
S T A T U T O R Y I N S T R U M E N T S

1981 No. 1663

ROAD TRAFFIC

**The Motor Vehicles (Construction and Use)
(Amendment) (No. 6) Regulations 1981**

Made - - - - 19th November 1981

Laid before Parliament 8th December 1981

Coming into Operation :

*Regulations 1, 2, 3,
4, 5, 6 and 8* - 29th December 1981

Regulation 7 - - 19th February 1982

The Secretary of State for Transport, in exercise of the powers conferred by section 40(1) and (3) of the Road Traffic Act 1972(a) and now vested in him (b) and of all other enabling powers, and after consultation with representative organisations in accordance with the provisions of section 199(2) of that Act, hereby makes the following Regulations:—

1.—(1) These Regulations may be cited as the Motor Vehicles (Construction and Use) (Amendment) (No. 6) Regulations 1981.

(2) Regulations 1, 2, 3, 4, 5, 6 and 8 of these Regulations shall come into operation on 29th December 1981, and Regulation 7 of these Regulations shall come into operation on 19th February 1982.

2. The Motor Vehicles (Construction and Use) Regulations 1978(c) are further amended so as to have effect in accordance with the following provisions of these Regulations.

3. In Regulation 3 (Interpretation), in paragraph (1)—

- (a) delete the definitions of “gas”, “gas equipment” and “gas trailer”;
- (b) after the definition of “gangway” insert the following new definitions:—

“gas” means any fuel which is wholly gaseous at 17.5°C under a pressure of 1.013 bar absolute;

“gas-fired appliance” means a device carried on a motor vehicle or trailer when in use on a road, which consumes gas and which is neither—

- (a) a device owned or operated by or with the authority of the British Gas Corporation for the purpose of detecting gas, nor
- (b) an engine for the propulsion of a motor vehicle, nor
- (c) a lamp which consumes acetylene gas;”;

(a) 1972 c. 20. (b) S.I. 1979/571 and 1981/238.

(c) S.I. 1978/1017, to which there are amendments not relevant to these Regulations.

(c) after the definition of "land tractor" add the following new definition:—

" "liquefied petroleum gas" means—

- (a) butane gas in any phase which meets the requirements contained in the specification of commercial butane and propane issued by the British Standards Institution under the number BS 4250: 1975 and published on 29th August 1975, or
- (b) propane gas in any phase which meets the requirements contained in the said specification, or
- (c) any mixture of such butane gas and such propane gas ;".

4. For Regulation 47 substitute the following Regulation:—

"Gas propulsion systems and gas-fired appliances"

47.—(1) Every motor vehicle first propelled by gaseous fuel before 19th November 1982 and every trailer manufactured before 19th November 1982 to which there is a fitted gas container shall be constructed so that either—

- (a) it complies with the provisions of Schedule 3, or
- (b) it satisfies the requirements specified in paragraph (2) below appropriate to the vehicles to which that paragraph applies.

(2) In the case of every motor vehicle first propelled by gaseous fuel on or after 19th November 1982 and every trailer manufactured on or after 19th November 1982—

- (a) the provisions of paragraphs 2 and 15 of Schedule 3A shall be complied with as respects any gas container ;
- (b) the provisions of paragraphs 3 and 15 of Schedule 3A shall be complied with as respects the filling system for any fixed gas container;
- (c) the provisions of paragraphs 4, 5, 6, 7, 8, 9 and 15 of Schedule 3A shall be complied with as respects any pipelines, unions and joints, valves and cocks and gauges ;
- (d) the provisions of paragraphs 10 and 15 of Schedule 3A shall be complied with as respects any gas propulsion system ;
- (e) the provisions of paragraphs 11 and 15 of Schedule 3A shall be complied with as respects any large passenger carrying vehicle;
- (f) the provisions of paragraphs 12, 13 and 14 of Schedule 3A shall be complied with as respects any gas-fired appliance.

