
ON-BOARD DIAGNOSTIC SYSTEM VEHICLE TAMPERING PREVENTION



GREG COBURN
ENGINEERING AND RESEARCH BRANCH
BAR ADVISORY GROUP
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OBD INSPECTION REGULATION

- CCR 3340.42.2(c): Starting on or after January 1, 2013, OBD equipped vehicles shall fail the OBD inspection if any one of the following conditions occurs as applicable to the vehicle:
 - (1) The vehicle's MIL does not illuminate when the ignition is on and the engine is off (implemented prior to 2009)
 - (2) The vehicle's MIL illuminates continuously or flashes with the engine running (implemented prior to 2009)
 - (3) The vehicle's OBD system reports the MIL as commanded on (implemented prior to 2009)
 - (4) The vehicle's OBD system reports a Diagnostic Trouble Code (implemented prior to 2009)

OBD INSPECTION REGULATION (CONTINUED)

(5) The vehicle's OBD system data indicates the system has not yet been sufficiently operated to determine the presence or absence of a DTC (implemented July 1, 2019)

(6) The vehicle's OBD system does not communicate with the EIS or OIS (implemented CY 2000)

(7) The vehicle's OBD system data is inappropriate for the vehicle being tested (implemented February 2017)

(8) The vehicle's OBD system data does not match the OEM or a CARB exempted OBD software configuration (**proposed July 2020**)

OBD INSPECTION REGULATION (CONTINUED 2)

(9) The vehicle's OBD system reports an incomplete readiness monitor(s) as specified below:

(A) Gasoline-powered vehicles model-years 1996 through 1999 with more than one (1) incomplete monitor

(B) Gasoline-powered vehicles model-years 2000 and newer with any incomplete monitors, excluding the evaporative system monitor

(C) Diesel-powered vehicles model-years 1998 through 2006 with any incomplete monitors

(D) Diesel-powered vehicles model-years 2007 and newer with any incomplete monitors, excluding the particulate filter system monitor

(implemented June 2015)

CVN AND CAL-ID

Calibration Verification Number (CVN): a number set by OEMs to verify the integrity of the vehicle software

Calibration Identification (Cal-ID): an ID for the software installed on the Electronic Control Unit (ECU)

- CVN and Cal-ID are currently used by Smog Check Referees to ensure correct vehicle computer programming in situations where modifications likely:
 - Engine changes
 - Law enforcement citations for modified vehicles
 - Referee directed vehicles with mismatched OBD data profiles

MANY MODIFIED VEHICLES NOT IDENTIFIED DURING SMOG CHECK

- While Referee inspections identify computer programming modifications, many other similarly modified vehicles are not identified
- Implementation of automated CVN/Cal-ID checks at Smog Check stations will identify and curb the use of illegal programming on vehicle computers

CONSIDERATIONS FOR IMPLEMENTATION OF CVN/CAL-ID

- Require the CVN and/or Cal-ID as priority data during inspections, where applicable
 - Inspections cannot be completed without retrieving data from vehicles capable of providing this information
- Direct egregiously modified vehicles to the Referee for verification
- Focus in initial phase of implementation on vehicles likely to be modified and vehicles where the allowed CVN and Cal-ID are clear and obvious
- Use Referee for contested inspections

PROPOSED IMPLEMENTATION PLAN

- Target implementation date: July 2020
- Develop on-line training module for inspectors
- Update BAR's OBD Reference document
- Industry outreach will include:
 - Industry Presentations
 - Electronic Transmission (ET) Blasts
 - Newsletter Article
 - Q&A on website
- Vehicle Inspection Report will indicate the cause of failure as the CVN and Cal-ID does not match a valid configuration

Future Work – Accommodate Legally Modified CVN/Cal-ID

- CARB Executive Order (EO) process legalizes some aftermarket modifications to CVN/Cal-ID
- Related information can be gleaned from:
 - Inspection record data
 - EO numbers from inspection
 - Statistical analysis of outlier data crossed with other methods
 - Aftermarket equipment manufacturer-provided data
 - CARB EO application data

QUESTIONS AND COMMENTS

Submit questions and/or comments to:

Greg Coburn

Bureau of Automotive Repair

10949 N. Mather Boulevard

Rancho Cordova, CA 95670

Email: greg.coburn@dca.ca.gov