

DEPARTMENT OF CONSUMER AFFAIRS

BAR

Bureau of Automotive Repair

Smog Check Reference Guide 2019



10/23/2019

PREFACE

This guide is intended to serve as a reference for Smog Check stations, inspectors, and repair technicians. It provides information to assist licensees comply with Smog Check Program requirements, including the following areas:

- **Section I - Program Description:** General program and administrative requirements for Smog Check stations, inspectors, and repair technicians. This section also includes information for miscellaneous inspection scenarios.
- **Section II - Repair and Retest:** Information for repair technicians conducting repairs in all program areas.
- **Section III - BAR Referee:** Information on Referee test services.

The Bureau of Automotive Repair may periodically distribute supplemental bulletins containing information on changes in laws, regulations, or other related material. These supplements should be maintained with this guide for easy access and reference. For complete information on Smog Check procedures, refer to the Smog Check Manual available at www.bar.ca.gov.

Suggestions for improvement to this guide are welcome and should be directed to BAR.IndustryHelpDesk@dca.ca.gov.

REVISION TABLE

Revision Number	Revision Description	Revision Date
1.0	Updated: Engine Change Guidelines; Updated Licensing phone number	5/11/2018
2.0	Removed: Aftermarket Parts Verification Guidelines (Smog Check Manual)	11/1/2018
2.1	Added Smog Check Requirements by Vehicle Type Table	5/15/2019
3.0	Corrected Biennial Model Year Exemption; ADA Format	10/23/2019

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SECTION I – PROGRAM DESCRIPTION

1.1 General Information

1.1.0 Overview

In response to amendments of the Federal Clean Air Act, Assembly Bill 2018 was passed by the legislature and signed into law in 1994. This legislation required loaded mode emissions testing for vehicles registered in areas of the state that have not achieved federal air quality standards ("Enhanced Areas"). The state's less polluted areas (Basic and Change of Ownership Areas) continued to use a two-speed idle emissions test mode.

In 2010, Assembly Bill 2289 was signed into law. This legislation modernized the program by employing an OBD II focused inspection for 2000 model-year and newer vehicles.

1.1.1 Program Areas

The Smog Check Program divides the state into three areas determined by the air quality in the designated area. While the OBD II focused inspection is required statewide for most 2000 model-year and newer vehicles, 1976-1999 model-year vehicles may receive a different inspection, depending on program area.

Generally, the area in which a station is located determines the station license types and the station equipment requirements. For more station equipment information, see section 1.4.0.

Smog Check certification is required in all program areas when an affected vehicle changes ownership, with the exception of gasoline vehicles four or less model-years old. Certification is also required in all areas when a vehicle is initially registered in California.

Enhanced Areas: These areas do not meet federal or state air quality standards for ozone and carbon monoxide. Biennial Smog Check inspections are required in these areas, in addition to the change of ownership and initial registration inspection requirement.

Additionally, a portion of the vehicles in Enhanced Areas must receive their biennial Smog Check at a STAR certified test only station or a STAR certified test and repair station. In order to measure NO_x emissions, most Enhanced Area 1976–1999 model-year vehicles are subject to a dynamometer loaded mode emissions test.

Basic Areas: Basic areas are less polluted than Enhanced Areas; however, due to their marginal air quality, biennial inspections are required. Basic Area 1976 - 1999 model-year vehicles are subject to a two-speed idle test. Loaded mode tests are not required in Basic Areas.

Change of Ownership Areas: These more rural areas of the state require Smog Check certification only when an affected vehicle changes ownership (with the exception of gasoline vehicles four or less model-years old) or is initially registered in California. Change of Ownership Area 1976-1999 model-year vehicles are subject to a two-speed idle emissions test.

Some counties are solely in one program area while other counties may have portions in two or three program areas. A "zip code based station locator" that can be used to determine program area requirement information is available at www.bar.ca.gov.

