

# GAS SAFETY Bulletin



## Message from the Editor

Greetings to all. This issue of the Gas Safety Bulletin features information on LPG vehicles maintenance and an update on the upgrading of energy labels and grading standards, plus legal tips on gas safety, as well as regulations requiring the attention of registered gas contractors and registered gas installers. Readers will also find gas incident and prosecution statistics by type in 2014 for easy reference.



## 2015 GAS SAFETY Briefing

The Gas Safety Briefing this year was successfully held on 9 February 2015 at the lecture hall of the Hong Kong Science Museum in Tsim Sha Tsui. Topics of the briefing included LPG installations for catering purposes in commercial buildings, matters requiring the attention of registered gas installers and registered gas contractors, postmortems on gas safety incidents, standardisation of gas meter and riser corrosion grades as well as the use of quadcopters in the inspection of risers on external walls, and the selection of flame arrestors.

EMSD colleagues, representatives from the Hong Kong and China Gas Company Limited and the Chief Instructor of the Vocational Training Council were at the briefing to provide detailed presentations on gas safety matters to members of the gas trade. The briefing ended with a lively Q&A session at which a wide range of issues were discussed. To find out more about the briefing, please browse EMSD's webpage at [www.emsd.gov.hk](http://www.emsd.gov.hk).

During the briefing, registered gas installers were reminded that letters had been sent via recorded delivery mail to all of them on 9 July 2012 and 14 June 2013, and to all registered gas contractors on 14 June 2013 and 3 November 2014. The letters aim to draw their attention to the requirement under Regulation 11 of the Gas Safety (Registration of Gas Installers and Gas Contractors) Regulations that any registered gas installer who changes his name or correspondence address

specified in his application under Regulation 5 after registration as a gas installer must notify the Gas Authority in writing of such change not later than 21 days of any such change. To avoid contravening the above regulations and disciplinary action by EMSD, the parties concerned should contact us in writing to update the delivery address as soon as possible.

Registered gas contractors were also reminded during the briefing to observe Regulation 19 of the Gas Safety (Registration of Gas Installers and Gas Contractors) Regulations (Cap. 51D) to exhibit and keep exhibited a notice, in the English and Chinese languages, so as to be easily visible by a person entering the office or each office at which he carries on business as a gas contractor. Please refer to the illustration below for the requirements for the contents of the notice.

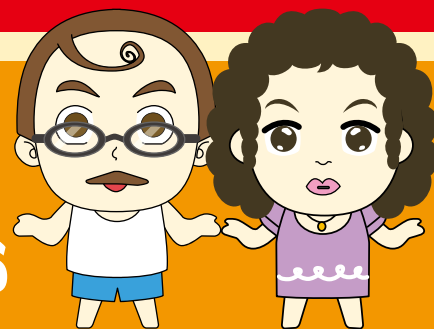
Letters or characters on the notice **must not be less than 5 centimetres** in height



Stating **the English and Chinese names of the contractor** and the words **“REGISTERED GAS CONTRACTOR NUMBER...”** or characters **“註冊氣體工程承辦商號碼.....”**

Stating **the contractor's registration number**

# Maintenance of LPG Vehicle Fuel Systems




In order to reduce emissions from vehicles in Hong Kong, the Government launched the LPG Vehicle Scheme in year 2000. As of today, there are in total about 21 000 LPG taxis and minibuses running on the roads of Hong Kong.

Five-seater LPG taxis were the earliest to be introduced to Hong Kong, most of which have been in service for over 10 years. This article gives an overview of the fuel system of LPG vehicles, especially the maintenance of vaporisers.

