Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive) (Text with EEA relevance) (repealed)

[F1ANNEX I

[F2COMPLETE LIST OF INFORMATION FOR THE PURPOSE OF EC TYPE-APPROVAL OF VEHICLES, COMPONENTS OR SEPARATE TECHNICAL UNITS](1)

Textual Amendments

F1 Substituted by Commission Regulation (EC) No 1060/2008 of 7 October 2008 replacing Annexes I, III, IV, VI, VII, XI and XV to Directive 2007/46/EC of the European Parliament and of the Council establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive) (Text with EEA relevance).

F2 Substituted by Commission Regulation (EU) 2015/166 of 3 February 2015 supplementing and amending Regulation (EC) No 661/2009 of the European Parliament and of the Council as regards the inclusion of specific procedures, assessment methods and technical requirements, and amending Directive 2007/46/EC of the European Parliament and of the Council, and Commission Regulations (EU) No 1003/2010, (EU) No 109/2011 and (EU) No 458/2011 (Text with EEA relevance).

All information documents in this directive and in separate directives or regulations shall consist only of extracts from, and adhere to the item numbering system of, this total list.

The following information shall be supplied in triplicate and include a list of contents. Any drawings shall be supplied in appropriate scale and in sufficient detail on size A4 or on a folder of A4 format. Photographs, if any, shall show sufficient detail.

If the systems, components or separate technical units referred to in this annex have electronic controls, information concerning their performance shall be supplied.

0. GENERAL

0.1. Make (trade name of manufacturer): …

0.2. Type: …

0.2.0.1. Chassis: …

0.2.0.2. Bodywork/complete vehicle: …

0.2.1. Commercial name(s) (if available): …

[F30.2.2. For multi-stage approved vehicles, type-approval information of the base/previous stage vehicle (list the information for each stage. This can be done with a matrix)

Type:

Variant(s):

Version(s):

Type-approval number, including extension number …]

Textual Amendments

F3 Inserted by Commission Regulation (EU) No 1171/2014 of 31 October 2014 amending and correcting Annexes I, III, VI, IX, XI and XVII to Directive 2007/46/EC of the European Parliament and of the

Council establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Text with EEA relevance).

[F2 0.3. Means of identification of type, if marked on the vehicle/component/separate technical unit(6)(2): …]

0.3.0.1. Chassis: …

0.3.0.2. Bodywork/complete vehicle: …

0.3.1. Location of that marking: …

0.3.1.1. Chassis: …

0.3.1.2. Bodywork/complete vehicle: …

0.4. Category of vehicle(3): …

0.4.1. Classification(s) according to the dangerous goods which the vehicle is intended to transport: …

[F4 0.5. Company name and address of manufacturer: …]

Textual Amendments

F4 Substituted by Commission Regulation (EU) No 1230/2012 of 12 December 2012 implementing Regulation (EC) No 661/2009 of the European Parliament and of the Council with regard to type-approval requirements for masses and dimensions of motor vehicles and their trailers and amending Directive 2007/46/EC of the European Parliament and of the Council (Text with EEA relevance).

[F3 0.5.1. For multi-stage approved vehicles, company name and address of the manufacturer of the base/previous stage(s) vehicle: …]

0.6. Location and method of attachment of statutory plates and location of vehicle identification number: …

0.6.1. On the chassis: …

0.6.2. On the bodywork: …

0.7. (Not attributed)

0.8. Name(s) and address(es) of assembly plant(s): …

0.9. Name and address of the manufacturer's representative (if any): …

[F2 1. GENERAL CONSTRUCTION CHARACTERISTICS

1.1. Photographs and/or drawings of a representative vehicle/component/separate technical unit(6):]

1.2. Dimensional drawing of the whole vehicle: …

1.3. Number of axles and wheels: …

1.3.1. Number and position of axles with twin wheels: …

1.3.2. Number and position of steered axles: …

1.3.3. Powered axles (number, position, interconnection): …

1.4. Chassis (if any) (overall drawing): …

1.5. Material used for the side-members[4]: …

1.6. Position and arrangement of the engine: …

1.7. Driving cab (forward control or bonneted)[5]: …

1.8. Hand of drive: left/right[6].

1.8.1. Vehicle is equipped to be driven in right/left[6] hand traffic.

[F4 1.9. Specify if the towing vehicle is intended to tow semi-trailers or other trailers and, if the trailer is a semi-, drawbar-, centre-axle- or rigid drawbar trailer: …]

[F5 1.10. Specify if the vehicle is specially designed for the controlled-temperature carriage of goods: …]

Textual Amendments

F5 Inserted by Commission Regulation (EU) No 1230/2012 of 12 December 2012 implementing Regulation (EC) No 661/2009 of the European Parliament and of the Council with regard to type-approval requirements for masses and dimensions of motor vehicles and their trailers and amending Directive 2007/46/EC of the European Parliament and of the Council (Text with EEA relevance).

[F4 2. MASSES AND DIMENSIONS[7][8][9]

(in kg and mm) (Refer to drawing where applicable)]

2.1. Wheelbase(s) (fully loaded) [10]:

2.1.1. Two-axle vehicles: …

[F4 2.1.2. Vehicles with three or more axles

2.1.2.1. Axle spacing between consecutive axles going from the foremost to the rearmost axle: …

2.1.2.2. Total axle spacing: …]

2.2. Fifth wheel

2.2.1. In the case of semi-trailers

2.2.1.1. Distance between the axis of the fifth wheel kingpin and the rearmost end of the semi-trailer: …

2.2.1.2. Maximum distance between the axis of the fifth wheel kingpin and any point on the front of the semi-trailer: …

2.2.1.3. Semi-trailer special wheelbase (as defined in Section 7.6.1.2 of Annex I to Directive 97/27/EC): …

2.2.2. In the case of semi-trailer towing vehicles

2.2.2.1. Fifth wheel lead (maximum and minimum; indicate the permissible values in the case of an incomplete vehicle)[(11)]: …

2.2.2.2. Maximum height of the fifth wheel (standardised)[(12)]: …

2.3. Axle track(s) and width(s)

2.3.1. Track of each steered axle[(13)]: …

2.3.2. Track of all other axles[(13)]: …

2.3.3. Width of the widest rear axle: …

2.3.4. Width of the foremost axle (measured at the outermost part of the tyres excluding the bulging of the tyres close to the ground): …

2.4. Range of vehicle dimensions (overall)

2.4.1. For chassis without bodywork

2.4.1.1. Length[(14)]: …

2.4.1.1.1. Maximum permissible length: …

2.4.1.1.2. Minimum permissible length: …

2.4.1.1.3. In the case of trailers, maximum permissible drawbar length[(15)]: …

2.4.1.2. Width[(16)]: …

2.4.1.2.1. Maximum permissible width: …

2.4.1.2.2. Minimum permissible width: …

2.4.1.3. Height (in running order)[(17)] (for suspensions adjustable for height, indicate normal running position): …

2.4.1.4. Front overhang[(18)]: …

2.4.1.4.1. Approach angle[(19)]: …… degrees.

2.4.1.5. Rear overhang[(20)]: …

2.4.1.5.1. Departure angle[(21)]: …… degrees.

2.4.1.5.2. Minimum and maximum permissible overhang of the coupling point[(22)]: …

2.4.1.6. Ground clearance (as defined in point 4.5 of Section A of Annex II)

2.4.1.6.1. Between the axles: …

2.4.1.6.2. Under the front axle(s): …

2.4.1.6.3. Under the rear axle(s): …

2.4.1.7. Ramp angle[(23)]: …… degrees.

2.4.1.8. Extreme permissible positions of the centre of gravity of the body and/or interior fittings and/or equipment and/or payload: …

2.4.2. For chassis with bodywork

2.4.2.1. Length[(14)]: …

2.4.2.1.1. Length of the loading area: …

2.4.2.1.2. In the case of trailers, maximum permissible drawbar length[(15)]: …

2.4.2.2. Width[(16)]: …

2.4.2.2.1. Thickness of the walls (in the case of vehicles designed for controlled-temperature carriage of goods): …

2.4.2.3. Height (in running order)[(17)] (for suspensions adjustable for height, indicate normal running position): …

2.4.2.4. Front overhang[(18)]: …

2.4.2.4.1. Approach angle[(19)]: …… degrees.

2.4.2.5. Rear overhang[(20)]: …

2.4.2.5.1. Departure angle[(21)]: …… degrees.

2.4.2.5.2. Minimum and maximum permissible overhang of the coupling point[(22)]: …

2.4.2.6. Ground clearance (as defined in point 4.5 of Section A of Annex II)

2.4.2.6.1. Between the axles: …

2.4.2.6.2. Under the front axle(s): …

2.4.2.6.3. Under the rear axle(s): …

2.4.2.7. Ramp angle[(23)]: …… degrees.

2.4.2.8. Extreme permissible positions of the centre of gravity of the payload (in the case of non-uniform load): …

2.4.2.9. Position of centre of gravity of the vehicle (M_2 and M_3) at its technically permissible maximum laden mass in the longitudinal, transverse and vertical directions: …

2.4.3. For bodywork approved without chassis (vehicles M_2 and M_3)

2.4.3.1. Length[(14)]: …

2.4.3.2. Width[(16)]: …

2.4.3.3. Nominal height (in running order)[(17)] on intended chassis type(s) (for suspensions adjustable for height, indicate normal running position): …

[[F4]2.5. **Minimum mass on the steering axle(s) for incomplete vehicles:**

…**]**

[[F4]2.6. **Mass in running order**[(24)]

(a) minimum and maximum for each variant: …

(b) mass of each version (a matrix must be provided): …

2.6.1. Distribution of this mass among the axles and, in the case of a semi-trailer, a centre-axle trailer or a rigid drawbar trailer, the mass on the coupling point: …

(a) minimum and maximum for each variant: …

(b) mass of each version (a matrix must be provided): …**]**

[F5 2.6.2. Mass of the optional equipment (see the definition set out in point (5) of Article 2 of Commission Regulation (EU) No 1230/2012[25]): …**]**

2.7. **Minimum mass of the completed vehicle** as stated by the manufacturer, in the case of an incomplete vehicle: …

2.7.1. Distribution of this mass among the axles and, in the case of a semi-trailer or centre-axle trailer, load on the coupling point: …

2.8. **Technically permissible maximum laden mass** stated by the manufacturer[26][27]: …

2.8.1. Distribution of this mass among the axles and, in the case of a semi-trailer or centre-axle trailer, load on the coupling point[27]: …

2.9. **Technically permissible maximum mass on each axle:** …

[F4 2.10. **Technically permissible mass on each group of axles:** …**]**

[F4 2.11. **Technically permissible maximum towable mass of the towing vehicle**

in case of:**]**

2.11.1. Drawbar trailer: …

2.11.2. Semi-trailer: …

2.11.3. Centre-axle trailer: …

2.11.3.1. Maximum ratio of the coupling overhang[28] to the wheel base: …

2.11.3.2. Maximum V-value: …… kN.

[F4 2.11.4. Rigid drawbar trailer: …**]**

[F4 2.11.5. Technically permissible maximum laden mass of the combination[27]: …**]**

2.11.6. Maximum mass of unbraked trailer: …

[F4 2.12. Technically permissible maximum mass at the coupling point:

2.12.1. Of a towing vehicle: …

2.12.2. Of a semi-trailer, a centre-axle trailer or a rigid drawbar trailer: …**]**

2.12.3. Maximum permissible mass of the coupling device (if not fitted by the manufacturer): …

2.13. **Rear swing-out** (Section 7.6.2. and 7.6.3. of Annex I to Directive 97/27/EC): …

2.14. **Engine power/maximum mass ratio**: …… kW/kg.

2.14.1. Engine power/technically permissible maximum laden mass of the combination ratio (Section 7.10 of Annex I to Directive 97/27/EC): …… kW/kg.

2.15. **Hill-starting ability** (solo vehicle)[29]: …… %.

[F4 2.16. Registration/in service maximum permissible masses (optional)

2.16.1. Registration/in service maximum permissible laden mass: …

2.16.2. Registration/in service maximum permissible mass on each axle and, in the case of a semi-trailer or centre-axle trailer, intended load on the coupling point stated by the manufacturer if lower than the technically permissible maximum mass on the coupling point: …

2.16.3. Registration/in service maximum permissible mass on each group of axles: …

2.16.4. Registration/in service maximum permissible towable mass: …

2.16.5. Registration/in service maximum permissible mass of the combination: …]

[F6 2.17. Vehicle submitted to multi-stage type-approval (only in the case of incomplete or completed vehicles of category N_1 within the scope of Regulation (EC) No 715/2007: yes/no[6]

2.17.1. Mass of the base vehicle in running order: … kg.

2.17.2. Default added mass, calculated in accordance with Section 5 of Annex XII to Regulation (EC) No 692/2008: … kg.]

Textual Amendments

F6 Inserted by Commission Regulation (EU) No 143/2013 of 19 February 2013 amending Directive 2007/46/EC of the European Parliament and of the Council and Commission Regulation (EC) No 692/2008 as regards the determination of CO2 emissions from vehicles submitted to multi-stage type-approval (Text with EEA relevance).

3. POWER PLANT[30]

3.1. Manufacturer of the engine: …

3.1.1. Manufacturer's engine code (as marked on the engine or other means of identification): …

3.1.2. Approval number (if appropriate) including fuel identification marking: …

(heavy-duty vehicles only)

3.2. Internal combustion engine

3.2.1. Specific engine information

[F7 3.2.1.1. Working principle: positive ignition/compression ignition/dual-fuel[6]

Cycle: four stroke/two stroke/rotary][6]

Textual Amendments

F7 Substituted by Commission Regulation (EU) No 133/2014 of 31 January 2014 amending, for the purposes of adapting to technical progress as regards emission limits, Directive 2007/46/EC of the European Parliament and of the Council, Regulation (EC) No 595/2009 of the European Parliament and of the Council and Commission Regulation (EU) No 582/2011 (Text with EEA relevance).