1.1.2 Smog Check Information/Website

In addition to this guide, BAR uses several methods to provide stations, inspectors and repair technicians with the latest Smog Check information. These methods include: the BAR website at www.bar.ca.gov, the Auto Repair and Smog Check News newsletter (on website, periodic), ET Blasts (as needed) and direct mailers (as needed). BAR's website contains information about program changes and general information regarding the Smog Check Program, including but not limited to:

- BAR certified emissions test equipment.
- Auto Repair and Smog Check News newsletter and ET Blasts.
- Laws and Regulations.
- Licensing application forms.
- Limited vehicle Smog Check history.
- A link to the Air Resources Board's approved/exempted aftermarket parts website.
- On Board Diagnostics.

1.1.3 Smog Check Laws and Regulations

The laws and regulations pertaining to the Smog Check Program are available at www.bar.ca.gov.

Applicable Laws:

Business & Professions Code (B&P); Health & Safety Code (H&S); Vehicle Code (VC). Civil Code (CC); Family Code (FC); Insurance Code (IC); Penal Code (PC); Revenue and Taxation (R&T) Code. These laws are typically expressed in the following manner: H&S § 44011.

Applicable Regulations:

Title 16 of the California Code of Regulations (CCR). These regulations are typically expressed in the following manner: CCR § 3340.10(a).

1.1.4 Affected Vehicles

Gasoline - 1976 model-year and newer vehicles powered solely or in combination by:

- Gasoline (Includes hybrid vehicles - beginning January 2015)
- Propane
- Natural gas
- Methanol/ethanol

Diesel - 1998 model-year and newer vehicles with a gross vehicle weight rating (GVWR) 14,000 pounds and less powered solely or in combination by:

- Diesel
- Propane
- Natural gas
- Methanol/ethanol

VC §§ 4000.1, 4000.2, 4000.3, H&S § 44011, CCR §§ 3340.5, 3340.42

1.1.5 Exempted Vehicles

- Gasoline vehicles 1975 model-year and older.
- Gasoline vehicles eight or less model-years old are exempt from the biennial inspection.
- Gasoline vehicles four or less model-years old are exempt from inspection upon change of ownership.
- Diesel vehicles 1997 model-year and older.
- Diesel vehicles with a GVWR of 14,001 and more.
- Vehicles powered solely by electricity.
- Two-cylinder or less.
- Two-stroke (two cycle) engines, excluding rotary engines.
- Motorcycles.

Until further notice, CNG, LNG or LPG vehicles with a GVWR of 14,001 and more are exempted.

H&S §§ 44011, 44011(a)(6), VC § 4000.1, CCR §§ 3340.5, 3340.42

Table 1: Smog Check Requirements by Vehicle Type

Fuel Type	Model-Year	GVWR ¹	OBD II Equipped?	Smog Check Required None	Smog Check Required OIS Test	Smog Check Required BAR-97 Test
All ² (except Diesel)	Four Model-years and newer ³	All	All	x		
	Fifth, sixth, seventh, and eighth model-years ⁴	All	All	x		
	1975 and earlier	All	All	x		
Gasoline & Flex Fuel (Methanol or Ethanol)	1976-1999	All	All			x
	2000 and newer	14,000 and less	Yes ⁵		x	
		No				x
Over 14,000	All				x	
Hybrid	2000 and newer	14,000 and less	All		x	
Dedicated Propane and Natural Gas (CNG, LNG, or LPG)	1976-1999	14,000 and less	All			x
		Over 14,000	All	x		
	2000 and Newer	14,000 and less	Yes		x	
		No				x
	Over 14,000	All		x		
Diesel	1976-1997	All	All	x		
	1998 and newer	14,000 and less	All		x	
		Over 14,000	All		x ⁶	
Full Electric Powered	All	All	All	x		
Motorcycle	All	All	All	x		
Other Vehicles: Two Cylinder Engine, Two-stroke Engine, Off-highway Registered	All	All	All	x		

¹ Gross vehicle weight rating

² Includes gasoline, flex fuel, hybrid, dedicated propane, and natural gas vehicles. A Smog Check is required for all out-of-state 1976 model-year and newer vehicles registering in California for the first time and other initial registration events determined by the Department of Motor Vehicles.

³ Vehicles four model-years and newer are not subject to biennial (every other year) or change-of-ownership Smog Checks. Add four to the model-year of a vehicle to determine the first year a vehicle will be subject to a change-of-ownership Smog Check in 2014 (2010+4=2014).

