

§ 1051.240

§ 1051.240 How do I demonstrate that my engine family complies with exhaust emission standards?

(a) For certification, your engine family is considered to be in compliance with the numerical exhaust emission standards in subpart B of this part if all emission-data vehicles representing that family have test results showing emission levels at or below the standards.

(b) Your engine family does not comply if any emission-data vehicle representing that family has test results showing emission levels above the standards for any pollutant.

(c) To compare emission levels from the emission-data vehicle with the emission standards, apply deterioration factors (to three significant figures) to the measured emission levels. The deterioration factor is a number that shows the relationship between exhaust emissions at the end of useful life and at the low-hour test point. Section 1051.520 specifies how to test your vehicle to develop deterioration factors that estimate the change in emissions over your vehicle's full useful life. Small-volume manufacturers may use assigned deterioration factors that we establish. Apply the deterioration factors as follows:

(1) For vehicles that use aftertreatment technology, such as catalytic converters, the exhaust deterioration factor is the ratio of exhaust emissions at the end of useful life to exhaust emissions at the low-hour test point. Adjust the official emission results for each tested vehicle at the selected test point by multiplying the measured emissions by the deterioration factor. If the factor is less than one, use one.

(2) For vehicles that do not use aftertreatment technology, the exhaust deterioration factor is the difference between exhaust emissions at the end of useful life and exhaust emissions at the low-hour test point. Adjust the official emission results for each tested vehicle at the selected test point by adding the factor to the measured emissions. If the factor is less than zero, use zero.

(d) After adjusting the emission levels for deterioration, round them to the same number of decimal places as the

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emission standard. Compare the rounded emission levels to the emission standard for each test vehicle.

§ 1051.245 How do I demonstrate that my engine family complies with evaporative emission standards?

(a) For certification, your engine family is considered in compliance with the evaporative emission standards in subpart B of this part if you do either of the following:

(1) You have test results showing permeation emission levels from the fuel tanks and fuel lines in the family are at or below the standards in §1051.110 throughout the useful life.

(2) You comply with the design specifications in paragraph (e) of this section.

(b) Your engine family does not comply if any fuel tank or fuel line representing that family has test results showing emission levels above the standards.

(c) To compare emission levels with the emission standards, apply deterioration factors (to three significant figures) to the measured emission levels. The deterioration factor is a number that shows the relationship between emissions at the end of useful life and at the low-hour test point. For permeation emissions, the deterioration factor is the difference between evaporative emissions at the end of useful life and evaporative emissions at the low-hour test point. Adjust the official emission results for each tested vehicle at the selected test point by adding the factor to the measured emissions. If the factor is less than zero, use zero.

(1) Section 1051.515 specifies how to test your fuel tanks to develop deterioration factors that estimate the change in emissions over your vehicle's full useful life. Small-volume manufacturers may use assigned deterioration factors that we establish. Apply the deterioration factors as follows:

(i) Calculate the deterioration factor from emission tests performed before and after the durability tests as described in §1051.515(c) and (d) and using good engineering judgment. The durability tests described in §1051.515(d) represent the minimum requirements for determining a deterioration factor. You may not use a deterioration factor