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ANNEX IX

VERIFYING TRUCK AUXILIARY DATA

2. Definitions

For the purposes of this Annex the following definitions shall apply:

- (1) 'Crankshaft mounted fan' means a fan installation where the fan is driven in the prolongation of the crankshaft, often by a flange;
- (2) 'Belt or transmission driven fan' means a fan that is installed in a position where additional belt, tension system or transmission is needed;
- (3) 'Hydraulic driven fan' means a fan propelled by hydraulic oil, often installed away from the engine. A hydraulic system with oil system, pump and valves are influencing losses and efficiencies in the system;
- (4) 'Electrically driven fan' means a fan propelled by an electric motor. The efficiency for complete energy conversion, included in/out from battery, is considered;
- (5) 'Electronically controlled visco clutch' means a clutch in which a number of sensor inputs together with SW logic are used to electronically actuate the fluid flow in the visco clutch;
- (6) 'Bimetallic controlled visco clutch' means a clutch in which a bimetallic connection is used to convert a temperature change into mechanical displacement. The mechanical displacement is then working as an actuator for the visco clutch;
- (7) 'Discrete step clutch' means a mechanical device where the grade of actuation can be made in distinct steps only (not continuous variable).
- (8) 'On/off clutch' means a mechanical clutch which is either fully engaged or fully disengaged;
- (9) 'Variable displacement pump' means a device that converts mechanical energy to hydraulic fluid energy. The amount of fluid pumped per revolution of the pump can be varied while the pump is running;
- (10) 'Constant displacement pump' means a device that converts mechanical energy to hydraulic fluid energy. The amount of fluid pumped per revolution of the pump cannot be varied while the pump is running;
- (11) 'Electric motor control' means the use of an electric motor to propel the fan. The electrical machine converts electrical energy into mechanical energy. Power and speed are controlled by conventional technology for electric motors;
- (12) 'Fixed displacement pump (default technology)' means a pump having an internal limitation of the flow rate;
- (13) 'Fixed displacement pump with electronic control' means a pump using an electronic control of the flow rate;
- (14) 'Dual displacement pump' means a pump with two chambers (with the same or different displacement) which can be combined or only one of these is used. It is characterised by an internal limitation of flow rate;

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- (15) ‘Variable displacement pump mech. controlled’ means a pump where the displacement is mechanically controlled internally (internal pressure scales);
- (16) ‘Variable displacement pump elec. controlled’ means a pump where the displacement is mechanically controlled internally (internal pressure scales). Additionally, the flow rate is elec. controlled by a valve;
- (17) [^{F1}‘Electric steering pump’ means a hydraulic pump driven by an electric motor;]
- (18) ‘Baseline air compressor’ means a conventional air compressor without any fuel saving technology;
- (19) ‘Air compressor with Energy Saving System (ESS)’ means a compressor reducing the power consumption during blow off, e.g. by closing intake side, ESS is controlled by system air pressure;
- (20) ‘Compressor clutch (visco)’ means a disengageable compressor where the clutch is controlled by the system air pressure (no smart strategy), minor losses during disengaged state caused by visco clutch;
- (21) ‘Compressor clutch (mechanically)’ means a disengageable compressor where the clutch is controlled by the system air pressure (no smart strategy);
- (22) ‘Air Management System with optimal regeneration (AMS)’ means an electronic air processing unit that combines an electronically controlled air dryer for optimized air regeneration and an air delivery preferred during overrun conditions (requires a clutch or ESS).
- (23) ‘Light Emitting Diodes (LED)’ mean semiconductor devices that emit visible light when an electrical current passes through them.
- (24) ‘Air conditioning system’ means a system consisting of a refrigerant circuit with compressor and heat exchangers to cool down the interior of a truck cab or bus body.
- (25) ‘Power take-off (PTO)’ means a device on a transmission or an engine to which an auxiliary driven device, e.g., a hydraulic pump, can be connected; a power take-off is usually optional;
- (26) ‘Power take-off drive mechanism’ means a device in a transmission that allows the installation of a power take-off (PTO);
- (27) ‘Tooth clutch’ means a (manoeuvrable) clutch where torque is transferred mainly by normal forces between mating teeth. A tooth clutch can either be engaged or disengaged. It is operated in load-free conditions only (e.g. at gear shifts in a manual transmission);
- (28) ‘Synchroniser’ means a type of tooth clutch where a friction device is used to equalise the speeds of the rotating parts to be engaged;
- (29) ‘Multi-disc clutch’ means a clutch where several friction linings are arranged in parallel whereby all friction pairs get the same pressing force. Multi-disc clutches are compact and can be engaged and disengaged under load. They may be designed as dry or wet clutches;
- (30) ‘Sliding wheel’ means a gearwheel used as shift element where the shifting is realized by moving the gearwheel on its shaft into or out of the gear mesh of the mating gear.