⁴ Fifth thru eighth model-year vehicles are not subject to biennial Smog Checks. However, a change-of-ownership Smog Check is required. Add eight to the model-year of a vehicle to determine the first year a vehicle will be subject to a biennial Smog Check. For example, a 2010 model-year vehicle will be first subject to a biennial Smog Check in 2018 (2010+8=2018).

⁵ In the future, BAR may identify some vehicles that have GVWR of 14,000 and less or that have problematic OBD II systems that may require the BAR-97 test.

1.1.6 Rejected Vehicles

A Smog Check inspector can reject a vehicle for testing if he or she determines that the vehicle is unsafe or not in an operable condition adequate for testing.

Examples:

- Excessive fluid leaks in the engine, transmission or fuel system.
- Engine overheating or excessively noisy.
- Unsafe drive axle tire or wheel (dynamometer test only).

H&S § 44012(h)

1.1.7 Transfer of Ownership

In addition to the biennial requirement, a certificate of compliance is required whenever a vehicle changes ownership except in the following circumstances:

- Vehicle is four or less model-years old. Example: In 2012, model years 2012, 2011, 2010, and 2009 are not subject to inspection upon transfer of ownership.
- Vehicle has had a Smog Check certificate in connection with registration renewal, and the transfer has occurred within 90 days of registration renewal.
- Vehicle is being transferred between a person's spouse, child, grandchild, parent, grandparent, or sibling.
- Vehicle registered to a sole proprietorship is transferred to the proprietor as owner.
- Vehicle is transferred between companies whose principal business is leasing vehicles and there is no change in the lessee or operator of the vehicle, or between the lessor and the person who has been, for at least one year, the lessee's operator of the vehicle.
- Vehicle is transferred between the lessor and lessee and there is no change in the lessee or operator of the vehicle.
- When an additional individual is added to title.

VC § 4000.1

1.1.8 Directed Vehicles

BAR directs a portion of the Enhanced Area fleet to STAR certified stations via message on the Department of Motor Vehicles (DMV) registration renewal. (Both licensed test only stations and licensed test and repair stations may qualify for STAR certification). Currently, these *directed vehicles* fall under two categories:

- Profile. The Profile is a statistical model used to identify vehicles more likely than others to fail a Smog Check inspection. Vehicles identified by the Profile must receive certification at a STAR station.
- 2% Random Sample. For program evaluation purposes, 2% of the vehicles in Enhanced Areas are randomly selected for certification at a STAR station.

Directed vehicles can only receive Smog Check certification from STAR test only or STAR test and repair stations. Ordinary repair only and test and repair stations may perform the needed repairs but must refer the vehicle back to a STAR certified station for Smog Check certification. When applicable, a *directed vehicle* may also be certified by a Referee facility. (For more information about STAR station certification, see section 1.2.4).

H&S §§ 44010.5, 44014.7, 44024.5, CCR §§ 3392.2, 3340.41(e)

1.1.9 Gross Polluters

A *gross polluter* is a vehicle with tailpipe emissions exceeding the gross polluter exhaust emissions standards prescribed in CCR section 3340.42.

- A vehicle identified as a *gross polluter* may only receive certification from a STAR test only station, a STAR test and repair station or, when applicable, a Referee facility. (For more information about STAR station certification, see section 1.2.4).
- With the exception of government agency vehicles and permanently registered fleet vehicles, gross polluting vehicles may be eligible for the Consumer Assistance Program (CAP) or a repair cost waiver. (See section 1.8.0 for more information).