The primary function of vaporisers in LPG taxis is to transform the LPG from liquid phase to gaseous phase,

adjusting the LPG to an appropriate level of pressure to be used by the mixers and engines. Below is an annotated diagram of the LPG vaporiser parts (Figure 1):

Vehicle owners should pay special attention to the maintenance schedule of vaporisers:

- The tar inside the vaporisers should be discharged every three months (Figure 2)
- The idle speed air-fuel mix ratio should be inspected for every 10 000 km travelled
- The idle speed fuel filters should be replaced for every 100 000 km travelled (Figure 3) 

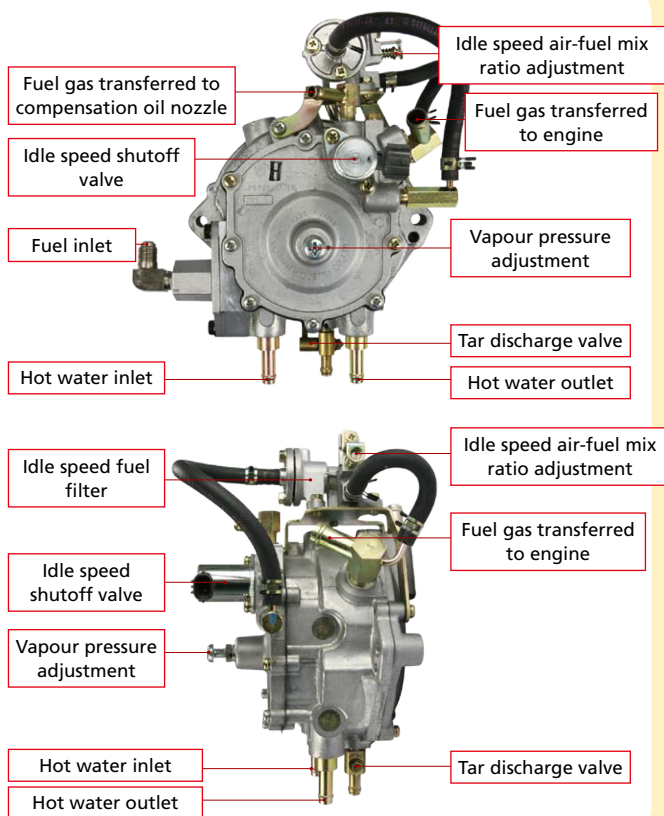


Figure 1: Annotated diagram of LPG vaporiser parts



Figure 2: The LPG that cannot be vaporised during vaporisation is called tar (the brown liquid) and would accumulate in the vaporiser. An excess of tar would cause the vehicle to stall while running.



Figure 3: The idle speed fuel filter would filter out the residues during the process of vaporisation. If not properly maintained, it could cause stalling during idle speed.

Listed below are the Do's and Don'ts for an LPG vehicle motorist:

Do's	Don'ts
<ul style="list-style-type: none"> <li>• Keep an eye on whether the idle speed revolutions are stable (Five-seater taxis: Automatic transmission 650+/- 50 rpm)</li> <li>• Arrange regular inspection and maintenance for the vehicle</li> <li>• Use compliant parts</li> <li>• If any abnormality is detected in the vehicle's operation, such as engine not running smoothly, or there is shuddering at the car front, the vehicle should be sent to a vehicle maintenance workshop for inspection</li> </ul>	<ul style="list-style-type: none"> <li>× Do not install/remove any LPG supply pipes or parts by yourself</li> <li>× Do not adjust the idle speed air-fuel mix ratio by yourself</li> <li>× Do not discharge tar with anything else than the original tar discharge valve</li> <li>× Do not use non-compliant parts</li> <li>× Never attempt to carry out repair works by yourself, so as to avoid accidents</li> </ul>

# Guidance Notes on Maintenance and Repair of LPG Vehicles

## Suitable Persons for Maintenance and Repair of LPG Vehicles

- General maintenance and repair of LPG vehicles, such as replacement of tyre, indicator light, lubricant and repair of vehicle body or vehicle engine, etc., may be undertaken by general vehicle mechanics.
- For maintenance and repair of LPG vehicles involving the **LPG fuel system** (including any parts of the LPG fuel tank, vaporiser, fuel pipe, pressure regulator, mixer and associated components), the work must be carried out by the following **Competent Persons**:
  - (i) For replacement of LPG fuel tank, or maintenance, repair or replacement of vaporiser, fuel pipe, pressure regulator, mixer and associated components, the work must be carried out by a **Competent Person (Class 6)** or under his supervision.
  - (ii) Work involving the structure or internal components of an LPG fuel tank (including replacement of fuel pump inside the tank and 5-yearly revalidation of fuel tank) must be carried out by a **Competent Person (Class 1)** or under his supervision.

