A GUIDE TO CALIFORNIA’S CLEAN AIR REGULATIONS FOR HEAVY-DUTY DIESEL VEHICLES
The California Air Resources Board (CARB) is actively enforcing heavy-duty diesel vehicle regulations in support of California’s clean air goals. Enforcement of clean diesel vehicle rules also provides a level playing field for those who have already done their part and are in compliance.

This booklet provides basic information and resources to help take the guesswork out of California’s clean truck and bus requirements. If your rig does not meet state clean air laws, you could be subject to fines or temporarily lose the ability to operate in California.

For more information or assistance with compliance options, visit www.arb.ca.gov/truckstop, call CARB’s toll-free hotline at 1-866-6DIESEL, or email us at 8666DIESEL@arb.ca.gov

While this booklet is intended to assist truck owners with their compliance efforts, it is the sole responsibility of fleets to ensure compliance with all applicable regulations.
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Please visit CARB’s comprehensive website for more detailed information regarding diesel trucks at [www.arb.ca.gov/truckstop](http://www.arb.ca.gov/truckstop)

Para obtener más información en español, por favor visite [www.arb.ca.gov/truckstop/espanol](http://www.arb.ca.gov/truckstop/espanol)

8666DIESEL@arb.ca.gov 1-866-6DIESEL (1-866-634-3735)
WHAT DIESEL RULES APPLY TO YOU?

Check all diesel rules that apply to you.

☐ Does your vehicle have a **Gross Vehicle Weight Rating (GVWR) of 14,000+ lbs.**?
   See Trucks and Buses (private and federal fleets): page 4
   Other rules may apply, see below.

☐ Is your fleet **publicly owned**, a **solid waste collection vehicle**, or a **transit agency** or **utility**?
   See Public Fleets and Others: page 10

☐ Do you visit **ports or intermodal rail yards**?
   See Drayage Trucks: page 7

☐ Do you own or operate a **reefer** (transport refrigeration unit)?
   See Transport Refrigeration Units: page 8

☐ Do you own or pull **53-foot or longer box-type trailers**?
   See Tractors and Box-Type Trailers: page 9

☐ Do you own a vehicle with a **GVWR of 6,000+ lbs.**?
   See Idling Limits: page 10
   See Emission Control Labels: page 10
   See Heavy-Duty Vehicle Inspection Program: page 10
   See Periodic Smoke Inspection Program: page 10
Diesel trucks and buses with a GVWR that is 14,001+ lbs. must reduce exhaust emissions by meeting particulate matter (PM) filter requirements and upgrading to newer engines. Vehicles with 2010 model year (MY) or newer engines are fully compliant.

Heavier Vehicles with a GVWR greater than 26,000 lbs. must upgrade as shown in the table. Reporting is optional when exclusively using the heavier vehicle schedule, below.

### Schedule for Heavier Vehicles (>26,000 lbs. GVWR)

<table>
<thead>
<tr>
<th>Engine Year</th>
<th>PM Filter*</th>
<th>2010 MY Engine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-1994</td>
<td>Not required</td>
<td>January 1, 2015</td>
</tr>
<tr>
<td>2000-2004</td>
<td>January 1, 2013</td>
<td>January 1, 2021</td>
</tr>
<tr>
<td>2005 or newer</td>
<td>January 1, 2014</td>
<td>January 1, 2022</td>
</tr>
<tr>
<td>2007-2009</td>
<td>If already equipped</td>
<td>January 1, 2023</td>
</tr>
</tbody>
</table>

*Level 3 PM filter

Lighter Vehicles with a GVWR between 14,001 and 26,000 lbs. need to be upgraded with 2010 or newer MY engines. Check the table to determine your replacement date. Older vehicles may be upgraded to newer used equipment that is still in compliance with the schedule. No retrofit PM filter or reporting is required for lighter vehicles.

Truck and Bus Regulation
1-866-6DIESEL (866-634-3735)
[www.arb.ca.gov/truckstop](http://www.arb.ca.gov/truckstop)

Other flexibility options may help you comply with the regulation (please see page 5). Reporting is required by January 31 of the compliance year to claim any available options.
Owners of vehicles eligible to use flexibility options must keep records and provide them upon request.

PM Filter Phase-In for Rural Areas with Cleaner Air

Any vehicle that operates exclusively in the NOX Exempt Areas will have no additional requirements, other than reporting, once the vehicle is equipped with a retrofit or original equipment manufacturer (OEM) PM filter by the deadline. This option is open to both lighter and heavier vehicles. See TruckStop for NOX Exempt Area maps.