[F8 3.2.1.1.1. Type of dual-fuel engine: Type 1A/Type 1B/Type 2A/Type 2B/Type 3B[(6)(31)]

Textual Amendments

F8 Inserted by Commission Regulation (EU) No 133/2014 of 31 January 2014 amending, for the purposes of adapting to technical progress as regards emission limits, Directive 2007/46/EC of the European Parliament and of the Council, Regulation (EC) No 595/2009 of the European Parliament and of the Council and Commission Regulation (EU) No 582/2011 (Text with EEA relevance).

3.2.1.1.2. Gas energy ratio over the hot part of the WHTC test-cycle: … %**]**

3.2.1.2. Number and arrangement of cylinders: …

3.2.1.2.1. Bore[(32)]: …… mm

3.2.1.2.2. Stroke[(32)]: …… mm

3.2.1.2.3. Firing order: …

3.2.1.3. Engine capacity[(33)]: …… cm^3

3.2.1.4. Volumetric compression ratio[(34)]: …

3.2.1.5. Drawings of combustion chamber, piston crown and, in the case of positive ignition engines, piston rings: …

3.2.1.6. Normal engine idling speed[(34)]: …… min^{-1}

3.2.1.6.1. High engine idling speed[(34)]: …… min^{-1}

[F8 3.2.1.6.2. Idle on diesel: yes/no**]**[(6)(31)]

3.2.1.7. Carbon monoxide content by volume in the exhaust gas with the engine idling[(34)]: …… % as stated by the manufacturer (positive ignition engines only)

3.2.1.8. Maximum net power[(35)]: … kW at … min^{-1} (manufacturer's declared value)

3.2.1.9. Maximum permitted engine speed as prescribed by the manufacturer: … min^{-1}

3.2.1.10. Maximum net torque[(35)]: … Nm at … min^{-1} (manufacturer's declared value)

[F9 3.2.1.11. (Euro VI only) Manufacturer references of the Documentation package required by Articles 5, 7 and 9 of Regulation (EU) No 582/2011 enabling the approval authority to evaluate the emission control strategies and the Systems on-board the engine to ensure the correct operation of NO_x control measures**]**

Textual Amendments

F9 Inserted by Commission Regulation (EU) No 582/2011 of 25 May 2011 implementing and amending Regulation (EC) No 595/2009 of the European Parliament and of the Council with respect to emissions from heavy duty vehicles (Euro VI) and amending Annexes I and III to Directive 2007/46/EC of the European Parliament and of the Council (Text with EEA relevance).

3.2.2. Fuel

[F7 3.2.2.1. Light-duty vehicles: Diesel/Petrol/LPG/NG or Biomethane/Ethanol (E 85)/Biodiesel/Hydrogen/H_2NG[6][36]

3.2.2.2. Heavy duty vehicles Diesel/Petrol/LPG/NG-H/NG-L/NG-HL/Ethanol (ED95)/Ethanol (E85)/LNG/LNG_{20}/][6][36]

[F9 3.2.2.2. (Euro VI only) Fuels compatible with use by the engine declared by the manufacturer in accordance with Section 1.1.2 of Annex I to Regulation (EU) No 582/2011 (as applicable)]

3.2.2.3. Fuel tank inlet: restricted orifice/label[6]

3.2.2.4. Vehicle fuel type: Mono fuel, Bi fuel, Flex fuel[6]

3.2.2.5. Maximum amount of biofuel acceptable in fuel (manufacturer's declared value): … % by volume

3.2.3. Fuel tank(s)

3.2.3.1. Service fuel tank(s)

3.2.3.1.1. Number and capacity of each tank: …

3.2.3.1.1. Material: …

3.2.3.1.2. Drawing and technical description of the tank(s) with all connections and all lines of the breathing and venting system, locks, valves, fastening devices: …

3.2.3.1.3. Drawing clearly showing the position of the tank(s) in the vehicle: …

3.2.3.2. Reserve fuel tank(s)

3.2.3.2.1. Number and capacity of each tank: …

3.2.3.2.1. Material: …

3.2.3.2.2. Drawing and technical description of the tank(s) with all connections and all lines of the breathing and venting system, locks, valves, fastening devices: …

3.2.3.2.3. Drawing clearly showing the position of the tank(s) in the vehicle: …

3.2.4. Fuel feed

3.2.4.1. By carburettor(s): yes/no[6]

[F7 3.2.4.2. By fuel injection (compression ignition or dual-fuel only): yes/no][6]

3.2.4.2.1. System description: …

3.2.4.2.2. Working principle: direct injection/pre-chamber/swirl chamber[(6)]

3.2.4.2.3. Injection pump

3.2.4.2.3.1. Make(s): …

3.2.4.2.3.2. Type(s): …

3.2.4.2.3.3. Maximum fuel delivery[(6)(34)]: …… mm^3 /stroke or cycle at an engine speed of: … min^{-1} or, alternatively, a characteristic diagram: …

(When boost control is supplied, state the characteristic fuel delivery and boost pressure versus engine speed)

3.2.4.2.3.4. Static injection timing[(34)]: …

3.2.4.2.3.5. Injection advance curve[(34)]: …

3.2.4.2.3.6. Calibration procedure: test bench/engine[(6)]

3.2.4.2.4. Governor

3.2.4.2.4.1. Type: …

3.2.4.2.4.2. Cut-off point

3.2.4.2.4.2.1. Speed at which cut-off starts under load: …… min^{-1}

3.2.4.2.4.2.2. Maximum no-load speed: …… min^{-1}

3.2.4.2.4.2.3. Idling speed: ….. min^{-1}

3.2.4.2.5. Injection piping (heavy-duty vehicles only)

3.2.4.2.5.1. Length: …… mm

3.2.4.2.5.2. Internal diameter: …… mm

3.2.4.2.5.3. Common rail, make and type: …

3.2.4.2.6. Injector(s)

3.2.4.2.6.1. Make(s): …

3.2.4.2.6.2. Type(s): …

3.2.4.2.6.3. Opening pressure[(34)]: … kPa or characteristic diagram[(34)]: …

3.2.4.2.7. Cold start system

3.2.4.2.7.1. Make(s): …

3.2.4.2.7.2. Type(s): …

3.2.4.2.7.3. Description: …

3.2.4.2.8. Auxiliary starting aid

3.2.4.2.8.1. Make(s): …

3.2.4.2.8.2. Type(s): …

3.2.4.2.8.3. System description: …

3.2.4.2.9. Electronic controlled injection: yes/no[6]

3.2.4.2.9.1. Make(s): …

3.2.4.2.9.2. Type(s):

3.2.4.2.9.3. Description of the system (in the case of systems other than continuous injection give equivalent details): …

3.2.4.2.9.3.1. Make and type of the control unit (ECU): …

3.2.4.2.9.3.2. Make and type of the fuel regulator: …

3.2.4.2.9.3.3. Make and type of the air-flow sensor: …

3.2.4.2.9.3.4. Make and type of fuel distributor: …

3.2.4.2.9.3.5. Make and type of the throttle housing: …

3.2.4.2.9.3.6. Make and type of water temperature sensor: …

3.2.4.2.9.3.7. Make and type of air temperature sensor: …

3.2.4.2.9.3.8. Make and type of air pressure sensor: …

3.2.4.2.9.3.9. Software calibration number(s): …

3.2.4.3. By fuel injection (positive ignition only): yes/no[6]

3.2.4.3.1. Working principle: intake manifold (single-/multi-point/direct injection[6] /other (specify): …

3.2.4.3.2. Make(s): …

3.2.4.3.3. Type(s): …

3.2.4.3.4. System description (In the case of systems other than continuous injection give equivalent details): …

3.2.4.3.4.1. Make and type of the control unit (ECU): …

3.2.4.3.4.2. Make and type of fuel regulator: …

3.2.4.3.4.3. Make and type of air-flow sensor: …

3.2.4.3.4.4. Make and type of fuel distributor: …

3.2.4.3.4.5. Make and type of pressure regulator: …

3.2.4.3.4.6. Make and type of micro switch: …

3.2.4.3.4.7. Make and type of idling adjustment screw: …

3.2.4.3.4.8. Make and type of throttle housing: …

3.2.4.3.4.9. Make and type of water temperature sensor: …

3.2.4.3.4.0. Make and type of air temperature sensor: …

3.2.4.3.4.1. Make and type of air pressure sensor: …

3.2.4.3.4.2. Software calibration number(s): …

3.2.4.3.5. Injectors: opening pressure[34]: …… kPa or characteristic diagram: …

3.2.4.3.5.1. Make: …

3.2.4.3.5.2. Type: …

3.2.4.3.6. Injection timing: …

3.2.4.3.7. Cold start system

3.2.4.3.7.1. Operating principle(s): …

3.2.4.3.7.2. Operating limits/settings[6][34]: …

3.2.4.4. Feed pump

3.2.4.4.1. Pressure[34]: … kPa or characteristic diagram[34]: …

3.2.5. Electrical system

3.2.5.1. Rated voltage: …… V, positive/negative ground[6]

3.2.5.2. Generator

3.2.5.2.1. Type: …

3.2.5.2.2. Nominal output: …… VA

3.2.6. Ignition system (spark ignition engines only)

3.2.6.1. Make(s): …

3.2.6.2. Type(s): …

3.2.6.3. Working principle: …

3.2.6.4. Ignition advance curve or map[34]: …

3.2.6.5. Static ignition timing[34]: …… degrees before TDC

3.2.6.6. Spark plugs

3.2.6.6.1. Make: …

3.2.6.6.2. Type: …

3.2.6.6.3. Gap setting: ……mm

3.2.6.7. Ignition coil(s)

3.2.6.7.1. Make: …

3.2.6.7.2. Type: …

3.2.7. Cooling system: liquid/air[6]

3.2.7.1. Nominal setting of the engine temperature control mechanism: …

3.2.7.2. Liquid

3.2.7.2.1. Nature of liquid: …

3.2.7.2.2. Circulating pump(s): yes/no[6]

3.2.7.2.3. Characteristics: ……. or

3.2.7.2.3.1. Make(s): …

3.2.7.2.3.2. Type(s): …

3.2.7.2.4. Drive ratio(s): …

3.2.7.2.5. Description of the fan and its drive mechanism: …

3.2.7.3. Air

3.2.7.3.1. Fan: yes/no[6]

3.2.7.3.2. Characteristics: ……. or

3.2.7.3.2.1. Make(s): …

3.2.7.3.2.2. Type(s): …

3.2.7.3.3. Drive ratio(s): …

3.2.8. Intake system

3.2.8.1. Pressure charger: yes/no[6]

3.2.8.1.1. Make(s): …

3.2.8.1.2. Type(s): …

3.2.8.1.3. Description of the system (e.g. maximum charge pressure: …… kPa; wastegate if applicable): …

3.2.8.2. Intercooler: yes/no[6]

3.2.8.2.1. Type: air-air/air-water[6]

3.2.8.3. Intake depression at rated engine speed and at 100 % load (compression ignition engines only)

3.2.8.3.1. Minimum allowable: ……. kPa

3.2.8.3.2. Maximum allowable: …… kPa

[F9 3.2.8.3.3. (Euro VI only) Actual Intake system depression at rated engine speed and at 100 % load on the vehicle: kPa]

3.2.8.4. Description and drawings of inlet pipes and their accessories (plenum chamber, heating device, additional air intakes, etc.): …

3.2.8.4.1. Intake manifold description (include drawings and/or photos): …

3.2.8.4.2. Air filter, drawings: … or

3.2.8.4.2.1. Make(s): …

3.2.8.4.2.2. Type(s): …

3.2.8.4.3. Intake silencer, drawings: … or

3.2.8.4.3.1. Make(s): …

3.2.8.4.3.2. Type(s): …

3.2.9. Exhaust system

3.2.9.1. Description and/or drawing of the exhaust manifold: …

3.2.9.2. Description and/or drawing of the exhaust system: …

[F7 3.2.9.2.1. (Euro VI only) Description and/or drawing of the elements of the exhaust system that are part of the engine system]

3.2.9.3. Maximum allowable exhaust back pressure at rated engine speed and at 100 % load (compression ignition engines only): …… kPa

[F9 3.2.9.3.1. (Euro VI only) Actual exhaust back pressure at rated engine speed and at 100 % load on the vehicle (compression-ignition engines only): … kPa]

3.2.9.4. Type, marking of exhaust silencer(s): …

Where relevant for exterior noise, reducing measures in the engine compartment and on the engine: …

3.2.9.5. Location of the exhaust outlet: …

3.2.9.6. Exhaust silencer containing fibrous materials: …

[F7 3.2.9.7. Complete exhaust system volume: … dm^3

3.2.9.7.1. (Euro VI only) Acceptable exhaust system volume: … dm^3]

[F8 3.2.9.7.2. (EURO VI only) Volume of the exhaust system that is part of the engine system: … dm^3]

3.2.10. *Minimum cross-sectional areas of inlet and outlet ports:* …

3.2.11. Valve timing or equivalent data

3.2.11.1. Maximum lift of valves, angles of opening and closing, or timing details of alternative distribution systems, in relation to dead centres. For variable timing system, minimum and maximum timing: …

3.2.11.2. Reference and/or setting ranges[6]: …

3.2.12. Measures taken against air pollution

3.2.12.1. Device for recycling crankcase gases (description and drawings): …

[F9 3.2.12.1.1. (Euro VI only) Device for recycling crankcase gases: yes/no ([2])

If yes, description and drawings:

If no, compliance with Annex V to Regulation (EU) No 582/2011 required]

