

credits to offset a deficit for any pollutant in a vehicle family.

(c) We may void the certificate of conformity for a vehicle family if you fail to keep records, send reports, or give us information we request. Note that failing to keep records, send reports, or give us information we request is also a violation of 42 U.S.C. 7522(a)(2).

(d) You may ask for a hearing if we void your certificate under this section (see § 1037.820).

§ 1037.755 Information provided to the Department of Transportation.

After receipt of each manufacturer's final report as specified in § 1037.730 and completion of any verification testing required to validate the manufacturer's submitted final data, we will issue a report to the Department of Transportation with CO₂ emission information and will verify the accuracy of each manufacturer's equivalent fuel consumption data required by NHTSA under 49 CFR 535.8. We will send a report to DOT for each vehicle manufacturer based on each regulatory category and subcategory, including sufficient information for NHTSA to determine fuel consumption and associated credit values. See 49 CFR 535.8 to determine if NHTSA deems submission of this information to EPA to also be a submission to NHTSA.

Subpart I—Definitions and Other Reference Information

§ 1037.801 Definitions.

The following definitions apply to this part. The definitions apply to all subparts unless we note otherwise. All undefined terms have the meaning the Act gives to them. The definitions follow:

Act means the Clean Air Act, as amended, 42 U.S.C. 7401–7671q.

Adjustable parameter means any device, system, or element of design that someone can adjust (including those which are difficult to access) and that, if adjusted, may affect measured or modeled emissions (as applicable). You may ask us to exclude a parameter that is difficult to access if it cannot be adjusted to affect emissions without significantly degrading vehicle per-

formance, or if you otherwise show us that it will not be adjusted in a way that affects emissions during in-use operation.

Adjusted Loaded Vehicle Weight means the numerical average of vehicle curb weight and GVWR.

Advanced technology means vehicle technology certified under 40 CFR 86.1819–14(k)(7), 40 CFR 1036.615, or § 1037.615.

Aftertreatment means relating to a catalytic converter, particulate filter, or any other system, component, or technology mounted downstream of the exhaust valve (or exhaust port) whose design function is to decrease emissions in the vehicle exhaust before it is exhausted to the environment. Exhaust gas recirculation (EGR) and turbochargers are not aftertreatment.

Aircraft means any vehicle capable of sustained air travel more than 100 feet off the ground.

Alcohol-fueled vehicle means a vehicle that is designed to run using an alcohol fuel. For purposes of this definition, alcohol fuels do not include fuels with a nominal alcohol content below 25 percent by volume.

Alternative fuel conversion has the meaning given for clean alternative fuel conversion in 40 CFR 85.502.

Ambulance has the meaning given in 40 CFR 86.1803.

Amphibious vehicle means a motor vehicle that is also designed for operation on water. Note that high ground clearance that enables a vehicle to drive through water rather than floating on the water does not make a vehicle amphibious.

A to B testing means testing performed in pairs to allow comparison of two vehicles or other test articles. Back-to-back tests are performed on Article A and Article B, changing only the variable(s) of interest for the two tests.

Automated manual transmission (AMT) means a transmission that operates mechanically similar to a manual transmission, except that an automated clutch actuator controlled by the onboard computer disengages and engages the drivetrain instead of a human driver. An automated manual transmission does not include a torque

converter or a clutch pedal controllable by the driver.

Automatic tire inflation system means a pneumatically or electronically activated system installed on a vehicle to maintain tire pressure at a preset level. These systems eliminate the need to manually inflate tires. Note that this is different than a "tire pressure monitoring system," which we define separately in this section.

Automatic transmission (AT) means a transmission with a torque converter (or equivalent) that uses computerize or other internal controls to shift gears in response to a single driver input for controlling vehicle speed. Note that automatic manual transmissions are not automatic transmissions because they do not include torque converters.

Auxiliary emission control device means any element of design that senses temperature, motive speed, engine rpm, transmission gear, or any other parameter for the purpose of activating, modulating, delaying, or deactivating the operation of any part of the emission control system.

Auxiliary power unit means a device installed on a vehicle that uses an engine to provide power for purposes other than to (directly or indirectly) propel the vehicle.

Averaging set has the meaning given in § 1037.701.

Axle ratio or Drive axle ratio, k_a , means the dimensionless number representing the angular speed of the transmission output shaft divided by the angular speed of the drive axle.

Basic vehicle frontal area means the area enclosed by the geometric projection of the basic vehicle along the longitudinal axis onto a plane perpendicular to the longitudinal axis of the vehicle, including tires but excluding mirrors and air deflectors. Note that in certain cases, this may refer to the combined area of a tractor and trailer.

Box van has the meaning given in the definition for "trailer" in this section.

Bus means a heavy-duty vehicle designed to carry more than 15 passengers. Buses may include coach buses, school buses, and urban transit buses.

Calibration means the set of specifications and tolerances specific to a particular design, version, or application

of a component or assembly capable of functionally describing its operation over its working range.

Carryover means relating to certification based on emission data generated from an earlier model year.

Coach bus means a bus designed for inter-city passenger transport. Buses with features to accommodate standing passengers are not coach buses.

Concrete mixer means a heavy-duty vehicle designed to mix and transport concrete in a permanently mounted revolving drum.

Certification means relating to the process of obtaining a certificate of conformity for a vehicle family that complies with the emission standards and requirements in this part.

Certified emission level means the highest deteriorated emission level in a vehicle subfamily for a given pollutant from either transient or steady-state testing.

Class means relating to GVWR classes for vehicles other than trailers, as follows:

(1) *Class 2b* means relating to heavy-duty motor vehicles at or below 10,000 pounds GVWR.

(2) *Class 3* means relating to heavy-duty motor vehicles above 10,000 pounds GVWR but at or below 14,000 pounds GVWR.

(3) *Class 4* means relating to heavy-duty motor vehicles above 14,000 pounds GVWR but at or below 16,000 pounds GVWR.

(4) *Class 5* means relating to heavy-duty motor vehicles above 16,000 pounds GVWR but at or below 19,500 pounds GVWR.

(5) *Class 6* means relating to heavy-duty motor vehicles above 19,500 pounds GVWR but at or below 26,000 pounds GVWR.

(6) *Class 7* means relating to heavy-duty motor vehicles above 26,000 pounds GVWR but at or below 33,000 pounds GVWR.

(7) *Class 8* means relating to heavy-duty motor vehicles above 33,000 pounds GVWR.

Complete vehicle has the meaning given in the definition for *vehicle* in this section.

Compression-ignition has the meaning given in § 1037.101

Container chassis means a trailer designed for carrying temporarily mounted shipping containers.

