

UNECE WP.29 INFORMAL GROUP
ON THE FUTURE DIRECTION FOR HARMONISATION OF VEHICLE REGULATIONS
UNDER THE 1958 AGREEMENT

EU TYPE-APPROVAL PROCEDURE FOR VEHICLES

Notes:

- This document provides information about the EU **requirements relating to the application for whole vehicle type approval of vehicles** and complements the other document submitted by the expert of the European Commission relating to the EU WVTA list of requirements.
- The legal reference for this document is 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. The Directive is **applicable in the EU Member States since 29 April 2009**. The text of Directive 2007/46/EC has been published in the Official Journal of the European Union No L263/1 of 09.10.2007 and is available in all the official languages of the European Union on the following website: http://eur-lex.europa.eu/Result.do?checktexts=checkbox&TypeAffichage=sort_key&page=1&idReq=3&Submit22=GO
- The following consecutive amendments to Directive 2007/46/EC are taken into account as well:
 - 1) 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,
 - 2) 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.
 - 3) Commission Regulation (EU) No 371/2010 of 16 April 2010 replacing Annexes V, X, XV and XVI 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).
- Regulation (EC) No 1060/2008 has entered into force on and is applicable since 29 April 2009. The full text of Regulation (EC) No 1060/2008 has been published in the Official Journal of the European Union No L292/1 of 31.10.2008 and is available in all the official languages of the European Union on the following website: http://eur-lex.europa.eu/Result.do?checktexts=checkbox&TypeAffichage=sort_key&page=1&idReq=1&Submit22=GO
- Regulation (EC) No 78/2009 has entered into force on 24 February 2009 and is – save for some provisions - applicable as from 24 November 2009. Specific application dates for vehicle categories can be found in its article 9 which provides a timetable for the application of the requirements.

The full text of Regulation (EC) No 78/2009 has been published in the Official Journal of the European Union No L35/1 of 04.02.2009 and is available in all the official languages of the European Union on the website: http://eur-lex.europa.eu/Result.do?checkdates=checkbox&checktexts=checkbox&TypeAffichage=sort_key&page=1&idReq=5&Submit22=GO

- Regulation (EU) No 371/2010 is applicable from 29 April 2010. It has been published in the Official Journal of the European Union No L110/1 of 1 May 2010 and is available in all the official languages of the European Union on the website: http://eur-lex.europa.eu/Result.do?checktexts=checkbox&TypeAffichage=sort_key&page=1&idReq=4&Submit22=GO
- The provisions relating to the **procedure to be followed for EU whole vehicle type approval can be found in Article 6 of Directive 2007/46/EC** as amended, and are reproduced in this document, together with the Annexes I and III to which reference is made in Article 6. It should be noted that Annex IV to which Article 6 also refers is not reproduced in this document, as the text of this Annex IV has already been made available in the other document submitted by expert of the European Commission relating to the EU WVTA list of technical requirements.
- For the sake of simplicity Annex XI to which reference is made in Article 6 is not reproduced in this document, since it contains provisions for special purpose vehicles, which for the time being may not be of relevance for the purpose of establishing the IWVTA roadmap.
- Finally this document reproduces also the text of Annex V of Directive 2007/46/EC, as it specifies the procedures to be followed during EC type-approval of vehicles, which may be worthwhile considering for the establishment of the IWVTA procedure.

Article 6

Procedures to be followed for the EC type-approval of vehicles

1. The manufacturer may choose one of the following procedures:
 - (a) step-by-step type-approval;
 - (b) single-step type-approval;
 - (c) mixed type-approval.
2. An application for step-by-step type-approval shall consist of the information folder containing the information required under Annex III and shall be accompanied by the complete set of type-approval certificates required pursuant to each of the applicable regulatory acts listed in Annex IV or Annex XI. In the case of the type-approval of a system or separate technical unit, pursuant to the applicable regulatory acts, the approval authority shall have access to the related information package until such time as the approval is either issued or refused.
3. An application for single-step type-approval shall consist of the information folder containing the relevant information required under Annex I, in relation to the regulatory acts specified in Annex IV or Annex XI and, where applicable, in Part II of Annex III.
4. In the case of a mixed type-approval procedure, the approval authority may exempt a manufacturer from the obligation to produce one or more EC system type-approval certificates, provided that the information folder is supplemented by the particulars, specified in Annex I, required for the approval of those systems during the vehicle approval phase, in which case each of the EC type-approval certificates thus waived shall be replaced by a test report.
5. Without prejudice to paragraphs 2, 3 and 4, the following information shall be supplied for the purposes of multi-stage type-approval:
 - (a) at the first stage, those parts of the information folder and the EC type-approval certificates required for a complete vehicle which are relevant to the state of completion of the base vehicle;
 - (b) at the second and subsequent stages, those parts of the information folder and the EC type-approval certificates which are relevant to the current stage of construction, together with a copy of the EC type-approval certificate for the vehicle issued at the preceding stage of construction; in addition, the manufacturer shall supply full details of any changes or additions that he has made to the vehicle.

The information specified in points (a) and (b) may be supplied in accordance with the mixed type-approval procedure set out in paragraph 4.
6. The manufacturer shall submit the application to the approval authority. Only one application may be submitted in respect of a particular type of vehicle and it may be submitted in only one Member State.

A separate application shall be submitted for each type to be approved.

7. The approval authority may, by reasoned request, call upon the manufacturer to supply any additional information needed to enable a decision to be taken on what tests are required or to facilitate the execution of those tests.
8. The manufacturer shall make available to the approval authority as many vehicles as are necessary to enable the type-approval procedure to be conducted satisfactorily.

ANNEX I

COMPLETE LIST OF INFORMATION FOR THE PURPOSE OF EC TYPE-APPROVAL OF VEHICLES ^(a)

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):
- 0.3. Means of identification of type, if marked on the vehicle ^(b):
- 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 ^(c):
- 0.4.1. Classification(s) according to the dangerous goods which the vehicle is intended to transport:
- 0.5. Name and address of manufacturer:
- 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):.....

1. GENERAL CONSTRUCTION CHARACTERISTICS OF THE VEHICLE

- 1.1. Photographs and/or drawings of a representative vehicle:
- 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 ^(d):
- 1.6. Position and arrangement of the engine:
- 1.7. Driving cab (forward control or bonneted) ^(e):
- 1.8. Hand of drive: left/right ⁽¹⁾.
- 1.8.1. Vehicle is equipped to be driven in right/left ⁽¹⁾ hand traffic.
- 1.9. Specify if the motor vehicle is intended to tow semi-trailers or other trailers and, if the trailer is a semi-, drawbar or centre-axle trailer, specify vehicles specially designed for the controlled-temperature carriage of goods:.....

2. MASSES AND DIMENSIONS ^(f)^(g)

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

- 2.1. Wheelbase(s) (fully loaded) ^(g1)≠
- 2.1.1. Two axle vehicles:
- 2.1.1.1. Vehicles with three or more axles
- 2.1.1.1.1. Axle spacing between consecutive axles going from the foremost to the rearmost axle:
- 2.1.1.1.2. 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) (^{g2}):
 - 2.2.2.2. Maximum height of the fifth wheel (standardised) (^{g3}):.....
- 2.3. Axle track(s) and width(s)
 - 2.3.1. Track of each steered axle (^{g4}):.....
 - 2.3.2. Track of all other axles (^{g4}):.....
 - 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 (^{g5}):
 - 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 (^{g6}):
 - 2.4.1.2. Width (^{g7}):.....
 - 2.4.1.2.1. Maximum permissible width:.....
 - 2.4.1.2.2. Minimum permissible width:
 - 2.4.1.3. Height (in running order) (^{g8}) (for suspensions adjustable for height, indicate normal running position):

