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 during specific US06 acceleration events when wide open throttle operation is equal to or greater than eight (8) seconds (see §86.108–00). The dynamic inertia weight adjustment procedure must be approved in advance of conducting official US06 testing. The Administrator will perform confirmatory US06 testing using the same dynamometer inertia adjustment procedures as the manufacturer if:

(i) The manufacturer submits a request to the Administrator; and

(ii) The manufacturer provides the dynamometer hardware and/or software necessary for these adjustments to the Administrator.

[61 FR 54892, Oct. 22, 1996, as amended at 65 FR 6850, Feb. 10, 2000]

EDITORIAL NOTE: At 64 FR 23921, May 4, 1999, §86.129–00 was amended by revising footnote 4 to the table in paragraph (a) and by revising paragraph (d)(1)(iv). Since both paragraphs (a) and (d) of §86.129–00 are reserved and contain no text, these amendments could not be made. For the convenience of the user, the revised text is set forth as follows:

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

* * * * *

(a) * * *

* * * * *

[4] For model year 1994 and later heavy light-duty trucks not subject to the Tier 0 standards of §86.094–9, test weight basis shall be adjusted loaded vehicle weight, as defined in §86.094–2 or 86.1803–01 as applicable. For all other vehicles, test weight basis shall be loaded vehicle weight, as defined in §86.082–2 or 86.1803–01 as applicable.

* * * * *

(d) * * *

(1) * * *

(iv) Small-volume manufacturers, as defined in §86.094–14(b)(1) or §86.1838–01 as applicable, may use an alternate method for generating fuel temperature profiles, subject to the approval of the Administrator.

* * * * *

§86.129–80 Road load power, test weight, and inertia weight class determination.

(a) Flywheels, electrical or other means of simulating test weight as shown in the following table shall be used. If the equivalent test weight specified is not available on the dynamometer being used, the next higher equivalent test weight (not to exceed 250 pounds) available shall be used.

Road load power at 50 mi/h—light-duty trucks[1 2 3]	Loaded vehicle weight (pounds)	Equivalent test weight (pounds)	Inertia weight class (pounds)
.....	Up to 1,062	1,000	1,000
.....	1,063 to 1,187 ..	1,125	1,000
.....	1,188 to 1,312 ..	1,250	1,250
.....	1,313 to 1,437 ..	1,375	1,250
.....	1,438 to 1,562 ..	1,500	1,500
.....	1,563 to 1,687 ..	1,625	1,500
.....	1,688 to 1,812 ..	1,750	1,750
.....	1,813 to 1,937 ..	1,875	1,750
.....	1,938 to 2,062 ..	2,000	2,000
.....	2,063 to 2,187 ..	2,125	2,000
.....	2,188 to 2,312 ..	2,250	2,250
.....	2,313 to 2,437 ..	2,375	2,250
.....	2,438 to 2,562 ..	2,500	2,500