Date of manufacture means the date on which the certifying vehicle manufacturer completes its manufacturing operations, except as follows:

(1) Where the certificate holder is an engine manufacturer that does not manufacture the chassis, the date of manufacture of the vehicle is based on the date assembly of the vehicle is completed.

(2) We may approve an alternate date of manufacture based on the date on which the certifying (or primary) manufacturer completes assembly at the place of main assembly, consistent with the provisions of §1037.601 and 49 CFR 567.4.

Day cab means a type of tractor cab that is not a sleeper cab or a heavy-haul tractor cab.

Designated Compliance Officer means one of the following:

(1) For compression-ignition engines, *Designated Compliance Officer* means Director, Diesel Engine Compliance Center, U.S. Environmental Protection Agency, 2000 Traverwood Drive, Ann Arbor, MI 48105; complianceinfo@epa.gov; epa.gov/otaq/verify.

(2) For spark-ignition engines, *Designated Compliance Officer* means Director, Gasoline Engine Compliance Center, U.S. Environmental Protection Agency, 2000 Traverwood Drive, Ann Arbor, MI 48105; nonroad-si-cert@epa.gov.

Deteriorated emission level means the emission level that results from applying the appropriate deterioration factor to the official emission result of the emission-data vehicle. Note that where no deterioration factor applies, references in this part to the *deteriorated emission level* mean the official emission result.

Deterioration factor means the relationship between the highest emissions during the useful life and emissions at the low-hour test point, expressed in one of the following ways:

(1) For multiplicative deterioration factors, the ratio of the highest emissions to emissions at the low-hour test point.

(2) For additive deterioration factors, the difference between the highest emissions and emissions at the low-hour test point.

Diesel exhaust fluid (DEF) means a liquid reducing agent (other than the engine fuel) used in conjunction with selective catalytic reduction to reduce NO_x emissions. *Diesel exhaust fluid* is generally understood to be an aqueous solution of urea conforming to the specifications of ISO 22241.

Drayage tractor means a tractor that is intended for service in a port or intermodal railyard, with multiple design features consistent with that intent, such as a cab with only a single seat, rear cab entry, a raisable fifth wheel, a solid-mounted rear suspension, and a maximum speed at or below 54 mi/hr.

Drive idle means idle operation during which the vehicle operator remains in the vehicle cab, as evidenced by engaging the brake or clutch pedals, or by other indicators we approve.

Driver model means an automated controller that simulates a person driving a vehicle.

Dual-clutch transmission (DCT) means a transmission that operates similar to an automated manual transmission, but with two clutches that allow the transmission to maintain positive torque to the drive axle during a shift.

Dual-fuel means relating to a vehicle or engine designed for operation on two different fuels but not on a continuous mixture of those fuels. For purposes of this part, such a vehicle or engine remains a dual-fuel vehicle or engine even if it is designed for operation on three or more different fuels.

Electric vehicle means a vehicle that does not include an engine, and is powered solely by an external source of electricity and/or solar power. Note that this does not include hybrid electric vehicles or fuel-cell vehicles that use a chemical fuel such as gasoline, diesel fuel, or hydrogen. Electric vehicles may also be referred to as all-electric vehicles to distinguish them from hybrid vehicles.

Emergency vehicle means a vehicle that is an ambulance or a fire truck.

Emission control system means any device, system, or element of design that

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controls or reduces the emissions of regulated pollutants from a vehicle.

Emission-data component means a vehicle component that is tested for certification. This includes vehicle components tested to establish deterioration factors.

Emission-data vehicle means a vehicle (or vehicle component) that is tested for certification. This includes vehicles tested to establish deterioration factors.

Emission-related maintenance means maintenance that substantially affects emissions or is likely to substantially affect emission deterioration.

Excluded means relating to vehicles that are not subject to some or all of the requirements of this part as follows:

(1) A vehicle that has been determined not to be a "motor vehicle" is excluded from this part.

(2) Certain vehicles are excluded from the requirements of this part under § 1037.5.

(3) Specific regulatory provisions of this part may exclude a vehicle generally subject to this part from one or more specific standards or requirements of this part.

Exempted has the meaning given in 40 CFR 1068.30. Note that exempted vehicles are not considered to be excluded.

Extended idle means tractor idle operation during which the engine is operating to power accessories for a sleeper compartment or other passenger compartment. Although the vehicle is generally parked during extended idle, the term "parked idle" generally refers to something different than extended idle.

Family emission limit (FEL) means an emission level declared by the manufacturer to serve in place of an otherwise applicable emission standard under the ABT program in subpart H of this part. The family emission limit must be expressed to the same number of decimal places as the emission standard it replaces. Note that an FEL may apply as a "subfamily" emission limit.

Final drive ratio, k_d , means the dimensionless number representing the angular speed of the transmission input shaft divided by the angular speed of the drive axle when the vehicle is operating in its highest available

gear. The final drive ratio is the transmission gear ratio (in the highest available gear) multiplied by the drive axle ratio.

Fire truck has the meaning given in 40 CFR 86.1803.

Flatbed trailer means a trailer designed to accommodate side-loading cargo onto a single, continuous load-bearing surface that runs from the rear of the trailer to at least the trailer's kingpin. This includes trailers that use curtains, straps, or other devices to restrain or protect cargo while underway. It also may include similar trailers that have one or more side walls without completely enclosing the cargo space. For purposes of this definition, disregard any ramps, moveable platforms, or other rear-mounted equipment or devices designed to assist with loading the trailer.

Flexible-fuel means relating to an engine designed for operation on any mixture of two or more different fuels.

Fuel system means all components involved in transporting, metering, and mixing the fuel from the fuel tank to the combustion chamber(s), including the fuel tank, fuel pump, fuel filters, fuel lines, carburetor or fuel-injection components, and all fuel-system vents. It also includes components for controlling evaporative emissions, such as fuel caps, purge valves, and carbon canisters.

Fuel type means a general category of fuels such as diesel fuel or natural gas. There can be multiple grades within a single fuel type, such as high-sulfur or low-sulfur diesel fuel.

Gaseous fuel means a fuel that has a boiling point below 20 °C.

Gear ratio or Transmission gear ratio, k_g , means the dimensionless number representing the angular velocity of the transmission's input shaft divided by the angular velocity of the transmission's output shaft when the transmission is operating in a specific gear.

Glider kit means either of the following:

(1) A new vehicle that is incomplete because it lacks an engine, transmission, and/or axle(s).

(2) Any other new equipment that is substantially similar to a complete motor vehicle and is intended to become a complete motor vehicle with a

previously used engine (including a rebuilt or remanufactured engine). For example, incomplete heavy-duty tractor assemblies that are produced on the same assembly lines as complete tractors and that are made available to secondary vehicle manufacturers to complete assembly by installing used/remanufactured engines, transmissions and axles are glider kits.