(3) The requirements of this Regulation are in addition to, and not in derogation from, the requirements of any regulations made under powers conferred by the Petroleum (Consolidation) Act 1928(a), the Health and Safety at Work etc. Act 1974(b), the Control of Pollution Act 1974(c) or any other Act or of any codes of practice issued under the Health and Safety at Work etc. Act 1974.

(4) In relation to paragraph (1)(a) above "gas container" has the meaning given in Schedule 3 ; in relation to paragraph (1)(b) above and in paragraph (2) above "gas container" has the meaning given in Schedule 3A ; and in paragraph (2) above "fixed gas container" and "pipeline" have the meanings respectively given in Schedule 3A."

5. In Regulation 75, in paragraph (4), for the words “any trailer used only” in sub-paragraph (e) substitute the words “any trailer manufactured before 19th November 1982 used only”.

6. In Regulation 138 (Attendants on trailers and certain other vehicles), in paragraph (1), omit sub-paragraph (f).

7. After Regulation 144, insert the following new Regulations:—

“ Use of gas propulsion systems

144A.—(1) No person shall use or cause or permit to be used on a road any gas propulsion system of a vehicle unless the whole of such system is in a safe condition.

(2) No person shall use or cause or permit to be used in any gas supply system for the propulsion of a vehicle when the vehicle is on a road any fuel except liquefied petroleum gas.

(3) No person shall use or cause or permit to be used on a road any vehicle which is propelled by gas unless the gas container in which such fuel is stored is on the motor vehicle, and not on any trailer, and in the case of an articulated vehicle on the portion of the vehicle to which the engine is fitted.

Use of gas-fired appliances—general

144B.—(1) No person shall use or cause or permit to be used in or on a vehicle on a road any gas-fired appliance unless the whole of such appliance and the gas system attached thereto is in an efficient and safe condition.

(2) No person shall use or cause or permit to be used in any gas-fired appliance in or on a vehicle on a road any fuel except liquefied petroleum gas.

(3) No person shall use or cause or permit to be used in or on a vehicle on a road any gas-fired appliance unless the vehicle is so ventilated that—

(a) an ample supply of air is available for the operation of the appliance,

(b) the use of the appliance does not adversely affect the health or comfort of any person using the vehicle, and

(c) any unburnt gas is safely disposed of to the outside of the vehicle.

(4) No person shall use or cause or permit to be used on a road—

(a) a vehicle in or on which there is one gas-fired appliance unless the gas supply for such appliance is shut off at the point where it leaves the container or containers at all times when the appliance is not in use,

(b) a vehicle in or on which there is more than one gas-fired appliance each of which has the same supply of gas unless the gas supply for such appliances is shut off at the point where it leaves the container or containers at all times when none of such appliances is in use, or

(c) a vehicle in or on which there is more than one gas-fired appliance each of which does not have the same supply of gas unless each gas supply for such appliances is shut off at the point where it leaves the container or containers at all times when none of such appliances which it supplies is in use.

Use of gas-fired appliances when a vehicle is in motion

144C.—(1) All the provisions specified in this Regulation apply to every motor vehicle and trailer other than a vehicle constructed or adapted for the conveyance of goods under controlled temperatures, and the provisions specified in paragraph (3)(d) below (but no other provisions specified in this Regulation) apply to a vehicle constructed or adapted for the conveyance of goods under controlled temperatures.

(2) No person shall use or cause or permit to be used in any vehicle to which this Regulation applies, while the vehicle is in motion on a road, any gas-fired appliance except—

(a) a gas-fired appliance which is fitted to engineering plant while the plant is being used for the purposes of the engineering operations for which it was designed, or

(b) a gas-fired appliance which is permanently attached to a large passenger carrying vehicle, provided that any appliance for heating or cooling the interior of the vehicle for the comfort of the driver and any passengers does not expose a naked flame on the outside of the appliance, or

(c) in any other vehicle, a refrigerating appliance or an appliance which does not expose a naked flame on the outside of the appliance and which is permanently attached to the vehicle and designed for the purpose of heating any part of the interior of the vehicle for the comfort of the driver and any passengers.