- 2.4.1.4. Front overhang (^{g9}):
- 2.4.1.4.1. Approach angle (^{g10}):degrees.
- 2.4.1.5. Rear overhang (^{g11}):.....
- 2.4.1.5.1. Departure angle (^{g12}):degrees.
- 2.4.1.5.2. Minimum and maximum permissible overhang of the coupling point (^{g13}):.....
- 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 (^{g14}): 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 (^{g5}):
 - 2.4.2.1.1. Length of the loading area:.....
 - 2.4.2.1.2. In the case of trailers, maximum permissible drawbar length (^{g6}):
 - 2.4.2.2. Width (^{g7}):.....
 - 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) (^{g8}) (for suspensions adjustable for height, indicate normal running position):
 - 2.4.2.4. Front overhang (^{g9}):
 - 2.4.2.4.1. Approach angle (^{g10}): degrees.
 - 2.4.2.5. Rear overhang (^{g11}):.....
 - 2.4.2.5.1. Departure angle (^{g12}): degrees.
 - 2.4.2.5.2. Minimum and maximum permissible overhang of the coupling point (^{g13}):.....
 - 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 (^{g14}):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 (M2 and M3) at its technically permissible maximum laden mass in the longitudinal, transverse and vertical directions:
- 2.4.3. For bodywork approved without chassis (vehicles M2 and M3)
 - 2.4.3.1. Length (^{g5}):
 - 2.4.3.2. Width (^{g7}):.....
 - 2.4.3.3. Nominal height (in running order) (^{g8}) on intended chassis type(s) (for suspensions adjustable for height, indicate normal running position):
- 2.5. Mass of the bare chassis (without cab, coolant, oils, fuel, spare wheel, tools and driver):
- 2.5.1. Distribution of this mass among the axles:.....
- 2.6. Mass in running order

Mass of the vehicle with bodywork and, in the case of a towing vehicle of category other than M1, with coupling device, if fitted by the manufacturer, in running order, or mass of the chassis or 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, and driver and, for buses and coaches, a crew member if there is a crew seat in the vehicle) (^h) (maximum and minimum for each variant):.....

 - 2.6.1. Distribution of this mass among the axles and, in the case of a semi-trailer or centre-axle trailer, load on the coupling point (maximum and minimum for each variant):.....
- 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 (¹) (³):
.....
- 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 (³):.....
- 2.9. Technically permissible maximum mass on each axle:
- 2.10. Technically permissible maximum mass on each axle group:
- 2.11. Technically permissible maximum towable mass of the motor 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 (¹) to the wheel base:.....
 - 2.11.3.2. Maximum V-value: kN.
 - 2.11.4. Technically permissible maximum mass of the combination (³):
 - 2.11.5. Vehicle is/is not (¹) suitable for towing loads (item 1.2 of Annex II to Directive 77/389/EEC).
 - 2.11.6. Maximum mass of unbraked trailer:.....
- 2.12. Technically permissible maximum static vertical load/mass on the vehicle's coupling point
 - 2.12.1. Of the motor vehicle:.....
 - 2.12.2. Of the semi-trailer or centre-axle 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) ⁽⁴⁾: %.
- 2.16. Intended registration/in service maximum permissible masses (optional: where these values are given, they shall be verified in accordance with the requirements of Annex IV to Directive 97/27/EC)
 - 2.16.1. Intended registration/in service maximum permissible laden mass (several entries possible for each technical configuration ⁽⁵⁾):.....
 - 2.16.2. Intended 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 (several entries possible for each technical configuration ⁽⁵⁾):.....
 - 2.16.3. Intended registration/in service maximum permissible mass on each axle group (several entries possible for each technical configuration ⁽⁵⁾):
 - 2.16.4. Intended registration/in service maximum permissible towable mass (several entries possible for each technical configuration ⁽⁵⁾):.....
 - 2.16.5. Intended registration/in service maximum permissible mass of the combination (several entries possible for each technical configuration ⁽⁵⁾):

3. POWER PLANT ^(k)

- 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
 - 3.2.1.1. Working principle: positive ignition/compression ignition ⁽¹⁾
Cycle: four stroke/two stroke/rotary ⁽¹⁾
 - 3.2.1.2. Number and arrangement of cylinders:
 - 3.2.1.2.1. Bore ⁽¹⁾: mm

- 3.2.1.2.2. Stroke (¹): mm
- 3.2.1.2.3. Firing order:.....
- 3.2.1.3. Engine capacity (^m):cm³
- 3.2.1.4. Volumetric compression ratio (²):
- 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 (²): min⁻¹
- 3.2.1.6.1. High engine idling speed (²): min⁻¹
- 3.2.1.7. Carbon monoxide content by volume in the exhaust gas with the engine idling (²): % as stated by the manufacturer (positive ignition engines only)
- 3.2.1.8. Maximum net power (ⁿ): 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 (ⁿ):Nm atmin⁻¹ (manufacturer's declared value)
- 3.2.2. Fuel
- 3.2.2.1. Light duty vehicles: Diesel / Petrol / LPG / NG or Biomethane/ Ethanol (E 85)/Biodiesel/Hydrogen (¹) (⁶)
- 3.2.2.2. Heavy duty vehicles: Diesel / Petrol / LPG / NG-H/NG-L/NG-HL/ Ethanol (¹) (⁶)
- 3.2.2.3. Fuel tank inlet: restricted orifice / label (¹)
- 3.2.2.4. Vehicle fuel type: Mono fuel, Bi fuel, Flex fuel (¹)
- 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:
- 3.2.3.1.1.1. 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:
- 3.2.3.2.1.1. 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 (¹)
- 3.2.4.2. By fuel injection (compression ignition only): yes/no (¹)
- 3.2.4.2.1. System description:
- 3.2.4.2.2. Working principle: direct injection/pre-chamber/swirl chamber (¹)
- 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 (¹) (²): mm³/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 (²):
- 3.2.4.2.3.5. Injection advance curve (²):.....
- 3.2.4.2.3.6. Calibration procedure: test bench/engine (¹)
- 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 (²): kPa or characteristic diagram (²):.....
- 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 (¹)
- 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 (¹)
- 3.2.4.3.1. Working principle: intake manifold (single-/multi-point/direct injection (¹)/ 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:.....
- 3.2.4.3.4.10. Make and type of air temperature sensor:
- 3.2.4.3.4.11. Make and type of air pressure sensor:
- 3.2.4.3.4.12. Software calibration number(s):.....
- 3.2.4.3.5. Injectors: opening pressure (²): 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 (¹) (²):.....
- 3.2.4.4. Feed pump
- 3.2.4.4.1. Pressure (²): kPa or characteristic diagram (²):.....

- 3.2.5. Electrical system
 - 3.2.5.1. Rated voltage: V, positive/negative ground (¹)
 - 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 (²):
 - 3.2.6.5. Static ignition timing (²): 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 (¹)
 - 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 (¹)
 - 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 (¹)
 - 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 (¹)
 - 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 (¹)
 - 3.2.8.2.1. Type: air-air/air-water (¹)
 - 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
 - 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:
- 3.2.9.3. Maximum allowable exhaust back pressure at rated engine speed and at 100 % load (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:.....
- 3.2.9.7. Exhaust system volume:dm³
- 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 (¹):
- 3.2.12. Measures taken against air pollution
- 3.2.12.1. Device for recycling crankcase gases (description and drawings):.....
- 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 (¹)
- 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 (¹)
- 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 (¹)
- 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 (¹)
- 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 (¹)
- 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 (¹)
- 3.2.12.2.3.1. Type (pulse air, air pump, etc.):

- 3.2.12.2.4. Exhaust gas recirculation (EGR): yes/no (¹)
 - 3.2.12.2.4.1. Characteristics (make, type, flow, etc.):
 - 3.2.12.2.4.2. Water cooled system: yes/no (¹)
- 3.2.12.2.5. Evaporative emissions control system: yes/no (¹)
 - 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 (¹)
 - 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):.....
- 3.2.12.2.6.8.2. Number of ETC cycles during regeneration (n2):.....
- 3.2.12.2.7. On-board-diagnostic (OBD) system: yes/no (¹):
- 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:.....
 - 3.2.12.2.7.3.1.3. 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:
 - 3.2.12.2.7.3.2.1. Catalyst monitoring:
 - 3.2.12.2.7.3.2.2. Particulate trap monitoring:
 - 3.2.12.2.7.3.2.3. Electronic fuelling system monitoring:
 - 3.2.12.2.7.2.2.4. deNO_x system monitoring:
 - 3.2.12.2.7.3.2.5 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 pre-conditioning 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.
 - 3.2.12.7.6.3. 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 sensor 2 signals	Difference between sensor 1 and sensor 2 signals-	3rd cycle	Engine speed load, A/F mode, catalyst temperature	Two type I cycles	Type I

3.2.12.2.7.6.4.2. 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)

3.2.12.2.8. Other system (description and operation):

3.2.12.2.9. Torque limiter: yes/no ⁽¹⁾

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 (¹)
- 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 (¹)
- 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 ¹:.....
- 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:

¹ OJ ...