3.2.12.2. Additional pollution control devices (if any, and if not covered by another heading)

3.2.12.2.1. Catalytic converter: yes/no[6]

3.2.12.2.1.1. Number of catalytic converters and elements (provide the information below for each separate unit): …

3.2.12.2.1.2. Dimensions, shape and volume of the catalytic converter(s): …

3.2.12.2.1.3. Type of catalytic action: …

3.2.12.2.1.4. Total charge of precious metals: …

3.2.12.2.1.5. Relative concentration: …

3.2.12.2.1.6. Substrate (structure and material): …

3.2.12.2.1.7. Cell density: …

3.2.12.2.1.8. Type of casing for the catalytic converter(s): …

3.2.12.2.1.9. Location of the catalytic converter(s) (place and reference distance in the exhaust line): …

3.2.12.2.1.10. Heat shield: yes/no[6]

3.2.12.2.1.11. Regeneration systems/method of exhaust after-treatment systems, description: …

3.2.12.2.1.11.1. Number of Type I operating cycles (or equivalent engine bench cycles) between two cycles where regenerative phases occur under the conditions equivalent to Type I test (Distance 'D' in Figure 1 in Annex 13 to UNECE Regulation No 83): …

3.2.12.2.1.11.2. Description of method employed to determine the number of cycles between two cycles where regenerative phases occur: …

3.2.12.2.1.11.3. Parameters to determine the level of loading required before regeneration occurs (i.e. temperature, pressure etc.): …

3.2.12.2.1.11.4. Description of method used to load system in the test procedure described in paragraph 3.1 of Annex 13 to UNECE Regulation No 83): …

3.2.12.2.1.11.5. Normal operating temperature range: …… K

3.2.12.2.1.11.6. Consumable reagents: yes/no[6]

3.2.12.2.1.11.7. Type and concentration of reagent needed for catalytic action: …

3.2.12.2.1.11.8. Normal operational temperature range of reagent: …… K

3.2.12.2.1.11.9. International standard: …

3.2.12.2.1.11.10. Frequency of reagent refill: continuous/maintenance[6]

3.2.12.2.1.12. Make of catalytic converter: …

3.2.12.2.1.13. Identifying part number: …

3.2.12.2.2. Oxygen sensor: yes/no[6]

3.2.12.2.2.1. Make: …

3.2.12.2.2.2. Location: …

3.2.12.2.2.3. Control range: …

3.2.12.2.2.4. Type: …

3.2.12.2.2.5. Identifying part number: …

3.2.12.2.3. Air injection: yes/no[6]

3.2.12.2.3.1. Type (pulse air, air pump, etc.): …

3.2.12.2.4. Exhaust gas recirculation (EGR): yes/no[6]

3.2.12.2.4.1. Characteristics (make, type, flow, etc.): …

3.2.12.2.4.2. Water-cooled system: yes/no[6]

3.2.12.2.5. Evaporative emissions control system: yes/no[6]

3.2.12.2.5.1. Detailed description of the devices and their state of tune: …

3.2.12.2.5.2. Drawing of the evaporative control system: …

3.2.12.2.5.3. Drawing of the carbon canister: …

3.2.12.2.5.4. Mass of dry charcoal: …… g

3.2.12.2.5.5. Schematic drawing of the fuel tank with indication of capacity and material: …

3.2.12.2.5.6. Drawing of the heat shield between tank and exhaust system: …

3.2.12.2.6. Particulate trap (PT): yes/no[6]

3.2.12.2.6.1. Dimensions, shape and capacity of the particulate trap: …

3.2.12.2.6.2. Design of the particulate trap: …

3.2.12.2.6.3. Location (reference distance in the exhaust line): …

3.2.12.2.6.4. Method or system of regeneration, description and/or drawing: …

3.2.12.2.6.4.1. Number of Type I operating cycles (or equivalent engine bench cycles) between two cycles where regenerative phases occur under the conditions equivalent to Type I test (Distance 'D' in Figure 1 in Annex 13 to UNECE Regulation No 83): …

3.2.12.2.6.4.2. Description of method employed to determine the number of cycles between two cycles where regenerative phases occur: …

3.2.12.2.6.4.3. Parameters to determine the level of loading required before regeneration occurs (i.e. temperature, pressure etc.): …

3.2.12.2.6.4.4. Description of method used to load system in the test procedure described in paragraph 3.1 of Annex 13 to UNECE Regulation No 83): …

3.2.12.2.6.5. Make of particulate trap: …

3.2.12.2.6.6. Identifying part number: …

3.2.12.2.6.7. Normal operating temperature: … (K) and pressure range … (KPa)

(heavy-duty vehicles only)

3.2.12.2.6.8. In the case of periodic regeneration (heavy-duty vehicles only)

3.2.12.2.6.8.1. Number of ETC test cycles between 2 regenerations (n1): …**[**[F9] (not applicable to Euro VI)**]**

[[F9]3.2.12.2.6.8.1.1. (Euro VI only) Number of WHTC test cycles without regeneration (n):**]**

3.2.12.2.6.8.2. Number of ETC cycles during regeneration (n2): …**[**[F9] (not applicable to Euro VI)**]**

[[F9]3.2.12.2.6.8.2.1. (Euro VI only) Number of WHTC test cycles with regeneration (n_R):**]**

[[F9]3.2.12.2.6.9. Other systems: yes/no ([1])

3.2.12.2.6.9.1. Description and operation**]**

3.2.12.2.7. On-board-diagnostic (OBD) system: yes/no[(6)]: …

[[F9]3.2.12.2.7.0.1. (Euro VI only) Number of OBD engine families within the engine family

3.2.12.2.7.0.2. List of the OBD engine families (when applicable)

3.2.12.2.7.0.3. Number of the OBD engine family the parent engine / the engine member belongs to:

3.2.12.2.7.0.4. Manufacturer references of the OBD-Documentation required by Article 5(4)(c) and Article 9(4) of Regulation (EU) No 582/2011 and specified in Annex X to that Regulation for the purpose of approving the OBD system

3.2.12.2.7.0.5. When appropriate, manufacturer reference of the Documentation for installing in a vehicle an OBD equipped engine system

3.2.12.2.7.0.6. When appropriate, manufacturer reference of the documentation package related to the installation on the vehicle of the OBD system of an approved engine**]**

[F10]3.2.12.2.7.0.7. . . . . .

Textual Amendments

F10 Deleted by Commission Regulation (EU) No 133/2014 of 31 January 2014 amending, for the purposes of adapting to technical progress as regards emission limits, Directive 2007/46/EC of the European Parliament and of the Council, Regulation (EC) No 595/2009 of the European Parliament and of the Council and Commission Regulation (EU) No 582/2011 (Text with EEA relevance).

[F10]3.2.12.2.7.0.8. . . . . .

3.2.12.2.7.1. Written description and/or drawing of the MI: …

3.2.12.2.7.2. List and purpose of all components monitored by the OBD system: …

3.2.12.2.7.3. Written description (general working principles) for

3.2.12.2.7.3.1. positive-ignition engines

3.2.12.2.7.3.1.1. Catalyst monitoring: …

3.2.12.2.7.3.1.2. Misfire detection: …

3.2.12.2.7.3.1.2. Oxygen sensor monitoring: …

3.2.12.2.7.3.1.4. Other components monitored by the OBD system: …

3.2.12.2.7.3.2. Compression-ignition engines: …

3.2.12.2.7.3.2.2. Catalyst monitoring: …

3.2.12.2.7.3.2.3. Particulate trap monitoring: …

3.2.12.2.7.3.2.5. Electronic fuelling system monitoring: …

3.2.12.2.7.3.2.4. de-NO_x system monitoring: …

3.2.12.2.7.3.2.6. Other components monitored by the OBD system: …

3.2.12.2.7.4. Criteria for MI activation (fixed number of driving cycles or statistical method): …

3.2.12.2.7.5. List of all OBD output codes and formats used (with explanation of each): …

3.2.12.2.7.6. The following additional information shall be provided by the vehicle manufacturer for the purposes of enabling the manufacture of OBD-compatible replacement or service parts and diagnostic tools and test equipment.

3.2.12.2.7.6.1. A description of the type and number of the preconditioning cycles used for the original type approval of the vehicle.

3.2.12.2.7.6.2. A description of the type of the OBD demonstration cycle used for the original type-approval of the vehicle for the component monitored by the OBD system.

3.2.12.2.7.6.3. A comprehensive document describing all sensed components with the strategy for fault detection and MI activation (fixed number of driving cycles or statistical method), including a list of relevant secondary sensed parameters for each component monitored by the OBD system. A list of all OBD output codes and format used (with an explanation of each) associated with individual emission related power-train components and individual non-emission related components, where monitoring of the component is used to determine MI activation, including in particular a comprehensive explanation for the data given in service $05 Test ID $21 to FF and the data given in service $06.

In the case of vehicle types that use a communication link in accordance with ISO 15765-4 'Road vehicles, diagnostics on controller area network (CAN) — Part 4: requirements for emissions-related systems', a comprehensive explanation for the data given in service $06 Test ID $00 to FF, for each OBD monitor ID supported, shall be provided.

3.2.12.2.7.6.4. The information required above may be defined by completing a table as described below.

3.2.12.2.7.6.4.1. *Low-duty vehicles*

Component	Fault code	Monitoring strategy	Fault detection criteria	MI activation criteria	Secondary parameters	Preconditioning	Demonstration test
Catalyst	P0420	Oxygen sensor 1 and	Difference between sensor 1 and	3rd cycle	Engine speed load, A/F mode,	Two type I cycles	Type I

		sensor 2 signals	sensor 2 signals-		catalyst temperature		

3.2.12.2.7.4.2. *Heavy-duty vehicles*

Component	Fault code	Monitoring strategy	Fault detection criteria	MI activation criteria	Secondary parameters	preconditioning	Demonstration test
SCR Catalyst	Pxxx	NO_x sensor 1 and sensor 2 signals	Difference between sensor 1 and sensor 2 signals-	3rd cycle	Engine speed load, catalyst temperature, reagent activity	Three OBD test cycles (3 short ESC cycles)	OBD test cycle (short ESC cycle)

[[F9]**[**[F7]3.2.12.2.7.5. (Euro VI only) OBD Communication protocol standard:**]**[37]

3.2.12.2.7.7. (Euro VI only) Manufacturer reference of the OBD related information required by of Article 5(4)(d) and Article 9(4) of Regulation (EU) No 582/2011 for the purpose of complying with the provisions on access to vehicle OBD and vehicle Repair and Maintenance Information, or

3.2.12.2.7.7.1. an alternative to a manufacturer reference provided in Section 3.2.12.2.7.7 reference of the attachment to the information document set out in Appendix 4 of Annex I to Regulation (EU) No 582/2011 that contains the following table, once completed according to the given example:

Component — Fault code — Monitoring strategy — Fault detection criteria — MI activation criteria — Secondary parameters — Preconditioning — Demonstration test

Catalyst – P0420 — Oxygen sensor 1 and 2 signals — Difference between sensor 1 and sensor 2 signals — 3rd cycle — Engine speed, engine load, A/F mode, catalyst temperature — Two Type 1 cycles — Type 1**]**

[[F8]3.2.12.2.7.8. (EURO VI only) OBD components on-board the vehicle

3.2.12.2.7.8.0. Alternative approval as provided for in point 2.4.1 of Annex X to Regulation (EU) No 582/2011: yes/no[6]

3.2.12.2.7.8.1. List of OBD components on-board the vehicle

3.2.12.2.7.8.2. Written description and/or drawing of the MI[38]

3.2.12.2.7.8.3. Written description and/or drawing of the OBD off-board communication interface**]**[38]

3.2.12.2.8. Other system (description and operation): …

[[F9]3.2.12.2.8.1. (Euro VI only) Systems to ensure the correct operation of NO_x control measures

[[F7]3.2.12.2.8.2. Driver inducement system**]**

[[F8]3.2.12.2.8.2.1. (Euro VI only) Engine with permanent deactivation of the driver inducement, for use by the rescue services or in vehicles specified in point (b) of Article 2(3) of this Directive: yes/no ([1])

3.2.12.2.8.2. Activation of the creep mode

'disable after restart'/'disable after fuelling'/'disable after parking**]**'**(6)(37)**

3.2.12.2.8.3. (Euro VI only) Number of OBD engine families within the engine family considered when ensuring the correct operation of NO_x control measures

[F83.2.12.2.8.3.1. (Euro VI only) List of the OBD engine families within the engine family considered when ensuring the correct operation of NO_x control measures (when applicable)

3.2.12.2.8.3.2. (Euro VI only) Number of the OBD engine family the parent engine/the engine member belongs to**]**

F103.2.12.2.8.4. . . . . .

3.2.12.2.8.5. (Euro VI only) Number of the OBD engine family the parent engine / the engine member belongs to

3.2.12.2.8.6. (Euro VI only) Lowest concentration of the active ingredient present in the reagent that does not activate the warning system (CD_{min}): (% vol.)