## Suitable Venues for Maintenance and Repair of LPG Vehicles

- General maintenance and repair of LPG vehicles, such as replacement of tyre, indicator light, lubricant and repair of vehicle body or vehicle engine, etc., may be carried out at a general vehicle maintenance workshop. A workshop which hires a Competent Person (Class 6) may also undertake repair work on the fuel system of LPG vehicles (including (i)).
- If more than one LPG fuel tank have to be stored in the vehicle maintenance workshop (i.e., when the storage capacity of LPG is in excess of 130 litres), construction and use approvals of the workshop must be obtained from our Department.
- Work involving the structure or internal components of an LPG fuel tank (including replacement of fuel pump inside the tank and 5-yearly revalidation of fuel tank) must be carried out at an approved **LPG fuel tank workshop**.

For details, please contact us at 2808 3213. Further relevant information (such as the list of competent persons or workshops) is available at our website [www.emsd.gov.hk](http://www.emsd.gov.hk).

## Energy Labels and Upgrading of Grading Standards

Currently, the Energy Efficiency (Labelling of Products) Ordinance (Cap. 598) covers five types of household electrical products, namely room air conditioners, refrigerating appliances, compact fluorescent lamps, washing machines and dehumidifiers. Energy labels are required to be shown on the above prescribed products for supply in Hong Kong so consumers may have knowledge of their energy efficiency performance.

To further enhance energy efficiency, EMSD published the Code of Practice on Energy Labelling of Products

2014 (the Code) in 2014 to upgrade the energy efficiency grading standards of room air conditioners, refrigerating appliances and washing machines. **The Code will be fully implemented from 25 November 2015. From that date onwards, energy labels with new energy efficiency grading are required to be shown on these three types of electrical products for supply in Hong Kong.** Details of the energy labels and the upgrading of grading standards are available at "Energy Label Net" of EMSD (<http://www.energylabel.emsd.gov.hk>).



## Gas Distributors Should Not Supply Excessive Quantities of LPG

**T**here are several recent prosecutions of gas distributors for supplying excessive quantities of LPG to customers.

The gas distributors involved were convicted and fined by the court. To enable you to have a better understanding of the legal requirements, we will again go over with you the relevant legislation.

According to Regulation 3(2)(a) of the Gas Safety (Gas Supply) Regulations, no person shall supply gas to any premises where he knows or ought reasonably to know that there is an excessive quantity of LPG stored in the premises, or that there will be an excessive quantity of LPG stored in the premises by his new LPG supplies (i.e., a total nominal water capacity of over 130 litres of LPG

is stored without the approval of the Gas Authority). Otherwise, the above Regulations will be contravened.

Gas distributors, being members of the gas trade, have knowledge of gas safety and the potential danger of storing excessive quantities of LPG. They have the responsibility to supply gas safely to their customers and conduct inspections of gas installations for their customers. They should also be well aware of the LPG storage and consumption conditions of their customers. If they can pay more attention to the LPG quantities of their customers and promptly collect the used cylinders when making delivery, contravention of the above requirement will definitely be avoided.



**Legal Knowledge**

## LPG Road Tankers

An LPG road tanker ("tanker") refers to the vehicle that carries LPG in bulk. It must comply with the safety regulations stipulated in the laws of Hong Kong, particularly the Gas Safety Ordinance (Cap. 51) on matters of gas safety.