H&S §§ 39032.5, 44014.2, 44019, 44020, CCR §§ 3340.41(e), 3340.42

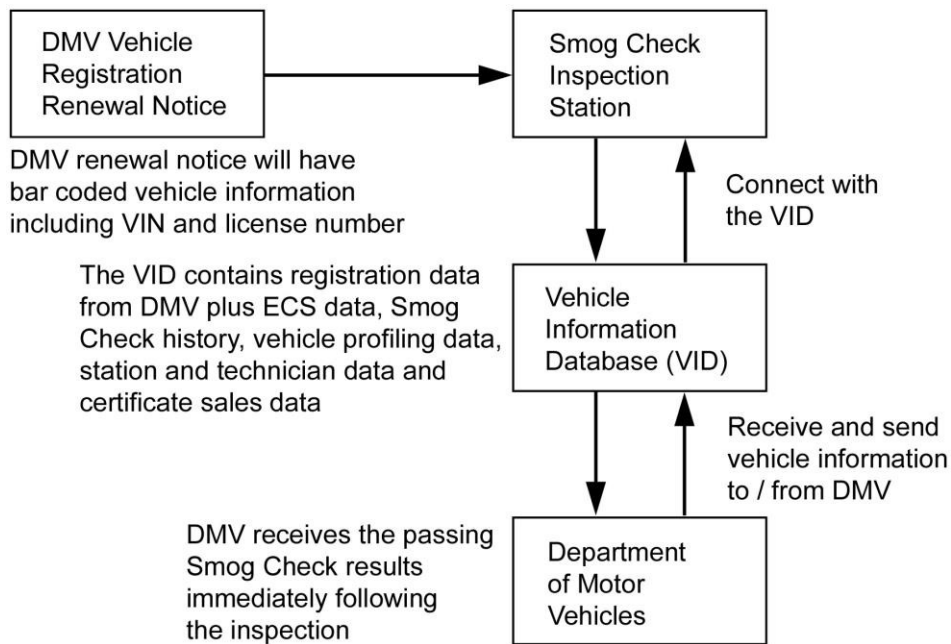
1.1.10 Electronic Transmission Network

The Electronic Transmission (ET) Network enables the inspection systems to automatically connect to the Vehicle Information Database (VID) and allows stations to issue electronic certificates. Vehicle certification information is sent to the VID, which updates DMV records. The printed Vehicle Inspection Report provides the customer with inspection results and also serves as proof that a Smog Check certificate was sent to DMV. Other ET functions include:

- Automatic upload of vehicle information. When connected to the VID, many vehicle data fields in the inspection system automatically fill, saving time and reducing error.
- Immediate update of Smog Check certificates and test information.
- Immediate update of inspector/repair technician information.
- Timely access to critical management and enforcement data.
- Electronic access to inspection and vehicle information.

The ET network is operated by a private contractor who charges the station a fee for each test record transmitted to the VID.

Figure 1. Electronic Transmission Flow Chart



1.1.11 Smog Check Certificate Purchases

Smog Check certificates may be ordered through the inspection system or purchased by mail. To order certificates through the inspection system, the station must sign up with the ET contractor to obtain an Automated Clearing House (ACH) electronic debit account. The ACH debit transaction is the banking process that allows the station to authorize a debit of the station's bank account to purchase certificates electronically through the inspection system.

For more information, contact the ET contractor at (888) 229-9389.

For stations that do not elect to purchase certificates electronically using the ACH, certificates can be purchased by mail. An order form is available at www.bar.ca.gov.

1.2 Station Definitions

1.2.0 Test Only Stations

Test only stations are licensed to conduct Smog Check inspections only.

No repairs or diagnoses can be performed on vehicles at a test only station, except for those minor repairs listed below. There shall be no charge to the customer for these minor repairs.

- Minor repairs of components damaged by station personnel during the inspection at the station.
- Minor repair that is necessary for the safe operation of the vehicle while at the station.
- Minor repairs, such as the reconnection of hoses or vacuum lines.

BAR directs a portion of the enhanced area fleet to STAR certified stations for inspection and certification. In addition, identified gross polluters can only receive certification from a STAR certified station, or BAR Referee. See section 1.2.4 for more information about STAR station certification requirements.

Test only stations are not limited to testing *directed* or *gross polluter* vehicles. Any vehicle owner may choose to have their vehicle inspected at a test only station.

Test only stations shall make available to each customer a BAR prepared list of stations in their area licensed to perform Smog Check related repairs. The station locator tool available at www.bar.ca.gov serves as this list. Stations may refer consumers to the website station locator or they may download the information and make it available at the station. Test only stations shall not refer a vehicle owner to a particular automotive repair dealer or provider of Smog Check repair services.