- 3.2.16. NG fuelling system: yes/no ⁽¹⁾
- 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 ²:
- 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:
- 3.2.17. Specific information related to gas fuelled engines for heavy duty vehicles (In the case of systems laid-out in a different manner, supply equivalent information)
 - 3.2.17.1. Fuel: LPG/NG-H/NG-L/NG-HL ⁽¹⁾
 - 3.2.17.2. Pressure regulator(s) or vaporiser/pressure regulator(s) ⁽¹⁾
 - 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:

² OJ ...

- 3.2.17.3. Fuelling system: mixing unit / gas injection / liquid injection / direct injection (¹)
 - 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 (¹)
 - 3.2.17.5.2. Injection: continuous/simultaneously timed/sequentially timed (¹)
 - 3.2.17.5.3. Injection equipment
 - 3.2.17.5.3.1. 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 (¹)
- 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 (²):
- 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)
- 3.2.17.8.1.1. Fuel composition:

methane (CH ₄):	basis:	min.	max. % mole
ethane (C ₂ H ₆):	basis:	min.	max. % mole
propane (C ₃ H ₈):	basis:	min.	max. % mole
butane (C ₄ H ₁₀):	basis:	min.	max. % mole
C ₅ /C ₅ +	basis:	min.	max. % mole
oxygen (O ₂):	basis:	min.	max. % mole
inert (N ₂ , He, etc.):	basis:	min.	max. % mole

- 3.2.17.8.1.2. Injector(s)
- 3.2.17.8.1.2.1. Make(s):.....
- 3.2.17.8.1.2.2.. Type(s):.....
- 3.2.17.8.1.3. Others (if applicable):.....
- 3.2.17.8.2. Variant 2 (only in the case of approvals for several specific fuel compositions)

- 3.3. Electric motor
- 3.3.1. Type (winding, excitation):
- 3.3.1.1. Maximum hourly output: kW
- 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 ⁽¹⁾
- 3.4.2. Category of Hybrid Electric Vehicle: off Vehicle Charging/not Off Vehicle Charging: ⁽¹⁾
- 3.4.3. Operating mode switch: with/without ⁽¹⁾
- 3.4.3.1. Selectable modes
- 3.4.3.1.1. Pure electric: yes/no ⁽¹⁾
- 3.4.3.1.2. Pure fuel consuming: yes/no ⁽¹⁾
- 3.4.3.1.3. Hybrid modes: yes/no ⁽¹⁾
(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 (¹)
- 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 (¹)
- 3.4.5.3.1. When used as traction motor: single-/multimotors (number) (¹):
- 3.4.5.4. Maximum power: kW
- 3.4.5.5. Working principle
- 3.4.5.5.1 Direct current/alternating current/number of phases:.....
- 3.4.5.5.2. Separate excitation/series/compound (¹)
- 3.4.5.5.3. Synchronous/asynchronous (¹)
- 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:
- 3.4.8. Vehicle electric range..... km according to Annex 7 of Regulation No. 101): .
- 3.4.9. Manufacturer's recommendation for preconditioning:

- 3.5. CO₂ emissions/fuel consumption (⁰) (manufacturer's declared value)
 - 3.5.1. CO₂ mass emissions
 - 3.5.1.1. CO₂ mass emissions (urban conditions): g/km
 - 3.5.1.2. CO₂ mass emissions (extra-urban conditions): g/km
 - 3.5.1.3. CO₂ mass emissions (combined): g/km
 - 3.5.2. Fuel consumption (provide details for each reference fuel tested)
 - 3.5.2.1. Fuel consumption (urban conditions): l/100 km / m³/100 km (¹)
 - 3.5.2.2. Fuel consumption (extra-urban conditions): l/100 km / m³/100 km (¹)
 - 3.5.2.3. Fuel consumption (combined): l/100 km / m³/100 km (¹)
- 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 (†)	Speed B (†)	Speed C (†)	Ref. speed (††)
P(a) Auxiliaries needed for operating the engine (to be subtracted from measured engine power) see Appendix 1, Section 6.1.							
(†) ESC test (††) 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.) (¹)

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 (¹)

3.8.4.1. Drawing(s):.....or

3.8.4.1.1. Make(s):.....

3.8.4.1.2. Type(s):.....

4. TRANSMISSION ^(P)

- 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)) ⁽¹⁾
- 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 ^(†)			
1			
2			
3			
...			
Minimum for CVT ^(†)			
Reverse			
^(†) Continuously variable transmission			

- 4.7. Maximum vehicle design speed (in km/h) ⁽⁹⁾:

- 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 (¹)
- 4.9.1 Approval mark:.....
- 4.10. Differential lock: yes/no/optional (¹)

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 (¹)
- 6.2.2. A brief description of the electrical/electronic components (if any):.....
- 6.2.3. Air-suspension for driving axle(s): yes/no (¹)
- 6.2.3.1. Suspension of driving axle(s) equivalent to air-suspension: yes/no (¹)
- 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 (¹)
- 6.2.4.1. Suspension of non-driving axle(s) equivalent to air-suspension: yes/no (¹)
- 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 (¹)
- 6.5. Shock absorbers: yes/no/optional (¹)
- 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)(^r);
 - (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 ³ 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:

³ OJ L 205, 6.9.1971, p 37, Directive as amended by Commission Directive 98/12/EC of 27 January 1998 (OJ L 81, 18.3.1998, p.1).

- 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 (¹) service brakes: yes/no (¹)
- 8.5. Anti-lock braking system: yes/no/optional (¹)
 - 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° 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/EEC⁴.
 - 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

⁴ OJ L 38, 11.2.1974, p.2, Directive as amended by Directive 2000/4/EC of the European Parliament and of the Council of 28 February 2000 (OJ L 87, 8.4.2000, p.22).

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 (†)	Identified by symbol (†)	Where (††)	Tell-tale available (†)	Identified by symbol (†)	Where (††)
1	Master light						
2	Dipped-beam headlamps						
3	Main-beam head lamps						
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 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						

(†) x = yes
 - = no or not separately available
 o = optional.

(††) 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 (†)	Identified by symbol (†)	Where (++)	Tell-tale available (†)	Identified by symbol (†)	Where (++)
1	Parking brake						
2	Rear window wiper						
3	Rear window washer						
4	Rear window wiper and washer						
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						
...							
...							
...							

(†) x = yes
 - = no or not separately available
 o = optional.

(++) d = directly on control, indicator or tell-tale
 c = in close vicinity.

9.10.3.	Seats
9.10.3.1.	Number of seating positions (⁸):
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 (¹)
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 (¹)
 - 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 ⁽¹⁾ material, number of layers ⁽¹⁾:.....
 - 9.10.7.1.2.3. Type of coating ⁽¹⁾:.....
 - 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 ⁽¹⁾ material, number of layers ⁽¹⁾:.....
 - 9.10.7.2.2.3. Type of coating ⁽¹⁾:.....
 - 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 ⁽¹⁾ material, number of layers ⁽¹⁾:.....