(3) No person shall use or cause or permit to be used in any vehicle to which this Regulation applies, while the vehicle is in motion on a road, any gas-fired appliance unless—

(a) in the case of an appliance to which sub-paragraph (2)(a) above refers, the appliance complies with the requirements specified in paragraphs 12 and 13 of Schedule 3A and the gas system to which it is attached complies with the requirements specified in paragraphs 2 to 9 and 15 of Schedule 3A ;

(b) in the case of an appliance to which sub-paragraph (2)(b) above refers, the appliance complies with the requirements specified in paragraphs 12, 13 and 14 of Schedule 3A and the gas system to which it is attached complies with the requirements specified in paragraphs 2 to 9, 11 and 15 of Schedule 3A ;

(c) in the case of an appliance to which sub-paragraph (2)(c) above refers, the appliance complies—

(i) in the case of any such appliance fitted to a motor vehicle, with the requirements specified in paragraphs 12, 13 and 14 of Schedule 3A, and

(ii) in any other case, with the requirements specified in paragraphs 12 and 13 of Schedule 3A

and the gas system to which the appliance is attached complies with the requirements specified in paragraphs 2 to 9 and 15 of Schedule 3A ; and

(d) in all cases, the appliance is fitted with a valve which stops the supply of gas to the appliance if the appliance fails to perform its function and causes gas to be emitted.”.

8. After Schedule 3 insert the following new Schedule :—

“SCHEDULE 3A (see Regulations 47(2) and 144C(3))

GAS SYSTEMS

Definitions

1. In this Schedule—

“check valve” means a device which permits the flow of gas in one direction and prevents the flow of gas in the opposite direction ;

“design pressure” means the pressure which a part of a gas system has been designed and constructed safely to withstand ;

“double-check valve” means a device which consists of two check valves in series and which permits the flow of gas in one direction and prevents the flow of gas in the opposite direction ;

“excess flow valve” means a device which automatically and instantaneously reduces to a minimum the flow of gas through the valve when the flow rate exceeds a set value ;

“fixed gas container” means a gas container which is attached to a vehicle permanently and in such a manner that the container can be filled without being moved ;

“gas container” means any container, not being a container for the carriage of gas as goods, which is fitted to or carried on a motor vehicle or trailer and is intended for the storage of gas for either—

(a) the propulsion of the motor vehicle, or

(b) the operation of a gas-fired appliance ;

“high pressure” means a pressure exceeding 1·0325 bar absolute ;

“high pressure pipeline” means a pipeline intended to contain gas at high pressure ;

“pipeline” means any pipe or passage connecting any two parts of a gas propulsion system of a vehicle or of a gas-fired appliance supply system on a vehicle or any two points on the same part of any such system ;

“portable gas container” means a gas container which may be attached to a vehicle but which can readily be removed ;

“pressure relief valve” means a device which opens automatically when the pressure in the part of the gas system to which it is fitted exceeds a set value, reaches its maximum flow capacity when the set value is exceeded by 10 per cent. and closes automatically when the pressure falls below a set value ; and

“reducing valve” means a device which automatically reduces the pressure of the gas passing through it, and includes regulator devices.

Gas containers

2.—(1) Every gas container shall—

(a) be capable of withstanding the pressure of the gas which may be stored in the container at the highest temperature which the gas is likely to reach,

(b) if fitted inside the vehicle be so arranged as to prevent so far as is practicable the possibility of gas entering the engine, passenger or living compartments due to leaks or venting from the container or valves, connections and gauges immediately adjacent to it, and the space containing these components shall be so ventilated and drained as to prevent the accumulation of gas,

(c) be securely attached to the vehicle in such a manner as not to be liable to displacement or damage due to vibration, or other cause, and

(d) be so placed and so insulated or shielded as not to suffer any adverse effect from the heat of the exhaust system of any engine or any other source of heat.

(2) Every portable gas container shall be either—

(a) hermetically sealed, or

(b) fitted with a valve or cock to enable the flow of gas from the container to be stopped.

