

EPA Announces Final Rulemaking for Clean Alternative Fuel Vehicle and Engine Conversions

The U.S. Environmental Protection Agency (EPA) is adopting changes to the regulations found in 40 CFR part 85 subpart F for clean alternative fuel conversion manufacturers. This action affects regulations applicable to manufacturers of light-duty vehicle and heavy-duty highway vehicle and engine clean alternative fuel conversion systems. The revisions will streamline the compliance process while maintaining environmentally protective controls.

Overview

With the vast majority of vehicles in the United States designed to operate on gasoline or diesel fuel, there has been a long and growing interest by the public in clean alternative fuel conversion systems. These systems allow gasoline or diesel vehicles to operate on alternative fuels such as natural gas, propane, alcohol, or electricity. Use of alternative fuels opens new fuel supply choices and can help consumers address concerns about fuel costs, energy security, and emissions. EPA supports such innovation and encourages the development of clean aftermarket technologies that enable broader transportation fuel choices. At the same time EPA is responsible for ensuring that all vehicles and engines sold in the United States, including clean alternative fuel conversions, meet emission standards. EPA is adopting a new approach that simplifies and streamlines the process by which manufacturers of clean alternative fuel conversion systems may demonstrate compliance with these vehicle and engine emissions requirements. The new options will reduce some economic and procedural impediments to clean alternative fuel conversions while maintaining environmental safeguards to ensure that acceptable emission levels from converted vehicles and engines are sustained. The final rule covers alternative fuel conversion of light-duty vehicles and heavy-duty highway vehicles and engines.

Previous EPA regulations required vehicle and engine conversion systems to be covered by a certificate of conformity to gain a regulatory exemption from potential tampering charges. EPA evaluated the requirement and determined that it is appropriate to introduce new flexibilities for all clean alternative fuel converters and to expand the compliance options for certain categories of conversions. EPA is amending the regulatory procedures in 40 CFR part 85 subpart F and part 86 to establish these new compliance options. The new approach builds upon the concept that it is appropriate to treat conversions differently based on the age of the vehicle or engine being converted. Under the new regulations, testing and compliance procedures differ based on the age category of the vehicle or engine that is converted: new and relatively new, intermediate age, or outside useful life. All conversion manufacturers seeking an exemption must demonstrate compliance, but the requirements differ among age categories. EPA expects the streamlined approach to result in a cost savings for many converters.

Key Elements of the Rulemaking

The Clean Air Act prohibits altering a vehicle or engine from its certified configuration. Alternative fuel conversion systems alter one or more elements of a vehicle's or engine's original configuration to enable operation on a new fuel. The revised regulations provide compliance options that allow conversion manufacturers to make the necessary changes without violating the law. This rule provides clear and comprehensive compliance pathways for alternative fuel converters to gain exemption from the prohibition against tampering.

The new compliance program enables conversion manufacturers to qualify for an exemption from tampering by demonstrating that the converted vehicle or engine satisfies EPA emissions requirements. The specific demonstration and notification requirements differ based on the age of the vehicle or engine being converted. The demonstration and notification requirements for new and relatively new vehicles and engines will continue to involve a certification process that is very similar to previous practice. Once certified, however, annual recertification will no longer be required to maintain the tampering exemption. The notification and demonstration requirements for intermediate age vehicles and engines include testing and submission of data to show that the converted vehicle or engine continues to meet applicable standards. The notification and demonstration process for outside useful life vehicles and engines involves submission of a description of the conversion system that provides sufficient technical detail to determine that the conversion will not increase emissions.

Overview of Program Elements					
Vehicle/Engine Age			Conversion Manufacturer Requirement		Certificate Issued?
Category	Applicability	Example for 2011 ¹	Demonstration	Notification	
New	MY ≥ current calendar year - 1	MY 2010, 2011, 2012 and < useful life mileage	Exhaust, Evap, and OBD testing ²	Certification application	Yes
Intermediate age	MY ≤ current calendar year - 2 and < useful life	MY 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009 and < useful life mileage	Exhaust and Evap testing ² + OBD scan tool test and attestation	Compliance submission ³	No
Outside useful life	Exceeds useful life	MY2001 and older or > full useful life in mileage	Technical justification ⁴ and OBD scan tool test and attestation	Compliance submission ³	No

Note:

¹ This example is for light-duty Tier 2 vehicles operating in the 2011 calendar year which have a useful life of 10 years or 120,000 miles.

