
ENGINE CHANGE GUIDELINES

DEPARTMENT OF CONSUMER AFFAIRS



Bureau of Automotive Repair

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BAR ADVISORY GROUP MEETING
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OBJECTIVE

- The California Air Resources Board (CARB) and Bureau of Automotive Repair (BAR) have jointly updated the Smog Check engine change guidelines located on CARB/BAR websites, in the Smog Check Reference Guide
 - Focus on maintaining air quality while also providing a reasonable pathway for the presence of engine changes
 - Provides information on all the criteria to fulfill the Smog Check requirements



LAWS AND REGULATIONS

- State and federal anti-tampering laws prohibit any engine change that degrades the effectiveness of the vehicle's original emission control system.
 - California Vehicle Code Section 27156: No person shall disconnect, modify, or alter any required motor vehicle pollution control device.
 - Title 16, Section 3362.1 of the California Code of Regulations: “An automotive repair dealer shall not make any motor vehicle engine change that degrades the effectiveness of a vehicle’s emission control system. Nor shall said dealer, in the process of rebuilding the original engine or while installing a replacement engine, effect changes that would degrade the effectiveness of the original emission control system and/or components thereof.”

INTRODUCTION TO GUIDELINES

- Engine changes if not done correctly can cause problems for vehicle owners, inspectors, and repair technicians
 - Recommend rebuilding and reinstalling the original engine, transmission, and emission control system configuration, or use a CARB exempted engine package
- Guidelines are for performing engine changes, and are not exemption procedures
- After receiving an initial Referee inspection and BAR Referee label, the vehicle will remain subject to *all* the same vehicle requirements as the recipient vehicle had for future Smog Check inspections

INTRODUCTION TO GUIDELINES (CONTINUED)

- The guidelines have been sorted into the following categories, some of which overlap in their requirements:
 - Type I: Non-OBD-II certified vehicles receiving an OBD-II certified engine
 - Type II: Vehicles originally equipped with OBD-II
 - Type III: Electric vehicle conversions
 - Type IV: All model year vehicles (gasoline, diesel, hybrid, CNG, LNG, LPG, etc.), except electric vehicle conversions.

TYPE 1: NON-OBD-II RECEIVING OBD-11 ENGINE

- The donor engine must be in a stock certified configuration, and support *all* the certified OBD-II functionality
- Modifications of the intake and exhaust system are permissible only if necessary to accommodate the packaging of the vehicle and only if they do not affect the functionality of the systems
- The transmission and evaporative systems will be allowed to remain in the recipient vehicle configuration, but must function appropriately.
- All of the requirements listed for “all model year vehicles” (Type IV).



TYPE II: ORIGINALLY EQUIPPED WITH OBD-II

- All emission system configurations must be in the original emission control system configuration as the donor vehicle, including, but not limited to, the transmission, evaporative system, exhaust, and intake
- All of the requirements listed for “all model year vehicles” (Type IV).



TYPE III: ELECTRIC VEHICLE CONVERSIONS

- Vehicles converted to 100% electric drive, with power supplied exclusively by on-board batteries, are considered in compliance with the engine change requirements provided:
 - All fuel system components are removed prior to inspection, including the fuel tank and evaporative system.
 - No fuel-fired heater is installed on the vehicle.
- None of the requirements listed for “all model year vehicles” (Type IV) apply to electric vehicle conversions.



TYPE IV: ALL VEHICLES

- The following guidelines criteria apply to all engine changes, except electric vehicle conversions
 - Model year
 - Vehicle and engine classification
 - Certification type
 - Smog check tests
 - Exhaust system (after-treatment devices)
 - Exhaust sensors
 - OBD-II system
 - Aftermarket parts
 - Emissions systems



QUESTIONS AND COMMENTS

Submit questions and/or comments to:

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