Glider vehicle means a new motor vehicle produced from a glider kit, or otherwise produced as a new motor vehicle with a with a used/remanufactured engine.

Good engineering judgment has the meaning given in 40 CFR 1068.30. See 40 CFR 1068.5 for the administrative process we use to evaluate good engineering judgment.

Greenhouse gas Emissions Model (GEM) means the GEM simulation tool described in §1037.520 (incorporated by reference in §1037.810). Note that an updated version of GEM applies starting in model year 2021.

Gross axle weight rating (GAWR) means the value specified by the vehicle manufacturer as the maximum weight of a loaded axle or set of axles, consistent with good engineering judgment.

Gross combination weight rating (GCWR) means the value specified by the vehicle manufacturer as the maximum weight of a loaded vehicle and trailer, consistent with good engineering judgment. For example, compliance with SAE J2807 is generally considered to be consistent with good engineering judgment, especially for Class 3 and smaller vehicles.

Gross vehicle weight rating (GVWR) means the value specified by the vehicle manufacturer as the maximum design loaded weight of a single vehicle, consistent with good engineering judgment.

Heavy-duty engine means any engine used for (or for which the engine manufacturer could reasonably expect to be used for) motive power in a heavy-duty vehicle.

Heavy-duty vehicle means any trailer and any other motor vehicle that has a GVWR above 8,500 pounds, a curb weight above 6,000 pounds, or a basic vehicle frontal area greater than 45 square feet.

Heavy-haul tractor means a tractor with GCWR greater than or equal to 120,000 pounds. A heavy-haul tractor is not a vocational tractor in Phase 2.

Hybrid engine or *hybrid powertrain* means an engine or powertrain that includes energy storage features other than a conventional battery system or conventional flywheel. Supplemental electrical batteries and hydraulic accumulators are examples of hybrid energy storage systems. Note that certain provisions in this part treat hybrid engines and powertrains intended for vehicles that include regenerative braking different than those intended for vehicles that do not include regenerative braking.

Hybrid vehicle means a vehicle that includes energy storage features (other than a conventional battery system or conventional flywheel) in addition to an internal combustion engine or other engine using consumable chemical fuel. Supplemental electrical batteries and hydraulic accumulators are examples of hybrid energy storage systems. Note that certain provisions in this part treat hybrid vehicles that include regenerative braking different than those that do not include regenerative braking.

Hydrocarbon (HC) means the hydrocarbon group on which the emission standards are based for each fuel type. For alcohol-fueled vehicles, HC means nonmethane hydrocarbon equivalent (NMHCE) for exhaust emissions and total hydrocarbon equivalent (THCE) for evaporative emissions. For all other vehicles, HC means nonmethane hydrocarbon (NMHC) for exhaust emissions and total hydrocarbon (THC) for evaporative emissions.

Identification number means a unique specification (for example, a model number/serial number combination) that allows someone to distinguish a particular vehicle from other similar vehicles.

Idle operation means any operation other than PTO operation during which the vehicle speed is zero. Idle operation may be “Drive idle” or “Parked idle” (as defined in this section).

Incomplete vehicle has the meaning given in the definition of *vehicle* in this section.

Innovative technology means technology certified under §1037.610 (also described as “off-cycle technology”).

Light-duty truck means any motor vehicle rated at or below 8,500 pounds GVWR with a curb weight at or below 6,000 pounds and basic vehicle frontal area at or below 45 square feet, which is:

- (1) Designed primarily for purposes of transportation of property or is a derivative of such a vehicle; or
- (2) Designed primarily for transportation of persons and has a capacity of more than 12 persons; or
- (3) Available with special features enabling off-street or off-highway operation and use.

Light-duty vehicle means a passenger car or passenger car derivative capable of seating 12 or fewer passengers.

Low-mileage means relating to a vehicle with stabilized emissions and represents the undeteriorated emission level. This would generally involve approximately 4000 miles of operation.

Low rolling resistance tire means a tire on a vocational vehicle with a TRRL at or below of 7.7 kg/tonne, a steer tire on a tractor with a TRRL at or below 7.7 kg/tonne, a drive tire on a tractor with a TRRL at or below 8.1 kg/tonne, a tire on a non-box trailer with a TRRL at or below of 6.5 kg/tonne, or a tire on a box van with a TRRL at or below of 6.0 kg/tonne.

Manual transmission (MT) means a transmission that requires the driver to shift the gears and manually engage and disengage the clutch.

Manufacture means the physical and engineering process of designing, constructing, and/or assembling a vehicle.

Manufacturer has the meaning given in section 216(1) of the Act. In general, this term includes any person who manufactures or assembles a vehicle (including a trailer or another incomplete vehicle) for sale in the United States or otherwise introduces a new motor vehicle into commerce in the United States. This includes importers who import vehicles for resale, entities that manufacture glider kits, and entities that assemble glider vehicles.

Medium-duty passenger vehicle (MDPV) has the meaning given in 40 CFR 86.1803.

Model year means one of the following for compliance with this part 1037. Note that manufacturers may have other model year designations for the same vehicle for compliance with other requirements or for other purposes:

(1) For tractors and vocational vehicles with a date of manufacture on or after January 1, 2021, the vehicle's *model year* is the calendar year corresponding to the date of manufacture; however, the vehicle's model year may be designated to be the year before the calendar year corresponding to the date of manufacture if the engine's model year is also from an earlier year. Note that §1037.601(a)(2) limits the extent to which vehicle manufacturers may install engines built in earlier calendar years.

(2) For trailers and for Phase 1 tractors and vocational vehicles with a date of manufacture before January 1, 2021, *model year* means the manufacturer's annual new model production period, except as restricted under this definition and 40 CFR part 85, subpart X. It must include January 1 of the calendar year for which the model year is named, may not begin before January 2 of the previous calendar year, and it must end by December 31 of the named calendar year. The model year may be set to match the calendar year corresponding to the date of manufacture.

(i) The manufacturer who holds the certificate of conformity for the vehicle must assign the model year based on the date when its manufacturing operations are completed relative to its annual model year period. In unusual circumstances where completion of your assembly is delayed, we may allow you to assign a model year one year earlier, provided it does not affect which regulatory requirements will apply.

(ii) Unless a vehicle is being shipped to a secondary vehicle manufacturer that will hold the certificate of conformity, the model year must be assigned prior to introduction of the vehicle into U.S. commerce. The certifying manufacturer must redesignate the model year if it does not complete its manufacturing operations within the originally identified model year. A vehicle introduced into U.S. commerce

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without a model year is deemed to have a model year equal to the calendar year of its introduction into U.S. commerce unless the certifying manufacturer assigns a later date.

Motor home has the meaning given in 49 CFR 571.3.

