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AMENDMENT 1
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**Road vehicles — Compressed natural
gas (CNG) fuel system components —**

**Part 9:
Pressure regulator**

AMENDMENT 1

*Véhicules routiers — Composants des systèmes de combustible gaz
naturel comprimé (GNC) —*

Partie 9: Régulateur de pression

AMENDEMENT 1



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Amendment 1 to ISO 15500-9:2012 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 41, *Specific aspects for gaseous fuels*.

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Road vehicles — Compressed natural gas (CNG) fuel system components —

Part 9: Pressure regulator

AMENDMENT 1

Page 2, Clause 5

Replace Clause 5 with the following:

5 Construction and assembly

The pressure regulator shall comply with the applicable provisions of ISO 15500-1 and ISO 15500-2, and with the tests specified in Clause 6. Tolerances should follow the specifications of ISO 15500-2.

The components downstream of the pressure regulator shall be protected from exposure to full upstream pressure. The pressure relief valve used for this purpose shall reset after relieving.

A pressure relief valve may be integral to the pressure regulator.

The pressure regulator shall have a factory-set maximum outlet pressure. The maximum outlet pressure rating and the inlet working pressure rating shall be marked on the regulator.

Page 3, Table 1

Replace [Table 1](#) with the following:

Table 1 — Applicable tests

| Test | Applicable | Test procedure as required by ISO 15500-2 | Specific test requirements of this part of ISO 15500 |
|---------------------------------|--------------|-------------------------------------------|------------------------------------------------------|
| Hydrostatic strength | X | X | X (see 6.2) |
| Leakage | X (external) | X | X (see 6.3) |
| Excess torque resistance | X | X | |
| Bending moment | X | X | |
| Continued operation | X | X | X (see 6.4) |
| Corrosion resistance | X | X | |
| Oxygen ageing | X | X | |
| Ozone ageing | X | X | |
| Heat ageing | X | X | |
| Automotive fluids | X | X | |
| Electrical over-voltages | X | X | |
| Non-metallic material immersion | X | X | |
| Vibration resistance | X | X | |
| Brass material compatibility | X | X | |
| Insulation resistance | X | | X (see 6.5) |

Table 1 (continued)

| Test | Applicable | Test procedure as required by ISO 15500-2 | Specific test requirements of this part of ISO 15500 |
|-------------------------|------------|-------------------------------------------|------------------------------------------------------|
| Minimum opening voltage | X | | X (see 6.6) |
| Pressure impulse | X | | X (see 6.7) |
| Water jacket freezing | X | | X (see 6.8) |

Page 4, 6.4

Replace list item a) with the following:

- a) Cycle the regulator for 95 % of the total number of cycles at room temperature and at the working pressure. Each cycle shall consist of flow until stable outlet pressure has been obtained, after which the gas flow shall be shut off by a downstream valve within 1 s, until the downstream lock-up pressure has stabilized. Stabilized outlet pressures are defined as set pressure ± 15 % for at least 5 s. The regulator shall comply with 6.3 at room temperature at intervals of 20 %, 40 %, 60 %, 80 % and 100 % of room temperature cycles.

Page 5, 6.7.2

Replace 6.7.2 with the following:

6.7.2 External impulse

The pressure regulator shall withstand 100 inlet pressure pulses, as follows.

- If the regulator has an integrated solenoid valve, it shall be opened by application of the rated voltage.
- The outlet of the regulator shall be vented until the inlet fuel line is at atmospheric pressure and then closed.
- Working pressure shall be instantaneously applied to the regulator inlet.

The pressure regulator shall contain or vent the pressure without any permanent deformation. The pressure regulator shall meet the requirements of the external leakage in accordance with 6.3, and the lock-up pressure shall not exceed the manufacturer's rated lock-up pressure.

The external impulse test in this subclause tests the resistance of the inlet valve to pulses on the high pressure side, for example, a pressure regulator with normal working pressure inside but with no pressure in the fuel line and there is a sudden opening of the cylinder valve filled with service pressure.