H&S §§ 44010.5, 44014.2, CCR §§ 3340.16, 3340.41

1.2.1 Repair Only Stations

Repair only stations are licensed to diagnose and repair vehicles in the Smog Check Program. Repair only stations **do not** perform official Smog Check inspections.

A repair only station is not obligated to accept a vehicle for repair if the station, as a matter of policy, chooses not to repair certain types, makes or models of vehicles, or certain types of inspection failures.

A repair only station shall only accept a vehicle for repair if the station has the necessary equipment, tools, personnel, diagnostic and repair materials to repair that vehicle, if not, the vehicle shall not be accepted for repair.

CCR § 3340.16.4

1.2.2 Test and Repair Stations

Test and repair stations are licensed to conduct inspections and, when needed, diagnose, adjust and repair vehicles subject to Smog Check.

Vehicles directed to STAR stations may not be tested for certification at an ordinary test and repair station.

STAR Station Certification

In addition to ordinary Smog Check inspection and repair services, STAR station certification allows test and repair stations to:

- Issue certificates to identified gross polluters.
- Perform initial inspections and issue certificates to directed vehicles.
- Perform state subsidized repair.

See section 1.2.4 for information about STAR station certification. For more information about *directed vehicles* and identified *gross polluters*, see sections 1.1.8 and 1.1.9 respectively.

H&S §§ 44014, 44014.2, 44032, CCR §§ 3392.2.1, 3392.3.1, 3392.5.1, 3392.6.1

1.2.3 State Referee

The State Referee provides special test services, including unique services not performed in conventional Smog Check stations. For more information, see section III.

H&S §§ 44014, 44017.4

1.2.4 STAR Station Certification

Stations consistently meeting a high standard for quality inspections may qualify for the STAR certification program. With STAR certification, both test only stations and test and repair stations can inspect and certify *directed vehicles* and vehicles identified as *gross polluters*. STAR certified test and repair stations also provide state subsidized repair through CAP. See sections 1.1.8, 1.1.9, and 1.8.0 for more information about *directed vehicles*, identified *gross polluters*, and CAP.

STAR certified stations are not limited to testing *directed* or *gross polluter* vehicles. Any vehicle owner may choose to have their vehicle inspected at a STAR certified station. Furthermore, STAR certified test and repair stations are not limited to repairs performed under CAP. Refer to CCR section 3392.3.1 for Eligibility/Performance Standards for STAR Certification.

The application for STAR certification provides the essential qualification criteria. An application is available at www.bar.ca.gov, or request one from BAR's Licensing Unit at (916) 403-8477 or (855) 735-0462.

CCR § 3392.3.1

1.3 Station Licensing Requirements

1.3.0 Station Licensing Procedures

An automotive repair dealer (ARD) registered with BAR may be licensed as a test only, repair only, or test and repair station, in part, by satisfying the following requirements:

- Submit a completed application and station license fee to BAR.
- Employ at least one licensed inspector and/or repair technician, appropriate for the station type.
- Have on site the inspection and repair equipment specified in CCR sections 3340.16, 3340.16.4, and 3340.16.5, as applicable to the station type. Section 1.4.0 lists required equipment.
- Pass a BAR inspection of the station satisfying the criteria established for licensed stations.

STAR certification may be granted to stations that apply and meet eligibility standards. For more information, see section 1.2.4.

No person shall operate a Smog Check station unless a license to do so has been issued by the department.

CCR §§ 3340.10, 3340.15, 3340.16, 3340.16.4, 3340.16.5.

1.3.1 License Duration

A station license will be granted for one year from the last day of the month in which the license is issued unless renewed, suspended, rescinded or terminated by operation of law. The bureau may advance the expiration date to correspond with the automotive repair dealer registration expiration date.

CCR § 3340.10

1.3.2 License Fees

Station license fee:

- The annual license fee is \$100.
- If a renewal license fee is submitted or postmarked after the date of license expiration, a \$50 delinquency fee will be added to the \$100 renewal fee.