Motor vehicle has the meaning given in 40 CFR 85.1703.

Multi-Purpose means relating to the Multi-Purpose duty cycle as specified in §1037.510.

Neutral coasting means a vehicle technology that automatically puts the transmission in neutral when the vehicle has minimal power demand, such as driving downhill.

Neutral idle means a vehicle technology that automatically puts the transmission in neutral when the vehicle is stopped, as described in §1037.660(a).

New motor vehicle has the meaning given in the Act. It generally means a motor vehicle meeting the criteria of either paragraph (1) or (2) of this definition. *New motor vehicles* may be complete or incomplete.

(1) A motor vehicle for which the ultimate purchaser has never received the equitable or legal title is a *new motor vehicle*. This kind of vehicle might commonly be thought of as “brand new” although a *new motor vehicle* may include previously used parts. For example, vehicles commonly known as “glider kits,” “glider vehicles,” or “gliders” are new motor vehicles. Under this definition, the vehicle is new from the time it is produced until the ultimate purchaser receives the title or places it into service, whichever comes first.

(2) An imported heavy-duty motor vehicle originally produced after the 1969 model year is a *new motor vehicle*.

Noncompliant vehicle means a vehicle that was originally covered by a certificate of conformity, but is not in the certified configuration or otherwise does not comply with the conditions of the certificate.

Nonconforming vehicle means a vehicle not covered by a certificate of conformity that would otherwise be subject to emission standards.

Nonmethane hydrocarbon (NMHC) means the sum of all hydrocarbon spe-

cies except methane, as measured according to 40 CFR part 1065.

Nonmethane hydrocarbon equivalent (NMHCE) has the meaning given in 40 CFR 1065.1001.

Off-cycle technology means technology certified under §1037.610 (also described as “innovative technology”).

Official emission result means the measured emission rate for an emission-data vehicle on a given duty cycle before the application of any required deterioration factor, but after the applicability of regeneration adjustment factors.

Owners manual means a document or collection of documents prepared by the vehicle manufacturer for the owners or operators to describe appropriate vehicle maintenance, applicable warranties, and any other information related to operating or keeping the vehicle. The owners manual is typically provided to the ultimate purchaser at the time of sale. The owners manual may be in paper or electronic format.

Oxides of nitrogen has the meaning given in 40 CFR 1065.1001.

Parked idle means idle operation during which the transmission is set to park, or the transmission is in neutral with the parking brake engaged. Although this idle may occur for extended periods, the term “extended idle” refers to tractor operation in which the engine is operating to power accessories for a sleeper compartment or other passenger compartment.

Particulate trap means a filtering device that is designed to physically trap all particulate matter above a certain size.

Percent (%) has the meaning given in 40 CFR 1065.1001. Note that this means percentages identified in this part are assumed to be infinitely precise without regard to the number of significant figures. For example, one percent of 1,493 is 14.93.

Petroleum means gasoline or diesel fuel or other fuels normally derived from crude oil. This does not include methane or liquefied petroleum gas.

Phase 1 means relating to the Phase 1 standards specified in §§1037.105 and 1037.106. For example, a vehicle subject to the Phase 1 standards is a Phase 1 vehicle. Note that there are no Phase 1 standards for trailers.

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Phase 2 means relating to the Phase 2 standards specified in §§1037.105 through 1037.107.

Placed into service means put into initial use for its intended purpose, excluding incidental use by the manufacturer or a dealer.

Power take-off (PTO) means a secondary engine shaft (or equivalent) that provides substantial auxiliary power for purposes unrelated to vehicle propulsion or normal vehicle accessories such as air conditioning, power steering, and basic electrical accessories. A typical PTO uses a secondary shaft on the engine to transmit power to a hydraulic pump that powers auxiliary equipment, such as a boom on a bucket truck. You may ask us to consider other equivalent auxiliary power configurations (such as those with hybrid vehicles) as power take-off systems.

Preliminary approval means approval granted by an authorized EPA representative prior to submission of an application for certification, consistent with the provisions of §1037.210 or 1037.211.

Rechargeable Energy Storage System (RESS) means the component(s) of a hybrid engine or vehicle that store recovered energy for later use, such as the battery system in an electric hybrid vehicle.

Refuse hauler means a heavy-duty vehicle whose primary purpose is to collect, compact, and transport solid waste, including recycled solid waste.

Regional means relating to the Regional duty cycle as specified in §1037.510.

Regulatory subcategory has the meaning given in §1037.230.

Relating to as used in this section means relating to something in a specific, direct manner. This expression is used in this section only to define terms as adjectives and not to broaden the meaning of the terms.

Revoke has the meaning given in 40 CFR 1068.30.

Roof height means the maximum height of a vehicle (rounded to the nearest inch), excluding narrow accessories such as exhaust pipes and antennas, but including any wide accessories such as roof fairings. Measure roof height of the vehicle configured to

have its maximum height that will occur during actual use, with properly inflated tires and no driver, passengers, or cargo onboard. *Roof height* may also refer to the following categories:

(1) Low-roof means relating to a vehicle with a roof height of 120 inches or less.

(2) Mid-roof means relating to a vehicle with a roof height of 121 to 147 inches.

(3) High-roof means relating to a vehicle with a roof height of 148 inches or more.

Round has the meaning given in 40 CFR 1065.1001.

Scheduled maintenance means adjusting, repairing, removing, disassembling, cleaning, or replacing components or systems periodically to keep a part or system from failing, malfunctioning, or wearing prematurely. It also may mean actions you expect are necessary to correct an overt indication of failure or malfunction for which periodic maintenance is not appropriate.

School bus has the meaning given in 49 CFR 571.3.

Secondary vehicle manufacturer anyone that produces a vehicle by modifying a complete vehicle or completing the assembly of a partially complete vehicle. For the purpose of this definition, “modifying” generally does not include making changes that do not remove a vehicle from its original certified configuration. However, custom sleeper modifications and alternative fuel conversions that change actual vehicle aerodynamics are considered to be modifications, even if they are permitted without recertification. This definition applies whether the production involves a complete or partially complete vehicle and whether the vehicle was previously certified to emission standards or not. Manufacturers controlled by the manufacturer of the base vehicle (or by an entity that also controls the manufacturer of the base vehicle) are not secondary vehicle manufacturers; rather, both entities are considered to be one manufacturer for purposes of this part.

Sleeper cab means a type of tractor cab that has a compartment behind the driver’s seat intended to be used by the driver for sleeping, and is not a heavy-

haul tractor cab. This includes cabs accessible from the driver's compartment and those accessible from outside the vehicle.

Small manufacturer means a manufacturer meeting the criteria specified in 13 CFR 121.201. The employee and revenue limits apply to the total number of employees and total revenue together for affiliated companies.