- 9.10.7.3.2.3. Type of coating ⁽¹⁾:.....
- 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 ⁽¹⁾ material, number of layers ⁽¹⁾:.....
 - 9.10.7.4.2.3. Type of coating ⁽¹⁾:.....
 - 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 ⁽¹⁾ material, number of layers ⁽¹⁾:.....
 - 9.10.7.5.2.3. Type of coating ⁽¹⁾:.....
 - 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 ⁽¹⁾ material, number of layers ⁽¹⁾:.....
 - 9.10.7.6.2.3. Type of coating ⁽¹⁾:.....
 - 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 (¹) material, number of layers (¹):.....
- 9.10.7.7.3.3. Type of coating (¹):.....
- 9.10.7.7.3.4. 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. (¹)
- 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 (¹)
- 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)

		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 (+)	L			
	C			
	R			

(+) 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 (+)	L			
	C			
	R			

(+) 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 (u) 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 Upper anchorages	outboard inboard		
Centre seat	Lower anchorages Upper anchorages	right left		
Left-hand seat	Lower anchorages Upper anchorages	outboard inboard		
Second row of seats (†)				
Right-hand seat	Lower anchorages Upper anchorages	outboard inboard		
Centre seat	Lower anchorages Upper anchorages	right left		
Left-hand seat	Lower anchorages Upper anchorages	outboard inboard		

(†) 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 x width):
 - 9.14.6. Inclination of the plane to the vertical:
 - 9.14.7. Angle of visibility in the horizontal plane:

- 9.15. Rear underrun protection
 - 9.15.0. Presence: yes/no/incomplete (¹)
 - 9.15.1. Drawing of the vehicle parts relevant to the rear underrun 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 underrun protection. If the underrun 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 underrun 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 ⁵
 - 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.):.....

⁵ OJ L 24, 30.1.1976, p.1.

- 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 (¹)
- 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 (¹)
- 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 underrun protection
- 9.22.0. Presence: yes/no/incomplete (¹)
- 9.22.1. Drawing of the vehicle parts relevant to the front underrun protection, i.e. drawing of the vehicle and/or chassis with position and mounting and/or fitting of the front underrun protection. If the underrun 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 underrun 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.
- 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:

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/EEC⁶ 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. UNECE Regulation No 48⁷:
 - 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:

⁶ OJ L 262, 27.9.1976, p.1, Directive as last amended by Commission Directive 2007/35/EC of 18.6.2007 (OJ L 157, 19.6.2007, p.14).

⁷ OJ L 137, 30.5.2007, p.1.

- 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 ⁽¹⁾ and type of headlamp levelling device (e.g. automatic, stepwise manually adjustable, continuously manually adjustable):
- 10.4.4. Control device:
- 10.4.5. Reference marks:
- 10.4.6. Marks assigned for loading conditions:
- 10.5. A brief description of electrical/electronic components other than lamps (if any):
.....

} Applicable only for vehicles with headlamp levelling device

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 ⁽¹⁾ 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 ⁽¹⁾
- 12.3.2. Rear: Hook/eye/other/none ⁽¹⁾
- 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)	max. 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/EEC⁸.

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 (¹)

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 (¹)

⁸ OJ L 152, 6.7.1972, p.15, Directive as amended by Commission Directive 2004/104/EC of 14.10.2004 (OJ L 337, 13.11.2004, p.13).

13. SPECIAL PROVISIONS FOR BUSES AND COACHES

- 13.1. Class of vehicle: Class I/Class II/Class III/Class A/Class B (¹)
- 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 (m²)
- 13.2.1. Total (S₀):
- 13.2.2. Upper deck (S_{0a}) (¹):
- 13.2.3. Lower deck (S_{0b}) (¹):
- 13.2.4. For standing passengers (S₁):
- 13.3. Number of passengers (seated and standing)
- 13.3.1. Total (N):
- 13.3.2. Upper deck (N_a) (¹):
- 13.3.3. Lower deck (N_b) (¹):
- 13.4. Number of passengers seated
- 13.4.1. Total (A):
- 13.4.2. Upper deck (A_a) (¹):
- 13.4.3. Lower deck (A_b) (¹):
- 13.4.4. Number of wheelchair positions for category M₂ and M₃ 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 (¹):
- 13.6.3. Lower deck (¹):
- 13.7. Volume of luggage compartments (m³):
- 13.8. Area of luggage transportation on the roof (m²):
- 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 ⁹ to be accomplished and demonstrated for this technical unit:.....

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

- 14.1. Electrical equipment according to Council Directive 94/55/EC ¹⁰
- 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:.....

⁹ OJ L 42, 13.2.2002, p.1.

¹⁰ OJ L 319, 12.12.1994, p.1.

- 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 (°):
- 15.3.2. Mass of the material taken into account at the dismantling step (°):.....
- 15.3.3. Mass of material taken into account at the non-metallic residue treatment step, considered as recyclable (°):
- 15.3.4. Mass of material taken into account at the non-metallic residue treatment step, considered as energy recoverable (°):.....
- 15.3.5. Materials breakdown (°):
- 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

- (¹) Delete where not applicable (there are cases where nothing needs to be deleted when more than one entry is applicable).
- (²) Specify the tolerance
- (³) Please fill in here the upper and lower values for each variant.
- (⁴) Only for the purpose of definition of off-road vehicles.
- (⁵) Set out in such a way as to make the actual value clear for each technical configuration of the vehicle type
- (⁶) Vehicles 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.

-
- (^a) 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.
 - (^b) 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??).
 - (^c) Classified according to the definitions set out in Part A of Annex II.
 - (^d) 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.
 - (^e) "Forward control" as defined in Point 2.7. of Annex I to Council Directive 74/297/EEC ¹¹.
 - (^f) 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
 - (^g) Standard ISO 612 : 1978 – Road vehicles – Dimensions of motor vehicles and towed vehicles – terms and definitions.
 - (^g¹) - Motor vehicle and drawbar trailer: term No 6.4.1.
Semi-trailer and centre-axle trailer: term No 6.4.2.

¹¹ OJ L 165, 20.6.1974, p. 16.

Note:

In the case of a centre-axle trailer, the axis of the coupling shall be considered as the foremost axle.

- (^{g2}) - term No 6.19.2.
- (^{g3}) - term No 6.20.
- (^{g4}) - term No 6.5.
- (^{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 ¹².

In the case of trailers, the lengths shall be specified as mentioned in term No 6.1.2. of Standard ISO 612 : 1978.

- (^{g6}) - term No 6.17.
- (^{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.
- (^{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.
- (^{g9}) - term No 6.6.
- (^{g10}) - term No 6.10.
- (^{g11}) - term No 6.7.
- (^{g12}) - term No 6.11.
- (^{g13}) - term No 6.18.1.
- (^{g14}) - term No 6.9.
- (^h) The mass of the driver and, if applicable, of the crew member is assessed at 75 kg (subdivided into 68 kg occupant mass and 7 kg luggage mass according to ISO Standard 2416 - 1992), the fuel tank is filled to 90 % and the other liquid containing systems (except those for used water) to 100 % of the capacity specified by the manufacturer.
- (ⁱ) 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.
- (^j) "Coupling overhang" is the horizontal distance between the coupling for centre-axle trailers and the centreline of the rear axle(s).
- (^k) 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.

¹² OJ L 233, 25.8.1997, p.1.

- (^l) This figure shall be rounded off to the nearest tenth of a millimetre.
- (^m) This value shall be calculated ($\pi = 3,1416$) and rounded off to the nearest cm³.
- (ⁿ) Determined in accordance with the requirements of Council Directive 80/1269/EEC ¹³.
- (^o) Determined in accordance with the requirements of Council Directive 80/1268/EEC ¹⁴.
- (^p) The specified particulars are to be given for any proposed variants.
- (^q) With respect to trailers, maximum speed permitted by the manufacturer.
- (^r) For tyres of category Z intended to be fitted on vehicles whose maximum speed exceeds 300 km/h equivalent information shall be provided.
- (^s) 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.
- (^t) "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 Directive 77/649/EEC ¹⁵.
- (^u) For symbols and marks to be used, see Annex III, items 1.1.3 and 1.1.4 to Council Directive 77/541/EEC ¹⁶. In the case of "S" type belts, specify the nature of the type(s).
- (^v) These terms are defined in the standard ISO 22628 : 2002 – Road vehicles – recyclability and recoverability – calculation method.

¹³ OJ L 375, 31.12.1980, p.46.

¹⁴ OJ L 375, 31.12.1980, p.36.

¹⁵ OJ L 267, 19.10.1977, p.1.

¹⁶ OJ L 220, 29.8.1977, p.95.

