic control of spark, fuel and idle speed. In addition, Australian cars have a catalytic converter and closed loop mixture control system.

For detailed information on the operation, servicing and repair procedures for these systems, refer to your car's service manual and/or the emission label inside the engine compartment (on the passenger side strut tower) of your car.

Owner responsibility

Cars sold and serviced within Australia have been designed to comply with Australian Design Rules and State Regulation emission requirements.

The engine or exhaust system of the car must NOT be modified in any way. Any change to the design may increase the emissions or otherwise defeat the intent of the regulations.

Any person who removes, modifies or hinders any part of the emission control system may be contravening Australian Design Rules, refer A.D.R. 28/01 (External Noise for Motor Vehicles) and A.D.R. 37/01 (Emission Control for Light Vehicles). It is also illegal to drive a car modified in this way.

Maintenance requirements

To ensure continuing compliance with the regulations you must maintain your car's emission control system as per your car's service manual, at the frequency shown in the Maintenance schedule in Chapter 12.

It is recommended that the necessary servicing be performed by an authorised Holden Dealer who has the specialised servicing equipment and trained personnel available to ensure that the adjustments and services specified are carried out.

REDUCING FUEL CONSUMPTION

Engine

Maintain the engine in peak mechanical condition by having it serviced regularly in accordance with the Maintenance schedule, in Chapter 12. This will ensure items such as the spark plugs, air cleaner, engine idle speed etc. are maintained for minimum fuel usage and peak engine performance.

Tyre pressure

Keep the tyres at the recommended pressures. Under-inflated tyres create extra rolling resistance which contributes to increased fuel consumption, refer Chapter 7.

Incorrect tyre pressures can also cause uneven and premature tyre wear.

Wheel alignment

Maintain correct front wheel alignment. Incorrect alignment makes the front wheels drag, which increases fuel consumption and causes uneven and premature tyre wear.

Warm ups and idling

Avoid long engine warm ups. They are unnecessary and waste fuel. An engine takes approximately five minutes to reach its efficient operating temperature and it does this most effectively when driving.

You should also avoid long engine idling. If you have to wait for more than a couple of minutes turn off the engine to conserve fuel.

Accelerating, driving and braking

Accelerate gently - avoid rapid starts, sudden bursts of speed and full throttle acceleration - they're certain fuel wasters.

Drive the car at steady speeds where possible (after run-in). It is desirable to reach top gear as soon as possible, but under no circumstances should you force the engine to labour in top gear.

Riding the brake

Do not rest your foot on the brake pedal when you do not intend to brake, as this can overheat the brakes, increase brake pad wear, damage the brakes and waste fuel.

Air conditioning

Turn off the air conditioning when not required. However, once every two weeks, with the engine running, switch the air conditioner on for 5 to 10 minutes to lubricate seals (even in Winter).

MEASURING FUEL CONSUMPTION**Before checking**

- Fuel consumption should not be judged until the engine has been "run-in". You should wait at least 1,500 km before checking fuel consumption.
- Please read information on the preceding page regarding fuel consumption.
- Find a petrol station and petrol pump that will be convenient to use for the next few tank fills. This is necessary due to variations in pumping speeds between petrol pumps and petrol stations.

To check fuel consumption

1. Reset the tripmeter in the trip computer to zero. Refer Chapter 1 if unsure how.
2. Fill the fuel tank until the petrol pump first clicks off.
3. At the time of the next refill return to the same petrol station and petrol pump.
4. Record the distance travelled on the tripmeter and again reset the tripmeter to zero.
5. Fill the fuel tank until the petrol pump first clicks off.
6. Record the amount of petrol added to the tank from the petrol pump.

Calculating

1. Multiply the amount of petrol by 100, then divide the result by the kilometres driven.
The answer is the "litres per 100 kilometres" consumption rate.
e.g. 43.8 litres used, 476.3 km driven:
$$\frac{43.8 \times 100}{476.3} = 9.2 \text{ litres per 100 km}$$
2. Repeat this procedure three to five times, to get an average reading. This will take account of variables such as load, weather conditions and city/highway driving.