Spark-ignition has the meaning given in § 1037.101.

Standard payload means the payload assumed for each vehicle, in tons, for modeling and calculating emission credits, as follows:

- (1) For vocational vehicles:
 - (i) 2.85 tons for Light HDV.
 - (ii) 5.6 tons for Medium HDV.
 - (iii) 7.5 tons for Heavy HDV.
- (2) For tractors:
 - (i) 12.5 tons for Class 7.
 - (ii) 19 tons for Class 8, other than heavy-haul tractors.
 - (iii) 43 tons for heavy-haul tractors.
- (3) For trailers:
 - (i) 10 tons for short box vans.
 - (ii) 19 tons for other trailers.

Standard tractor has the meaning given in § 1037.501.

Standard trailer has the meaning given in § 1037.501.

Stop-start means a vehicle technology that automatically turns the engine off when the vehicle is stopped, as described in § 1037.660(a).

Suspend has the meaning given in 40 CFR 1068.30.

Tank trailer means a trailer designed to transport liquids or gases.

Test sample means the collection of vehicles or components selected from the population of a vehicle family for emission testing. This may include testing for certification, production-line testing, or in-use testing.

Test vehicle means a vehicle in a test sample.

Test weight means the vehicle weight used or represented during testing.

Tire pressure monitoring system (TPMS) is a vehicle system that monitors air pressure in each tire and alerts the operator when tire pressure falls below a specified value.

Tire rolling resistance level (TRRL) means a value with units of kg/tonne that represents the rolling resistance of a tire configuration. TRRLs are used

as modeling inputs under §§ 1037.515 and 1037.520. Note that a manufacturer may use the measured value for a tire configuration's coefficient of rolling resistance, or assign some higher value.

Total hydrocarbon has the meaning given in 40 CFR 1065.1001. This generally means the combined mass of organic compounds measured by the specified procedure for measuring total hydrocarbon, expressed as a hydrocarbon with an atomic hydrogen-to-carbon ratio of 1.85:1.

Total hydrocarbon equivalent has the meaning given in 40 CFR 1065.1001. This generally means the sum of the carbon mass contributions of non-oxygenated hydrocarbon, alcohols and aldehydes, or other organic compounds that are measured separately as contained in a gas sample, expressed as exhaust hydrocarbon from petroleum-fueled vehicles. The atomic hydrogen-to-carbon ratio of the equivalent hydrocarbon is 1.85:1.

Tractor has the meaning given for "truck tractor" in 49 CFR 571.3. This includes most heavy-duty vehicles specifically designed for the primary purpose of pulling trailers, but does not include vehicles designed to carry other loads. For purposes of this definition "other loads" would not include loads carried in the cab, sleeper compartment, or toolboxes. Examples of vehicles that are similar to tractors but that are not *tractors* under this part include dromedary tractors, automobile haulers, straight trucks with trailers hitches, and tow trucks. Note that the provisions of this part that apply for tractors do not apply for tractors that are classified as vocational tractors under § 1037.630.

Trailer means a piece of equipment designed for carrying cargo and for being drawn by a tractor when coupled to the tractor's fifth wheel. These trailers may be known commercially as semi-trailers or truck trailers. This definition excludes equipment that serve similar purposes but are not intended to be pulled by a tractor, whether or not they are known commercially as trailers. Trailers may be divided into different types and categories as described in paragraphs (1) through (4) of this definition. The types of equipment identified in paragraph

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(5) of this definition are not trailers for purposes of this part.

(1) Box vans are trailers with enclosed cargo space that is permanently attached to the chassis, with fixed sides, nose, and roof. Tank trailers are not box vans.

(2) Box vans with self-contained HVAC systems are refrigerated vans. Note that this includes systems that provide cooling, heating, or both. All other box vans are dry vans.

(3) Trailers that are not box vans are non-box trailers. Note that the standards for non-box trailers in this part 1037 apply only to flatbed trailers, tank trailers, and container chassis.

(4) Box vans with length at or below 50.0 feet are short box vans. Other box vans are long box vans.

(5) The following types of equipment are not trailers for purposes of this part 1037:

(i) Containers that are not permanently mounted on chassis.

(ii) Dollies used to connect tandem trailers.

Ultimate purchaser means, with respect to any new vehicle, the first person who in good faith purchases such new vehicle for purposes other than resale.

United States has the meaning given in 40 CFR 1068.30.

Upcoming model year means for a vehicle family the model year after the one currently in production.

Urban means relating to the Urban duty cycle as specified in § 1037.510.

U.S.-directed production volume means the number of vehicle units, subject to the requirements of this part, produced by a manufacturer for which the manufacturer has a reasonable assurance that sale was or will be made to ultimate purchasers in the United States. This does not include vehicles certified to state emission standards that are different than the emission standards in this part.

Useful life means the period during which a vehicle is required to comply with all applicable emission standards.

Vehicle means equipment intended for use on highways that meets at least one of the criteria of paragraph (1) of this definition, as follows:

(1) The following equipment are vehicles:

(i) A piece of equipment that is intended for self-propelled use on highways becomes a vehicle when it includes at least an engine, a transmission, and a frame. (Note: For purposes of this definition, any electrical, mechanical, and/or hydraulic devices attached to engines for the purpose of powering wheels are considered to be transmissions.)

(ii) A piece of equipment that is intended for self-propelled use on highways becomes a vehicle when it includes a passenger compartment attached to a frame with one or more axles.

(iii) Trailers. A trailer becomes a vehicle when it has a frame with one or more axles attached.

(2) Vehicles other than trailers may be complete or incomplete vehicles as follows:

(i) A *complete vehicle* is a functioning vehicle that has the primary load carrying device or container (or equivalent equipment) attached. Examples of equivalent equipment would include fifth wheel trailer hitches, firefighting equipment, and utility booms.

(ii) An *incomplete vehicle* is a vehicle that is not a complete vehicle. Incomplete vehicles may also be cab-complete vehicles. This may include vehicles sold to secondary vehicle manufacturers.

(iii) The primary use of the terms “complete vehicle” and “incomplete vehicle” are to distinguish whether a vehicle is complete when it is first sold as a vehicle.

(iv) You may ask us to allow you to certify a vehicle as incomplete if you manufacture the engines and sell the unassembled chassis components, as long as you do not produce and sell the body components necessary to complete the vehicle.

Vehicle configuration means a unique combination of vehicle hardware and calibration (related to measured or modeled emissions) within a vehicle family. Vehicles with hardware or software differences, but that have no hardware or software differences related to measured or modeled emissions may be included in the same vehicle configuration. Note that vehicles with hardware or software differences

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related to measured or modeled emissions are considered to be different configurations even if they have the same GEM inputs and FEL. Vehicles within a vehicle configuration differ only with respect to normal production variability or factors unrelated to measured or modeled emissions.