3.2.12.2.8.7. (Euro VI only) When appropriate, manufacturer reference of the Documentation for installing in a vehicle the systems to ensure the correct operation of NO_x control measures

[F73.2.12.2.8.8. (EURO VI only) Components on-board the vehicle of the systems ensuring the correct operation of NO_x control measures

3.2.12.2.8.8.1. List of components on-board the vehicle of the systems ensuring the correct operation of NO_x control measures**]**

3.2.12.2.8.8.2. When appropriate, manufacturer reference of the documentation package related to the installation on the vehicle of the system ensuring the correct operation of NO_x control measures of an approved engine

3.2.12.2.8.8.3. **[**Written description and/or drawing of the warning signal**]**(38)

3.2.12.2.8.8.4. **[F8**Alternative approval provided for in point 2.1 of Annex XIII to Regulation (EU) No 582/2011: yes/no**(6)**

3.2.12.2.8.8.5. Heated/non-heated reagent tank and dosing system (see paragraph 2.4 of Annex 11 to UNECE Regulation No 49)**]]**

3.2.12.2.9. Torque limiter: yes/no**(6)**

3.2.12.2.9.1. Description of the torque limiter activation (heavy-duty vehicles only): …

3.2.12.2.9.2. Description of the full load curve limitation (heavy-duty vehicles only): …

3.2.13. Smoke opacity

3.2.13.1. Location of the absorption coefficient symbol (compression ignition engines only): …

3.2.13.2. Power at six points of measurement (see point 2.1 of Annex III to Directive 72/306/EEC as amended)

3.2.13.3. Engine power measured on test bench/on the vehicle**(6)**

3.2.13.3.1 Declared speeds and powers

Measurement points	Engine speed (min^{-1})	Power (kW)
1……		
2……		
3……		
4……		
5……		
6……		

3.2.14. *Details of any devices designed to influence fuel economy* (if not covered by other items): …

3.2.15. LPG fuelling system: yes/no[6]

3.2.15.1. Type-approval number according to Directive 70/221/EEC (when the Directive will be amended to cover tanks for gaseous fuels) or approval number according to UNECE Regulation No 67 (OJ L 76, 6.4.1970, p. 34): …

3.2.15.2. Electronic engine management control unit for LPG fuelling

3.2.15.2.1 Make(s): …

3.2.15.2.2 Type(s): …

3.2.15.2.3 Emission-related adjustment possibilities: …

3.2.15.3. Further documentation

3.2.15.3.1 Description of the safeguarding of the catalyst at switch-over from petrol to LPG or back: …

3.2.15.3.2 System lay-out (electrical connections, vacuum connections compensation hoses, etc.): …

3.2.15.3.3 Drawing of the symbol: …

3.2.16. NG fuelling system: yes/no[6]

3.2.16.1. Type-approval number according to Directive 70/221/EEC (when the Directive will be amended to cover tanks for gaseous fuels) or approval number according to UNECE Regulation No 110 (OJ L 72, 14.3.2008, p. 113): …

3.2.16.2. Electronic engine management control unit for NG fuelling

3.2.16.2.1 Make(s): …

3.2.16.2.2 Type(s): …

3.2.16.2.3 Emission-related adjustment possibilities: …

3.2.16.3. Further documentation

3.2.16.3.1. Description of the safeguarding of the catalyst at switch-over from petrol to NG or back: …

3.2.16.3.2. System lay-out (electrical connections, vacuum connections compensation hoses, etc.): …

3.2.16.3.3. Drawing of the symbol: …

[F7 3.2.17. Specific information related to gas and dual-fuel engines for heavy-duty vehicles (in the case of systems laid out in a different manner, supply equivalent information)(if applicable)]

3.2.17.1. Fuel: LPG/NG-H/NG-L/NG-HL(6)

3.2.17.2. Pressure regulator(s) or vaporiser/pressure regulator(s)(6)

3.2.17.2.1. Make(s): …

3.2.17.2.2. Type(s): …

3.2.17.2.3. Number of pressure reduction stages: …

3.2.17.2.4. Pressure in final stage

minimum: ….. kPa — maximum: …. kPa

3.2.17.2.5. Number of main adjustment points: …

3.2.17.2.6. Number of idle adjustment points: …

3.2.17.2.7. Type-approval number: …

3.2.17.3. Fuelling system: mixing unit/gas injection/liquid injection/direct injection(6)

3.2.17.3.1. Mixture strength regulation: …

3.2.17.3.2. System description and/or diagram and drawings: …

3.2.17.3.3. Type-approval number: …

3.2.17.4. Mixing unit

3.2.17.4.1. Number: …

3.2.17.4.2. Make(s): …

3.2.17.4.3. Type(s): …

3.2.17.4.4. Location: …

3.2.17.4.5. Adjustment possibilities: …

3.2.17.4.6. Type-approval number: …

3.2.17.5. Inlet manifold injection

3.2.17.5.1. Injection: single point/multipoint(6)

3.2.17.5.2. Injection: continuous/simultaneously timed/sequentially timed(6)

3.2.17.5.3. Injection equipment

3.2.17.5.3. Make(s): …

3.2.17.5.3.2. Type(s): …

3.2.17.5.3.3. Adjustment possibilities: …

3.2.17.5.3.4. Type-approval number: …

3.2.17.5.4. Supply pump (if applicable)

3.2.17.5.4.1. Make(s): …

3.2.17.5.4.2. Type(s): …

3.2.17.5.4.3. Type-approval number: …

3.2.17.5.5. Injector(s) …

3.2.17.5.5.1. Make(s): …

3.2.17.5.5.2. Type(s): …

3.2.17.5.5.3. Type-approval number: …

3.2.17.6. Direct injection

3.2.17.6.1. Injection pump/pressure regulator[(6)]

3.2.17.6.1.1. Make(s): …

3.2.17.6.1.2. Type(s): …

3.2.17.6.1.3. Injection timing: …

3.2.17.6.1.4. Type-approval number: …

3.2.17.6.2. Injector(s) …

3.2.17.6.2.1. Make(s): …

3.2.17.6.2.2. Type(s): …

3.2.17.6.2.3. Opening pressure or characteristic diagram[(34)]: …

3.2.17.6.2.4. Type-approval number: …

3.2.17.7. Electronic control unit (ECU)

3.2.17.7.1. Make(s): …

3.2.17.7.2. Type(s): …

3.2.17.7.3. Adjustment possibilities: …

3.2.17.7.4. Software calibration number(s): …

3.2.17.8. NG fuel-specific equipment

3.2.17.8.1. Variant 1 (only in the case of approvals of engines for several specific fuel compositions)

[F9 3.2.17.8.1.0. (Euro VI only) Self adaptive feature? Yes/No ([1])

3.2.17.8.1.2. (Euro VI only) Calibration for a specific gas composition NG-H/NG-L/NG-HL ([1])

Transformation for a specific gas composition $NG\text{-}H_t/NG\text{-}L_t/NG\text{-}HL_t$ ([1])**]**

3.2.17.8.1.2.1. Fuel composition:

methane (CH_4):	basis: ……. % mole	min. …. % mole	max. ….. % mole
ethane (C_2H_6):	basis: ……. % mole	min. …. % mole	max. ….. % mole
propane (C_3H_8):	basis: ……. % mole	min. …. % mole	max. ….. % mole
butane (C_4H_{10}):	basis: ……. % mole	min. …. % mole	max. ….. % mole
C_5/C_5+:	basis: ……. % mole	min. …. % mole	max. ….. % mole
oxygen (O_2):	basis: ……. % mole	min. …. % mole	max. ….. % mole
inert (N_2, He, etc.):	basis: ……. % mole	min. …. % mole	max. ….. % mole

3.2.17.8.1.2.2. Injector(s)

3.2.17.8.1.2.2.1. Make(s): …

3.2.17.8.1.2.2.2. Type(s): …

3.2.17.8.1.2.2.3. Others (if applicable): …

3.2.17.8.2. Variant 2 (only in the case of approvals for several specific fuel compositions)

[[F8]3.2.17.9. When appropriate, manufacturer reference of the documentation for installing the dual-fuel engine in a vehicle**(31)**

3.2.18. Hydrogen fuelling system: yes/no**(6)**

3.2.18.1. EC type-approval number in accordance with Regulation (EC) No 79/2009: …

3.2.18.2. Electronic engine management control unit for hydrogen fuelling

3.2.18.2.1. Make(s): …

3.2.18.2.2. Type(s): …

3.2.18.2.3. Emission-related adjustment possibilities: …

3.2.18.3. Further documentation

3.2.18.3.1. Description of the safeguarding of the catalyst at switch-over from petrol to hydrogen or back: …

3.2.18.3.2. System lay-out (electrical connections, vacuum connections compensation hoses, etc.): …

3.2.18.3.3. Drawing of the symbol: …

3.2.19. H_2NG fuelling system: yes/no ([1])

3.2.19.1. Percentage of hydrogen in the fuel (the maximum specified by the manufacturer): …

3.2.19.2. EC type-approval number in accordance with UNECE Regulation No 110 …

3.2.19.3. Electronic engine management control unit for H_2NG fuelling

3.2.19.3.1. Make(s): …

3.2.19.3.2. Type(s): …

3.2.19.3.3. Emission-related adjustment possibilities: …

3.2.19.4. Further documentation

3.2.19.4.1. Description of the safeguarding of the catalyst at switch-over from petrol to H_2NG or back: …

3.2.19.4.2. System lay-out (electrical connections, vacuum connections compensation hoses, etc.): …

3.2.19.4.3. Drawing of the symbol: …**]**

3.3. Electric motor

3.3.1. *Type* (winding, excitation): …

3.3.1.1. Maximum hourly output: …… kW

[[F11]3.3.1.1. Maximum net power[(35)] … kW

(manufacturer's declared value)

Textual Amendments

F11 Inserted by Commission Regulation (EU) No 136/2014 of 11 February 2014 amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 as regards emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and Commission Regulation (EU) No 582/2011 as regards emissions from heavy duty vehicles (Euro VI) (Text with EEA relevance).

3.3.1.1.2. Maximum 30 minutes power[(35)] … kW

(manufacturer's declared value)**]**

3.3.1.2. Operating voltage: …… V

3.3.2. Battery

3.3.2.1. Number of cells: …

3.3.2.2. Mass: …… kg

3.3.2.3. Capacity: …… Ah (Amp-hours)

3.3.2.4. Position: …

3.4. Engine or motor combination

3.4.1. *Hybrid electric vehicle: yes/no*[(6)]

3.4.2. *Category of hybrid electric vehicle:* off-vehicle charging/not off-vehicle charging:[(6)]

3.4.3. Operating mode switch: with/without[6]

3.4.3.1. Selectable modes

3.4.3.1.1. Pure electric: yes/no[6]

3.4.3.1.2. Pure fuel consuming: yes/no[6]

3.4.3.1.3. Hybrid modes: yes/no[6]

(if yes, short description): …

3.4.4. Description of the energy storage device: (battery, capacitor, flywheel/generator)

3.4.4.1. Make(s): …

3.4.4.2. Type(s): …

3.4.4.3. Identification number: …

3.4.4.4. Kind of electrochemical couple: …

3.4.4.5. Energy: … (for battery: voltage and capacity Ah in 2 h, for capacitor: J,…)

3.4.4.6. Charger: on board/external/without[6]

3.4.5. Electric motor (describe each type of electric motor separately)

3.4.5.1. Make: …

3.4.5.2. Type: …

3.4.5.3. Primary use: traction motor/generator[6]

3.4.5.3.1. When used as traction motor: single-/multimotors (number)[6]: …

3.4.5.4. Maximum power: …… kW

3.4.5.5. Working principle

3.4.5.5.5. Direct current/alternating current/number of phases: …

3.4.5.5.2. Separate excitation/series/compound[6]

3.4.5.5.3. Synchronous/asynchronous[6]

3.4.6. Control unit

3.4.6.1. Make(s): …

3.4.6.2. Type(s): …

3.4.6.3. Identification number: …

3.4.7. Power controller

3.4.7.1. Make: …

3.4.7.2. Type: …

3.4.7.3. Identification number: …

[F7 3.4.8. Vehicle electric range … km (in accordance with Annex 9 to UNECE Regulation No 101)]

3.4.9. *Manufacturer's recommendation for preconditioning*: …

3.5. CO_2 emissions/fuel consumption (39) (manufacturer's declared value)

3.5.1. CO_2 mass emissions

3.5.1.1. CO_2 mass emissions (urban conditions): …… g/km

3.5.1.2. CO_2 mass emissions (extra-urban conditions): …… g/km

3.5.1.3. CO_2 mass emissions (combined): …… g/km

3.5.2. Fuel consumption (provide details for each reference fuel tested)

[F7 3.5.2.1. Fuel consumption (urban conditions) … l/100 km or m^3/100 km or kg/100 km(6)

3.5.2.2. Fuel consumption (extra-urban conditions) … l/100 km or m^3/100 km or kg/100 km(6)

3.5.2.3. Fuel consumption (combined) … l/100 km or m^3/100 km or kg/100 km](6)

F12 3.5.3. [F12. . . . . .]

3.5.3.1. . . . . .

3.5.3.2. . . . . .

3.5.3.3. . . . . .

Textual Amendments

F12 Deleted by Commission Regulation (EU) No 195/2013 of 7 March 2013 amending Directive 2007/46/EC of the European Parliament and of the Council and Commission Regulation (EC) No 692/2008 as concerns innovative technologies for reducing CO2 emissions from light passenger and commercial vehicles (Text with EEA relevance).