According to the Gas Safety (Gas Supply) Regulations (Cap. 51B) under the Gas Safety Ordinance, tankers are not allowed to carry LPG unless issued with a valid permit by the Gas Authority. The Regulations specify the conditions under which the tanker would be issued with a permit, and the permit issued may be subject to such reasonable conditions as the Authority thinks fit and as are specified in the permit. The vehicle owner must display the label issued with that permit on the left-hand side of the vehicle's windscreen.

The owner of a tanker in respect of which a permit has been issued shall, if he ceases to be the owner, or when the

vehicle is abandoned or destroyed, within 7 days thereafter inform the Authority of such fact, and at the same time return the permit to the Authority. The tanker owner may apply for the permit personally or by authorising a representative in writing. The Gas Standards Office of the Electrical and Mechanical Services Department, acting on behalf of the Gas Authority, is responsible for the handling of permit applications. The permit is valid for a year. The vehicle owner or the representative authorised by the vehicle owner in writing should apply for renewal of the permit before it expires.

For details of the application for a permit, please refer to the Code of Practice for Hong Kong LPG Industry, Module 3 – Handling and Transport of LPG in Bulk by Road published by the Gas Standards Office.



## Requirements on the Installation of Emergency Controls

All premises shall be installed with a gas emergency control to control the supply of gases. The emergency control shall, as far as is reasonably practicable, be installed near the location where the gas pipe enters the premises.

Under Regulation 8(2) of the Gas Safety (Installation and Use) Regulations, any key, lever or hand wheel of such emergency control shall be securely attached to the operating spindle of such control, so that the key or lever is parallel to the axis of the pipe in which such control is installed when such control is in the open position. When the key or lever is moved, so far as is practicable, downwards, gas cannot pass beyond such control.

The means of operating such control shall be clearly and permanently marked, in the English and Chinese

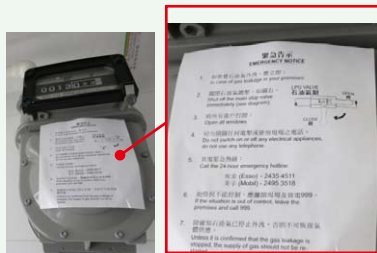
languages, near such means to illustrate the method of use of such control.

All gas controls that are not primary meter installations shall have a notice bearing the words or characters "Gas Emergency Control 氣體緊急控制閥" in permanent form, displayed on or near the means of operating such control. It shall state the name of the gas supply company concerned and its emergency telephone number, and also remind users that they should:

- (1) shut off the supply of gas immediately in the event of an escape of gas in the premises for which such control is provided;
- (2) as soon as practicable, dial 999 to call the police and alert the gas supply company concerned where any gas continues to escape after such control has been closed;
- (3) not re-open such control until all necessary steps have been taken to prevent gas from escaping again.



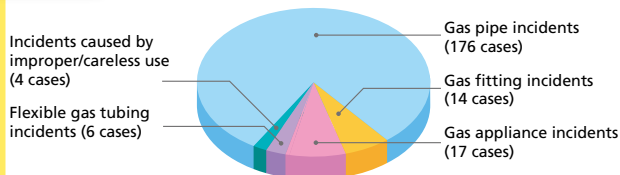
**Emergency Control Notice(for town gas)**



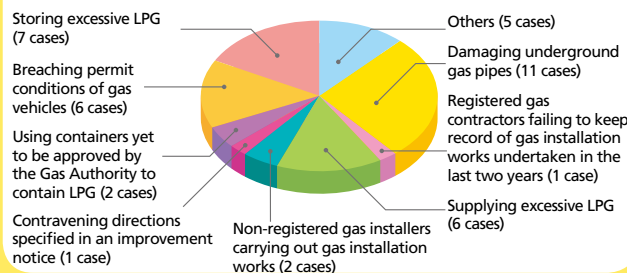
**Emergency Control Notice(for LPG)**

### Gas Incident and Prosecution Statistics

#### Gas Incidents by Type in 2014 (January to December)



#### Prosecutions by Type for Gas-related Cases in 2014 (January to December)



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