CCR § 3340.10

1.3.3 Replacement License

Replacement License Requirements:

- **Change of Address or Business Name.** Contact the BAR Licensing Unit for the appropriate forms in the event of a change of name or address of a licensee (not the result of a change of ownership). No fee will be required.
- **Change of Ownership.** In the event of a change of ownership, (adding or deleting partners, incorporating, etc.) new applications must be submitted to BAR for all BAR issued licenses. Appropriate fees must accompany the new license applications.
- **Lost, Destroyed or Mutilated License.** In the event a license is lost, destroyed or mutilated, contact the BAR Licensing Unit for instruction. Any lost license that is later found shall be returned to BAR.

The BAR Licensing Unit may be contacted at (916) 403-8477 or toll free at (855) 735-0462.

Forms are available at www.bar.ca.gov or from a local BAR field office.

No person shall operate a Smog Check station unless a license to do so has been issued by the department.

CCR § 3340.10

1.3.4 Stations Ceasing to Operate

A station shall cease performing the functions of a licensed station when its license has expired, or has been surrendered, suspended or revoked. In these cases, the Smog Check sign must be immediately removed or covered.

If a station no longer employs a Smog Check inspector and/or repair technician (as applicable), the Smog Check sign must be immediately removed or covered. If the station does not employ a Smog Check inspector and/or repair technician (as applicable) within 60 days, the station shall surrender its license to BAR.

CCR § 3340.23

1.4 Equipment Requirements

1.4.0 Station Equipment and Materials

Refer to the Smog Check Manual for specific equipment and materials requirements.

In general, all stations must possess the equipment, tools and reference materials needed to inspect or, as applicable, repair the type of vehicles being inspected and/or repaired at their particular station. Additionally, STAR certified stations must possess all inspection equipment for all vehicle types subject to Smog Check, including directed vehicles. STAR test and repair stations must also have the minimum repair tools for all vehicle types subject to Smog Check inspection, as specified in the Smog Check Manual.

CCR §§ 3340.16, 3340.16.4, 3340.16.5, 3340.45

1.5 Licensed Inspector and Repair Technician Requirements

1.5.0 Inspector and Repair Technician Requirements

Each Smog Check station must employ at least one licensed inspector and/or repair technician, who is licensed for the station license type. A licensed inspector and/or repair technician must be present during all hours the station is open for the business of performing Smog Check test and/or repairs, as applicable.

- Licensed inspectors employed at test only stations are permitted to inspect vehicles only. No adjustments, repairs or diagnosis, except for minor repairs, as discussed in section 1.2.0.
- Licensed inspectors employed at test and repair stations are permitted to inspect vehicles only. Smog Check related adjustments, diagnosis and repairs must be performed by a licensed Smog Check repair technician. Smog Check certification restrictions apply to *directed vehicles* and vehicles identified as *gross polluters*; see sections 1.1.8 and 1.1.9.

H&S § 44014, CCR §§ 3340.15, 3340.28

1.5.1 Licensee Expectations

A licensed inspector and repair technician works with government and the public to clean California's air. To meet this need, licensed inspectors and repair technicians are expected to conduct themselves in an ethical and professional manner and do each of the following, when applicable, and within the scope of their license and the type of station where employed:

- Understand the fundamentals of vehicle engines and emission controls.
- Determine the type of Smog Check inspection required.
- Identify vehicles that must be inspected by a STAR certified station, and, when applicable, inform the customer about services provided by the Referee.
- Identify each vehicle by year, make, model and certification type.
- Understand and, as needed, use inspection, diagnostic, and repair reference materials to determine required emission control equipment and vacuum hose routings.
- Determine what emission control equipment is required on a vehicle, evaluate the condition of the required equipment, and accurately report the condition.
- Operate Smog Check test equipment and diagnostic and repair equipment.
- Perform complete and accurate visual, functional and emission tests on the wide variety of vehicles subject to Smog Check inspection.
- Review and interpret test results and explain them to customers.

Section I – Program Description

- Evaluate test results and diagnostic information to determine causes of failure.
- Effectively diagnose and repair problems.
- Know and follow the requirements for customer authorization, estimates, invoices, and record keeping.
- Explain to a customer the benefits of Smog Check, as well as explain the benefits of their vehicle's emission controls.
- Understand and communicate to consumers the options available through CAP and Repair Cost Waivers.