ANNEX III

INFORMATION DOCUMENT FOR THE PURPOSE OF EC TYPE-APPROVAL OF VEHICLES

(For explanatory notes, please refer to last page of Annex I)

PART I

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.

A. CATEGORIES M AND N

0. GENERAL

- 0.1. Make (trade name of manufacturer):
- 0.2. Type:
- 0.2.1. Commercial name(s) (if available):
- 0.3. Means of identification of type, if marked on the vehicle (^b):
- 0.3.1. Location of that marking:
- 0.4. Category of vehicle (^c):
- 0.4.1. Classification(s) according to the dangerous goods which the vehicle is intended to transport:
- 0.5. Name and address of manufacturer:
- 0.8. Name(s) and address(es) of assembly plant(s):
- 0.9. Name and address of the manufacturer's representative (if any):

1. GENERAL CONSTRUCTION CHARACTERISTICS OF THE VEHICLE

- 1.1. Photographs and/or drawings of a representative 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):
- 1.6. Position and arrangement of the engine:
- 1.8. Hand of drive: left/right (¹)
- 1.8.1. Vehicle is equipped to be driven in right/left (¹) hand traffic

2. MASSES AND DIMENSIONS (^f) (^g)

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

- 2.1. Wheelbase(s) (fully loaded) (^{g1})≠**
- 2.1.1. Two axle vehicles:**
- 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:**
- 2.3.1. Track of each steered axle (^{g4}):.....
- 2.3.2. Track of all other axles (^{g4}):.....

2.4. Range of vehicle dimensions (overall)

2.4.1. For chassis without bodywork

2.4.1.1. Length (^{g5}):

2.4.1.1.1. Maximum permissible length:

2.4.1.1.2. Minimum permissible length:

2.4.1.2. Width (^{g7}):

2.4.1.2.1. Maximum permissible width:

2.4.1.2.2. Minimum permissible width:

2.4.1.3. Height (in running order) (^{g8}) (for suspensions adjustable for height, indicate normal running position):

2.4.2. For chassis with bodywork

2.4.2.1. Length (^{g5}):

2.4.2.1.1. Length of the loading area:

2.4.2.2. Width (^{g7}):

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

2.4.2.3. Height (in running order) (^{g8}) (for suspensions adjustable for height, indicate normal running position):

2.6. Mass in running order

Mass of the vehicle with bodywork and, in the case of a towing vehicle of a category other than M₁, with coupling device, if fitted by the manufacturer, in running order, or mass of the chassis or 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, and driver and, for buses and coaches, a crew member if there is a crew seat in the vehicle) (^h) (maximum and minimum for each variant):

- 2.6.1. Distribution of this mass among the axles and, in the case of a semi-trailer or centre-axle trailer, load on the coupling point (maximum and minimum for each variant):.....
- 2.7. Minimum mass of the completed vehicle** as stated by the manufacturer, in the case of an incomplete vehicle:.....
- 2.8. Technically permissible maximum laden mass** stated by the manufacturer ⁽¹⁾ ⁽³⁾:
- 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 ⁽³⁾:.....
- 2.9. Technically permissible maximum mass on each axle:**
- 2.10. Technically permissible maximum mass on each axle group:**.....
- 2.11. Technically permissible maximum towable mass** of the motor vehicle in case of
- 2.11.1. Drawbar trailer:
- 2.11.2. Semi-trailer:
- 2.11.3. Centre-axle trailer:
- 2.11.4. Technically permissible maximum mass of the combination ⁽³⁾:
- 2.11.6. Maximum mass of unbraked trailer:.....
- 2.12. Technically permissible maximum static vertical load/mass** on the vehicle's coupling point:.....
- 2.12.1. Of the motor vehicle:
- 2.16. Intended registration/in service maximum permissible masses** (optional: where these values are given, they shall be verified in accordance with the requirements of Annex IV to Directive 97/27/EC)
- 2.16.1. Intended registration/in service maximum permissible laden mass (Several

- entries possible for each technical configuration (⁵):.....
- 2.16.2. Intended 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 (Several entries possible for each technical configuration (⁵):.....
- 2.16.3. Intended registration/in service maximum permissible mass on each axle group (Several entries possible for each technical configuration (⁵):.....
- 2.16.4. Intended registration/in service maximum permissible towable mass (Several entries possible for each technical configuration (⁵):.....
- 2.16.5. Intended registration/in service maximum permissible mass of the combination (Several entries possible for each technical configuration (⁵):.....

3. POWER PLANT (^k)

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

3.2.1.1. Working principle: positive ignition/compression ignition (¹)
Cycle: four stroke/two stroke/rotary (¹)

3.2.1.2. Number and arrangement of cylinders:

3.2.1.3. Engine capacity (^m): cm³

3.2.1.6. Normal engine idling speed (²): min⁻¹

3.2.1.8. Maximum net power (ⁿ): kW at min⁻¹ (manufacturer's declared value)

- 3.2.2.1. Light duty vehicles: Diesel / Petrol / LPG / NG or Biomethane/
Ethanol (E 85)/Biodiesel/Hydrogen ⁽¹⁾ ⁽⁶⁾
- 3.2.2.2. Heavy duty vehicles: Diesel / Petrol / LPG / NG-H/NG-L/NG-HL/
Ethanol ⁽¹⁾ ⁽⁶⁾
- 3.2.2.4. Vehicle fuel type: Mono fuel, Bi fuel, Flex fuel ⁽¹⁾
- 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:
- 3.2.3.2. Reserve fuel tank(s)
- 3.2.3.2.1. Number and capacity of each tank:
- 3.2.4. Fuel feed
- 3.2.4.1. By carburettor(s): yes/no ⁽¹⁾
- 3.2.4.2. By fuel injection (compression ignition only): yes/no ⁽¹⁾
- 3.2.4.2.2. Working principle: direct injection/pre-chamber/swirl chamber ⁽¹⁾
- 3.2.4.3. By fuel injection (positive ignition only): yes/no ⁽¹⁾
- 3.2.7. Cooling system: liquid/air ⁽¹⁾
- 3.2.8. Intake system
- 3.2.8.1. Pressure charger: yes/no ⁽¹⁾
- 3.2.8.2. Intercooler: yes/no ⁽¹⁾
- 3.2.9. Exhaust system
- 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:
- 3.2.12. Measures taken against air pollution

- 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 (¹)
 - 3.2.12.2.1.11. Regeneration systems/method of exhaust after-treatment systems, description:
 - 3.2.12.2.1.11.6. Consumable reagents: yes/no (¹)
 - 3.2.12.2.1.11.7. Type and concentration of reagent needed for catalytic action:.....
- 3.2.12.2.2. Oxygen sensor: yes/no (¹)
- 3.2.12.2.3. Air injection: yes/no (¹)
- 3.2.12.2.4. Exhaust gas recirculation: yes/no (¹)
- 3.2.12.2.5. Evaporative emissions control system: yes/no (¹)
- 3.2.12.2.6. Particulate trap: yes/no (¹)
- 3.2.12.2.7. On-board-diagnostic (OBD) system: yes/no (¹)
- 3.2.12.2.8. Other systems (description and operation):
- 3.2.12.2.9. Torque limiter: yes/no (¹)
- 3.2.13.1. Location of the absorption coefficient symbol (compression ignition engines only):.....
- 3.2.15. LPG fuelling system: yes/no (¹)
- 3.2.16. NG fuelling system: yes/no (¹)
- 3.3. Electric motor**
 - 3.3.1. Type (winding, excitation):
 - 3.3.1.1. Maximum hourly output: kW
 - 3.3.1.2. Operating voltage: V
 - 3.3.2. Battery
 - 3.3.2.4. Position:
- 3.4. Engine or motor combination**

- 3.4.1. Hybrid Electric vehicle: yes/no (¹)
- 3.4.2. Category of Hybrid Electric Vehicle: off Vehicle Charging/not Off Vehicle Charging: (¹)
- 3.6.5. Lubricant temperature

minimum: K

maximum: K

4. TRANSMISSION (^P)

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

4.5. Gearbox

4.5.1. Type (manual/automatic/CVT (continuously variable transmission)) (¹)

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 1 2 3 ... Minimum for CVT			
Reverse			

4.7. Maximum vehicle design speed (in km/h) (⁴)

4.9. Tachograph: yes/no (¹)

4.9.1 Approval mark:

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

- 6.2. Type and design of the suspension of each axle or wheel:
- 6.2.1. Level adjustment: yes/no/optional ⁽¹⁾
- 6.2.3. Air-suspension for driving axle(s): yes/no ⁽¹⁾
- 6.2.3.1. Suspension of driving axle equivalent to air-suspension: yes/no ⁽¹⁾
- 6.2.4. Air-suspension for non-driving axle(s): yes/no ⁽¹⁾
- 6.2.4.1. Suspension of non-driving axle(s) equivalent to air-suspension: yes/no ⁽¹⁾
- 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) ⁽¹⁾;
 - (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:
- etc.