(3) Every fixed gas container shall

(a) be fitted with—

(i) at least one pressure relief valve, and

(ii) at least one manually operated valve which may be extended by an internal dip tube inside the gas container so as to indicate when the container has been filled to the level corresponding to the filling ratio specified in the British Standards Institution Specification for Filling Ratios and Developed Pressures for Liquefiable and Permanent Gases (as defined, respectively, in paragraphs 3.2 and 3.5 of the said Specification) published in May 1976 under the number BS 5355, and

(b) be conspicuously and permanently marked with its design pressure.

(4) If any fixed gas container is required to be fitted in a particular attitude or location, or if any device referred to in sub-paragraph (3) above requires the container to be fitted in such a manner, then every such gas container shall be conspicuously and permanently marked to indicate that requirement.

(5) If the operation of any pressure relief valve or other device referred to in sub-paragraph (3) above may cause gas to be released from the gas container, an outlet shall be provided to lead such gas to the outside of the vehicle so as not to suffer any adverse effect from the heat of the exhaust system of any engine or any other source of heat, and that outlet from the pressure relief valve shall not be fitted with any other valve or cock.

Filling systems for fixed gas containers

3.—(1) Every connection for filling a fixed gas container shall be on the outside of the vehicle.

(2) There shall be fitted to every fixed gas container either—

- (a) a manually operated shut-off valve and an excess flow valve, or
- (b) a manually operated shut-off valve and a single check valve, or
- (c) a double-check valve,

and all parts of these valves in contact with gas shall be made entirely of suitable metal except that they may contain non-metal washers and seals provided that such washers and seals are supported and constrained by metal components.

(3) In every case where a pipe is attached to a gas container for the purpose of filling the gas container there shall be fitted to the end of the pipe furthest from the gas container a check valve or a double-check valve.

(4) There shall be fitted over every gas filling point on a vehicle a cap which shall—

- (a) prevent any leakage of gas from the gas filling point,
- (b) be secured to the vehicle by a chain or some other suitable means,
- (c) be made of suitable material, and
- (d) be fastened to the gas filling point by either a screw thread or other suitable means.

Pipelines

4.—(1) Every pipeline shall be fixed in such a manner and position that—

- (a) it will not be adversely affected by the heat of the exhaust system of any engine or any other source of heat,
- (b) it is protected from vibration and strain in excess of that which it can reasonably be expected to withstand, and
- (c) in the case of a high pressure pipeline it is so far as is practicable accessible for inspection.

(2) Save as provided in sub-paragraph (4) below, every high pressure pipeline shall be—

- (a) a rigid line of steel, copper or copper alloy of high pressure hydraulic grade, suitable for service on road vehicles and designed for a minimum service pressure rating of not less than 75 bar absolute, and
- (b) effectively protected against, or shielded from, or treated so as to be resistant to, external corrosion throughout its length unless it is made from material which is corrosion resistant under the conditions which it is likely to encounter in service.

(3) No unsupported length of any high pressure pipeline shall exceed 600 millimetres.

(4) Flexible hose may be used in a high pressure pipeline if—

- (a) it is reinforced either by stainless steel wire braid or by textile braid,
- (b) its length does not exceed 500 millimetres, and

(c) save in the case of a pipeline attached to a gas container for the purpose of filling that container the flexibility which it provides is necessary for the construction or operation of the gas system of which it forms a part.

(5) If a high pressure pipeline or part of such a pipeline is so constructed or located that it may, in the course of its normal use (excluding the supply of fuel from a gas container), contain liquid which is prevented from flowing, a relief valve shall be incorporated in that pipeline.

Unions and joints

5.—(1) Every union and joint on a pipeline or gas container shall be so constructed and fitted that it will—

- (a) not be liable to work loose or leak when in use, and
- (b) be readily accessible for inspection and maintenance.

(2) Every union on a high pressure pipeline or on a gas container shall be made of suitable metal but such a union may contain non-metal washers and seals provided that such washers and seals are supported and constrained by metal components.

Reducing valves

6. Every reducing valve shall be made of suitable materials and be so fitted as to be readily accessible for inspection and maintenance.

