

## Frequently Asked Questions about Heavy-Duty “Glider Vehicles” and “Glider Kits”

**B**rief answers to common questions about potential changes to how EPA and NHTSA regulate glider vehicles.

### What are heavy-duty “glider vehicles” and “glider kits”?

The term “glider kit” is used in the heavy-duty vehicle industry to describe a chassis and cab assembly that is generally produced by a vehicle manufacturer without a new engine, transmission, or rear axle. A third party then typically installs a used engine, transmission, and/or rear axle to complete assembly of the vehicle. The terms “glider vehicle” or “glider” are typically used for the completed vehicles.

Historically, gliders have been used as a means to salvage valuable components, such as used engines, transmissions, and axles, from vehicles that were badly damaged in collisions. Gliders have been most popular for salvaging the components of the largest and most expensive class of heavy-duty vehicles (i.e. “Class 8”). More recently the agencies have observed a sharp increase in glider sales, which suggests that gliders are being used more and more as a loophole to avoid purchasing engines that meet 2010 EPA emission standards, and potentially to avoid NHTSA safety regulations.

As discussed below, because of different regulatory frameworks for safety and emissions, NHTSA and EPA have subtle but important differences in their regulatory definitions of glider kits. NHTSA defines a “glider kit” as motor vehicle equipment that primarily includes the chassis and cab, but generally does not include the engine or rear axles. NHTSA is considering new regulations that would focus only on the completed glider vehicles. EPA defines “glider kits” to include both the complete and incomplete vehicles and applies its regulations to both. (See 40 CFR 1037.801 of EPA’s proposed regulatory text.)

### Are emissions from gliders a significant problem?

Most gliders manufactured today use remanufactured model year 2001 or older engines. Typically these engines have NO<sub>x</sub> and particulate matter (PM) emissions



**20 to 40 times** higher than today's clean diesel engines. Since 2010 when EPA's current NOx and PM standards for heavy duty engines took effect, glider sales have increased nearly **10-fold** as compared to the 2004-2006 time frame.<sup>1</sup> EPA believes this increase reflects an attempt to avoid using engines that comply with EPA's 2010 standards, and is an attempt to circumvent the Clean Air Act's purpose to protect human health and the environment.

This increase in glider kit sales is a growing environmental concern. To give a sense of scale, annual glider sales now represent roughly **2%** of the Class 8 vehicles manufactured annually, and yet may account for as much as **one-half** of total NOx and PM emissions from all new Class 8 vehicles. Put another way, at current production rates, the contribution of NOx and PM emissions from gliders alone would nearly **double** the emissions of these pollutants from the entire Class 8 fleet.

The figure below illustrates in a relative sense how the NOx and PM emissions from gliders have increased and how they compare to the rest of Class 8 sales. This figure is based on estimated current and historic glider production rates. The first bar represents the NOx and PM emissions that would result from 500 "pre-emission" gliders, which was a typical annual sales volume before model year 2007. It shows that 500 gliders emitting 40 times the NOx and PM would have the same total NOx and PM emissions as 20,000 fully compliant vehicles. The second bar represents the NOx and PM emissions from 5,000 model year 2014 "pre-emission" gliders. This second bar shows that just 5,000 of these gliders could emit as much NOx and PM as 200,000 fully compliant 2014 Class 8 tractors. For comparison, the third bar shows the NOx and PM emissions of 250,000 fully compliant model year 2014 Class 8 vehicles, which represents the typical annual production of fully compliant new Class 8 vehicles.

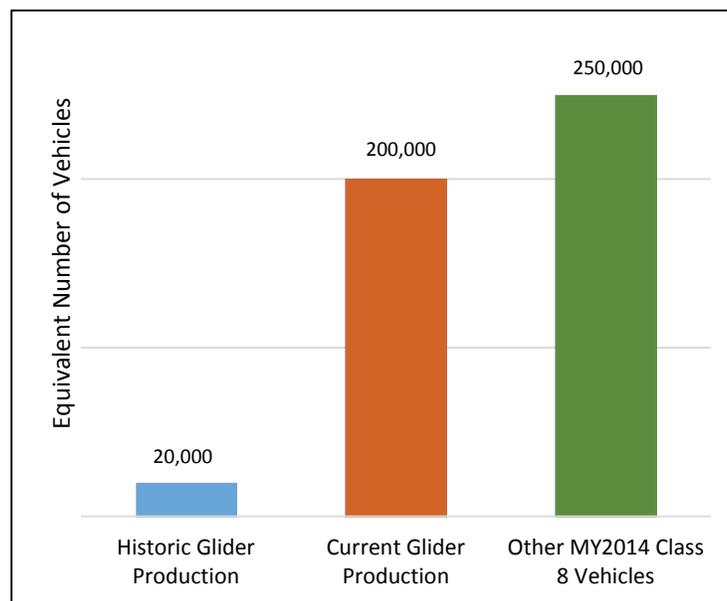


Figure 1 Growing Environmental Significance of Gliders

<sup>1</sup> Based on the following report that has been placed into the public docket for this rulemaking: "Industry Characterization of Heavy Duty Glider Kits", MacKay & Company, September 30, 2013.

## Does EPA consider glider kits to be new motor vehicles?

Yes. The Clean Air Act definition of “new motor vehicle” is not based on the condition of the parts assembled to create the vehicle but rather encompasses the entire vehicle. Thus, newly created gliders are “new motor vehicles” under the Clean Air Act, even if they incorporate some previously used components. Under this framework, glider kits are regulated by EPA the same as other incomplete new heavy-duty vehicles.

