

§ 86.128-79

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§ 86.128-00, this may be indicated by specifying the corresponding paragraph and the statement “[Reserved]. For guidance see § 86.128-79.”

(a)-(c) [Reserved]. For guidance see § 86.128-79.

(d) The vehicle shall be driven with appropriate accelerator pedal movement necessary to achieve the speed versus time relationship prescribed by the driving schedule. Both smoothing of speed variations and excessive accelerator pedal perturbations are to be avoided.

(e)-(h) [Reserved]. For guidance see § 86.128-79.

[61 FR 54892, Oct. 22, 1996]

§ 86.128-79 Transmissions.

(a) All test conditions, except as noted, shall be run according to the manufacturer’s recommendations to the ultimate purchaser, *Provided*, That: Such recommendations are representative of what may reasonably be expected to be followed by the ultimate purchaser under in-use conditions.

(b) Vehicles equipped with free wheeling or overdrive, except as noted, shall be tested with these features operated according to the manufacturer’s recommendations to the ultimate purchaser.

(c) Idle modes less than one minute in length shall be run with automatic transmissions in “Drive” and the wheels braked; manual transmissions shall be in gear with the clutch disengaged, except for the first idle mode (see §§ 86.134, 86.136, and 86.137). The first idle mode and idle modes longer than one minute in length may be run with automatic transmissions in “Neutral;” manual transmissions may be in “Neutral” with the clutch engaged (clutch may be disengaged for engine start-up). If an automatic transmission is in “Neutral” during an idle mode, it shall be placed in “Drive” with the wheels braked at least 5 seconds before the end of the idle mode. If a manual transmission is in “Neutral” during an idle mode, it shall be placed in gear with the clutch disengaged at least 5 seconds before the end of the idle mode.

(d) The vehicle shall be driven with minimum accelerator pedal movement to maintain the desired speed.

(e) Accelerations shall be driven smoothly following representative shift speeds and procedures. For manual transmissions, the operator shall release the accelerator pedal during each shift and accomplish the shift with minimum time. If the vehicle cannot accelerate at the specified rate, the vehicle shall be operated at maximum available power until the vehicle speed reaches the value prescribed for that time in the driving schedule.

(f) The deceleration modes shall be run in gear using brakes or accelerator pedal as necessary to maintain the desired speed. Manual transmission vehicles shall have the clutch engaged and shall not change gears from the previous mode. For those modes which decelerate to zero, manual transmission clutches shall be depressed when the speed drops below 15 mph (24.1 km/h), when engine roughness is evident, or when engine stalling is imminent.

(g)(1) In the case of test vehicles equipped with manual transmissions, the transmission shall be shifted in accordance with procedures which are representative of shift patterns that may reasonably be expected to be followed by vehicles in use, in terms of such variables as vehicle speed or percent rated engine speed. At the Administrator’s discretion, a test vehicle may also be shifted according to the shift procedures recommended by the manufacturer to the ultimate purchaser, if such procedures differ from those which are reasonably expected to be followed by vehicles in use.

(2) A manufacturer may recommend to the ultimate purchaser shift procedures other than those used in testing by the EPA, *Provided* that: All shift procedures (including multiple shift speeds) which the manufacturer proposes to supply to the ultimate purchaser are provided to the Administrator as part of the manufacturer’s application for certification, or as an amendment to such application, under § 86.079-32, § 86.079-33, § 86.082-34, or § 86.1844-01 as applicable.

(h) Downshifting is allowed at the beginning of or during a power mode in

accordance with the shift procedure determined in paragraph (g)(1) of this section.

[43 FR 52921, Nov. 14, 1978, as amended at 58 FR 16033, Mar. 24, 1993; 64 FR 23921, May 4, 1999]

§ 86.129-00 Road load power, test weight, and inertia weight class determination.

Applicability. Section 86.129-94 (a) applies to all vehicle testing. Section 86.129-80 (b) and (c) are applicable to vehicles from engine families which are not required to meet SFTP requirements, although a manufacturer may elect to use the requirements in paragraphs (e) and (f) of this section instead of § 86.129-80 (b) and (c) on any vehicle. Section 86.129-94(d) which discusses fuel temperature profile, is applicable to evaporative emission running loss testing. Paragraphs (e) and (f) of this section are applicable to vehicles from engine families required to comply with SFTP requirements. Section 86.129-00 includes text that specifies requirements that differ from § 86.129-80 or § 86.129-94. Where a paragraph in § 86.129-80 or § 86.129-94 is identical and applicable to § 86.129-00, this may be indicated by specifying the corresponding paragraph and the statement “[Reserved]. For guidance see § 86.129-80.” or “[Reserved]. For guidance see § 86.129-94.”

(a) [Reserved]. For guidance see § 86.129-94.

(b)-(c) [Reserved]. For guidance see § 86.129-80.

(d) [Reserved]. For guidance see § 86.129-94.

(e)(1) For each test vehicle from an engine family required to comply with SFTP requirements, the manufacturer shall supply representative road load forces for the vehicle at speeds between 15 km/hr (9.3 mph) and 115 km/hr (71.5 mph). The road load force shall represent vehicle operation on a smooth level road, during calm winds, with no precipitation, at an ambient temperature of 20 °C (68 °F), and atmospheric pressure of 98.21 kPa. Road load force for low speed may be extrapolated. Manufacturers may, at their option, use road load forces meeting the objectives of paragraph (f) of this section for any vehicle.

(2) The dynamometer's power absorption shall be set for each vehicle's emission test sequence such that the force imposed during dynamometer operation matches actual road load force at all speeds.

(3) The 10 percent adjustment in road load power for air conditioning discussed in § 86.129-80(b)(3), is not applicable when road load forces are determined for dynamometer testing using paragraphs (e)(1) and (e)(2) of this section.

(f)(1) Required test dynamometer inertia weight class selections for the test elements of FTP, US06, and SC03 are determined by the test vehicles test weight basis and corresponding equivalent weight as listed in the tabular information of § 86.129-94(a). With the exception of the fuel economy test weight information in footnote 4 to the table in § 86.129-94(a), none of the other footnotes to the tabular listing apply to emission tests utilizing an approved single roll dynamometer or equivalent dynamometer configuration. All light-duty vehicles and light light-duty trucks are to be tested at the inertia weight class corresponding to their equivalent test weight.

(i) For light-duty vehicles and light light-duty trucks, test weight basis is loaded vehicle weight, which is the vehicle weight plus 300 pounds.

(ii) For heavy light-duty trucks, the definition of test weight basis varies depending on the SFTP test element being tested.

(A) For the aggressive driving cycle (US06), the test weight basis is the vehicle curb weight plus 300 pounds.

(B) For the FTP and the air conditioning (SC03) element of the SFTP, the test weight is the average of the curb weight plus GVWR.

(C) Regardless of other requirements in this section relating to the testing of HLDTs, for Tier 2 HLDTs, the test weight basis for FTP and SFTP testing (both US06 and SC03), if applicable, is the vehicle curb weight plus 300 pounds. For MDPVs certified to standards in bin 11 in Tables S04-1 and 2 in § 86.1811-04, the test weight basis must be adjusted loaded vehicle weight (ALVW) as defined in this part.

(2) Dynamic inertia load adjustments may be made to the test inertia weight