ISO 1585:2020 (E)

Road vehicles — Engine test code — Net power

Contents

Foreword

1 Scope

2 Normative references

3 Terms and definitions

4 Accuracy of measuring equipment and instruments

- 4.1 Torque
- 4.2 Engine speed (rotational frequency)
- 4.3 Fuel flow
- 4.4 Fuel temperature
- 4.5 Air temperature
- 4.6 Barometric pressure
- 4.7 Back pressure in exhaust system
- 4.8 Depression in inlet system
- 4.9 Absolute pressure in inlet duct

5 Tests

- 5.1 Auxiliaries
- 5.1.1 Auxiliaries to be fitted
- 5.1.2 Auxiliaries to be removed
- 5.1.3 Compression-ignition engine starting auxiliaries
- 5.2 Setting conditions
- 5.3 Test conditions
- 5.4 Test procedure
- 5.5 Data to be recorded

6 Power correction factors

- 6.1 Definition of factor α for power correction
- 6.2 Atmospheric conditions
- 6.2.1 Reference atmospheric conditions
- 6.2.1.1 Temperature
- 6.2.1.2 Dry pressure
- 6.2.2 Test atmospheric conditions
- 6.2.2.1 Temperature, T
- 6.2.2.2 Dry pressure, pd
- 6.3 Determination of power correction factors
- 6.3.1 Naturally aspirated and pressure-charged spark-ignition engines — Factor αa
- 6.3.2 Compression-ignition engines — Factor αc
- 6.3.2.1 Atmospheric factor, fa
- 6.3.2.2 Engine factor, fm
- 6.3.2.3 Limitation in use of correction formula
- 6.3.3 Turbocharged engine with a system compensating the ambient conditions
- 6.3.4 Other types of engine

7 Measurement of and correction for smoke value for compression-ignition engines

- 7.1 Correction factor for light absorption coefficient of smoke
- 7.2 Determination of correction factor for light absorption coefficient of smoke
- 7.3 Limits of application

8 Test report

- 8.1 Compression-ignition engines — Essential characteristics

8.1.1 Description of engine
8.1.2 Cooling system
8.1.3 Temperatures specified by the manufacturer
8.1.4 Pressure charger (with/without) (delete where inapplicable)
8.1.5 Inlet system
8.1.6 Additional smoke control devices (if any, and if not covered by another heading)
8.1.7 Fuel feed system
8.1.8 Valve timing
8.1.9 Exhaust system
8.1.10 Lubrication system
8.1.11 Electrical equipment
8.1.12 Other engine-driven equipment
8.2 Spark-ignition engines — Essential characteristics
8.2.1 Description of engine
8.2.2 Cooling system
8.2.3 Temperature specified by the manufacturer
8.2.4 Pressure charger (with/without) (delete where inapplicable)
8.2.5 Inlet system
8.2.6 Additional anti-pollution devices (if any, and if not covered by another heading)
8.2.7 Fuel feed system
8.2.8 Valve timing
8.2.9 Ignition system
8.2.10 Exhaust system
8.2.11 Lubrication system
8.2.12 Electrical equipment
8.2.13 Other auxiliaries fitted to engine
8.3 Test conditions for measuring engine net power
8.4 Statement of results as function of engine speed

9 Verification of engine performance

9.1 Designation
9.2 Notation
9.2.1 Declared net power and corresponding engine speed (range)
9.2.2 Declared net torque and corresponding engine speed (range)
9.2.3 Declared specific net fuel consumption and corresponding engine speed (range)
9.3 Tolerances — Declared values
9.3.1 Power
9.3.1.1 Declared single maximum power engine speed, np
9.3.1.2 Declared maximum power engine speed range, (np1 – np2)
9.3.2 Torque
9.3.2.1 Declared single maximum torque engine speed, nT
9.3.2.2 Declared maximum torque engine speed range, (nT1 – nT2)
9.3.3 Specific fuel consumption
9.3.4 Numerical tolerances

Page count: 32