1.5.2 Smog Check Inspector

Duties: A Smog Check inspector license allows an individual to inspect and certify vehicles subject to Smog Check inspection throughout California. A Smog Check inspector may not perform Smog Check related diagnoses and/or repairs. All official Smog Check inspections must be completed by a licensed inspector in a licensed test only, test and repair, STAR test only, or STAR test and repair station.

Qualifications: To become licensed as a Smog Check inspector, an individual must pass a state administered examination. Examination applicants first must successfully complete Level 1 and Level 2 training, as applicable.

- Level 1 Training - Engine and Emission Controls

Level 1 training is required for inspector candidates with little or no experience.* This training provides students with the knowledge of engine and emission control systems necessary to conduct accurate smog inspections. Successful completion, in part, includes the ability to demonstrate minimum levels of competency related to engine and emission control systems. The training is a minimum of 68 hours and must be completed at a BAR-certified school.

*Experienced candidates may skip Level 1 training if they: Possess ASE A6, A8 and L1 certification; or possess an AA/AS degree or Certificate in automotive technology and have at least one year experience; or have at least two years of experience in the engine performance area and have completed BAR specified training within the last five years; or have at least two years of comparable military experience/training in the engine performance area.

Section I – Program Description

- Level 2 Training - Smog Check Procedures

Level 2 training must be completed by all inspector license applicants. This training covers the program rules, regulations and procedures. Successful completion, in part, includes the ability to demonstrate minimum levels of competency related vehicle inspections. Training is a minimum of 28 hours and must be completed at a BAR-certified school.

License Renewal: Applicants for license renewal must meet the following update training requirements:

- *Update Training* - Applicants for license renewal must provide proof that they have successfully completed update training within the last two years. Update training may be up to four hours in length.

H&S § 44031.5(e), CCR § 3340.28

1.5.3 Smog Check Repair Technician

Duties: A Smog Check repair technician license allows an individual to diagnose and repair vehicles subject to Smog Check inspection throughout California. All Smog Check repairs must be completed by licensed repair technicians in licensed test and repair or repair only stations.

Qualifications: To become licensed as a Smog Check repair technician, an individual must pass a state examination. Examination applicants must meet one of following four criteria:

- 1) Possess certification in the categories of Electrical/Electronic Systems (A6), Engine Performance (A8) and Advanced Engine Performance Specialist (L1) from the National Institute for Automotive Service Excellence; or
- 2) Possess an Associate of Arts or Associate of Science degree or higher in Automotive Technology from a state accredited or recognized college, public school, or trade school, and have one year automotive repair experience in the engine performance area; or
- 3) Possess a certificate in automotive technology from a state accredited or recognized college, public school, or trade school with a minimum of 720 hours of course work that includes at least 280 hours in the engine performance area, and have one year of automotive repair experience in the engine performance area; or
- 4) Have a minimum of two years of automotive repair experience in the engine performance area, and successfully complete BAR Specified Diagnostic and Repair Training within the last five years.
- 5) Have a minimum of least two years of comparable military experience/training in the engine performance area.

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License Renewal: Applicants for license renewal must meet the following requirements:

Certification - Possess a valid certification in the categories of Electrical/Electronic Systems (A6), Engine Performance (A8) and Advanced Engine Performance Specialist (L1) from the National Institute for Automotive Service Excellence (ASE);* and

Update Training - Provide proof of successful completion of 16 hours of update training from a BAR-certified training institution within the last two years.

* Applicants who have successfully completed the BAR Specified Diagnostic and Repair Training within the last five years are not required to possess the ASE certifications.

H&S § 44031.5, CCR § 3340.28

1.5.4 License Expiration Date

An inspector and repair technician license shall expire on the last day of the month in which the second birthday occurs after the date of issuance of the license. Initial expiration dates are calculated from the date the BAR is notified that an applicant has passed the licensing examination. Once a license has been issued that expires in the birth month, subsequent renewal licenses will expire on the last day of the birth month, two years later.

An inspector or repair technician whose license has expired shall immediately cease to inspect, test, or repair failed vehicles.

CCR §§ 3340.29, 3340.30

1.5.5 Additional Information for Licensed Inspectors and Repair Technicians

Change of Employment: A licensee must notify BAR in writing within two weeks of any change of employment.