<table>
<thead>
<tr>
<th>NOX Exempt Phase-in Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compliance Date</td>
</tr>
<tr>
<td>January 1, 2014</td>
</tr>
<tr>
<td>January 1, 2015</td>
</tr>
<tr>
<td>January 1, 2016</td>
</tr>
<tr>
<td>January 1, 2017</td>
</tr>
<tr>
<td>January 1, 2018</td>
</tr>
<tr>
<td>January 1, 2019</td>
</tr>
<tr>
<td>January 1, 2020</td>
</tr>
</tbody>
</table>

Low-Use Vehicle Exemption

A low-use vehicle is one that operates less than 1,000 miles per calendar year within California’s borders. Until January 1, 2020, low-use vehicles also include vehicles that travel less than 5,000 miles per calendar year.

For more information on other flexibility options, please visit the TruckStop website at: 
www.arb.ca.gov/truckstop
Starting in 2020, new enforcement tools ensure that vehicles subject to CARB’s Truck and Bus Regulation must meet the health-based requirements of that rule prior to obtaining registration through the California Department of Motor Vehicles (DMV). Beginning January 1, 2020, the DMV cannot register any vehicle that does not meet the requirements of the Truck and Bus Regulation.

**2020 DMV Registration Requirements**

You must be in compliance with the Truck and Bus Regulation in one of the following ways in order to register your vehicle with the DMV:

- The vehicle is using an allowable compliance option AND is reported into the TRUCRS reporting system
- The vehicle is compliant with the Engine Model Year Schedule (see page 4)
- The vehicle is equipped with a 2010 or newer model year engine (usually a 2011 or newer model year vehicle) OR is repowered with 2010 or newer model year engine

**Currently out of compliance? Don’t wait until 2020.**

CARB can issue DMV registration blocks now if your vehicle does not meet air quality requirements. The State of California is enforcing all diesel regulations in preparation for 2020.
Diesel-fueled trucks transporting cargo destined for or coming from California’s ports and intermodal rail yards (including bobtails and transporting chassis) must be registered in the statewide Drayage Truck Registry prior to entry. Drayage fleets must comply with requirements by operating only vehicles with 2007 MY engines or newer.

### Drayage Compliance Schedule (GVWR 26,001 lbs. or more)

<table>
<thead>
<tr>
<th>Truck Engine Model Year</th>
<th>Emission Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006 and older</td>
<td>Not allowed</td>
</tr>
<tr>
<td>2007-2009</td>
<td>Compliant through 2022</td>
</tr>
<tr>
<td>2010 and newer</td>
<td>Fully compliant</td>
</tr>
</tbody>
</table>

By January 1, 2023, all class 7 and 8 diesel-fueled drayage trucks must have 2010 or newer engines. Trucks with 2010 or newer engines are fully compliant with both the Truck and Bus and Drayage regulations.

The exchange of marine or rail cargo (e.g. containers) between compliant and noncompliant drayage trucks is not allowed anywhere in California.

**Note:** If you are considered exempt from the Drayage Truck Regulation, you are currently subject to the Truck and Bus Regulation.

**Drayage Truck Regulation**

1-888-247-4821

[www.arb.ca.gov/drayagetruck](http://www.arb.ca.gov/drayagetruck)
All transport refrigeration units (TRU) and TRU generator sets that operate in California must meet the in-use performance standards (see compliance table below).

Every California-based TRU and TRU generator set must be registered in Air Resources Board Equipment Registration (ARBER) and be labeled with a CARB Identification Number. All terminals that are located in California where TRUs are based must submit operator reports to CARB at: arber.arb.ca.gov.

<table>
<thead>
<tr>
<th>Engine Model Year</th>
<th>Low-Emission TRU (50% PM Reduction)</th>
<th>Ultra-Low-Emission TRU (85% PM Reduction)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001 or older</td>
<td>December 31, 2009</td>
<td>December 31, 2015</td>
</tr>
<tr>
<td>2003</td>
<td>December 31, 2010</td>
<td>December 31, 2017</td>
</tr>
<tr>
<td>2004 (&lt;25 hp)</td>
<td>December 31, 2011</td>
<td>December 31, 2018</td>
</tr>
<tr>
<td>2004 (&gt;25 hp)</td>
<td>Not Applicable</td>
<td>December 31, 2011</td>
</tr>
<tr>
<td>2005 and newer</td>
<td>Not Applicable</td>
<td>December 31st of the model year plus 7 years</td>
</tr>
</tbody>
</table>

Fleets may comply by using Alternative Technologies (e.g. hybrid-electric TRUs or TRUs equipped with electric standby) or retrofitting with a verified diesel particulate filter. For guidance on using electric standby and hybrid-electric TRUs as an Alternative Technology compliance option, see: www.arb.ca.gov/diesel/tru/documents/guidance_electricstandy_ets.pdf.

