

## ANNEX XIV

**MEASUREMENT OF NET ENGINE POWER**

## 1. INTRODUCTION

1.1. This Annex sets out requirements for measuring net engine power.

## 2. GENERAL

2.1. The general specifications for conducting the tests and interpreting the results shall be those set out in Section 5 of UN/ECE Regulation 85 with the exceptions specified in this Annex.

2.1.1. Measurement of net power according to this Annex shall be performed on all members of an engine family.

2.2. **Test fuel**

2.2.1. For positive-ignition engines fuelled with petrol or E85 Section 5.2.3.1 of UN/ECE Regulation No 85 shall be understood as follows:

The fuel used shall be the one available on the market. In any case of dispute the fuel shall be the appropriate reference fuel specified in Annex IX to Regulation (EU) No 582/2011. Instead of above mentioned reference fuels, the reference fuels defined by the Coordinating European Council for the Development of performance Tests for Lubricants and Engine Fuels (hereinafter 'CEC'), for petrol fuelled engines in CEC documents RF-01-A-84 and RF-01-A-85 may be used.

2.2.2. For positive-ignition engines fuelled with LPG:

2.2.2.1 In the case of an engine with self-adapting fuelling Section 5.2.3.2.1 of UN/ECE Regulation No 85 shall be understood as follows:

The fuel used shall be the one available on the market. In any case of dispute the fuel shall be the appropriate reference fuel specified in Annex IX to Regulation (EU) No 582/2011. Instead of above mentioned reference fuels, the reference fuels specified in Annex 8 to this Regulation may be used.

2.2.2.2. In the case of an engine without self-adaptive fuelling Section 5.2.3.2.2 of UN/ECE Regulation No 85 shall be understood as follows:

The fuel used shall be the reference fuel specified in Annex IX to Regulation (EU) No 582/2011 or the reference fuels specified in Annex 8 to this Regulation may be used with the lowest C<sub>3</sub>- content, or

2.2.3. For positive-ignition engines fuelled with natural gas:

2.2.3.1. In the case of an engine with self-adaptive fuelling Section 5.2.3.3.1 of UN/ECE Regulation No 85 shall be understood as follows:

The fuel used shall be the one available on the market. In any case of dispute the fuel shall be the appropriate reference fuel specified in Annex IX to Regulation (EU) No 582/2011. Instead of above mentioned reference fuels, the reference fuels specified in Annex 8 to this Regulation may be used.

2.2.3.2. In the case of an engine without self-adaptive fuelling Section 5.2.3.3.2 of UN/ECE Regulation No 85 shall be understood as follows:

The fuel used shall be the one available on the market with a Wobbe index at least  $52,6 \text{ MJm}^{-3}$  (20 °C, 101,3 kPa). In case of dispute the fuel used shall be the reference fuel  $G_R$  specified in Annex IX to Regulation (EU) No 582/2011.

- 2.2.3.3. In the case of an engine labelled for a specific range of fuels Section 5.2.3.3.3 of UN/ECE Regulation No 85 shall be understood as follows:

The fuel used shall be the one available on the market with a Wobbe index at least  $52,6 \text{ MJm}^{-3}$  (20 °C, 101,3 kPa) if the engine is labelled for the H-range of gases, or at least  $47,2 \text{ MJm}^{-3}$  (20 °C, 101,3 kPa) if the engine is labelled for the L-range of gases. In case of dispute the fuel used shall be the reference fuel  $G_R$  specified in Annex IX to Regulation (EU) No 582/2011 if the engine is labelled for the H-range of gases, or the reference fuel  $G_{23}$  if the engine is labelled for the L-range of gases, i.e. the fuel with the highest Wobbe index for the relevant range, or

- 2.2.4. For compression-ignition engines Section 5.2.3.4 of UN/ECE Regulation 85 shall read:

The fuel used shall be the one available on the market. In any case of dispute the fuel shall be the appropriate reference fuel specified in Annex IX to Regulation (EU) No 582/2011. Instead of above mentioned reference fuels, the reference fuel defined by the CEC, for compression-ignition engines in CEC document RF-03-A-84 may be used.

### 2.3. Engine-driven equipment

The requirements on engine-driven equipment differ between UN/ECE Regulation No 85 (power testing) and UN/ECE Regulation No 49 (emissions testing).

- 2.3.1. For the purpose of measuring the net engine power the provisions regarding test conditions and auxiliaries as specified in Annex 5 to UN/ECE Regulation No 85 shall apply.
- 2.3.2. For the purpose of emissions testing following the procedures in Annex III to this Regulation the provisions regarding engine power as specified in Section 6 of Annex 4B and Appendix 7 to UN/ECE Regulation No 49 shall apply.