² Exhaust and evap refers to all exhaust emission testing and all evaporative emission and refueling emission testing required for OEM vehicle/engine certification, unless otherwise excepted. OBD testing refers to all OBD demonstration testing as required for OEM vehicle/engine certification.

³ The compliance notification process for intermediate age and outside useful life conversions will be electronic submission of data and supporting documents.

⁴ The technical justification may include data from exhaust and evaporative emissions testing.

Age-Based Demonstration and Notification Requirements

All conversion manufacturers will be required to demonstrate to EPA that the conversion satisfies technical criteria, but the demonstration and notification process will differ depending on vehicle or engine age. The demonstration and notification apply to a group of vehicles or engines that share similar technology, known as a test group or engine family and evaporative/refueling family. The test group/engine family criteria will also differ somewhat based on age of the vehicles or engines being converted.

New vehicles and engines

- The new and relatively new category includes vehicles and engines less than about two years old: those of a model year that is greater than or equal to the current calendar year minus one.
- The compliance demonstration requirement remains very similar to the previous certification requirement. Manufacturers must conduct certification tests to demonstrate that the converted vehicle or engine complies with exhaust and evaporative emission standards and with on-board diagnostics (OBD) requirements.

- The notification requirement also remains the same as the previous certification application process.
- Converted vehicles and engines that satisfy the demonstration and notification requirements will be issued a certificate of conformity.
- The new regulations introduce some important flexibilities that will be available to most manufacturers of new vehicle/engine conversion systems:
 - Manufacturers may apply a single set of test data to a broader set of candidate vehicles and engines.
 - A certified conversion system retains its tampering exemption even after the certificate expires such that annual re-certification is no longer required.

Intermediate age vehicles and engines

- The intermediate age category covers vehicles and engines at least two years old (those of a model year less than or equal to the current calendar year minus two) but still within their regulatory useful life.
- The compliance demonstration involves conducting exhaust and evaporative emissions tests to show that the converted vehicle or engine meets applicable standards. The notification requirement includes submitting a full description of the conversion system as well as the test data to EPA.
- In addition, manufacturers must submit an OBD scan tool report to show that the OBD system on the converted vehicle or engine continues to function properly, plus applicable statements of attestation.
- Converters are permitted further flexibilities for expanded test groups.
- No certificate is issued, and annual re-certification is not required.

Outside useful life vehicles and engines

- The outside useful life age category covers vehicles and engines that have exceeded their regulatory useful life.
- Conversion manufacturers must submit a sufficiently detailed description to show that the conversion technology is technically sound and is applied according to principles of good engineering judgment.
- The notification requirement, as for the intermediate age program, involves submitting the required information, data, and/or attestations to EPA.
- In addition, manufacturers must submit an OBD scan tool report to show that the OBD system on the converted vehicle or engine continues to function properly, plus applicable statements of attestation.
- The outside useful life program permits the same expanded test group flexibilities as the intermediate age program.
- No certificate is issued, and annual re-certification is not required.

Technical Amendments

EPA is finalizing several technical amendments to 40 CFR part 86, subpart S that update the exhaust and evaporative emission testing requirements for both OEM and converted gaseous-fueled vehicles. The amendments allow flexibility in determining compliance with EPA non-methane organic material standards, and allow manufacturers of gaseous-fueled vehicles to submit statements of compliance in lieu of test data to demonstrate compliance with exhaust formaldehyde and evaporative emissions standards. Other technical amendments provide clarity and consistency to regulatory references for clean alternative fuel conversion and technical corrections and clarifications for the light-duty greenhouse gas clean alternative fuel conversion procedures.

Note

This fact sheet is a brief informational summary. Regulated parties should always refer to the regulations for compliance purposes.

For More Information

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