All businesses that hire carriers (e.g. brokers, shippers and receivers) must only use carriers that supply compliant TRUs.

Transport Refrigeration Unit Regulation Helpline
1-888-TRU-ATCM (1-888-878-2826)
www.arb.ca.gov/diesel/tru/tru.htm
The Tractor-Trailer Greenhouse Gas Regulation applies to 53-foot or longer box-type trailers and 2013 MY or older heavy-duty tractors that pull these trailers.

**Low-Rolling Resistance Tire Requirements**

<table>
<thead>
<tr>
<th>Year</th>
<th>Tractors</th>
<th>Trailers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013 and older MY</td>
<td>Required</td>
<td>Required</td>
</tr>
<tr>
<td>2014 and newer MY</td>
<td>N/A</td>
<td>Required</td>
</tr>
</tbody>
</table>

**Tractor Requirements**

All 2011 through 2013 MY sleeper-cab tractors must be SmartWay™-designated models. 2014 MY or newer tractors are covered by a federal regulation and are exempt from this rule.

**Trailer Aerodynamic Requirements**

All trailers must be either SmartWay™-certified or aerodynamically retrofitted to a minimum standard.

**Delays and Exemptions**

Certain trucks subject to the Transportation Refrigeration Unit (TRU) rule can phase in tire and aerodynamic requirements from 2018 to 2020. This only applies to TRUs with 2003 to 2009 MY reefer trailers equipped with 2003 or newer TRU engines.

Fleets must register to take advantage of short haul, local haul or storage trailer exemptions, and to apply for temporary use passes.

For full details, see: [www.arb.ca.gov/tractortrailer_ghg](http://www.arb.ca.gov/tractortrailer_ghg)

For a listing of SmartWay™-certified technologies, see: [www.arb.ca.gov/cc/hdghg/technologies.htm](http://www.arb.ca.gov/cc/hdghg/technologies.htm)

*Must be SmartWay™-certified.*
LEGACY PROGRAMS, PUBLIC FLEETS & MORE

CARB continues to actively enforce long-standing requirements for diesel vehicles including:

**Idling Limits**
Idling Limits restrict diesel vehicles from idling more than five minutes. Idling in school zones is not allowed, with limited exceptions. See: [www.arb.ca.gov/noidle](http://www.arb.ca.gov/noidle)

**Emission Control Labels**
Emission Control Labels must be affixed to engines of all commercial heavy-duty diesel vehicles, and must be legible as proof the engine, at minimum, meets U.S. federal emissions standards for the engine model year.

**Periodic Smoke Inspection Program**
The Periodic Smoke Inspection Program requires owners of California-based fleets of two or more diesel vehicles to perform annual smoke opacity tests and to keep records for at least two years for each vehicle. The requirement does not apply to cars or trucks that must undergo a Smog Check.

**Heavy-Duty Vehicle Inspection Program**
The Heavy-Duty Vehicle Inspection Program uses random roadside inspections to verify that diesel engines do not smoke excessively and are tamper-free. See: [www.arb.ca.gov/enf/hdvip/hdvip.htm](http://www.arb.ca.gov/enf/hdvip/hdvip.htm)

**Public Fleets and Others**
Vehicles with a GVWR of 14,001+ lbs. that are owned by state and local government fleets, publicly-owned school buses, private utilities, and solid waste collection vehicles, must already be retrofitted with the best available CARB-verified PM filters or upgraded engines.
Selecting and installing the right CARB-verified diesel particulate filter (DPF), also known as a soot filter, for your truck takes time. If your filter is not installed by January 1st of the applicable compliance year, or ordered four months prior to the deadline, then you may be in violation. Visit www.arb.ca.gov/truckstop and click on “DPF/Soot Filter Information” for details.

The emissions performance of every DPF technology has been verified by CARB through rigorous testing. Keep in mind that a DPF is not a “fit and forget” device. Protect your DPF and engine by paying attention to a few simple but important maintenance requirements.
Vehicle Maintenance is Critical

Top-notch vehicle engine maintenance is required. Remember to check fuel injectors, air filters, turbo chargers, fuel filter, fuel, coolant and lube oil. Failure to maintain the engine can void the DPF warranty!

Don’t Ignore the DPF Monitoring System

The cab of the truck features a monitoring system for the DPF that includes several indicator lights that give important feedback on DPF operation. The operator must understand and observe the DPF indicator lights on a regular basis and respond accordingly.