7. STEERING

- 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):.....
- 7.2.3. Method of assistance, if any:

8. BRAKES

- 8.5. Anti-lock braking system: yes/no/optional (¹)
- 8.9. Brief description of the braking system according to item 1.6 of the Addendum to Appendix 1 of Annex IX 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 set out in Part C of Annex II:
- 9.3. Occupant doors, latches and hinges
- 9.3.1. Door configuration and number of doors:

- 9.9. Devices for indirect vision
 - 9.9.1. Rear-view mirrors, stating, for each rear-view mirror:
 - 9.9.1.1. Make:
 - 9.9.1.2. Type-approval mark:
 - 9.9.1.3. Variant:
 - 9.9.1.6. Optional equipment which may affect the rearward field of vision:.....
 - 9.9.2. Devices for indirect vision other than mirrors:.....
 - 9.9.2.1. Type and description of the device:.....
- 9.10. Interior arrangement
 - 9.10.3. Seats
 - 9.10.3.1. Number of seating positions (^s):
 - 9.10.3.1.1. Location and arrangement:
 - 9.10.3.2. Seat(s) designated for use only when the vehicle is stationary:
 - 9.10.4.1. Type(s) of head restraints: integrated/detachable/separate (¹)
 - 9.10.4.2. Type-approval number(s), if available:
 - 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 a global warming potential higher than 150: yes/no (¹)
 - 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 ⁽⁺⁾	L			
	C			
	R			

(⁺) 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.

9.17. 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):

9.17.4.1. 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: .

9.22. Front underrun protection

9.22.0. Presence: yes/no/incomplete (¹)

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

- 9.24. Frontal protection systems
- 9.24.1. General arrangement (drawings or photographs) indicating the position and attachment of the frontal protection systems:
- 9.24.3. Complete details of fittings required and full instructions, including torque requirements, for fitting:

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:.....
- 11.3. 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

- 12.7.1. Vehicle equipped with a 24 GHz short-range radar equipment: Yes/No ⁽¹⁾

13. SPECIAL PROVISIONS FOR BUSES AND COACHES

- 13.1. Class of vehicle: Class I/Class II/Class III/Class A/Class B (¹)
- 13.1.2. Chassis types where the type-approved bodywork can be installed (manufacturer(s), and vehicle(s) types):
- 13.3. Number of passengers (seated and standing)
 - 13.3.1. Total (N):
 - 13.3.2. Upper deck (N_a) (¹):
 - 13.3.3. Lower deck (N_b) (¹):
- 13.4. Number of passengers (seated)
 - 13.4.1. Total (A):
 - 13.4.2. Upper deck (A_a) (¹):
 - 13.4.3. Lower deck (A_b) (¹):
 - 13.4.4. Number of wheelchair positions for category M₂ and M₃ vehicles:

16. ACCESS TO VEHICLE REPAIR AND MAINTENANCE INFORMATION

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



B. CATEGORY O

0. GENERAL

- 0.1. Make (trade name of manufacturer):
- 0.2. Type:
- 0.2.1. Commercial name(s) (if available):
- 0.3. Means of identification of type, if marked on the vehicle (^b):
- 0.3.1. Location of that marking:
- 0.4. Category of vehicle (^c):
- 0.4.1. Classification(s) according to the dangerous goods which the vehicle is intended to transport:
- 0.5. Name and address of manufacturer:
- 0.8. Name(s) and address(es) of assembly plant(s):
- 0.9. Name and address of the manufacturer's representative (if any):

1. GENERAL CONSTRUCTION CHARACTERISTICS OF THE VEHICLE

- 1.1. Photographs and/or drawings of a representative 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:
- 1.4. Chassis (if any) (overall drawing):

- 2. **MASSES AND DIMENSIONS** (^f) (^g)
(in kg and mm) (Refer to drawing where applicable)
- 2.1. **Wheelbase(s) (fully loaded)** (^{g1})≠
- 2.1.1. **Two axle vehicles:**
- 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:**
- 2.3.1. Track of each steered axle (^{g4}):
- 2.3.2. Track of all other axles (^{g4}):
- 2.4. **Range of vehicle dimensions** (overall)
- 2.4.1. For chassis without bodywork
- 2.4.1.1. Length (^{g5}):
- 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 (^{g6}):
- 2.4.1.2. Width (^{g7}):
- 2.4.1.2.1. Maximum permissible width:
- 2.4.1.2.2. Minimum permissible width:
- 2.4.2. For chassis with bodywork
- 2.4.2.1. Length (^{g5}):
- 2.4.2.1.1. Length of the loading area:
- 2.4.2.1.2. In the case of trailers, maximum permissible drawbar length (^{g6}):
- 2.4.2.2. Width (^{g7}):
- 2.4.2.2.1. Thickness of the walls (in the case of vehicles designed for controlled-temperature transport of goods):

2.4.2.3. Height (in running order) (^{g8}) (for suspension adjustable for height, indicate normal running position):

2.6. Mass in running order

Mass of the vehicle with bodywork and, in the case of a towing vehicle of a category other than M₁, with coupling device, if fitted by the manufacturer, in running order, or mass of the chassis or 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, and driver and, for buses and coaches, a crew member if there is a crew seat in the vehicle) (^h) (maximum and minimum for each variant):.....

2.6.1. Distribution of this mass among the axles and, in the case of a semi-trailer or centre-axle trailer, load on the coupling point (maximum and minimum for each variant):.....

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

2.8. Technically permissible maximum laden mass stated by the manufacturer (ⁱ) (³):

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 (³):.....

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

2.10. Technically permissible maximum mass on each axle group:.....

2.12. Technically permissible maximum static vertical load/mass on the vehicle's coupling point

2.12.2. Of the semi-trailer or centre-axle trailer:.....

- 2.16. Intended registration/in service maximum permissible masses** (optional: where these values are given, they shall be verified in accordance with the requirements of Annex IV to Directive 97/27/EC)
- 2.16.1. Intended registration/in service maximum permissible laden mass (Several entries possible for each technical configuration ⁽⁵⁾):.....
- 2.16.2. Intended 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 (Several entries possible for each technical configuration ⁽⁵⁾):.....
- 2.16.3. Intended registration/in service maximum permissible mass on each axle group (Several entries possible for each technical configuration ⁽⁵⁾):.....
- 2.16.4. Intended registration/in service maximum permissible towable mass (Several entries possible for each technical configuration ⁽⁵⁾):.....
- 2.16.5. Intended registration/in service maximum permissible mass of the combination (Several entries possible for each technical configuration ⁽⁵⁾):.....

4. TRANSMISSION

- 4.7. Maximum vehicle design speed (in km/h) ⁽⁴⁾

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

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

6.2.1. Level adjustment: yes/no/optional (¹)

6.2.4. Air-suspension for non-driving axle(s): yes/no (¹)

6.2.4.1. Suspension of non-driving axle(s) equivalent to air-suspension: yes/no (¹)

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) (^f);

(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 limit of rolling radii

6.6.2.1. Axle 1:

6.6.2.2. Axle 2:

etc.

7. STEERING

7.2. Transmission and control

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

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

7.2.3. Method of assistance, if any:

8. BRAKES

8.5. Antilock braking system: yes/no/optional (¹)

8.9. Brief description of the braking system, according to item 1.6. of the addendum to Appendix 1 of Annex IX to Directive 71/320/EEC:

9. BODYWORK

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

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):

9.17.4.1. 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:..

