

Minimum inspection requirements for vehicles powered with LPG and CNG

INTRODUCTION

Following the roadmap for update of UN Rules annexed to the 1997 Vienna Agreement, approved by WP.29 at its 159th session, the representatives of the Russian Federation and the International Motor Vehicle Inspection Committee (CITA) worked out the items to be considered during the periodical inspection of vehicles powered with LPG and CNG.

LPG and CNG vehicles are widely used on the roads. The technologies used arise some additional aspect that have to be considered when assessing their roadworthiness.

The proposals are introduced to be further on incorporated into new Rule annexed to the 1997 Vienna Agreement.

PROPOSALS

Minimum inspection requirements for vehicles powered with LPG and CNG

The inspection shall cover at least the items listed below.

Item	Method	Main Reasons for Rejection	Defect Assessment		
			MiD	MaD	DD
1. <i>Fuel tank and pipes (including heating fuel tank and pipes)</i>	<i>Visual inspection with vehicle over a pit or on a hoist.</i>	<i>a) Insecure tank or pipes</i> <i>b) Leaking fuel or missing or ineffective filler cap</i> <i>c) Damaged or chafed pipes</i> <i>d) Fuel stopcock (if required) not operating correctly</i> <i>e) Fire risk due to</i> <ul style="list-style-type: none"> <i>- Leaking fuel</i> <i>- Fuel tank or exhaust improperly shielded</i> <i>- Engine compartment condition.</i> 	X	X X X X	X X X
2. <i>Specific provisions for vehicles using LGP and CNG (only for vehicles and/or systems approved according the ECE Regulations 67, 110 or 115)</i>					

Item	Method	Main Reasons for Rejection	Defect Assessment		
			MiD	MaD	DD
2.1. Fuel control command, if present	Visual inspection and by operation	(a) Operation not possible (b) Not clear marking that may confuse the driver about the fuel in use.		X X	
2.2. Ventilation housing, including its ventilation pipes	Visual inspection with the vehicle over a pit or on a hoist when appropriate	(a) Insecure or not adequately secured (b) Components missing, damaged, corroded or not according to the requirements ¹ (c) Blocked ventilation pipes		X X	X X X
2.3. Tank level gauge	Visual inspection	(a) Limit of 80% of the tank capacity not readable (only LPG)		X	
2.4. Tank	Visual inspection with the vehicle over a pit or on a hoist when appropriate	(a) Insecure or not adequately secured (b) Damaged, corroded or not according to the requirements ¹ (c) Location not according to requirements ¹		X X	X X X
2.5. Other components of the gas filling system: valves, pipes, injectors	Visual inspection with the vehicle over a pit or on a hoist, including inside the engine department, passengers and luggage compartments when appropriated.	(a) Insecure or not adequately secured (b) Components missing, damaged, corroded or not according to the requirements ¹ (c) Discharge valves with blocked discharge holes (d) Pipes without an appropriate protection when going through a body panel		X X X X	X X X X
2.6. Electronic control unit	Visual inspection	(a) Warning device malfunctioning. (b) Warning device shows system malfunction			X X
2.7. Leakage	Inspection with the vehicle over a pit or on a hoist, including inside the engine department, passengers and luggage compartments when appropriated. Use of leak detecting devices with the engine both running with gas and switched off, and the gas tank filled above the 75%.	(a) Presence of gas above 300 ppm (b) Presence of gas above 300 ppm in a compartment without ventilation		X	X X
3. Marking	Visual inspection	(a) Ensemble plate or component marking not in accordance with the requirements ¹		X	