Maintain the Proper Engine Duty Cycle

The duty cycle is the daily pattern of engine use. If the duty cycle of a truck is changed, it may affect how the filter works, and can lead to plugging. Notify your installer if you change the way you use your vehicle and be aware that it may affect the way your filter functions.

Understand Your DPF’s Regeneration System

The soot collected by the DPF must eventually be removed to keep the filter from clogging. The process of burning the soot in the filter is called regeneration and is done using high temperatures for a specified amount of time. Your truck is equipped with either a passive system that cleans the DPF automatically or an active system that may work automatically or require driver intervention to start a regeneration cycle.

Handle the Filter with Care

DPFs are commonly made of ceramic, so do not bang or tap on your filter. A cracked or damaged filter may not be compliant with the Truck and Bus Regulation and could be a citable violation.

DPF Cleaning Basics

The DPF is a maintenance item. It must be removed and cleaned periodically to get rid of accumulated noncombustible ash from the filter. Ash removal is separate from regeneration. Only use filter cleaning procedures approved by the DPF manufacturer.

RESOLVING DPF-RELATED PROBLEMS

While a DPF undergoes a rigorous verification process prior to sale, occasional problems may arise. Use the following three-step protocol to resolve DPF-related performance or reliability problems: 1. Contact your installer (most problems are resolved in this manner) 2. Contact the device manufacturer (if the installer cannot resolve your complaint) 3. Contact ARB at 866-6DIESEL or 8666DIESEL@arb.ca.gov (only if the installer or manufacturer cannot resolve your complaint).

A guide to operating your DPF is available at: www.arb.ca.gov/truckstop or by contacting (866) 6DIESEL or via email at 8666diesel@arb.ca.gov.
FUNDING ASSISTANCE

Grant funding is very limited but may be available to help fleets and individuals comply with California regulations earlier than is required.

Funding is available for vehicle replacements, retrofits, and zero-emission technologies. Please contact the local air district where you are based to determine if you are eligible for funding or if an opportunity may become available in the future.

CARB’s loan assistance program (PLACE) helps small businesses with vehicles that operate at least 50 percent of the time in California. The program connects truckers to participating lenders to help purchase trucks, PM filters, aerodynamic retrofits or low-rolling resistance tires.

See: www.arb.ca.gov/ba/loan/on-road/on-road.htm

Equipment owners are encouraged to apply as early as possible to maximize potential funding options. See the TruckStop website’s “Financial Assistance” section for more funding information.
• All fleet owners who use flexibility options must report information about all eligible vehicles in the California fleet into the Truck Regulation Up-load, Compliance, and Reporting System (TRUCRS). The reporting period is open from January 1 to January 31 of the compliance year.

• The Truck and Bus Regulation is based on the model year of the engine. Generally, the model year of an engine lags behind the model year of the truck. For example, a 2007 truck is likely to have a 2006 MY engine.

• Trucks without PM filters can qualify for the low-mileage usage exemption as long as the truck’s annual mileage stays below 5,000 total miles, or below 1,000 total annual miles within California. Odometer readings must be reported to CARB.

• Selecting and installing a diesel particulate filter (DPF), also known as a soot filter, for your truck takes time. Make sure to use only CARB-verified soot filters.

• The gross vehicle weight rating (GVWR) is assigned by the vehicle manufacturer and represents the maximum weight of the vehicle and what it can carry when fully loaded. This includes the weight of the vehicle plus fuel, passengers, cargo, and trailer tongue weight. Check the driver’s door post for the GVWR label. The GVWR is not the same as the unladen weight, gross combined weight rating, or registered weight rating.

• The Engine Family Name (EFN) can be found on the emission control label located on the engine. The EFN is typically 10 to 12 characters, however very old engines may have an EFN only a few characters long.

• Be aware that tampering with your engine can put you out of compliance with engine certification requirements and the Truck and Bus Regulation.
NOT SURE IF YOUR DIESEL TRUCK, BUS OR EQUIPMENT COMPLIES WITH CALIFORNIA AIR QUALITY REGULATIONS?

Register & Report

Use TruckStop to find out what you need to do to comply and avoid penalties.

Training

Sign up for free live training classes.

FAQs

See questions and answers from our diesel hotline generated by truckers like you.

Videos

View short videos that explain diesel requirements and reporting systems.

DPF

Find out about diesel particulate filters.

Funding

Financial assistance may be available to help clean up your trucks, buses and equipment.

Answers

Visit TruckStop at: www.arb.ca.gov/truckstop