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:.....

11.5. Type-approval number(s):

PART II

Matrix showing the combinations of the entries listed in Part I within the versions and variants of the vehicle type

Item No	All	Version 1	Version 2	Version 3	Version n

Notes:

- (a) A separate matrix shall be compiled for each variant within the type.
- (b) Entries for which there are no restrictions on their combination within a variant shall be listed in the column headed "all".
- (c) The above information may be presented in an alternative layout or merged with the information supplied in Part I.
- (d) Each variant and each version shall be identified by an alphanumerical code consisting of a combination of letters and numbers, which shall also be indicated in the certificate of conformity (Annex IX) of the vehicle concerned.
- (e) Variant(s) which fall(s) under Annex XI shall be identified by a specific alphanumerical code.

PART III

Type-approval numbers

Supply the information required by the following table in respect of the applicable subjects for this vehicle in Annex IV or Annex XI. (All relevant approvals for each subject shall be included. However, information in respect of components need not be given here so long as such information is included in the approval certificate relating to the installation prescriptions).

Subject	Type-approval number or test report number ⁽⁺⁺⁺⁾	Member State or Contracting Party ⁽⁺⁾ issuing the type-approval ⁽⁺⁺⁾ or test report ⁽⁺⁺⁺⁾	Extension date	Variant(s) / Version(s)

⁽⁺⁾ Contracting Parties to the Revised 1958 Agreement.

⁽⁺⁺⁾ To be indicated if not obtainable from the type-approval number.

⁽⁺⁺⁺⁾ To be indicated when the manufacturer applies the provisions of Article 9 (6). In such a case, the applied regulatory act shall be specified in the second column.

Signed:.....

Position in company:.....

Date:

ANNEX V

PROCEDURES TO BE FOLLOWED WITH RESPECT TO EC TYPE-APPROVAL

0. Objectives and scope

- 0.1. This Annex establishes the procedures for the proper operation of the vehicle type-approval in accordance with the provisions of Article 9.
- 0.2. It also includes:
- (a) the list of international standards which are of relevance for the designation of the technical services in accordance with Article 41;
 - (b) the description of the procedure to be followed for the assessment of the skills of technical services in accordance with Article 42;
 - (c) the general requirements for the drafting of test reports by technical services.

1. Type-approval process

When receiving an application for vehicle type-approval, the approval authority shall:

- (a) verify that all EC type-approval certificates issued pursuant to the regulatory acts which are applicable for vehicle type-approval cover the vehicle type and correspond to the prescribed requirements;
- (b) by reference to the documentation make sure that the vehicle specifications and data contained in Part I of the vehicle information document are included in the data in the information packages and in the EC type-approval certificates in respect of the relevant regulatory acts;
- (c) when an item number in Part I of the information document is not included in the information package of any of the regulatory acts, confirm that the relevant part or characteristic conforms to the particulars in the information folder;
- (d) on a selected sample of vehicles from the type to be approved carry out or arrange to be carried out inspections of vehicle parts and systems to verify that the vehicle(s) is/are built in accordance with the relevant data contained in the authenticated information package in respect of the relevant EC type-approval certificates;
- (e) carry out or arrange to be carried out relevant installation checks in respect of separate technical units where applicable;
- (f) carry out or arrange to be carried out necessary checks in respect of the presence of the devices provided for in footnotes (1) and (2) of Part I of Annex IV where applicable;
- (g) carry out or arrange to be carried out necessary checks in order to ensure that the requirements provided for in footnote (5) of Part I of Annex IV are fulfilled.

2. Combination of technical specifications

The number of vehicles to be submitted shall be sufficient to permit the proper check of the various combinations to be type-approved according to the following criteria:

Technical specifications	Vehicle category									
	M ₁	M ₂	M ₃	N ₁	N ₂	N ₃	O ₁	O ₂	O ₃	O ₄
Engine	X	X	X	X	X	X	-	-	-	-
Gear box	X	X	X	X	X	X	-	-	-	-
Number of axles	-	X	X	X	X	X	X	X	X	X
Powered axles (number, position, interconnection)	X	X	X	X	X	X	-	-	-	-
Steered axles (number and position)	X	X	X	X	X	X	X	X	X	X
Body styles	X	X	X	X	X	X	X	X	X	X
Number of doors	X	X	X	X	X	X	X	X	X	X
Hand of drive	X	X	X	X	X	X	-	-	-	-
Number of seats	X	X	X	X	X	X	-	-	-	-
Level of equipment	X	X	X	X	X	X	-	-	-	-

3. Specific provisions

Where no approval certificates for any of the relevant regulatory acts are available, the approval authority shall:

- (a) arrange for the necessary tests and checks as required by each of the relevant regulatory acts;
- (b) verify that the vehicle conforms to the particulars in the vehicle information folder and that it meets the technical requirements of each of the relevant regulatory acts;
- (c) carry out or arrange to be carried out relevant installation checks in respect of separate technical units where applicable;
- (d) carry out or arrange to be carried out necessary checks in respect of the presence of the devices provided for in footnotes (1) and (2) of Part I of Annex IV where applicable;
- (e) carry out or arrange to be carried out necessary checks in order to ensure that the requirements provided for in footnote (5) of Part I of Annex IV are fulfilled.

Appendix 1

Standards with which the entities referred to in Article 41 have to comply

1. Activities related to testing for type-approval, to be carried out in accordance with the regulatory acts listed in Annex IV:
 - 1.1. Category A (tests performed in own facilities):

EN ISO/IEC 17025: 2005 on the general requirements for the competence of testing and calibration laboratories.

A technical service designated for category A activities may carry out or supervise the tests provided for in the regulatory acts for which it has been designated, in the facilities of a manufacturer or of a third party.
 - 1.2. Category B (supervising of tests performed in the manufacturer's facilities or in the facilities of a third party):

EN ISO/IEC 17020: 2004 on the general criteria for the operation of various types of bodies performing inspection.

Before performing or supervising any test in the facilities of a manufacturer or of a third party, the technical service shall check that the tests facilities and measurement devices comply with the appropriate requirements of the standard referred to in point 1.1.
2. Activities related to Conformity of Production
 - 2.1. Category C (procedure for the Initial Assessment and surveillance audits of the manufacturer's quality management system):

EN ISO/IEC 17021:2006 on the requirements for bodies providing audit and certification of management systems.
 - 2.2. Category D (inspection or testing of production samples or supervision thereof):

EN ISO/IEC 17020:2004 on the general criteria for the operation of various types of bodies performing inspection.

Procedure for the assessment of the technical services

1. Purpose of this Appendix

- 1.1. This Appendix establishes the conditions according to which the assessment procedure of the technical services shall be conducted by the competent authority referred to in Article 42.
- 1.2. These requirements shall apply *mutatis mutandis* to all technical services, irrespective of their legal status (independent organisation, manufacturer or approval authority acting as technical service).

2. Principles of assessing

Assessing shall be characterised by reliance on a number of principles:

- independence which is the basis for the impartiality and objectivity of the conclusions,
- an evidence-base approach which guarantees reliable and reproducible conclusions.

Auditors shall show trust and integrity. They shall respect confidentiality and discretion.

They shall report truthfully and accurately findings and conclusions.

3. Skills required of the auditors

- 3.1. The assessments may only be conducted by auditors having the technical and administrative knowledge necessary for such purposes.
- 3.2. The auditors shall have been trained specifically for assessment activities. In addition, they shall have the specific knowledge of the technical area in which the technical service will exercise its activities.
- 3.3. Without prejudice to points 3.1 and 3.2 of this Appendix, the assessment referred to in Article 42 shall be conducted by auditors independent of the activities for which the assessment is conducted.