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Textual Amendments

- F1** Substituted by [Commission Regulation \(EU\) 2019/318 of 19 February 2019 amending Regulation \(EU\) 2017/2400 and Directive 2007/46/EC of the European Parliament and of the Council as regards the determination of the CO₂ emissions and fuel consumption of heavy-duty vehicles \(Text with EEA relevance\).](#)

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Changes and effects yet to be applied to the whole legislation item and associated provisions

- Signature words omitted by [S.I. 2022/1273 reg. 82\(18\)](#)
- Annex 5 Appendix 6 point 1.3 substituted by [S.I. 2022/1273 reg. 83\(4\)\(b\)\(i\)](#)
- Annex 5 Appendix 6 point 1.4.1 image substituted by [S.I. 2022/1273 reg. 83\(4\)\(b\)\(iii\)\(aa\)](#)
- Annex 5 Appendix 6 point 1.5.1 image substituted by [S.I. 2022/1273 reg. 83\(4\)\(b\)\(iv\)\(aa\)](#)
- Annex 5 Appendix 4 point 7.4 word substituted by [S.I. 2022/1273 reg. 83\(4\)\(a\)](#)
- Annex 5 Appendix 6 point 2.1 word substituted by [S.I. 2022/1273 reg. 83\(4\)\(b\)\(v\)](#)
- Annex 5 Appendix 6 point 1.4.1 words omitted by [S.I. 2022/1273 reg. 83\(4\)\(b\)\(iii\)\(bb\)](#)
- Annex 5 Appendix 6 point 1.5.1 words omitted by [S.I. 2022/1273 reg. 83\(4\)\(b\)\(iv\)\(bb\)](#)
- Annex 5 Appendix 6 point 1.4 words substituted by [S.I. 2022/1273 reg. 83\(4\)\(b\)\(ii\)](#)
- Annex 5 Appendix 6 point 2.1 table words substituted by [S.I. 2022/1273 reg. 83\(4\)\(b\)\(vi\)](#)
- Annex 10 Appendix 4 point 1.1 word substituted by [S.I. 2022/1273 reg. 83\(8\)\(d\)\(i\)](#)
- Annex 10 Appendix 1 words substituted by [S.I. 2022/1273 reg. 83\(8\)\(c\)](#)
- Annex 10 Appendix 4 point 1.1 table words substituted by [S.I. 2022/1273 reg. 83\(8\)\(d\)\(ii\)](#)
- Annex 7 Appendix 5 point 1.3 substituted by [S.I. 2022/1273 reg. 83\(6\)\(c\)\(i\)](#)
- Annex 7 Appendix 5 point 1.4.1 image substituted by [S.I. 2022/1273 reg. 83\(6\)\(c\)\(iii\)\(aa\)](#)
- Annex 7 Appendix 1s. 1 point 000.5 word substituted by [S.I. 2022/1273 reg. 83\(6\)\(b\)\(ii\)](#)
- Annex 7 Appendix 1 words inserted by [S.I. 2022/1273 reg. 83\(6\)\(b\)\(i\)\(aa\)](#)
- Annex 7 Appendix 1 words omitted by [S.I. 2022/1273 reg. 83\(6\)\(b\)\(i\)\(bb\)](#)
- Annex 7 Appendix 5 point 1.4.1 words omitted by [S.I. 2022/1273 reg. 83\(6\)\(c\)\(iii\)\(bb\)](#)
- Annex 7 Appendix 5 point 1.4 words substituted by [S.I. 2022/1273 reg. 83\(6\)\(c\)\(ii\)](#)
- Annex 7 Appendix 5 point 2.1 words substituted by [S.I. 2022/1273 reg. 83\(6\)\(c\)\(iv\)](#)
- Annex 7 Appendix 5 point 2.1 table words substituted by [S.I. 2022/1273 reg. 83\(6\)\(c\)\(v\)](#)
- Annex 8 Appendix 8 point 1.3 substituted by [S.I. 2022/1273 reg. 83\(7\)\(d\)\(i\)](#)
- Annex 8 Appendix 8 point 1.4.1 image substituted by [S.I. 2022/1273 reg. 83\(7\)\(d\)\(iii\)\(aa\)](#)
- Annex 8 Appendix 4 table 11 word omitted by [S.I. 2022/1273 reg. 83\(7\)\(c\)\(i\)](#)
- Annex 8 Appendix 4 table 13 word omitted by [S.I. 2022/1273 reg. 83\(7\)\(c\)\(i\)](#)
- Annex 8 Appendix 4 table 15 word omitted by [S.I. 2022/1273 reg. 83\(7\)\(c\)\(ii\)\(aa\)](#)
- Annex 8 Appendix 4 table 15 word omitted by [S.I. 2022/1273 reg. 83\(7\)\(c\)\(ii\)\(bb\)](#)
- Annex 8 Appendix 1s. 1 point 000.6 word substituted by [S.I. 2022/1273 reg. 83\(7\)\(b\)\(ii\)](#)
- Annex 8 Appendix 8 point 2.1 word substituted by [S.I. 2022/1273 reg. 83\(7\)\(d\)\(iv\)](#)
- Annex 8 Appendix 1 words inserted by [S.I. 2022/1273 reg. 83\(7\)\(b\)\(i\)\(aa\)](#)
- Annex 8 Appendix 1 words omitted by [S.I. 2022/1273 reg. 83\(7\)\(b\)\(i\)\(bb\)](#)
- Annex 8 Appendix 8 point 1.4.1 words omitted by [S.I. 2022/1273 reg. 83\(7\)\(d\)\(iii\)\(bb\)](#)
- Annex 8 Appendix 8 point 1.4 words substituted by [S.I. 2022/1273 reg. 83\(7\)\(d\)\(ii\)](#)
- Annex 8 Appendix 8 point 2.1 table words substituted by [S.I. 2022/1273 reg. 83\(7\)\(d\)\(v\)](#)