Vehicle family has the meaning given in §1037.230.

Vehicle service class has the meaning given in §1037.140. The different vehicle service classes are Light HDV, Medium HDV, and Heavy HDV.

Vehicle subfamily or subfamily means a subset of a vehicle family including vehicles subject to the same FEL(s).

Vocational tractor means a vehicle classified as a vocational tractor under §1037.630.

Vocational vehicle means relating to a vehicle subject to the standards of §1037.105 (including vocational tractors).

Void has the meaning given in 40 CFR 1068.30.

Volatile liquid fuel means any fuel other than diesel or biodiesel that is a liquid at atmospheric pressure and has a Reid Vapor Pressure higher than 2.0 pounds per square inch.

We (us, our) means the Administrator of the Environmental Protection Agency and any authorized representatives.

§ 1037.805 Symbols, abbreviations, and acronyms.

The procedures in this part generally follow either the International System of Units (SI) or the United States customary units, as detailed in NIST Special Publication 811 (incorporated by reference in §1037.810). See 40 CFR 1065.20 for specific provisions related to these conventions. This section summarizes the way we use symbols, units of measure, and other abbreviations.

(a) *Symbols for chemical species.* This part uses the following symbols for chemical species and exhaust constituents:

Symbol	Species
C	carbon.
CH ₄	methane.
CO	carbon monoxide.
CO ₂	carbon dioxide.
H ₂ O	water.
HC	hydrocarbon.
NMHC	nonmethane hydrocarbon.
NMHCE	nonmethane hydrocarbon equivalent.
NO	nitric oxide.
NO ₂	nitrogen dioxide.
NO _x	oxides of nitrogen.
N ₂ O	nitrous oxide.
PM	particulate matter.
THC	total hydrocarbon.
THCE	total hydrocarbon equivalent.

(b) *Symbols for quantities.* This part uses the following symbols and units of measure for various quantities:

Symbol	Quantity	Unit	Unit symbol	Unit in terms of SI base units
A	vehicle frictional load	pound force or newton	lbf or N	kg·m·s ⁻² .
a	axle position regression coefficient.			
α	atomic hydrogen-to-carbon ratio ..	mole per mole	mol/mol	1.
α	axle position regression coefficient.			
α ₀	intercept of air speed correction.			
α ₁	slope of air speed correction.			
a _g	acceleration of Earth's gravity	meters per second squared	m/s ²	m·s ⁻² .
a ₀	intercept of least squares regression.			
a ₁	slope of least squares regression.			
B	vehicle load from drag and rolling resistance.	pound force per mile per hour or newton second per meter.	lbf/(mi/hr) or N·s/m	kg·s ⁻¹ .
b	axle position regression coefficient.			
β	atomic oxygen-to-carbon ratio	mole per mole	mol/mol	1.
β	axle position regression coefficient.			
β ₀	intercept of air direction correction.			
β ₁	slope of air direction correction.			
C	vehicle-specific aerodynamic effects.	pound force per mile per hour squared or newton-second squared per meter squared.	lbf/mph ² or N·s ² /m ² .	kg·m ⁻¹ .
c	axle position regression coefficient.			

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Symbol	Quantity	Unit	Unit symbol	Unit in terms of SI base units
C_1	axle test regression coefficients.			
C_2	constant.			
$\Delta C_d A$	differential drag area	meter squared	m^2	m^2 .
$C_d A$	drag area	meter squared	m^2	m^2 .
C_d	drag coefficient.			
CF	correction factor.			
C_{rr}	coefficient of rolling resistance	kilogram per metric ton	kg/tonne	10^{-2} .
D	distance	miles or meters	mi or m	m.
e	mass-weighted emission result	grams/ton-mile	g/ton-mi	g/kg-km.
Eff	efficiency.			
F	adjustment factor.			
F	force	pound force or newton	lbf or N	$kg \cdot m \cdot s^{-2}$.
f_n	angular speed (shaft)	revolutions per minute	r/min	$\pi \cdot 30 \cdot s^{-1}$.
G	road grade	percent	%	10^{-2} .
g	gravitational acceleration	meters per second squared	m/s^2	$m \cdot s^{-2}$.
h	elevation or height	meters	m	m.
i	indexing variable.			
k_a	drive axle ratio			1
k_t	transmission gear ratio.			
$k_{topgear}$	highest available transmission gear.			
L	load over axle	pound force or newton	lbf or N	$kg \cdot m \cdot s^{-2}$.
m	mass	pound mass or kilogram	lbm or kg	kg.
M	molar mass	gram per mole	g/mol	$10^{-3} \cdot kg \cdot mol^{-1}$.
M	vehicle mass	kilogram	kg	kg.
M_e	vehicle effective mass	kilogram	kg	kg.
$M_{rotating}$	inertial mass of rotating components.	kilogram	kg	kg.
N	total number in series.			
n	number of tires.			
\dot{n}	amount of substance rate	mole per second	mol/s	$mol \cdot s^{-1}$.
P	power	kilowatt	kW	$10^3 \cdot m^2 \cdot kg \cdot s^{-3}$.
P	tire inflation pressure	pascal	Pa	$kg \cdot m^{-1} \cdot s^{-2}$.
p	pressure	pascal	Pa	$kg \cdot m^{-1} \cdot s^{-2}$.
ρ	mass density	kilogram per cubic meter	kg/m^3	$kg \cdot m^{-3}$.
PL	payload	tons	ton	kg.
ϕ	direction	degrees	$^\circ$	$^\circ$.
θ	direction	degrees	$^\circ$	$^\circ$.
r	tire radius	meter	m	m.
R^2	coefficient of determination.			
Re^θ	Reynolds number.			
SEE	standard estimate of error.			
σ	standard deviation.			
$TRPM$	tire revolutions per mile	revolutions per mile	r/mi.	
$TRRL$	tire rolling resistance level	kilogram per metric ton	kg/tonne	10^{-3} .
T	absolute temperature	kelvin	K	K.
T	Celsius temperature	degree Celsius	$^\circ C$	$K - 273.15$.
T	torque (moment of force)	newton meter	N-m	$m^2 \cdot kg \cdot s^{-2}$.
t	time	hour or second	hr or s	s.
Δt	time interval, period, 1/frequency utility factor.	second	s	s.
v	speed	miles per hour or meters per second.	mi/hr or m/s	$m \cdot s^{-1}$.
w	weighting factor.			
w	wind speed	miles per hour	mi/hr	$m \cdot s^{-1}$.
W	work	kilowatt-hour	kW-hr	$3.6 \cdot m^2 \cdot kg \cdot s^{-1}$.
w_c	carbon mass fraction	gram/gram	g/g	1.
WR	weight reduction	pound mass	lbm	kg.
x	amount of substance mole fraction.	mole per mole	mol/mol	1.

