

[^{F1}ANNEX VII

TYPE VI TEST

Textual Amendments

- F1** Inserted by [Directive 98/69/EC of the European Parliament and of the Council of 13 October 1998 relating to measures to be taken against air pollution by emissions from motor vehicles and amending Council Directive 70/220/EEC](#).

5. DYNAMOMETER PROCEDURE

5.1. Summary

5.1.1. The emission sampling is performed over a test procedure consisting of the part one cycle (Annex III — Appendix 1 Figure III.1.1). Engine start-up, immediate sampling, operation over the part one cycle and engine shut-down make a complete low ambient temperature test, with a total test time of 780 seconds. The tailpipe emissions are diluted with ambient air and a continuously proportional sample is collected for analysis. The exhaust gases collected in the bag are analysed for hydrocarbons, carbon monoxide, and carbon dioxide. A parallel sample of the dilution air is similarly analysed for carbon monoxide, hydrocarbons and carbon dioxide.

5.2. Dynamometer operation

5.2.1. Cooling fan

5.2.1.1. A cooling fan is positioned so that cooling air is appropriately directed to the radiator (water cooling) or to the air intake (air-cooling) and to the vehicle.

5.2.1.2. For front-engined vehicles, the fan must be positioned in front of the vehicle, within 300 mm of it. In the case of rear-engined vehicles or if the above arrangement is impractical, the cooling fan must be positioned so that sufficient air is supplied to cool the vehicle.

5.2.1.3. The fan speed must be such that, within the operating range of 10 km/h to at least 50 km/h, the linear velocity of the air at the blower outlet is within ± 5 km/h of the corresponding roller speed. The final selection of the blower must have the following characteristics:

- area: at least 0,2 m²,
- height of the lower edge above ground: approximately 20 cm.

As an alternative the blower speed must be at least 6 m/s (21,6 km/h). At the request of the manufacturer, for special vehicles (e. g. vans, off-road) the height of the cooling fan may be modified.

5.2.1.4. The vehicle speed as measured from the dynamometer roll(s) must be used (section 4.1.4.4 of Annex III).

5.2.3. Preliminary testing cycles may be carried out if necessary, to determine how best to actuate the accelerator and brake controls so as to achieve a cycle approximating to the theoretical cycle within the prescribed limits, or to permit sampling system adjustment. Such driving must be carried out before 'START' according to Figure VII.1.

Status: EU Directives are being published on this site to aid cross referencing from UK legislation. After IP completion day (31 December 2020 11pm) no further amendments will be applied to this version.

- 5.2.4. Humidity in the air must be kept low enough to prevent condensation on the dynamometer roll(s).
- 5.2.5. The dynamometer must be thoroughly warmed as recommended by the dynamometer manufacturer, and using procedures or control methods that assure stability of the residual frictional horsepower.
- 5.2.6. The time between dynamometer warming and the start of the emission test must be no longer than 10 minutes if the dynamometer bearings are not independently heated. If the dynamometer bearings are independently heated, the emission test must begin no longer than 20 minutes after dynamometer warming.
- 5.2.7. If the dynamometer horsepower must be adjusted manually, it must be set within one hour prior to the tailpipe emission test phase. The test vehicle may not be used to make the adjustment. The dynamometer, using automatic control of preselectable power settings, may be set at any time prior to the beginning of the emission test.
- 5.2.8. Before the emission test driving schedule may begin, the test cell temperature must be $266 \text{ °K} (-7 \text{ °C}) \pm 2 \text{ °K}$, as measured in the air stream of the cooling fan with a maximum distance of 1 m-1,5 m from the vehicle.
- 5.2.9. During operation of the vehicle the heating and defrosting devices must be shut off.
- 5.2.10. The total driving distance or roller revolutions measured are recorded.
- 5.2.11. A four-wheel drive vehicle must be tested in a two-wheel drive mode of operation. The determination of the total road force for dynamometer setting is performed while operating the vehicle in its primary designed driving mode.
- 5.3. Performing the test
 - 5.3.1. The provisions of sections 6.2 to 6.6, excluding 6.2.2, of Annex III apply in respect of starting the engine, carrying out the test and taking the emission samples. The sampling begins before or at the initiation of the engine start-up procedure and ends on conclusion of the final idling period of the last elementary cycle of the part one (urban driving cycle), after 780 seconds.

The first driving cycle starts with a period of 11 seconds idling as soon as the engine has started.

- 5.3.2. For the analysis of the sampled emissions the provisions of section 7.2 of Annex III apply. In performing the exhaust sample analysis the technical service must exercise care to prevent condensation of water vapour in the exhaust gas sampling bags.
- 5.3.3. For the calculations of the mass emissions the provisions of section 8 of Annex III apply.]