

Why is California Inspecting Heavy-Duty Vehicles?

Only two percent of California's vehicles are heavy-duty vehicles, but they produce about 30% of nitrogen oxides (a key smog forming compound) and about 65% of particulate matter (soot) emissions from motor vehicles. Smog and airborne soot can cause or aggravate many kinds of respiratory problems.

The roadside inspections ensure that all vehicles operating in California meet reasonable standards of maintenance and help protect the air we all breathe.

Are You in Violation?

Hold this chart at arm's length while someone performs a snap-acceleration test on your vehicle's engine.

Compare your vehicle's exhaust smoke with the chart below to estimate the smoke level opacity. The closest match will give you an approximate idea of your smoke opacity.



20% Opacity



40% Opacity
(Citation for 1991 and newer engines)



55% Opacity
(Notice of Violation for pre-1991 engines)



70% Opacity
(Citation for pre-1991 engines)



Heavy-Duty Diesel Information Series



California Air Resources Board
Heavy-Duty Diesel Enforcement Program
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(626) 450-6161 (from Southern California)

For information in alternative formats:

(916) 323-4916 (voice, ARB ADA Coordinator)
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(800) 700-8326 (TDD, outside of Sacramento)

ED 02/2008

California Environmental Protection Agency | AIR RESOURCES BOARD

Heavy-Duty Vehicle Inspection Program (HDVIP)



Heavy-Duty Diesel Information Series

<http://www.arb.ca.gov>

<http://www.arb.ca.gov/diesel/mobile.htm>

<http://www.arb.ca.gov/enf/hdvp/hdvp.htm>

1-800-END-SMOG

1-800-242-4450 (outside of CA)

FACTS ABOUT

California's Heavy-Duty Vehicle Inspection Program

The California Air Resources Board (ARB) is testing heavy-duty trucks and buses (gross vehicle rating over 6,000 pounds) for excessive smoke and tampering. Any heavy-duty vehicle operating in California, including vehicles registered in other states and foreign countries, may be tested.

All heavy-duty trucks and buses are subject to California's anti-smoke and tampering inspections.

Where the Tests are Performed

ARB inspectors may conduct unannounced roadside tests at various locales, such as:

- CHP weigh stations
- Randomly selected roadside locations
- Fleet facilities
- Border crossings

Common Causes of Excessive Smoke

Poorly maintained engines emit excessive smoke. The best way to pass the test is to properly maintain your engine. Common maintenance problems are:

- Smoke puff limiters
- Maximum fuel rate too high
- Fuel pump calibration
- Fuel injection timing
- Air filter plugging

The "Roadside" Anti-Smoke Inspection

The inspection team selects a vehicle for the test and directs it to a special inspection lane. The wheels are then blocked for safety and the inspection is performed using the Society of Automotive Engineers' (SAE) J1667 snap-acceleration test procedure. Some key steps in the inspection include:

RPM Recording: The inspector records the vehicle's RPM at idle and at maximum governed speeds.

The Snap-Acceleration Test: The inspector positions a smoke sensing meter just above, or places a probe inside the vehicle's exhaust pipe. The driver then rapidly accelerates the engine three times, with the transmission in neutral, to clear the exhaust of loose particles. The driver is then instructed to repeat the snap-acceleration test three times. The meter measures the opacity of the smoke being emitted.

The Visual Inspection: The inspector looks under the hood to check for visible signs of tampering, to record engine data and to ensure the engine has the appropriate emission control label (ECL).

Allowable Levels of Smoke Opacity

All 1991 or newer engines: Must not exceed 40% smoke opacity.

All pre-1991 engines: Must not exceed 55% smoke opacity.

Penalties for Excessive Smoke

Notice of Violation (NOV): Issued to pre-1991 vehicles that have smoke opacities greater than 55% but less than 70% and have not received a citation in the past 12 months. Similar to a "fix-it-ticket," the NOV has no penalty if repairs are made to the engine and proof of repair is submitted to the ARB within 45 days. After 45 days, the NOV becomes a First Level Citation. Only one NOV may be issued to a pre-1991 vehicle within a 12 month period.

First Level Citation: Issued to pre-1991 engines with 70% or greater smoke opacity and 1991 and newer engines with greater than 40% opacity, that have not received any citations in the past 12 months. The minimum penalty is \$300 if engine repairs are made and proof of repair is submitted to the ARB within 45 days. After 45 days, the penalty increases to \$800.

Second Level Citation: The penalty for any further violations within a 12 month period is \$1800 for each violation. In addition, proof of repair must be submitted and the vehicle must be retested by the ARB in order to clear the citation.

In certain cases, the CHP may take a vehicle out of service for an outstanding citation if the penalty has not been paid, or if the vehicle has not been repaired. The DMV can place a hold on the CA registration renewal until the violation is cleared.