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(c) *Superscripts.* This part uses the following superscripts to define a quantity:

Superscript	Quantity
overbar (such as \bar{y})	arithmetic mean.
Double overbar (such as $\overline{\bar{y}}$).	arithmetic mean of arithmetic mean.
overdot (such as \dot{y})	quantity per unit time.

(d) *Subscripts.* This part uses the following subscripts to define a quantity:

Subscript	Quantity
±6	±6° yaw angle sweep.
A	A speed.
air	air.
aero	aerodynamic.
alt	alternative.
act	actual or measured condition.
air	air.
axle	axle.
B	B speed.
brake	brake.
C	C speed.
Ccombdry	carbon from fuel per mole of dry exhaust.
CD	charge-depleting.
circuit	circuit.
CO ₂ DEF	CO ₂ resulting from diesel exhaust fluid decomposition.
CO ₂ PTO	CO ₂ emissions for PTO cycle.
coastdown	coastdown.
comp	composite.
CS	charge-sustaining.
cycle	test cycle.
drive	drive axle.
drive-idle	idle with the transmission in drive.
driver	driver.
dyno	dynamometer.
effective	effective.
end	end.
eng	engine.
event	event.
fuel	fuel.
full	full.
grade	grade.
H ₂ O _{exhaustdry}	H ₂ O in exhaust per mole of exhaust.
hi	high.
i	an individual of a series.
idle	idle.
in	inlet.
inc	increment.
lo	low.
loss	loss.
max	maximum.
meas	measured quantity.
med	median.
min	minimum.
moving	moving.
out	outlet.
P	power.
pair	pair of speed segments.
parked-idle	idle with the transmission in park.
partial	partial.
ploss	power loss.
plug-in	plug-in hybrid electric vehicle.
powertrain	powertrain.
PTO	power take-off.
rated	rated speed.
record	record.
ref	reference quantity.

Subscript	Quantity
RL	road load.
rotating	rotating.
seg	segment.
speed	speed.
spin	axle spin loss.
start	start.
steer	steer axle.
t	tire.
test	test.
th	theoretical.
total	total.
trac	traction.
trac10	traction force at 10 mi/hr.
trailer	trailer axle.
transient	transient.
TRR	tire rolling resistance.
urea	urea.
veh	vehicle.
w	wind.
wa	wind average.
yaw	yaw angle.
ys	yaw sweep.
zero	zero quantity.

(e) *Other acronyms and abbreviations.* This part uses the following additional abbreviations and acronyms:

ABT	averaging, banking, and trading.
AECD	auxiliary emission control device.
AES	automatic engine shutdown.
APU	auxiliary power unit.
CD	charge-depleting.
CFD	computational fluid dynamics.
CFR	Code of Federal Regulations.
CITT	curb idle transmission torque.
CS	charge-sustaining.
DOT	Department of Transportation.
EPA	Environmental Protection Agency.
FE	fuel economy.
FEL	Family Emission Limit.
GAWR	gross axle weight rating.
GCWR	gross combination weight rating.
GEM	greenhouse gas emission model.
GVWR	gross vehicle weight rating.
Heavy HDV	Heavy heavy-duty vehicle (see § 1037.140).
HVAC	heating, ventilating, and air conditioning.
ISO	International Organization for Standardization.
Light HDV	Light heavy-duty vehicle (see § 1037.140).
Medium HDV	Medium heavy-duty vehicle (see § 1037.140).
NARA	National Archives and Records Administration.
NHTSA	National Highway Transportation Safety Administration.
PHEV	plug-in hybrid electric vehicle.
PTO	power take-off.
RESS	rechargeable energy storage system.
rpm	revolutions per minute.
SAE	Society of Automotive Engineers.
SEE	standard error of estimate.

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SKU	stock-keeping unit.	VSL	vehicle speed limiter.
TRPM	tire revolutions per mile.	(f) <i>Constants.</i> This part uses the following constants:	
TRRL	tire rolling resistance level.		
U.S.C.	United States Code.		

Symbol	Quantity	Value
<i>g</i>	gravitational constant	9.81 m·s ⁻² .
<i>R</i>	specific gas constant	287.058 J/(kg·K).

(g) *Prefixes.* This part uses the following prefixes to define a quantity:

Symbol	Quantity	Value
μ	micro	10 ⁻⁶
m	milli	10 ⁻³
c	centi	10 ⁻²
k	kilo	10 ³
M	mega	10 ⁶

§ 1037.810 Incorporation by reference.

(a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, the Environmental Protection Agency must publish a document in the FEDERAL REGISTER and the material must be available to the public. All approved material is available for inspection at U.S. EPA, Air and Radiation Docket and Information Center, 1301 Constitution Ave. NW., Room B102, EPA West Building, Washington, DC 20460, (202) 202-1744, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(b) International Organization for Standardization, Case Postale 56, CH-1211 Geneva 20, Switzerland, (41) 22749 0111, www.iso.org, or central@iso.org.

(1) ISO 28580:2009(E) “Passenger car, truck and bus tyres—Methods of measuring rolling resistance—Single point test and correlation of measurement results”, First Edition, July 1, 2009, (“ISO 28580”), IBR approved for §1037.520(c).

(2) [Reserved]

(c) U.S. EPA, Office of Air and Radiation, 2565 Plymouth Road, Ann Arbor, MI 48105, www.epa.gov.

(1) Greenhouse gas Emissions Model (GEM), Version 2.0.1, September 2012 (“GEM version 2.0.1”), IBR approved for §1037.520. The computer code for this model is available as noted in paragraph (a) of this section. A working version of this software is also available for download at <http://www.epa.gov/otaq/climate/gem.htm>.

(2) Greenhouse gas Emissions Model (GEM) Phase 2, Version 3.0, July 2016; IBR approved for §1037.520. The computer code for this model is available as noted in paragraph (a) of this section. A working version of this software is also available for download at <http://www.epa.gov/otaq/climate/gem.htm>.

(d) National Institute of Standards and Technology, 100 Bureau Drive, Stop 1070, Gaithersburg, MD 20899-1070, (301) 975-6478, or www.nist.gov.

(1) NIST Special Publication 811, Guide for the Use of the International System of Units (SI), 2008 Edition, March 2008, IBR approved for §1037.805.

(2) [Reserved]

(e) SAE International, 400 Commonwealth Dr., Warrendale, PA 15096-0001, (877) 606-7323 (U.S. and Canada) or (724) 776-4970 (outside the U.S. and Canada), <http://www.sae.org>.