[F8 3.5.3. Electric energy consumption for electric vehicles

3.5.3.1. Electric energy consumption for pure electric vehicles … Wh/km

3.5.3.2. Electric energy consumption for externally chargeable hybrid electric vehicles

3.5.3.2.1. Electric energy consumption (Condition A, combined) … Wh/km

3.5.3.2.2. Electric energy consumption (Condition B, combined) … Wh/km

3.5.3.2.3. Electric energy consumption (weighted combined) … Wh/km]

[F9 3.5.4. CO_2 emissions for heavy duty engines (Euro VI only)

[F7 3.5.4.1. CO_2 mass emissions WHSC test(40): … g/kWh

3.5.4.2. CO_2 mass emissions WHSC test in diesel mode(41): … g/kWh]

[F8 3.5.4.3. CO_2 mass emissions WHSC test in dual-fuel mode(31): … g/kWh

3.5.4.4. CO_2 mass emissions WHTC test[(40)(42)]: … g/kWh

3.5.4.5. CO_2 mass emissions WHTC test in diesel mode[(41)(42)]: … g/kWh

3.5.4.6. CO_2 mass emissions WHTC test in dual-fuel mode[(31)(42)]: … g/kWh**]**

3.5.5. Fuel consumption for heavy duty engines (Euro VI only)

[[F7]3.5.5.1 Fuel consumption WHSC test[(40)]: … g/kWh

3.5.5.2. Fuel consumption WHSC test in diesel mode[(41)]: … g/kWh**]**

[[F8]3.5.5.3 Fuel consumption WHSC test in in dual-fuel mode[(31)]: … g/kWh

3.5.5.4. Fuel consumption WHTC test[(42)(40)]: … g/kWh

3.5.5.5. Fuel consumption WHTC test in diesel mode[(42)(41)]: … g/kWh

3.5.5.6. Fuel consumption WHTC test in dual-fuel mode[(42)(31)]: … g/kWh**]]**

[[F13]**[**[F14]3.5.6. Vehicle fitted with an eco-innovation within the meaning of Article 12 of Regulation (EC) No 443/2009 for M_1 vehicles or Article 12 of Regulation (EU) No 510/2011 for N_1 vehicles: yes/no ([1])

3.5.6.1. Type/Variant/Version of the baseline vehicle as referred to in Article 5 of Regulation (EU) No 725/2011 for M_1 vehicles or Article 5 of Regulation (EU) No 427/2014 for N_1 vehicles (if applicable) …**]**

3.5.6.2. Existence of interactions between different eco-innovations: yes/no ([1])

3.5.6.3. Emissions data related to the use of eco-innovations (repeat the table for each reference fuel tested)[(43)]

Decision approving the eco-innovation[b]	**Code of the eco-innovation**[c]	**1.CO_2 emissions of the baseline vehicle (g/km)**	**2.CO_2 emissions of the eco-innovation vehicle (g/km)**	**3.CO_2 emissions of the baseline vehicle under Type 1 test-cycle**[d]	**4.CO_2 emissions of the eco-innovation vehicle under Type 1 test-**	**5.Usage factor (UF), i.e. temporal share of technology usage in normal**	**CO_2 emissions savings** $((1-2)-(3-4))*5$

a	([w])	Eco-innovations.
b	([w2])	Number of the Commission Decision approving the eco-innovation.
c	([w3])	Assigned in the Commission Decision approving the eco-innovation.
d	([w4])	Under agreement of the type-approval authority, if a modelling methodology is applied instead of the type 1 test cycle, this value shall be the one provided by the modelling methodology.
e	([w5])	Sum of the CO_2 emissions savings of each individual eco-innovation.**]**

					cycle (= 3.5.1.3)	**operation conditions**	
xxxx/201x							
Total CO_2 emissions savings (g/km)[e]							

a	([w])	Eco-innovations.
b	([w2])	Number of the Commission Decision approving the eco-innovation.
c	([w3])	Assigned in the Commission Decision approving the eco-innovation.
d	([w4])	Under agreement of the type-approval authority, if a modelling methodology is applied instead of the type 1 test cycle, this value shall be the one provided by the modelling methodology.
e	([w5])	Sum of the CO_2 emissions savings of each individual eco-innovation.]

Textual Amendments

F13 Inserted by Commission Regulation (EU) No 195/2013 of 7 March 2013 amending Directive 2007/46/EC of the European Parliament and of the Council and Commission Regulation (EC) No 692/2008 as concerns innovative technologies for reducing CO2 emissions from light passenger and commercial vehicles (Text with EEA relevance).

F14 Substituted by Commission Regulation (EU) 2015/45 of 14 January 2015 amending Directive 2007/46/EC of the European Parliament and of the Council and Commission Regulation (EC) No 692/2008 as regards innovative technologies for reducing CO2 emissions from light commercial vehicles (Text with EEA relevance).

3.6. Temperatures permitted by the manufacturer

3.6.1. Cooling system

3.6.1.1. *Liquid cooling*

Maximum temperature at outlet: …… K

3.6.1.2. *Air cooling*

3.6.1.2.1. Reference point: …

3.6.1.2.2. Maximum temperature at reference point: …… K

3.6.2. *Maximum outlet temperature of the inlet intercooler: …..* K

3.6.3. *Maximum exhaust temperature at the point in the exhaust pipe(s) adjacent to the outer flange(s) of the exhaust manifold or turbocharger:* …… K

3.6.4. Fuel temperature

Minimum: …… K — maximum: …… K

For diesel engines at injection pump inlet, for gas fuelled engines at pressure regulator final stage

3.6.5. Lubricant temperature

Minimum: …. K — maximum: …… K

3.6.6. Fuel pressure

Minimum: …… kPa — maximum: …… kPa

At pressure regulator final stage, NG fuelled gas engines only.

3.7. Engine-driven equipment

Power absorbed by the auxiliaries needed for operating the engine as specified in and under the operation conditions of Directive 80/1269/EEC, Annex I, Section 5.1.1.

Equipment	**Power absorbed (kW) at various engine speeds**						
	Idle	**Low speed**	**High speed**	**Speed A[a]**	**Speed B[a]**	**Speed C[a]**	**Ref. speed[b]**
P(a)							
Auxiliaries needed for operating the engine (to be subtracted from measured engine power) see Appendix 1, Section 6.1.							

a ESC test.

b ETC test only.

3.8. Lubrication system

3.8.1. Description of the system

3.8.1.1. Position of lubricant reservoir: …

3.8.1.2. Feed system (by pump/injection into intake/mixing with fuel, etc.)[(6)]

3.8.2. Lubricating pump

3.8.2.1. Make(s): …

3.8.2.2. Type(s): …

3.8.3. Mixture with fuel

3.8.3.1. Percentage: …

3.8.4. Oil cooler: yes/no[(6)]

3.8.4.1. Drawing(s): …… or

3.8.4.1.1. Make(s): …

3.8.4.1.2. Type(s): …

4. TRANSMISSION[44]

4.1. **Drawing of the transmission:** …

4.2. **Type (mechanical, hydraulic, electric, etc.):** …

4.2.1. A brief description of the electrical/electronic components (if any): …

4.3. **Moment of inertia of engine flywheel:** …

4.3.1. Additional moment of inertia with no gear engaged: …

4.4. Clutch

4.4.1. Type: …

4.4.2. Maximum torque conversion: …

4.5. Gearbox

4.5.1. Type (manual/automatic/CVT (continuously variable transmission))[6]

4.5.2. Location relative to the engine: …

4.5.3. Method of control: …

4.6. Gear ratios

Gear	**Internal gearbox ratios (ratios of engine to gearbox output shaft revolutions)**	**Final drive ratio(s) (ratio of gearbox output shaft to driven wheel revolutions)**	**Total gear ratios**
Maximum for CVT[a]			
1			
2			
3			
…			
Minimum for CVT[a]			
Reverse			

a Continuously variable transmission.

4.7. **Maximum vehicle design speed (in km/h)**[45]: …

4.8. Speedometer

4.8.1. Method of operation and description of drive mechanism: …

4.8.2. Instrument constant: …

4.8.3. Tolerance of the measuring mechanism (pursuant to item 2.1.3 of Annex II to Directive 75/443/EEC): …

4.8.4. Overall transmission ratio (pursuant to item 2.1.2 of Annex II to Directive 75/443/EEC) or equivalent data: …

4.8.5. Diagram of the speedometer scale or other forms of display: …

4.9. Tachograph: yes/no[6]

4.9.1 Approval mark: …

4.10. **Differential lock: yes/no/optional[6]**

[[F15]4.11. Gear shift indicator (GSI)

4.11.1. Acoustic indication available yes/no ([1]). If yes, description of sound and sound level at the driver's ear in dB(A). (Acoustic indication always switchable on/off)

4.11.2. Information according to point 4.6 of Annex I to Regulation (EU) No 65/2012 (manufacturer's declared value)

4.11.3. Photographs and/or drawings of the gear shift indicator instrument and brief description of the system components and operation:**]**

Textual Amendments

F15 Inserted by Commission Regulation (EU) No 65/2012 of 24 January 2012 implementing Regulation (EC) No 661/2009 of the European Parliament and of the Council as regards gear shift indicators and amending Directive 2007/46/EC of the European Parliament and of the Council (Text with EEA relevance).

5. AXLES

5.1. Description of each axle: …

5.2. Make: …

5.3. Type: …

5.4. Position of retractable axle(s): …

5.5. Position of loadable axle(s): …

6. SUSPENSION

6.1. Drawing of the suspension arrangements: …

6.2. Type and design of the suspension of each axle or group of axles or wheel: …

6.2.1. Level adjustment: yes/no/optional[6]

6.2.2. A brief description of the electrical/electronic components (if any): …

6.2.3. Air-suspension for driving axle(s): yes/no[6]

6.2.3.1. Suspension of driving axle(s) equivalent to air-suspension: yes/no[6]

6.2.3.2. Frequency and damping of the oscillation of the sprung mass: …

6.2.4. Air-suspension for non-driving axle(s): yes/no[(6)]

6.2.4.1. Suspension of non-driving axle(s) equivalent to air-suspension: yes/no[(6)]

6.2.4.2. Frequency and damping of the oscillation of the sprung mass: …

6.3. **Characteristics of the springing parts of the suspension** (design, characteristics of the materials and dimensions): …

6.4. **Stabilisers:** yes/no/optional[(6)]

6.5. **Shock absorbers:** yes/no/optional[(6)]

6.6. Tyres and wheels

6.6.1. Tyre/wheel combination(s)

(a) for tyres indicate size designation, load-capacity index, speed category symbol, rolling resistance in accordance with ISO 28580 (where applicable)[(46)];

(b) for wheels indicate rim size(s) and off-set(s)

6.6.1.1. Axles

6.6.1.1.1. Axle 1: …

6.6.1.1.2. Axle 2: …

etc.

6.6.1.2. Spare wheel, if any: …

6.6.2. Upper and lower limits of rolling radii

6.6.2.1. Axle 1: …

6.6.2.2. Axle 2: …

6.6.2.3. Axle 3: …

6.6.2.4. Axle 4: …

etc.

6.6.3. *Tyre pressure(s) as recommended by the vehicle manufacturer:* …… kPa

6.6.4. *Chain/tyre/wheel combination on the front and/or rear axle that is suitable for the type of vehicle, as recommended by the manufacturer: …*

6.6.5. *Brief description of temporary use spare unit (if any): …*

7. STEERING

7.1. **Schematic diagram of steered axle(s) showing steering geometry:** …

7.2. Transmission and control

7.2.1. Type of steering transmission (specify for front and rear, if applicable): …

7.2.2. Linkage to wheels (including other than mechanical means; specify for front and rear, if applicable): …

7.2.2.1. A brief description of the electrical/electronic components (if any): …

7.2.3. Method of assistance (if any): …

7.2.3.1. Method and diagram of operation, make(s) and type(s): …

7.2.4. Diagram of the steering equipment as a whole, showing the position on the vehicle of the various devices influencing its steering behaviour: …

7.2.5. Schematic diagram(s) of the steering control(s): …

7.2.6. Range and method of adjustment (if any), of the steering control: …

7.3. Maximum steering angle of the wheels

7.3.1. To the right: … degrees; number of turns of the steering wheel (or equivalent data): …

7.3.2. To the left: … degrees; number of turns of the steering wheel (or equivalent data): …

8. BRAKES

(The following particulars, including means of identification, where applicable, are to be given)

8.1. Type and characteristics of the brakes as defined in point 1.6 of Annex I to Council Directive 71/320/EEC (OJ L 205, 6.9.1971, p. 37) including details and drawings of the drums, discs, hoses make and type of shoe/pad assemblies and/or linings, effective braking areas, radius of drums, shoes or discs, mass of drums, adjustment devices, relevant parts of the axle(s) and suspension: …

8.2. Operating diagram, description and/or drawing of the braking system described in point 1.2 of Annex I to Directive 71/320/EEC including details and drawings of the transmission and controls:

8.2.1. Service braking system: …

8.2.2. Secondary braking system: …

8.2.3. Parking braking system: …

8.2.4. Any additional braking system: …

8.2.5. Break-away braking system: …

8.3. Control and transmission of trailer braking systems in vehicles designed to tow a trailer: …

8.4. Vehicle is equipped to tow a trailer with electric/pneumatic/hydraulic[(6)] service brakes: yes/no[(6)]

8.5. Anti-lock braking system: yes/no/optional[(6)]

8.5.1. For vehicles with anti-lock systems, description of system operation (including any electronic parts), electric block diagram, hydraulic or pneumatic circuit plan: …

8.6. Calculation and curves according to the Appendix to point 1.1.4.2 of the Appendix to Annex II to Directive 71/320/EEC or to the Appendix to Annex XI thereto, if applicable: …

8.7. Description and/or drawing of the energy supply, also to be specified for power-assisted braking systems: …

8.7.1. In the case of compressed-air braking systems, working pressure p2 in the pressure reservoir(s): …

8.7.2. In the case of vacuum braking systems, the initial energy level in the reservoir(s): …

8.8. Calculation of the braking system: Determination of the ratio between the total braking forces at the circumference of the wheels and the force applied to the braking control: …

8.9. Brief description of the braking system according to point 1.6 of the Addendum to Appendix 1 of Annex IX to Directive 71/320/EEC: …

8.10. If claiming exemptions from the Type I and/or Type II or Type III tests, state the number of the report in accordance with Appendix 2 of Annex VII to Directive 71/320/EEC: …

8.11. Particulars of the type(s) of endurance braking system(s): …

9. BODYWORK

9.1. Type of bodywork using the codes defined in Part C of Annex II: …

9.2. Materials used and methods of construction: …

9.3. Occupant doors, latches and hinges

9.3.1. Door configuration and number of doors: …

9.3.1.1. Dimensions, direction and maximum angle of opening: …

9.3.2. Drawing of latches and hinges and of their position in the doors: …

9.3.3. Technical description of latches and hinges: …

9.3.4. Details, including dimensions, of entrances, steps and necessary handles where applicable: …

9.4. Field of vision

9.4.1. Particulars of the primary reference marks in sufficient detail to enable them to be readily identified and the position of each in relation to the others and to the R-point to be verified: …

9.4.2. Drawing(s) or photograph(s) showing the location of component parts within the 180^{o} forward field of vision: …

9.5. Windscreen and other windows

9.5.1. Windscreen

9.5.1.1. Materials used: …

9.5.1.2. Method of mounting: …

9.5.1.3. Angle of inclination: …

9.5.1.4. Type-approval number(s): …

9.5.1.5. Windscreen accessories and the position in which they are fitted together with a brief description of any electrical/electronic components involved: …

9.5.2. Other windows

9.5.2.1. Materials used: …

9.5.2.2. Type-approval number(s): …

9.5.2.3. A brief description of the electrical/electronic components (if any) of the window lifting mechanism: …

9.5.3. Opening roof glazing

9.5.3.1. Materials used: …

9.5.3.2. Type-approval number(s): …

9.5.4. Other glass panes

9.5.4.1. Materials used: …

9.5.4.2. Type-approval number(s): …

9.6. Windscreen wiper(s)

9.6.1. Detailed technical description (including photographs or drawings): …

9.7. Windscreen washer

9.7.1. Detailed technical description (including photographs or drawings) or, if approved as separate technical unit, type-approval number: …

9.8. Defrosting and demisting

9.8.1. Detailed technical description (including photographs or drawings): …

9.8.2. Maximum electrical consumption: … kW

9.9. Devices for indirect vision

9.9.1. Rear-view mirrors, stating for each mirror:

9.9.1.1. Make: …

9.9.1.2. Type-approval mark: …

9.9.1.3. Variant: …

9.9.1.4. Drawing(s) for the identification of the mirror showing the position of the mirror relative to the vehicle structure: …

9.9.1.5. Details of the method of attachment including that part of the vehicle structure to which it is attached: …

9.9.1.6. Optional equipment which may affect the rearward field of vision: …

9.9.1.7. A brief description of the electronic components (if any) of the adjustment system: …

9.9.2. Devices for indirect vision other than mirrors: …

9.9.2.1. Type and characteristics (such as a complete description of the device): …

9.9.2.1.1. In the case of a camera-monitor device, the detection distance (mm), contrast, luminance range, glare correction, display performance (black and white/colour), image repetition frequency, luminance reach of the monitor: …

9.9.2.1.2. Sufficiently detailed drawings to identify the complete device, including installation instructions; the position for the EC type-approval mark has to be indicated on the drawings.

