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Regulators – Safe Use

Introduction

Regulators are necessary to reduce the pressure of LPG in the cylinder or cartridge to the much lower pressure that is used by the appliance. Each country has their own settings for domestic applications, typically in the UK, butane regulators are pre-set at nominally 28-30 mbar and a propane regulator is pre-set to 37mbar, however for some touring caravan and motorhome applications designed and built to standard EN 1949 the regulators are installed by the manufacturer and pre-set at 30 mbar for both butane and propane. Regulators for other applications (such as plumbers torches) operate at higher pressures and are often fitted with adjustable regulators.

Regulators come in two basic patterns, screwed connectors and quick connect (clip-on) types. They are specific to the type of cylinder they can be attached to. Most screwed connections (except for special cylinders e.g. Camping Gaz, Calor 340 or Primus) use a left-hand thread and tighten in the opposite direction to a normal screw. Some connections require the use of a non-metallic sealing washer.

The regulator service life is specified by the manufacturer, if this is not known then the recommended service life is 10 years so long as it has been used correctly according to the manufacturer's instructions. Regulators marked BS 3016 are now over 10 years old and it is recommended that they are replaced.

When selecting a regulator, it is recommended that a model with a means of protecting the downstream hose, pipework and appliance from overpressure in the event of regulator malfunction is used.

Such devices are:

- A regulator incorporating an Over Pressure Shut Off (OPSO) – a requirement for most installations in residential and habitable properties in the UK and commercial activities covered by the Gas Safety In Use Regulations (GSIUR) and installation standard BS 6891;
- A two-stage regulator where the 1st stage restricts the pressure lower than 150 mbar - especially designed for and fitted to Touring Caravans and Motorhomes built to EN1949, which is universal across the EU;
- A regulator with an integral relief valve - often used in Touring Caravans and Motorhomes built to EN1949, marine use and large specialised Industrial or agricultural applications. This type of regulator is not suitable for use indoors.

For your safety, always:

- Use a qualified and registered Gas Safe Installer for gas installations covered by the GSIUR which covers all installed internal appliances and pipework to habitable and residential and commercial properties in the UK.
- Make sure that the outlet pressure of the regulator is the same as the inlet pressure requirement of the appliance(s) and ensure it is the correct size for the cylinder valve – never force onto one of the wrong size;

- Connect regulators to cylinders in accordance with the manufacturer's instructions;
- Always use the correct sized spanner to tighten any screwed connection, do not over tighten;
- Ensure new regulators are clearly marked BS EN 16129. This standard has progressively replaced standards BS EN 12864; BS EN 13785 and BS EN 13786, and regulators made to these standards may be still available for sale, therefore when purchasing a new regulator check that it is less than 3 years old from the date of manufacture;
- Make sure regulators, which are not fitted directly to the cylinder outlet, and any changeover valve is secured at a position higher than the cylinder outlet so that the hose/s from the cylinder slope downwards from the regulator to the cylinder valve;
- Make sure the vent on a regulator does not point upwards or is installed in a position allowing the ingress of water, either by; rain, snow or any trickling or pooling;
- Protect from sea water spray unless the regulator is otherwise designed for this environment or is suitably protected;
- Make sure the vent is not blocked by other contaminants e.g. mortar from building works;
- If a regulator is disconnected from its gas supply ensure it is stored correctly to ensure no contaminants enter and protected from water, with connections adequately plugged or capped;
- If a regulator fitted to a gas cylinder is not going to be used for long period of time, such as for outdoor appliances or when the premises are not occupied and the use is not essential for heating whilst unoccupied, it is recommended that the cylinder valve is turned off until required;
- Replace a regulator if it shows signs of wear, leakage or damage.

For your safety:

- Do not force a regulator onto the cylinder valve if it does not fit easily;
- Do not operate its mechanism using excessive force;
- Do not use regulators with US POL inlet fittings (designed for use on bulk storage vessels) with Cylinder valves (the threads may look the same, but they are different);
- Never tamper with regulators;
- Never try to adjust non-user adjustable regulators, they are pre-set by the manufacturer to control the gas supply at the correct pressure, unless you are qualified to do so;
- Do not purchase or use a second-hand regulator.

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