Pressure relief valves

7.—(1) Every pressure relief valve which is fitted to any part of a gas system (including a gas container) shall—

- (a) be made entirely of suitable metal and so constructed and fitted as to ensure that the cooling effect of the gas during discharge shall not prevent its effective operation,
- (b) be capable, under the most extreme temperatures likely to be met (including exposure to fire), of a discharge rate which prevents the pressure of the contents of the gas system from exceeding its design pressure,
- (c) have a maximum discharge pressure not greater than the design pressure of the gas container,
- (d) be so designed and constructed as to prevent unauthorised interference with the relief pressure setting during service, and
- (e) have outlets which are—
 - (i) so sited that so far as is reasonably practicable in the event of an accident the valve and its outlets are protected from damage and the free discharge from such outlets is not impaired, and
 - (ii) so designed and constructed as to prevent the collection of moisture and other foreign matter which could adversely affect their performance.

(2) The pressure at which a pressure relief valve is designed to start lifting shall be clearly and permanently marked on every such valve.

(3) Every pressure relief valve which is fitted to a gas container shall communicate with the vapour space in the gas container and not with any liquefied gas.

Valves and cocks

8.—(1) A valve or cock shall be fitted to every supply pipeline as near as practicable to every fixed gas container and such valve or cock shall by manual operation enable the supply of gas from the gas container to the gas system to be stopped, and save as provided in sub-paragraph (2) below, shall—

(a) if fitted on the outside of the vehicle, be readily visible and accessible from the outside of the vehicle, or

(b) if fitted inside the vehicle be readily accessible for operation and be so arranged as to prevent so far as is practicable the possibility of gas entering the engine, passenger or living compartments due to leaks, and the space containing the valve or cock shall be so ventilated and drained as to prevent the accumulation of gas in that space.

(2) Where a fixed gas container supplies no gas system other than a gas propulsion system and the gas container is so located that it is not practicable to make the valve or cock referred to in sub-paragraph (1) above readily accessible there shall be fitted an electrically-operated valve which shall either be incorporated in the valve or cock referred to in sub-paragraph (1) above or be fitted immediately downstream from it and shall—

(a) be constructed so as to open when the electric power is applied and to close when the electric power is cut off,

(b) be so fitted as to shut off the supply of gas from the gas container to the gas system when the engine is not running, and

(c) if fitted inside the vehicle be so arranged as to prevent as far as is practicable the possibility of gas entering the engine, passenger or living compartments due to leaks, and the space containing the valve shall be so ventilated and drained as to prevent the accumulation of gas in that space.

(3) A notice clearly indicating the position, purpose and method of operating every valve or cock referred to in sub-paragraphs (1) and (2) above shall be fixed—

(a) in all cases, in a conspicuous position on the outside of the vehicle, and

(b) in every case where the valve or cock is located inside the vehicle in a conspicuous position adjacent to the gas container.

(4) In the case of a high pressure pipeline for the conveyance of gas from the gas container an excess flow valve shall be fitted as near as practicable to the gas container and such valve shall operate in the event of a fracture of the pipeline or other similar failure.

(5) All parts of every valve or cock referred to in this paragraph which are in contact with gas shall be made of suitable metal, save that they may contain non-metal washers and seals provided that such washers and seals are supported and constrained by metal components.

Gauges

9. Every gauge connected to a gas container or to a pipeline shall be so constructed as to be unlikely to deteriorate under the action of the gas

used or to be used and shall be so constructed and fitted that—

(a) no gas can escape into any part of the vehicle as a result of any failure of the gauge, and

(b) in the event of any failure of the gauge the supply of gas to the gauge can be readily stopped:

Provided that the requirement specified in sub-paragraph (b) above shall not apply in respect of a gauge fitted as an integral part of a gas container.

Propulsion systems

10.—(1) Every gas propulsion system shall be so designed and constructed that—

(a) the supply of gas to the engine is automatically stopped by the operation of a valve when the engine is not running at all or is not running on the supply of gas, and

(b) where a reducing valve is relied on to comply with sub-paragraph (a) above, the supply of gas to the engine is automatically stopped by the operation of an additional valve when the engine is switched off.