9.10. Interior arrangement

9.10.1. Interior protection for occupants

9.10.1.1. Layout drawing or photographs showing the position of the attached sections or views: …

9.10.1.2. Photograph or drawing showing the reference zone including the exempted area referred to in point 2.3.1 of Annex I to Council Directive 74/60/EEC (OJ L 38, 11.2.1974, p. 2): …

9.10.1.3. Photographs, drawings and/or an exploded view of the interior fittings, showing the parts in the passenger compartment and the materials used (with the exception of interior rear view mirrors), arrangement of controls, roof and opening roof, backrest, seats and the rear part of seats: …

9.10.2. Arrangement and identification of controls, tell-tales and indicators

9.10.2.1. Photographs and/or drawings of the arrangement of symbols and controls, tell-tales and indicators: …

9.10.2.2. Photographs and/or drawings of the identification of controls, tell-tales and indicators and of the vehicle parts referred to in Annex II and III of Directive 78/316/EEC where relevant: …

9.10.2.3. *Summary table*

The vehicle is equipped with the following controls, indicators and tell-tales pursuant to Annexes II and III to Directive 78/316/EEC

CONTROLS, TELL-TALES AND INDICATORS FOR WHICH, WHEN FITTED, IDENTIFICATION IS MANDATORY, AND SYMBOLS TO BE USED FOR THAT PURPOSE

Symbol No	Device	Control/ indicator available[a]	Identified by symbol[a]	Where[b]	Tell-tale available[a]	Identified by symbol[a]	Where[b]
a	x = yes — = no or not separately available o = optional.						
b	d = directly on control, indicator or tell-tale c = in close vicinity.						

1	Master light						
2	Dipped-beam headlamps						
3	Main-beam headlamps						
4	Position (side) lamps						
5	Front fog lamps						
6	Rear fog lamp						
7	Headlamp levelling device						
8	Parking lamps						
9	Direction indicators						
10	Hazard warning						
11	Windscreen wiper						
12	Windscreen washer						
13	Windscreen wiper and washer						
14	Headlamp cleaning device						
15	Windscreen demisting and defrosting						
16	Rear window						

a	x	=	yes
	—	=	no or not separately available
	o	=	optional.
b	d	=	directly on control, indicator or tell-tale
	c	=	in close vicinity.

	demisting and defrosting						
17	Ventilating fan						
18	Diesel pre-heat						
19	Choke						
20	Brake failure						
21	Fuel level						
22	Battery charging condition						
23	Engine coolant temperature						

a	x	=	yes
	—	=	no or not separately available
	o	=	optional.
b	d	=	directly on control, indicator or tell-tale
	c	=	in close vicinity.

CONTROLS, TELL-TALES AND INDICATORS FOR WHICH, WHEN FITTED, IDENTIFICATION IS OPTIONAL, AND SYMBOLS WHICH SHALL BE USED IF THEY ARE TO BE IDENTIFIED

Symbol No	**Device**	**Control/ indicator available[a]**	**Identified by symbol[a]**	**Where[b]**	**Tell-tale available[a]**	**Identified by symbol[a]**	**Where[b]**
1	Parking brake						
2	Rear window wiper						
3	Rear window washer						
4	Rear window wiper and washer						

a	x	=	yes
	—	=	no or not separately available
	o	=	optional.
b	d	=	directly on control, indicator or tell-tale
	c	=	in close vicinity.

5	Intermittent windscreen wiper						
6	Audible warning device (horn)						
7	Front hood (bonnet)						
8	Rear hood (boot)						
9	Seat-belt						
10	Engine oil pressure						
11	Unleaded petrol						
…							
…							
…							

a	x	=	yes
	—	=	no or not separately available
	o	=	optional.
b	d	=	directly on control, indicator or tell-tale
	c	=	in close vicinity.

9.10.3. Seats

9.10.3.1. Number of seating positions[47]: …

9.10.3.1.1. Location and arrangement: …

9.10.3.2. Seat(s) designated for use only when the vehicle is stationary: …

9.10.3.3. Mass: …

9.10.3.4. Characteristics: for seats not type-approved as components, description and drawings of

9.10.3.4.1. The seats and their anchorages: …

9.10.3.4.2. The adjustment system: …

9.10.3.4.3. The displacement and locking systems: …

9.10.3.4.4. The seat-belt anchorages (if incorporated in the seat structure): …

9.10.3.4.5. The parts of the vehicle used as anchorages: …

9.10.3.5. Coordinates or drawing of the R-point[48]

9.10.3.5.1 Driver's seat: …

9.10.3.5.2 All other seating positions: …

9.10.3.6. Design torso angle

9.10.3.6.1 Driver's seat: …

9.10.3.6.2 All other seating positions: …

9.10.3.7. Range of seat adjustment

9.10.3.7.1 Driver's seat: …

9.10.3.7.2 All other seating positions: …

9.10.4. Head restraints

9.10.4.1. Type(s) of head restraints: integrated/detachable/separate[6]

9.10.4.2. Type-approval number(s), if available: …

9.10.4.3. For head restraints not yet approved

9.10.4.3.1 A detailed description of the head restraint, specifying in particular the nature of the padding material or materials and, where applicable, the position and specifications of the braces and anchorage pieces for the type of seat for which approval is sought: …

9.10.4.3.2 In the case of a 'separate' head restraint

9.10.4.3.2.1 A detailed description of the structural zone to which the head restraint is intended to be fixed: …

9.10.4.3.2.2 Dimensional drawings of the characteristic parts of the structure and the head restraint: …

9.10.5. Heating systems for the passenger compartment

9.10.5.1. A brief description of the vehicle type with regard to the heating system if the heating system uses the heat of the engine cooling fluid: …

9.10.5.2. A detailed description of the vehicle type with regard to the heating if the cooling air or the exhaust gases of the engine are used as heat source, including:

9.10.5.2.1 Layout drawing of the heating system showing its position in the vehicle: …

9.10.5.2.2 Layout drawing of the heat exchanger for heating systems using the exhaust gases for heating, or of the parts where the heat exchange takes place (for heating systems using the engine cooling air for heating): …

9.10.5.2.3 Sectional drawing of the heat exchanger or the parts respectively where the heat exchange takes place indicating the thickness of the wall, used materials and characteristics of the surface: …

9.10.5.2.4 Specifications shall be given for further important components of the heating system such as, for example, the heater fan, with regard to their method of construction and technical data: …

9.10.5.3. A brief description of the vehicle type with regard to the combustion heating system and the automatic control: …

9.10.5.3.1. Layout drawing of the combustion heater, the air inlet system, the exhaust system, the fuel tank, the fuel supply system (including the valves) and the electrical connections showing their positions in the vehicle.

9.10.5.4. Maximum electrical consumption: …… kW

9.10.6. Components influencing the behaviour of the steering mechanism in the event of an impact

9.10.6.1. A detailed description, including photograph(s) and/or drawing(s), of the vehicle type with respect to the structure, the dimensions, the lines and the constituent materials of that part of the vehicle forward of the steering control, including those components designed to contribute to the absorption of energy in the event of an impact against the steering control: …

9.10.6.2. Photograph(s) and/or drawing(s) of vehicle components other than those described in 9.10.6.1 as identified by the manufacturer in agreement with the technical service, as contributing to the behaviour of the steering mechanism in case of impact: …

9.10.7. Burning behaviour of materials used in the interior construction of certain categories of motor vehicles

9.10.7.1. *Material(s) used for the interior lining of the roof*

9.10.7.1.1. Component type-approval number(s), if available: …

9.10.7.1.2. For materials not approved

9.10.7.1.2.1. Base material(s)/designation: ……/……

9.10.7.1.2.2. Composite/single[(6)] material, number of layers[(6)]: …

9.10.7.1.2.3. Type of coating[(6)]: …

9.10.7.1.2.4. Maximum/minimum thickness: ……/…… mm

9.10.7.2. *Material(s) used for the rear and side walls*

9.10.7.2.1. Component type-approval number(s), if available: …

9.10.7.2.2. For materials not approved

9.10.7.2.2.1. Base material(s)/designation: ……/……

9.10.7.2.2.2. Composite/single[(6)] material, number of layers[(6)]: …

9.10.7.2.2.3. Type of coating[(6)]: …

9.10.7.2.2.4. Maximum/minimum thickness: ……/…… mm

9.10.7.3. *Material(s) used for the floor*

9.10.7.3.1. Component type-approval number(s), if available: …

9.10.7.3.2. For materials not approved

9.10.7.3.2.1. Base material(s)/designation: ……/……

9.10.7.3.2.2. Composite/single[(6)] material, number of layers[(6)]: …

9.10.7.3.2.3. Type of coating[(6)]: …

9.10.7.3.2.4. Maximum/minimum thickness: ……/…… mm

9.10.7.4. *Material(s) used for the upholstery of the seats*

9.10.7.4.1. Component type-approval number(s), if available: …

9.10.7.4.2. For materials not approved

9.10.7.4.2.1. Base material(s)/designation: ……/……

9.10.7.4.2.2. Composite/single[(6)] material, number of layers[(6)]: …

9.10.7.4.2.3. Type of coating[(6)]: …

9.10.7.4.2.4. Maximum/minimum thickness: ……/…… mm

9.10.7.5. *Material(s) used for the heating and ventilation pipes*

9.10.7.5.1. Component type-approval number(s), if available: …

9.10.7.5.2. For materials not approved

9.10.7.5.2.1. Base material(s)/designation: ……/……..

9.10.7.5.2.2. Composite/single[(6)] material, number of layers[(6)]: …

9.10.7.5.2.3. Type of coating[(6)]: …

9.10.7.5.2.4. Maximum/minimum thickness: ……/……. mm

9.10.7.6. *Material(s) used for luggage racks*

9.10.7.6.1. Component type-approval number(s), if available: …

9.10.7.6.2. For materials not approved

9.10.7.6.2.1. Base material(s)/designation: ……/……

9.10.7.6.2.2. Composite/single[(6)] material, number of layers[(6)]: …

9.10.7.6.2.3. Type of coating[(6)]: …

9.10.7.6.2.4. Maximum/minimum thickness: ……/…… mm

9.10.7.7. *Material(s) used for other purposes*

9.10.7.7.1. Intended purposes: …

9.10.7.7.2. Component type-approval number(s), if available: …

9.10.7.7.3. For materials not approved

9.10.7.7.3.1. Base material(s)/designation: ……/……

9.10.7.7.3.2. Composite/single[(6)] material, number of layers[(6)]: …

9.10.7.7.3.3. Type of coating[(6)]: …

9.10.7.7.3. Maximum/minimum thickness: …./…. mm

9.10.7.8. *Components approved as complete devices (seats, separation walls, luggage racks, etc.)*

9.10.7.8.1. Component type-approval number(s): …

9.10.7.8.2. For the complete device: seat, separation wall, luggage racks, etc.[(6)]

9.10.8 Gas used as refrigerant in the air-conditioning system: …

9.10.8.1 The air-conditioning system is designed to contain fluorinated greenhouse gases with global warming potential higher than 150: yes/no[(6)]

9.10.8.2. If yes, fill in the following sections

9.10.8.2.1. Drawing and brief description of the air-conditioning system, including the reference or part number and material of the leak components;

9.10.8.2.2. Leakage of the air-conditioning system

9.10.8.2.4. Reference or part number and material of the components of the system and information about the test (e.g. test report number, approval number, etc.): …

9.10.8.3. Overall leakage in g/year of the entire system: …

9.11. External projections

9.11.1. General arrangement (drawing or photographs) indicating the position of the attached sections and views:

9.11.2. Drawings and/or photographs, for example, and where relevant, of the door and window pillars, air-intake grilles, radiator grille, windscreen wipers, rain gutter channels, handles, slide rails, flaps, door hinges and locks, hooks, eyes, decorative trim, badges, emblems and recesses and any other external projections and parts of the exterior surface which can be regarded as critical (e.g. lighting equipment). If the parts listed in the previous sentence are not critical, for documentation purposes they may be replaced by photographs, accompanied if necessary by dimensional details and/or text:

9.11.3. Drawings of parts of the external surface in accordance with Annex I, item 6.9.1 to Directive 74/483/EEC: …

9.11.4. Drawing of bumpers: …

9.11.5. Drawing of the floor line: …

9.12. Safety belts and/or other restraint systems

9.12.1. Number and position of safety belts and restraint systems and seats on which they can be used

(L = left-hand side, R = right-hand side, C = centre)

a The table may be extended as necessary for vehicles with more than two rows of seats or if there are more than three seats across the width of the vehicle.