(1) SAE J1025, Test Procedures for Measuring Truck Tire Revolutions Per Kilometer/Mile, Stabilized August 2012, (“SAE J1025”), IBR approved for §1037.520(c).

(2) SAE J1252, SAE Wind Tunnel Test Procedure for Trucks and Buses, Revised July 2012, (“SAE J1252”), IBR approved for §§1037.525(b) and 1037.530(a).

(3) SAE J1263, Road Load Measurement and Dynamometer Simulation Using Coastdown Techniques, revised

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March 2010, (“SAE J1263”), IBR approved for §§ 1037.528 introductory text, (a), (b), (c), (e), and (h) and 1037.665(a).

(4) SAE J1594, Vehicle Aerodynamics Terminology, Revised July 2010, (“SAE J1594”), IBR approved for § 1037.530(d).

(5) SAE J2071, Aerodynamic Testing of Road Vehicles—Open Throat Wind Tunnel Adjustment, Revised June 1994, (“SAE J2071”), IBR approved for § 1037.530(b).

(6) SAE J2263, Road Load Measurement Using Onboard Anemometry and Coastdown Techniques, Revised December 2008, (“SAE J2263”), IBR approved for §§ 1037.528 introductory text, (a), (b), (d), and (f) and 1037.665(a).

(7) SAE J2343, Recommended Practice for LNG Medium and Heavy-Duty Powered Vehicles, Revised July 2008, (“SAE J2343”), IBR approved for § 1037.103(e).

(8) SAE J2452, Stepwise Coastdown Methodology for Measuring Tire Rolling Resistance, Revised June 1999, (“SAE J2452”), IBR approved for § 1037.528(h).

(9) SAE J2966, Guidelines for Aerodynamic Assessment of Medium and Heavy Commercial Ground Vehicles Using Computational Fluid Dynamics, Issued September 2013, (“SAE J2966”), IBR approved for § 1037.532(a).

§ 1037.815 Confidential information.

The provisions of 40 CFR 1068.10 apply for information you consider confidential.

§ 1037.820 Requesting a hearing.

(a) You may request a hearing under certain circumstances, as described elsewhere in this part. To do this, you must file a written request, including a description of your objection and any supporting data, within 30 days after we make a decision.

(b) For a hearing you request under the provisions of this part, we will approve your request if we find that your request raises a substantial factual issue.

(c) If we agree to hold a hearing, we will use the procedures specified in 40 CFR part 1068, subpart G.

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§ 1037.825 Reporting and record-keeping requirements.

(a) This part includes various requirements to submit and record data or other information. Unless we specify otherwise, store required records in any format and on any media and keep them readily available for eight years after you send an associated application for certification, or eight years after you generate the data if they do not support an application for certification. You may not rely on anyone else to meet recordkeeping requirements on your behalf unless we specifically authorize it. We may review these records at any time. You must promptly send us organized, written records in English if we ask for them. We may require you to submit written records in an electronic format.

(b) The regulations in § 1037.255 and 40 CFR 1068.25 and 1068.101 describe your obligation to report truthful and complete information. This includes information not related to certification. Failing to properly report information and keep the records we specify violates 40 CFR 1068.101(a)(2), which may involve civil or criminal penalties.

(c) Send all reports and requests for approval to the Designated Compliance Officer (see § 1037.801).

(d) Any written information we require you to send to or receive from another company is deemed to be a required record under this section. Such records are also deemed to be submissions to EPA. Keep these records for eight years unless the regulations specify a different period. We may require you to send us these records whether or not you are a certificate holder.

(e) Under the Paperwork Reduction Act (44 U.S.C. 3501 et seq), the Office of Management and Budget approves the reporting and recordkeeping specified in the applicable regulations. The following items illustrate the kind of reporting and recordkeeping we require for vehicles regulated under this part:

(1) We specify the following requirements related to vehicle certification in this part 1037:

(i) In § 1036.150 we include various reporting and recordkeeping requirements related to interim provisions.

(ii) In subpart C of this part we identify a wide range of information required to certify vehicles.

(iii) In subpart G of this part we identify several reporting and recordkeeping items for making demonstrations and getting approval related to various special compliance provisions.

(iv) In §1037.725, 1037.730, and 1037.735 we specify certain records related to averaging, banking, and trading.

(2) We specify the following requirements related to testing in 40 CFR part 1066:

(i) In 40 CFR 1066.2 we give an overview of principles for reporting information.

(ii) In 40 CFR 1066.25 we establish basic guidelines for storing test information.

(iii) In 40 CFR 1066.695 we identify the specific information and data items to record when measuring emissions.

(3) We specify the following requirements related to the general compliance provisions in 40 CFR part 1068:

(i) In 40 CFR 1068.5 we establish a process for evaluating good engineering judgment related to testing and certification.

(ii) In 40 CFR 1068.25 we describe general provisions related to sending and keeping information.

(iii) In 40 CFR 1068.27 we require manufacturers to make engines and vehicles available for our testing or inspection if we make such a request.

(iv) In 40 CFR 1068.105 we require vehicle manufacturers to keep certain records related to duplicate labels from engine manufacturers.

(v) In 40 CFR 1068.120 we specify recordkeeping related to rebuilding engines.

(vi) In 40 CFR part 1068, subpart C, we identify several reporting and recordkeeping items for making demonstrations and getting approval related to various exemptions.

(vii) In 40 CFR part 1068, subpart D, we identify several reporting and recordkeeping items for making demonstrations and getting approval related to importing engines and vehicles.

(viii) In 40 CFR 1068.450 and 1068.455 we specify certain records related to testing production-line engines and vehicles in a selective enforcement audit.

(ix) In 40 CFR 1068.501 we specify certain records related to investigating and reporting emission-related defects.

(x) In 40 CFR 1068.525 and 1068.530 we specify certain records related to recalling nonconforming engines and vehicles.

(xi) In 40 CFR part 1068, subpart G, we specify certain records for requesting a hearing.

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Time (sec)	Speed (mi/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.41
8	1.18
9	2.26
10	3.19
11	3.97
12	4.66
13	5.32
14	5.94
15	6.48
16	6.91
17	7.28
18	7.64
19	8.02
20	8.36
21	8.60
22	8.74
23	8.82
24	8.82
25	8.76
26	8.66
27	8.58
28	8.52
29	8.46
30	8.38
31	8.31
32	8.21
33	8.11
34	8.00
35	7.94
36	7.94
37	7.80
38	7.43
39	6.79
40	5.81
41	4.65
42	3.03
43	1.88
44	1.15
45	1.14
46	1.12
47	1.11
48	1.19
49	1.57
50	2.31
51	3.37
52	4.51
53	5.56
54	6.41
55	7.09
56	7.59