(2) Where the engine of a vehicle is constructed or adapted to run on one or more fuels as alternatives to gas, the safety and efficiency of the engine and any fuel system shall not be impaired by the presence of any other fuel system.

Special requirements for large passenger carrying vehicles

11. In the case of a large passenger carrying vehicle there shall be fitted as near as practicable to the gas container—

(a) a valve which shall stop the flow of gas into the gas supply pipeline in the event of the angle of tilt of the vehicle exceeding that referred to in Regulation 6 of the Public Service Vehicles (Conditions of Fitness, Equipment, Use and Certification) Regulations 1981(a), and

(b) a valve which shall stop the flow of gas into the gas supply pipeline in the event of the deceleration of the vehicle exceeding 5g.

Gas-fired appliances

12. Every part of a gas-fired appliance shall be—

(a) so designed and constructed that leakage of gas is unlikely to occur, and

(b) constructed of materials which are compatible both with each other and with the gas used.

13. Every gas-fired appliance shall be—

(a) so located as to be easily inspected and maintained,

(b) so located and either insulated or shielded that its use shall not cause or be likely to cause danger due to the presence of any flammable material,

(c) so constructed and located as not to impose undue stress on any pipe or fitting, and

(d) so fastened or located as not to work loose or move in relation to the vehicle.

14. With the exception of catalytic heating appliances, every appliance of the kind described in Regulation 144C(2)(b) or (c) which is fitted to a motor vehicle shall be fitted with a flue which shall be—

- (a) connected to an outlet which is on the outside of the vehicle,
- (b) constructed and located so as to prevent any expelled matter from entering the vehicle, and
- (c) located so that it will not cause any adverse effect to, or suffer any adverse effect from, the exhaust outlet of any engine or any other source of heat.

General requirements

15. Every part of a gas propulsion system or a gas-fired appliance system, excluding the appliance itself, shall be—

- (a) so far as is practicable so located or protected as not to be exposed to accidental damage,
- (b) soundly and properly constructed of materials which are compatible with one another and with the gas used or to be used and which are capable of withstanding the loads and stresses likely to be met in operation, and
- (c) so designed and constructed that leakage of gas is unlikely to occur.”.

David Howell,
Secretary of State for Transport.

19th November 1981.

EXPLANATORY NOTE

(This Note is not part of the Regulations.)

1. These Regulations amend the Motor Vehicles (Construction and Use) Regulations 1978.

2. Regulation 47 of the Regulations of 1978 provides that the provisions of Schedule 3 shall be complied with in the case of every motor vehicle or trailer to which there is fitted a container for the storage of gaseous fuel for the propulsion of the vehicle or the drawing vehicle. These Regulations introduce a new Regulation 47 which—

(a) confines the existing provisions so that they relate only to motor vehicles first propelled by gaseous fuel before 19th November 1982 and trailers manufactured before 19th November 1982, and

(b) introduces in relation to motor vehicles first propelled by gaseous fuel on or after 19th November 1982 and trailers manufactured on or after 19th November 1982 new requirements as respects gas containers, gas-fired appliances and connected matters (such requirements being specified in a new Schedule numbered 3A).

All these requirements are in addition to the requirements of any regulation made under the Petroleum (Consolidation) Act 1928, the Health and Safety at Work etc. Act 1974, the Control of Pollution Act 1974 or any other Act or of any codes of practice issued under the Health and Safety at Work etc. Act 1974.

3. These Regulations also introduce new Regulations numbered 144A, 144B and 144C which contain provisions dealing respectively with the use of gas propulsion systems, the use of gas-fired appliances generally and the use of gas-fired appliances when a vehicle is in motion.

4. These Regulations revoke the provision in Regulation 138 which exempted certain requirements relating to the employment of drivers and attendants in a case where a gas trailer is drawn by a heavy motor car or a motor car.

5. These Regulations also make minor amendments consequential to the amendments mentioned in paragraphs 2, 3 and 4 above.

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