		Complete EC type-approval mark	**Variant, if applicable**	**Belt adjustment device for height (indicate yes/ no/optional)**
First row of seats	L			
	C			
	R			
Second row of seats[a]	L			
	C			
	R			

a The table may be extended as necessary for vehicles with more than two rows of seats or if there are more than three seats across the width of the vehicle.

9.12.2. Nature and position of supplementary restraint systems (indicate yes/no/optional)

(L = left-hand side, R = right-hand side, C = centre)

		Front airbag	**Side airbag**	**Belt pre-loading device**
First row of seats	L			
	C			
	R			
Second row of seats[a]	L			
	C			
	R			

a The table may be extended as necessary for vehicles with more than two rows of seats or if there are more than three seats across the width of the vehicle

9.12.3. Number and position of safety belt anchorages and proof of compliance with Directive 76/115/EEC, (i.e. type-approval number or test report): …

9.12.4. A brief description of the electrical/electronic components (if any): …

9.13. Safety belt anchorages

9.13.1. Photographs and/or drawings of the bodywork showing the position and dimensions of the actual and the effective anchorages including the R-points: …

9.13.2. Drawings of the belt anchorages and parts of the vehicle structure where they are attached (with the material indication): …

9.13.3. Designation of the types[(49)] of safety belt authorised for fitting to the anchorages with which the vehicle is equipped

			Anchorage location	
			Vehicle structure	**Seat structure**
First row of seats				
Right-hand seat	Lower anchorages	outboard inboard		
	Upper anchorages			
Centre seat	Lower anchorages	right left		
	Upper anchorages			
Left-hand seat	Lower anchorages	outboard inboard		
	Upper anchorages			
Second row of seats[a]				
Right-hand seat	Lower anchorages	outboard inboard		
	Upper anchorages			
Centre seat	Lower anchorages	right left		
	Upper anchorages			
Left-hand seat	Lower anchorages	outboard inboard		
	Upper anchorages			

a The table may be extended as necessary for vehicles with more than two rows of seats or if there are more than three seats across the width of the vehicle.

9.13.4. Description of a particular type of safety belt where an anchorage is located in the seat backrest or incorporates an energy dissipating device: …

9.14. Space for mounting rear registration plates (give range where appropriate, drawings may be used where applicable)

9.14.1. Height above road surface, upper edge: …

9.14.2. Height above road surface, lower edge: …

9.14.3. Distance of the centre line from the longitudinal median plane of the vehicle: …

9.14.4. Distance from the left vehicle edge: …

9.14.5. Dimensions (length × width): …

9.14.6. Inclination of the plane to the vertical: …

9.14.7. Angle of visibility in the horizontal plane: …

9.15. Rear under-run protection

9.15.0. Presence: yes/no/incomplete[6]

9.15.1. Drawing of the vehicle parts relevant to the rear under-run protection, i.e. drawing of the vehicle and/or chassis with position and mounting of the widest rear axle, drawing of the mounting and/or fitting of the rear under-run protection. If the under-run protection is not a special device, the drawing shall clearly show that the required dimensions are met: …

9.15.2. In case of a special device, full description and/or drawing of the rear under-run protection (including mountings and fittings), or, if approved as separate technical unit, type-approval number: …

9.16. Wheel guards

9.16.1. Brief description of the vehicle with regard to its wheel guards: …

9.16.2. Detailed drawings of the wheel guards and their position on the vehicle showing the dimensions specified in Figure 1 of Annex I to Directive 78/549/EEC and taking account of the extremes of tyre/wheel combinations: …

9.17. Statutory plates

9.17.1. Photographs and/or drawings of the locations of the statutory plates and inscriptions and of the vehicle identification number: …

9.17.2. Photographs and/or drawings of the statutory plate and inscriptions (completed example with dimensions): …

9.17.3. Photographs and/or drawings of the vehicle identification number (completed example with dimensions): …

9.17.4. Manufacturer's declaration of compliance with the requirements set out in point 3.1.1.1 of Annex to Council Directive 76/114/EEC (OJ L 24, 30.1.1976, p. 1)

9.17.4.1. The meaning of characters in the second section and, if applicable, in the third section used to comply with the requirements of section 5.3 of ISO Standard 3779-1983 shall be explained: …

9.17.4.2. If characters in the second section are used to comply with the requirements of section 5.4 of ISO Standard 3779-1983 these characters shall be indicated: …

9.18. Radio interference/electromagnetic compatibility

9.18.1. Description and drawings/photographs of the shapes and constituent materials of the part of the body forming the engine compartment and the part of the passenger compartment nearest to it: …

9.18.2. Drawings or photographs of the position of metal components housed in the engine compartment (e.g. heating appliances, spare wheel, air filter, steering mechanism, etc.): …

9.18.3. Table and drawing of radio-interference control equipment: …

9.18.4. Particulars of the nominal value of the direct current resistance, and, in the case of resistive ignition cables, of their nominal resistance per metre: …

9.19. Lateral protection

9.19.0. Presence: yes/no/incomplete[(6)]

9.19.1. Drawing of the vehicle parts relevant to the lateral protection, i.e. drawing of the vehicle and/or chassis with position and mounting of the axle(s), drawing of the mountings and/or the fittings of lateral protection device(s). If the lateral protection is achieved without lateral protection device(s) the drawing shall clearly show that the required dimensions are met: …

9.19.2. In the case of lateral protection device(s), full description and/or drawing of such device(s) (including mountings and fittings) or its/their component type-approval number(s): …

9.20. Spray-suppression system

9.20.0. Presence: yes/no/incomplete[(6)]

9.20.1. Brief description of the vehicle with regard to its spray-suppression system and the constituent components: …

9.20.2. Detailed drawings of the spray-suppression system and its position on the vehicle showing the dimensions specified in the figures in Annex III to Directive 91/226/EEC and taking account of the extremes of tyre/wheel combinations: …

9.20.3. Type-approval number(s) of spray-suppression device(s), if available: …

9.21. Side-impact resistance

9.21.1. A detailed description, including photographs and/or drawings, of the vehicle with respect to the structure, the dimensions, the lines and the constituent materials of the side walls of the passenger compartment (exterior and interior), including specific details of the protection system, where applicable: …

9.22. Front under-run protection

9.22.0. Presence: yes/no/incomplete[(6)]

9.22.1. Drawing of the vehicle parts relevant to the front under-run protection, i.e. drawing of the vehicle and/or chassis with position and mounting and/or fitting of the front under-run protection. If the under-run protection is no special device, the drawing shall clearly show that the required dimensions are met: …

9.22.2. In the case of special device, full description and/or drawing of the front under-run protection (including mountings and fittings), or, if approved as a separate technical unit, type-approval number: …

9.23. Pedestrian protection

9.23.1. A detailed description, including photographs and/or drawings, of the vehicle with respect to the structure, the dimensions, the relevant reference lines and the constituent materials of the frontal part of the vehicle (interior and exterior), including detail of any active protection system installed.

[F16 9.24. Frontal protection systems

9.24.1. General arrangement (drawings or photographs) indicating the position and attachment of the frontal protection systems:

9.24.2. Drawings and/or photographs, where relevant, of air intake grilles, radiator grille, decorative trim, badges, emblems and recesses and any other external projections and parts of the exterior surface which can be regarded as critical (e.g. lighting equipment). If the parts listed in the first sentence are not critical, for documentation purposes they may be replaced by photographs, accompanied if necessary by dimensional details and/or text:

9.24.3. Complete details of fittings required and full instructions, including torque requirements, for fitting:

9.24.4. Drawing of bumpers:

9.24.5. Drawing of the floor line at the vehicle front end:**]**

Textual Amendments

F16 Substituted by Regulation (EC) No 78/2009 of the European Parliament and of the Council of 14 January 2009 on the type-approval of motor vehicles with regard to the protection of pedestrians and other vulnerable road users, amending Directive 2007/46/EC and repealing Directives 2003/102/EC and 2005/66/EC (Text with EEA relevance).

10. LIGHTING AND LIGHT SIGNALLING DEVICES

10.1. Table of all devices: number, make, model, type-approval mark, maximum intensity of main-beam headlamps, colour, tell-tale: …

10.2. Drawing of the position of lighting and light signalling devices: …

10.3. For every lamp and reflector specified in Council Directive 76/756/EEC (OJ L 262, 27.9.1976, p. 1) supply the following information (in writing and/or by diagram)

10.3.1. Drawing showing the extent of the illuminating surface: …

10.3.2. Method used for the definition of the apparent surface in accordance with paragraph 2.10 of UNECE Regulation No 48 (OJ L 137, 30.5.2007, p. 1): …

10.3.3. Axis of reference and centre of reference: …

10.3.4. Method of operation of concealable lamps: …

10.3.5. Any specific mounting and wiring provisions: …

10.4. Dipped beam lamps: normal orientation in accordance to paragraph 6.2.6.1 of UNECE Regulation No 48:

10.4.1. Value of initial adjustment: …

10.4.2. Location of indication: …

10.4.3.	Description/drawing[a] and type of headlamp levelling device (e.g. automatic, stepwise manually adjustable, continuously manually adjustable):	Applicable only for vehicles with headlamp levelling device
10.4.4.	Control device:	
10.4.5.	Reference marks:	
10.4.6.	Marks assigned for loading conditions:	

a Delete where not applicable (there are cases where nothing needs to be deleted when more than one entry is applicable).

10.5. A brief description of electrical/electronic components other than lamps (if any): …

11. CONNECTIONS BETWEEN TOWING VEHICLES AND TRAILERS AND SEMI-TRAILERS

11.1. Class and type of the coupling device(s) fitted or to be fitted: …

11.2. Characteristics D, U, S and V of the coupling device(s) fitted or minimal characteristics D, U, S and V of the coupling device(s) to be fitted: …… daN

11.3. Instructions for attachment of the coupling type to the vehicle and photographs or drawings of the fixing points at the vehicle as stated by the manufacturer; additional information, if the use of the coupling type is restricted to certain variants or versions of the vehicle type: …

11.4. Information of the fitting of special towing brackets or mounting plates: …

11.5. Type-approval number(s): …

12. MISCELLANEOUS

12.1. Audible warning device(s)

12.1.1. Location, method of affixing, placement and orientation of the device(s), with dimensions: …

12.1.2. Number of device(s): …

12.1.3. Type-approval number(s): …

12.1.4. Electrical/pneumatic[(6)] circuit diagram: …

12.1.5. Rated voltage or pressure: …

12.1.6. Drawing of the mounting device: …

12.2. Devices to prevent unauthorised use of the vehicle

12.2.1. Protective device

12.2.1.1. A detailed description of the vehicle type with regard to the arrangement and design of the control or of the unit on which the protective device acts: …

12.2.1.2. Drawings of the protective device and of its mounting on the vehicle: …

12.2.1.3. A technical description of the device: …

12.2.1.4. Details of the lock combinations used: …

12.2.1.5. Vehicle immobiliser

12.2.1.5.1. Type-approval number, if available: …

12.2.1.5.2. For immobilisers not yet approved

12.2.1.5.2.1. A detailed technical description of the vehicle immobiliser and of the measures taken against inadvertent activation: …

12.2.1.5.2.2. The system(s) on which the vehicle immobiliser acts: …

12.2.1.5.2.3. Number of effective interchangeable codes, if applicable: …

12.2.2. Alarm system (if any)

12.2.2.1. Type-approval number, if available: …

12.2.2.2. For alarm systems not yet approved

12.2.2.2.1. A detailed description of the alarm system and of the vehicle parts related to the alarm system installed: …

12.2.2.2.2. A list of the main components comprising the alarm system: …

12.2.3. A brief description of the electrical/electronic components (if any): …

12.3. Towing device(s)

12.3.1. Front: Hook/eye/other[(6)]

12.3.2. Rear: Hook/eye/other/none[(6)]

12.3.3. Drawing or photograph of the chassis/area of the vehicle body showing the position, construction and mounting of the towing device(s): …

12.4. Details of any non-engine related devices designed to influence fuel consumption (if not covered by other items): …

12.5. Details of any non-engine related devices designed to reduce noise (if not covered by other items): …

12.6. Speed limitation devices

12.6.1. Manufacturer(s): …

12.6.2. Type(s): …

12.6.3. Type-approval number(s), if available: …

12.6.4. Speed or range of speeds at which the speed limitation may be set: …… km/h

12.7. Table of installation and use of RF transmitters in the vehicle(s), if applicable: …

Frequency bands (Hz)	**Maximum output power (W)**	**Antenna position at vehicle, specific conditions for installation and/or use**

The applicant for type-approval shall also supply, where appropriate:

Appendix 1

A list containing make and type of all electrical and/or electronic components concerned by Commission Directive 72/245/EEC (OJ L 152, 6.7.1972, p. 15).

Appendix 2

Schematics or drawing of the general arrangement of electrical and/or electronic components concerned by Directive 72/245/EEC and the general wiring harness arrangement.