- Annex 2 Appendix 2s. 2 point 2 omitted by S.I. 2022/1273 reg. 83(2)(b)(ii)
- Annex 2 Appendix 2 words inserted by S.I. 2022/1273 reg. 83(2)(b)(i)
- Annex 6 Appendix 7 point 1.3 substituted by S.I. 2022/1273 reg. 83(5)(e)(i)
- Annex 6 Appendix 7 point 1.5 image substituted by S.I. 2022/1273 reg. 83(5)(e)(iii)(aa)
- Annex 6 Appendix 7 point 2.1 word substituted by S.I. 2022/1273 reg. 83(5)(e)(iv)
- Annex 6 Appendix 1 words omitted by S.I. 2022/1273 reg. 83(5)(c)
- Annex 6 Appendix 7 point 1.5 words omitted by S.I. 2022/1273 reg. 83(5)(e)(iii)(bb)
- Annex 6 Appendix 2 point 8 words substituted by S.I. 2022/1273 reg. 83(5)(d)
- Annex 6 Appendix 3 point 8 words substituted by S.I. 2022/1273 reg. 83(5)(d)
- Annex 6 Appendix 4 point 8 words substituted by S.I. 2022/1273 reg. 83(5)(d)
- Annex 6 Appendix 5 point 8 words substituted by S.I. 2022/1273 reg. 83(5)(d)
- Annex 6 Appendix 7 point 1.4 words substituted by S.I. 2022/1273 reg. 83(5)(e)(ii)
- Annex 6 Appendix 7 point 2.1 table words substituted by S.I. 2022/1273 reg. 83(5)(e)(v)
- Art. 3(5) omitted by S.I. 2022/1273 reg. 82(4)(a)
- Art. 3(16) words substituted by S.I. 2022/1273 reg. 82(4)(b)
- Art. 3(20) words substituted by S.I. 2022/1273 reg. 82(4)(c)
- Art. 10(1a) inserted by S.I. 2022/1273 reg. 82(8)(b)
- Annex 10a para. 3(f) words inserted by S.I. 2022/1273 reg. 83(9)(a)
- Annex 10a para. 3(f) table words substituted by S.I. 2022/1273 reg. 83(9)(b)(c)
- Art. 12(8) inserted by S.I. 2022/1273 reg. 82(10)