Some glider manufacturers and customers may attempt to circumvent this definition by retaining the Vehicle Identification Number (VIN) of the donor vehicle from which the used engine was obtained. However, this technicality does not mean that the new glider is actually the old vehicle.

## When does NHTSA consider glider vehicles to be new motor vehicles?

NHTSA also determines whether or not a motor vehicle is “new” based on criteria other than its retention of a pre-existing VIN. NHTSA considers all completed glider vehicles to be new unless they have a transmission, engine, and drive axle that are not new, and at least two of those components are from the same “donor vehicle.” While NHTSA considers completed gliders to be motor vehicles, it does not consider glider kits (as it defines the term) to be motor vehicles. Rather, it considers glider kits to be “motor vehicle equipment.”

## Are EPA and NHTSA proposing to ban gliders?

No, neither EPA nor NHTSA are proposing to ban gliders. EPA is clarifying which existing standards apply already to gliders, and is proposing new emissions requirements for certain gliders. NHTSA is considering setting similar standards for complete glider vehicles, but not for glider kits.

## What is EPA proposing for gliders in this rulemaking?

In general, EPA is proposing three things:

- a. Clarifications to the existing HD Phase 1 EPA requirements for gliders.
- b. New requirements for most gliders to have engines installed that meet the same requirements as new emissions-compliant engines.
- c. Exceptions to the proposed new requirements for small businesses.

Each of these general areas is discussed further in related questions below.

- a. **What are the *existing* EPA requirements for gliders, and how are these being clarified?**

EPA is clarifying that gliders, because they are *“new vehicles”* under the Clean Air Act, are subject to EPA’s current HD Phase 1 GHG emission standards for new *vehicles* in 40 CFR part 1037, with some exemptions for small businesses. This means that glider vehicles not produced by small businesses are already required to comply with the HD Phase 1 vehicle standards.

The current regulations (which are being revised) have not prohibited the use of older model engines, such as those that have been rebuilt or remanufactured for additional use. However, these engines have always had to comply with emissions standards applicable to their own model year of manufacture. In other words, EPA's regulations have allowed older engines to be installed into new glider kits, as long as they remained in their originally certified configuration.

**b. What new EPA requirements are being proposed in the HD Phase 2 Notice of Proposed Rulemaking?**

EPA is proposing new requirements beginning January 1, 2018 that would generally require engines installed in new gliders to meet the same requirements as new emissions-compliant engines – both for GHGs and for other harmful pollutants such as NO<sub>x</sub> and PM. For example, if a glider was produced in 2020, it could use any engine that met the standards for model year 2020 engines. This could be an earlier model year engine that was originally subject to the same requirements, such as a model year 2018 engine.

Beginning in model year 2021, Phase 2 standards for heavy duty vehicles would also apply to gliders.

**c. What are the exemptions for small businesses that manufacture gliders for model years 2018 and beyond?**

The HD Phase 1 regulations currently include an exemption for small businesses from all of the HD Phase 1 requirements of 40 CFR part 1037. This exemption, which was included in the Phase 1 rulemaking as an interim provision, also covers glider manufacturers. We are proposing to end this blanket exemption on January 1, 2018.

In place of the blanket exemption, EPA is proposing limited grandfathering of existing small businesses that currently install the used engines and other used parts into gliders. Under these special provisions, existing small businesses would be allowed to continue their production up to 300 assembled gliders per year under the same type of exemption that covered them in HD Phase 1. Any additional gliders an existing small business would produce (beyond their existing production rates or beyond 300 per year, as applicable) would need to meet the new proposed requirements for both engines and vehicles. These grandfathering provisions for existing small businesses should allow this industry to produce enough gliders to address legitimate purposes (e.g., salvaging engines and other parts from damaged vehicles). However, manufacturers that have significantly ramped up glider production in recent years to avoid EPA's 2010 NO<sub>x</sub> and PM engine standards and other requirements, may need to alter their business practices.

**How did EPA develop this small business exemption?**

Prior to issuing the proposal, EPA convened a formal panel with the Small Business Administration (SBA) and the Office of Management and Budget (OMB) to consider ways to minimize impacts on small businesses. As a central part of this process, EPA invited potentially affected small businesses to serve as Small Entity Representatives (SERs) that would help the panel to identify and address adverse impacts on small businesses. One of the SERs was a small

manufacturer that assembled gliders. This manufacturer helped the panel to understand how this rule would impact small businesses that assemble gliders. Based in large part on this input, the panel recommended the exemption being proposed. The official Panel Report has been placed into the public docket for this rulemaking.

**What are the existing NHTSA requirements for gliders, and is NHTSA considering adopting new provisions?**

NHTSA does not currently consider glider kits or completed glider vehicles to be covered under NHTSA's HD Phase 1 standards. For completed glider vehicles, NHTSA is considering adopting requirements similar to EPA's proposed regulations. NHTSA would also consider special provisions for small business manufacturers consistent with the initial regulatory flexibility analysis that accompanies the rulemaking. NHTSA is not considering standards for glider kits (as NHTSA defines them).

**Are EPA and NHTSA considering other options, and how can I provide new information to the agencies?**

EPA is requesting comment on all of these proposed changes, and we may revise these provisions to offer more or less flexibility in the Final Rule. NHTSA is requesting comment on its consideration of similarly regulating completed glider vehicles, but not glider kits. Both agencies encourage commenters to provide data that would allow us to improve our proposal. See the notice for instructions on providing comments at:

[www.epa.gov/otaq/climate/regs-heavy-duty.htm](http://www.epa.gov/otaq/climate/regs-heavy-duty.htm)

or

[www.nhtsa.gov/fuel-economy](http://www.nhtsa.gov/fuel-economy)