Appendix 3

Description of vehicle chosen to represent the type

Body style:

Left- or right-hand drive[6]

Wheelbase:

Appendix 4

Relevant test report(s) supplied by the manufacturer or approved/recognised laboratories for the purpose of drawing up the type-approval certificate

12.7.1. Vehicle equipped with a 24 GHz short-range radar equipment: yes/no[6]

13. SPECIAL PROVISIONS FOR BUSES AND COACHES

13.1. Class of vehicle: Class I/Class II/Class III/Class A/Class B[6]

13.1.1. Type-approval number of bodywork approved as a separate technical unit: …

13.1.2. Chassis types where the type-approved bodywork can be installed (manufacturer(s), and types of incomplete vehicle): …

13.2. Area for passengers (m^2)

13.2.1. Total (S_0): …

13.2.2. Upper deck (S_{0a})[6]: …

13.2.3. Lower deck (S_{0b})[6]: …

13.2.4. For standing passengers (S_1): …

13.3. Number of passengers (seated and standing)

13.3.1. Total (N): …

13.3.2. Upper deck (N_a)[6]: …

13.3.3. Lower deck (N_b)[6]: …

13.4. Number of passengers seated

13.4.1. Total (A): …

13.4.2. Upper deck (A_a)[6]: …

13.4.3. Lower deck (A_b)[6]: …

13.4.4. Number of wheelchair positions for category M_2 and M_3 vehicles: …

13.5. **Number of service doors:** …

13.6. **Number of emergency exits** (doors, windows, escape hatches, intercommunication staircase and half staircase): …

13.6.1. Total: …

13.6.2. Upper deck[6]: …

13.6.3. Lower deck[6]: …

13.7. **Volume of luggage compartments (m^3):** …

13.8. **Area of luggage transportation on the roof (m^2):** …

13.9. **Technical devices facilitating the access to vehicles** (e.g. ramp, lifting platform, kneeling system), if fitted: …

13.10. Strength of superstructure

13.10.1. Type-approval number, if available: …

13.10.2. For superstructures not yet approved

13.10.2.1 Detailed description of the superstructure of the vehicle type including its dimensions, configuration and constituent materials and its attachment to any chassis frame: …

13.10.2.2 Drawings of the vehicle and those parts of its interior arrangement which have an influence on the strength of the superstructure or on the residual space: …

13.10.2.3 Position of centre of gravity of the vehicle in running order in the longitudinal, transverse and vertical directions: …

13.10.2.4 Maximum distance between the centre lines of the outboard passenger seats: …

13.11. **Points of Directive 2001/85/EC of the European parliament and of the Council (OJ L 42, 13.2.2002, p. 1) to be accomplished and demonstrated for this technical unit:** …

[F5 13.12. **Drawing with dimensions showing the interior arrangement as regards the seating positions, area for standees, wheelchair user(s), luggage compartments including racks and ski-box, if any]**

14. SPECIAL PROVISIONS FOR VEHICLES INTENDED FOR THE TRANSPORT OF DANGEROUS GOODS

14.1. Electrical equipment according to Council Directive 94/55/EC (OJ L 319, 12.12.1994, p. 1)

14.1.1. Protection against overheating of conductors: …

14.1.2. Type of circuit breaker: …

14.1.3. Type and operation of battery master switch: …

14.1.4. Description and location of safety barrier for tachograph: …

14.1.5. Description of permanently energised installations. Indicate the EN standard applied: …

14.1.6. Construction and protection of electrical installation situated to the rear of the driver's compartment: …

14.2. Prevention of fire risks

14.2.1. Type of not readily flammable material in the driver's compartment: …

14.2.2. Type of heat shield behind the driver's compartment (if applicable): …

14.2.3. Position and heat protection of engine: …

14.2.4. Position and heat protection of the exhaust system: …

14.2.5. Type and design of the endurance braking systems heat protection: …

14.2.6. Type, design and position of combustion heaters: …

14.3. Special requirements for bodywork, if any, according to Directive 94/55/EC

14.3.1. Description of measures to comply with the requirements for Type EX/II and Type EX/III vehicles: …

14.3.2. In the case of Type EX/III vehicles, resistance against heat from the outside: …

15. REUSABILITY, RECYCLABILITY AND RECOVERABILITY

15.1. Version to which the reference vehicle belongs: …

15.2. Mass of the reference vehicle with bodywork or mass of the chassis with cab, without bodywork and/or coupling device if the manufacturer does not fit the bodywork and/or coupling device (including liquids, tools, spare wheel, if fitted) without driver: …

15.3. Mass of materials of the reference vehicle: …

15.3.1. Mass of material taken into account at the pre-treatment step[(50)]: …

15.3.2. Mass of the material taken into account at the dismantling step[(50)]: …

15.3.3. Mass of material taken into account at the non-metallic residue treatment step, considered as recyclable[(50)]: …

15.3.4. Mass of material taken into account at the non-metallic residue treatment step, considered as energy recoverable[(50)]: …

15.3.5. Materials breakdown[(50)]: …

15.3.6. Total mass of materials, which are reusable and/or recyclable: …

15.3.7. Total mass of materials, which are reusable and/or recoverable: …

15.4. Rates

15.4.1. Recyclability rate 'R_{cyc}' (%): …

15.4.2. Recoverability rate 'R_{cov}' (%): …

16. ACCESS TO VEHICLE REPAIR AND MAINTENANCE INFORMATION

16.1. Address of principal website for access to vehicle repair and maintenance information: …

16.1.1. Date from which it is available (no later than 6 months from the date of type-approval): …

16.2. Terms and conditions of access to website: …

16.3. Format of the vehicle repair and maintenance information accessible through website: …

Explanatory notes

([5]) Set out in such a way as to make the actual value clear for each technical configuration of the vehicle type.

[[F8]([x]) Dual-fuel engines.**]]**

(**1**) **[**[F1]**[**[F2]If a part has been type-approved, that part need not be described if reference is made to such approval. Similarly, a part need not be described if its construction is clearly apparent from the attached diagrams or drawings. For each item for which drawings or photographs shall be attached, give numbers of the corresponding attached documents.**]**

(**2**) **[**[F2]If the means of identification of type contains characters not relevant to describe the vehicle, component or separate technical unit types covered by this information document, such characters shall be represented in the documentation by the symbol '?' (e.g. ABC??123??).**]**

(**3**) Classified according to the definitions set out in Part A of Annex II.

(**4**) Designation according to EN 10027-1: 2005. If that is not possible, the following information shall be provided:

— description of the material,

— yield point,

— ultimate tensile stress,

— elongation (in %),

— Brinell hardness.

(**5**) 'Forward control' as defined in point 2.7 of Annex I to Council Directive 74/297/EEC (OJ L 165, 20.6.1974, p. 16).

(**6**) Delete where not applicable (there are cases where nothing needs to be deleted when more than one entry is applicable).

(**7**) **[**[F4]Where there is one version with a normal cab and another with a sleeper cab, both sets of masses and dimensions are to be stated.

(**8**) Standard ISO 612: 1978 — Road vehicles — Dimensions of motor vehicles and towed vehicles — terms and definitions.

(**9**) Optional equipment that affects the dimensions of the vehicle shall be specified.**]**

(**10**) ([g1]) Motor vehicle and drawbar trailer: term No 6.4.1.
Semi-trailer and centre-axle trailer: term No 6.4.2.
Note:
In the case of a centre-axle trailer, the axis of the coupling shall be considered as the foremost axle.

(**11**) ([g2]) Term No 6.19.2.

(**12**) ([g3]) Term No 6.20.

(**13**) ([g4]) Term No 6.5.

(**14**) ([g5]) Term No 6.1 and for vehicles other than those of category M1: point 2.4.1 of Annex I to Directive 97/27/EC of the European Parliament and of the Council (OJ L 233, 25.8.1997, p. 1).
In the case of trailers, the lengths shall be specified as mentioned in term No 6.1.2 of Standard ISO 612: 1978.

(**15**) ([g6]) Term No 6.17.

(**16**) ([g7]) Term No 6.2 and for vehicles other than those of category M1: point 2.4.2 of Annex I to Directive 97/27/EC.

(**17**) ([g8]) Term No 6.3 and for vehicles other than those of category M1: point 2.4.3 of Annex I to Directive 97/27/EC.

(**18**) ([g9]) Term No 6.6.

(**19**) (g10) Term No 6.10.

(**20**) (g11) Term No 6.7.

(**21**) (g12) Term No 6.11.

(**22**) (g13) Term No 6.18.1.

(**23**) (g14) Term No 6.9.

(**24**) **[**F4The mass of the driver is assessed at 75 kg.
The liquid containing systems (except those for used water that must remain empty) are filled to 100 % of the capacity specified by the manufacturer.
The information referred to in points 2.6(b) and 2.6.1(b) do not need to be provided for vehicle categories N_2, N_3, M_2, M_3, O_3, and O_4.**]**

(**25**) **[**F5OJ L 353, 21.12.2012, p. 31.**]**

(**26**) For trailers or semi-trailers, and for vehicles coupled with a trailer or a semi-trailer, which exert a significant vertical load on the coupling device or the fifth wheel, this load, divided by standard acceleration of gravity, is included in the maximum technically permissible mass.

(**27**) Please fill in here the upper and lower values for each variant.

(**28**) 'Coupling overhang' is the horizontal distance between the coupling for centre-axle trailers and the centreline of the rear axle(s).

(**29**) Only for the purpose of definition of off-road vehicles.

(**30**) In the case of a vehicle that can run either on petrol, diesel, etc., or also in combination with another fuel, items shall be repeated.
In the case of non-conventional engines and systems, particulars equivalent to those referred to here shall be supplied by the manufacturer.

(**31**) **[**F8In case of a dual-fuel engine or vehicle.**]**

(**32**) This figure shall be rounded off to the nearest tenth of a millimetre.

(**33**) This value shall be calculated ($\pi = 3{,}1416$) and rounded off to the nearest cm^3.

(**34**) Specify the tolerance.

(**35**) Determined in accordance with the requirements of Regulation (EC) No 715/2007 or Regulation (EC) No 595/2009 as applicable.

(**36**) **[**F7Vehicles can be fuelled with both petrol and a gaseous fuel but, where the petrol system is fitted for emergency purposes or starting only and of which the petrol tank cannot contain more than 15 litres of petrol, will be regarded for the test as vehicles which can only run a gaseous fuel.**]**

(**37**) **[**F9**[**F7To be documented in case of a single OBD engine family and if not already included in the documentation package(s) referred to in point 3.2.12.2.7.0.4.**]]**

(**38**) **[**F8To be documented if not already included in the documentation referred to in point 3.2.12.2.7.0.5.**]**

(**39**) Determined in accordance with the requirements of Council Directive 80/1268/EEC (OJ L 375, 31.12.1980, p. 36).

(**40**) **[**F9**[**F7Except for dual-fuel engines or vehicles.

(**41**) In the case of Type 1B, Type 2B, and Type 3B of dual-fuel engines.**]**

(**42**) **[**F8Value for the combined WHTC including cold and hot part in accordance with Annex VIII to Regulation (EU) No 582/2011.**]]**

(**43**) **[**F13(w1) Expand the table if necessary, using one extra row per eco-innovation.

(**44**) The specified particulars are to be given for any proposed variants.

(**45**) With respect to trailers, maximum speed permitted by the manufacturer.

(**46**) For tyres of category Z intended to be fitted on vehicles whose maximum speed exceeds 300 km/h equivalent information shall be provided.

(**47**) The number of seating positions to be mentioned shall be the one when the vehicle is in motion. A range can be specified in case of modular arrangement.

(**48**) 'R-point' or 'seating reference point' means a design point defined by the vehicle manufacturer for each seating position and established with respect to the three-dimensional reference system as specified in Annex III to Council Directive 77/649/EEC (OJ L 267, 19.10.1977, p. 1).

(**49**) For symbols and marks to be used, see Annex III, items 1.1.3 and 1.1.4 to Council Directive 77/541/EEC (OJ L 220, 29.8.1977, p. 95). In the case of 'S' type belts, specify the nature of the type(s).

(**50**) These terms are defined in the standard ISO 22628: 2002 — Road vehicles — recyclability and recoverability — calculation method.**]**

Textual Amendments

F1 Substituted by Commission Regulation (EC) No 1060/2008 of 7 October 2008 replacing Annexes I, III, IV, VI, VII, XI and XV to Directive 2007/46/EC of the European Parliament and of the Council establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive) (Text with EEA relevance).

F2 Substituted by Commission Regulation (EU) 2015/166 of 3 February 2015 supplementing and amending Regulation (EC) No 661/2009 of the European Parliament and of the Council as regards the inclusion of specific procedures, assessment methods and technical requirements, and amending Directive 2007/46/EC of the European Parliament and of the Council, and Commission Regulations (EU) No 1003/2010, (EU) No 109/2011 and (EU) No 458/2011 (Text with EEA relevance).

F4 Substituted by Commission Regulation (EU) No 1230/2012 of 12 December 2012 implementing Regulation (EC) No 661/2009 of the European Parliament and of the Council with regard to type-approval requirements for masses and dimensions of motor vehicles and their trailers and amending Directive 2007/46/EC of the European Parliament and of the Council (Text with EEA relevance).

F5 Inserted by Commission Regulation (EU) No 1230/2012 of 12 December 2012 implementing Regulation (EC) No 661/2009 of the European Parliament and of the Council with regard to type-approval requirements for masses and dimensions of motor vehicles and their trailers and amending Directive 2007/46/EC of the European Parliament and of the Council (Text with EEA relevance).

F7 Substituted by Commission Regulation (EU) No 133/2014 of 31 January 2014 amending, for the purposes of adapting to technical progress as regards emission limits, Directive 2007/46/EC of the European Parliament and of the Council, Regulation (EC) No 595/2009 of the European Parliament and of the Council and Commission Regulation (EU) No 582/2011 (Text with EEA relevance).

F8 Inserted by Commission Regulation (EU) No 133/2014 of 31 January 2014 amending, for the purposes of adapting to technical progress as regards emission limits, Directive 2007/46/EC of the European Parliament and of the Council, Regulation (EC) No 595/2009 of the European Parliament and of the Council and Commission Regulation (EU) No 582/2011 (Text with EEA relevance).

F9 Inserted by Commission Regulation (EU) No 582/2011 of 25 May 2011 implementing and amending Regulation (EC) No 595/2009 of the European Parliament and of the Council with respect to emissions from heavy duty vehicles (Euro VI) and amending Annexes I and III to Directive 2007/46/EC of the European Parliament and of the Council (Text with EEA relevance).

F13 Inserted by Commission Regulation (EU) No 195/2013 of 7 March 2013 amending Directive 2007/46/EC of the European Parliament and of the Council and Commission Regulation (EC) No 692/2008 as

concerns innovative technologies for reducing CO2 emissions from light passenger and commercial vehicles (Text with EEA relevance).