4. Application for designation

- 4.1. A duly authorised representative of the applicant technical service shall make a formal application to the competent authority that includes the following:
 - (a) general features of the technical service, including corporate entity, name, addresses, legal status and technical resources;
 - (b) a detailed description including curriculum vitae of the personnel in charge of testing and of the managerial staff as evidenced by the skills both educational and professional;

- (c) in addition to the above, technical services which use virtual testing methods shall provide evidence of their ability to work in a Computer-Aided-x environment;
- (d) general information concerning the technical service such as its activities, its relationship in a larger corporate entity if any, and addresses of all its physical location(s) to be covered by the scope of designation;
- (e) an agreement to fulfil the requirements for designation and the other obligations of the technical service as applicable in the relevant directives;
- (f) a description of the conformity assessment services that the technical service undertakes in the framework of the applicable regulatory acts and a list of the regulatory acts for which the technical service applies for designation, including limits of capability where applicable;
- (g) a copy of the quality manual of the technical service.

4.2. The competent authority shall review for adequacy the information supplied by the technical service.

5. Resource review

The competent authority shall review its ability to carry out the assessment of the technical service, in terms of its own policy, its competence and the availability of suitable auditors and experts.

6. Subcontracting the assessment

6.1. The competent authority may subcontract parts of the assessment to another designation authority or ask for support from technical experts provided by other competent authorities. The subcontractors and experts have to be accepted by the applicant technical service.

6.2. The competent authority shall take into account accreditation certificates with adequate scope in order to complete its global assessment of the technical service.

7. Preparation for assessment

7.1. The competent authority shall formally appoint an assessment team. The former shall ensure that the expertise brought to each assignment is appropriate. In particular, the team as a whole:

- (a) shall have appropriate knowledge of the specific scope for which designation is sought, and
- (b) shall have understanding sufficient to make a reliable assessment of the competence of the technical service to operate within its scope of designation.

7.2. The competent authority shall clearly define the assignment given to the assessment team. The task of the assessment team is to review the documents collected from the applicant technical service and to conduct the on-site assessment.

- 7.3. The competent authority shall agree, together with the technical service and the assigned assessment team, to the date and schedule for the assessment. However, it remains the responsibility of the competent authority to pursue a date that is in accordance with the surveillance and reassessment plan.
- 7.4. The competent authority shall ensure that the assessment team is provided with the appropriate criteria documents, previous assessment records, and the relevant documents and records of the technical service.

8. On-Site Assessment

The assessment team shall conduct the assessment of the technical service at the premises of the technical service from which one or more key activities are performed and, where relevant, shall perform witnessing at other selected locations where the technical service operates.

9. Analysis of findings and assessment report

- 9.1. The assessment team shall analyse all relevant information and evidence gathered during the document and record review and the on-site assessment. This analysis shall be sufficient to allow the team to determine the extent of competence and conformity of the technical service with the requirements for designation.
- 9.2. The competent authority's reporting procedures shall ensure that the following requirements are fulfilled.
 - 9.2.1. A meeting shall take place between the assessment team and the technical service prior to leaving the site. At this meeting, the assessment team shall provide a written and/or oral report on its findings obtained from the analysis. An opportunity shall be provided for the technical service to ask questions about the findings, including nonconformities, if any, and their basis.
 - 9.2.2. A written report on the outcome of the assessment shall be promptly brought to the attention of the technical service. This assessment report shall contain comments on competence and conformity, and shall identify nonconformities, if any, to be resolved in order to conform to all of the requirements for designation.
 - 9.2.3. The technical service shall be invited to respond to the assessment report and to describe the specific actions taken or planned to be taken, within a defined time, to resolve any identified nonconformities.
- 9.3. The competent authority shall ensure that the responses of the technical service to resolve nonconformities are reviewed to see if the actions appear to be sufficient and effective. If the technical service responses are found not to be sufficient, further information shall be requested. Additionally, evidence of effective implementation of actions taken may be requested, or a follow-up assessment may be carried out to verify effective implementation of corrective actions.
- 9.4. The assessment report shall include, as a minimum the following:
 - (a) unique identification of the technical service;
 - (b) date(s) of the on-site assessment;
 - (c) name(s) of the auditors(s) and/or experts involved in the assessment;

- (d) unique identification of all premises assessed;
- (e) proposed scope of designation that was assessed;
- (f) a statement on the adequacy of the internal organisation and procedures adopted by the technical service to give confidence in its competence, as determined through its fulfilment of the requirements for designation;
- (g) information on the resolution of all nonconformities;
- (h) a recommendation of whether the applicant should be designated or confirmed as technical service and, if so, the scope of designation.

10. Granting/confirming a designation

- 10.1. The approval authority shall, without undue delay, make the decision on whether to grant, confirm or extend designation on the basis of the report(s) and any other relevant information.
- 10.2. The approval authority shall provide a certificate to the technical service. This certificate shall identify the following:
 - (a) the identity and logo of the approval authority;
 - (b) the unique identity of the designated technical service;
 - (c) the effective date of granting of designation and the expiry date;
 - (d) a brief indication of or a reference to the scope of designation (applicable directives, regulations or part of them);
 - (e) a statement of conformity and a reference to the present directive.

11. Reassessment and surveillance

- 11.1. Reassessment is similar to an initial assessment except that experience gained during previous assessments shall be taken into account. Surveillance on-site assessments are less comprehensive than reassessments.
- 11.2. The competent authority shall design its plan for reassessment and surveillance of each designated technical service so that representative samples of the scope of designation are assessed on a regular basis.

The interval between on-site assessments, whether reassessment or surveillance, depends on the proven stability that the technical service has reached.
- 11.3. When, during surveillance or reassessments, nonconformities are identified, the competent authority shall define strict time limits for corrective actions to be implemented.
- 11.4. When the corrective or improvement actions have not been taken within the agreed timeframe or are not deemed to be sufficient, the competent authority shall adopt appropriate measures such as, conducting a further assessment, suspending/withdrawing the designation for one or more of the activities for which the technical service has been designated.
- 11.5. When the competent authority decides to suspend or withdraw the designation of a technical service, it shall inform the latter by registered mail. In any case, the competent authority shall adopt all the necessary measures to ensure the continuity of the activities already undertaken by the technical service.

12. Records on designated technical services

- 12.1. The competent authority shall maintain records on technical services to demonstrate that requirements for designation, including competence, have been effectively fulfilled.
- 12.2. The competent authority shall keep the records on technical services secure to ensure confidentiality.
- 12.3. Records on technical services shall include at least the following:
 - (a) relevant correspondence;
 - (b) assessment records and reports;
 - (c) copies of designation certificates.

Appendix 3

General requirements concerning the format of the test reports

1. For each of the regulatory acts listed in Part I of Annex IV, the test report shall comply with the provisions of Standard EN ISO/IEC 17025 : 2005. In particular it shall include the information mentioned in point 5.10.2, including footnote (1) of that Standard.
2. The template of the test reports shall be laid down by the approval authority in accordance with its rules of good practice.
3. The test report shall be drafted in the official language of the Community determined by the approval authority.
4. Moreover it shall include at least the following information:
 - (a) the identification of the vehicle, component or separate technical unit tested;
 - (b) a detailed description of the vehicle, component or separate technical unit characteristics in connection with the regulatory act;
 - (c) the results of the measurements specified in the relevant regulatory acts and, when required, the limits or thresholds which are to be met;
 - (d) in regard to each measurement mentioned in point 4(c) the relevant decision: passed or failed;
 - (e) a detailed statement of compliance with the various provisions which are to be met, i.e. such provisions for which it is not required to make measurement.

Example from Section 3.2.2 of Annex I of Directive 76/114/EEC:

“Check that the vehicle identification number is placed in such a way that it cannot be obliterated or deteriorate”

The report shall include a statement such as: “the place of stamping the vehicle identification number fulfils the requirements of Section 3.2.2 of Annex I”;

- (f) when test methods other than those prescribed in the regulatory acts are permitted the report shall include a description of the test method used for performing the test. The same applies when alternative provisions in the regulatory acts may be used;
- (g) pictures taken during testing, the number of which shall be decided by the approval authority.
In the case of virtual testing, screen prints or other suitable evidence may replace pictures;
- (h) conclusions drawn up;
- (i) when opinions and interpretations have been made, they shall be documented properly and marked as such in the test report.

5. When the tests are conducted on a vehicle, component or technical unit that combines a number of most unfavourable features with regard to the required level of performance to be achieved (i.e. the worst-case), the test report shall include a reference stating how the selection has been made by the manufacturer in agreement with the approval authority.'