

Chapter – 2

AUTO LPG

In India, LPG has been officially recognized as an auto fuel in 2002 after amendment of all relevant Acts/Rules by the Central and State governments. Use of LPG as automotive fuel is an age-old practice in various countries.

1. Advantages of Auto LPG:

- ✓ **ALPG is most economical fuel for petrol vehicles. At current prices, there is a saving** of about 40% when compared to petrol.
- ✓ ALPG meets BIS standard IS: 14861 which have Octane Number of 88 (minimum).
- ✓ ALPG fitment in vehicles is safe.
- ✓ Less pollution, Smooth running and easy drivability.
- ✓ Availability in major cities and towns.
- ✓

2. Availability of Auto LPG:

- ✓ ALPG is available at various retail outlets of IOCL, along with other PSU Oil Companies as well as Private Marketers. The details of Auto LPG Dispensing Stations (ALDS) are available on our website.
- ✓ The details of operating ALDS including that of Private Marketers can also be accessed from the website www.iac.org.in.

3. Operation of Auto LPG Dispensing Stations (ALDS):

- ✓ ALDS installation is governed by the guidelines of Petroleum & Explosives Safety Organisation (PESO).
- ✓ Auto LPG is a freely priced product with no government controls / subsidy. An individual company can fix the price of ALPG based on its own commercial considerations.
- ✓ Auto LPG is delivered on volumetric basis.
- ✓ The quality of Auto LPG is governed by IS: 14861.
- ✓ Auto LPG Dispensers are periodically calibrated using a master calibration kit.
- ✓ In case of any grievance regarding quality and quantity of Auto LPG delivered, the customer can make a complaint to the sales officer of the company whose contact details are displayed at the ALDS.

4. Why should we not use detachable LPG cylinders in vehicles?

- ✓ As per CMVR 115 C, only fixed Auto LPG tank with its safety gadgets, approved by PESO, are allowed in motor vehicles.
- ✓ Use of cylinders other than approved ALPG fixed tank is highly unsafe and prohibited under law.
- ✓ Auto LPG tank shall neither be replaced by domestic/commercial/ industrial LPG cylinder nor cylinders containing any other gases.

5. General instructions for motorists

- ✓ LPG being highly inflammable, any hot work (welding/gas cutting/brazing etc.) on the body or other parts of LPG driven vehicle should only be done by trained staff at authorized work shop.
- ✓ Repair of LPG tank is not permitted under any circumstances. However, repair/maintenance of Auto LPG system and its components should be carried out at authorized workshops. Ideally, repairs should be done by the same Retrofitter who has originally fitted ALPG system to the vehicle.
- ✓ Auto LPG tank and the piping system should be checked regularly for any leakage. The Auto LPG Cylinder has to be tested periodically in line with statutory requirements.
- ✓ In case of leakage in the LPG system, cut off LPG supply and park the car in open area, away from ignition sources. Move all the people to a safe distance from the vehicle, opposite to the wind direction and seek assistance of nearest authorized installer/workshop.
- ✓ Do not use domestic or any other detachable LPG cylinder as auto fuel as it is punishable under Law and is also highly unsafe.
- ✓ Auto LPG re-fuelling to the vehicle tank should be done only at the authorized ALDS, through the dispensing nozzle. Do not fill domestic LPG or any other gas in a LPG tank.
- ✓ Domestic LPG does not meet Octane requirement of Auto LPG and it may fail Engine in long run.
- ✓ After refuelling LPG, please ensure that the dust plug is inserted back on the filler valve.
- ✓ It is recommended to run the vehicle 5-7 Kms in petrol mode after every 100-150 Kms. run in LPG mode, to keep the petrol system in good condition.
- ✓ For carburettor engine, it is a good practice to put the selector switch in neutral position for a while before switching over to LPG. Switching over directly from petrol mode to LPG may lead to engine stalling or backfire due to mixing of both fuels.
- ✓ Never tamper with any of the components in the LPG system.
- ✓ Any other safety recommendation by vehicle/kit manufacturer should be followed.

6. Auto LPG conversion kit, its components and functions

- **LPG conversion kit:** ALPG conversion kit is a complete system assembly for converting a vehicle to run on LPG on bi-fuel mode. It has mainly three parts:
 - ✓ ALPG tank with its accessories fixed in the boot of the car. For 3 – wheeler vehicles, the auto LPG tank is installed under the driver's seat.
 - ✓ LPG delivery system through Vaporiser – Regulator and Venturi Mixer.
 - ✓ LPG control mechanism – Closed loop system (ECU, stepper motor/Injector (s), Emulator & Oxygen sensor etc) or open loop system (manual power screw without any feed back mechanism).
- **Auto LPG Tank (ALT) and accessories:**
 - ✓ Auto LPG tank is a metallic cylinder or a container of suitable capacity for filling LPG to be used as fuel for Spark Ignition (S.I.) motor vehicles. The tank should be approved by Chief Controller of Explosives under Gas Cylinders Rules 1981 and meet the requirements as per IS: 14899 (as amended from time to time).
 - ✓ Unlike normal LPG cylinder, each auto LPG tank is fitted with Multi-Function Valve for protection of the vehicle system and safety of the passenger and surroundings. It is an assembly for mounting on auto LPG tank for filling and withdrawal of LPG along with safety devices including:

I Automatic fill limiter	V Pressure Relief Valve
II Service valve	VI Fusible Plug
III Excess Flow Check Valve	VII Content Gauge
IV Non-Return Valve on fill connector	

- Multi Function Valve Assembly shall conform to latest Indian Standard (amended from time to time) and approved by Chief Controller of Explosives, PESO).

1. **Approval of Transport Authority**

After installing Auto LPG kit in your vehicle, it is mandatory for you to get its registration book endorsed by the local RTO.