CCR § 3340.30

License Renewal: Approximately 90-120 days prior to the license expiration, BAR will send the licensee a courtesy renewal notice to the address on file. The licensees are responsible for submitting a timely (prior to expiration) and complete renewal even if he or she did not receive a courtesy renewal notice. If you have not received your renewal notice, you may obtain one at www.bar.ca.gov, or you may contact the BAR Licensing Unit (916) 403-8477.

CCR § 3340.29

Expired License: A licensed inspector or repair technician, whose license has expired, shall immediately cease to inspect, test, diagnose or repair vehicles pursuant to the requirements of the Smog Check Program.

CCR § 3340.29

Replacement License: A licensed inspector or repair technician whose license is lost, destroyed, mutilated or stolen may request a replacement (duplicate) license from BAR's license examination contractor. A request form is available at www.bar.ca.gov or by contacting the BAR Licensing Unit at (916) 403-8477.

Copy of License: A licensed inspector or repair technician may obtain a copy (duplicate) of their wall license to post in a second place of employment. Repair technicians may request a duplicate license from BAR's license examination contractor. A request form is available at www.bar.ca.gov or by contacting the BAR Licensing Unit at (916) 403-8477.

1.5.6 Suspension and Revocation of Licenses

BAR may suspend or revoke the license of, or pursue other legal action against, a licensee, if the licensee (inspector, repair technician and/or station):

- Fraudulently certifies vehicles or participates in the fraudulent inspection of vehicles. A fraudulent inspection includes, but is not limited to, all of the following:
 1. Clean piping.
 2. Clean plugging.
 3. Tampering with a vehicle emission control system or emission inspection system.
 4. Tampering with a vehicle in a manner that would cause the vehicle to falsely pass or falsely fail an inspection.
- Knowingly and willfully resists, delays, or obstructs any employee of the bureau or, if applicable, any employee of the quality assurance contractor of the bureau in carrying out the lawful performance of his or her duties.
- Falsely or fraudulently issues or obtains a certificate of compliance.

H&S §§ 44072.10(c), 44072.10(d), CCR § 3340.24

1.6 Station Operation

1.6.0 Work Area

Testing and repairing of vehicles must be performed in a work area of the station that has been approved by BAR during the station licensing inspection. Other work may be performed in the approved area, as desired. Except for heavy duty vehicles, the work area shall be within a building and shall be large enough to accommodate the type of vehicle being serviced.

In the case of the testing and repair of heavy-duty vehicles, the work area need not be in a building. However, the Smog Check inspection system used at the station must only be used within a building.

The work area shall be kept clean and orderly.

CCR § 3340.15

1.6.1 Licensed Inspector and/or Repair Technician Required

An appropriately licensed inspector and/or repair technician shall be present during all hours the station is open for the business of inspecting and/or repairing vehicles pursuant to the Smog Check Program, as applicable.

CCR § 3340.15(b)

1.6.2 License Display

As applicable, licenses for the station, inspector, and/or repair technician shall be:

- Posted prominently under glass or other transparent material.
- Located in an area frequented by customers.

CCR §§ 3340.15, 3351.3

1.6.3 Posting of Prices

The station shall post conspicuously in an area frequented by customers a list of prices for the specific activities for which it is licensed.

- Posted prices shall include the price charged for inspections, re-inspection, if any, and any other associated charges.
- The station shall post any additional charges such as prices for vans and/or heavy-duty vehicles if such prices differ from passenger car inspection prices.
- The hourly labor charge for repairs shall be posted if the station imposes an hourly charge for repairs.

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- The price of a Smog Check certificate shall be posted separately from the price of the inspection and re-inspection, if any. Note: Customers shall be charged the same price for certificates as that paid by the station. Sales tax does not apply to the sale of the certificate.

CCR §§ 3340.15, 3340.35

1.6.4 Records

The station shall make, keep secure, and have available for inspection upon request by BAR, or its representative, legible records showing the station's transactions as a licensee for a period of not less than three years after completion of any transaction to which the records refer.

All records shall be open for reasonable inspection and/or reproduction by BAR or its representative for a period of not less than three years. Station records required to be maintained shall include copies of:

- Repair orders relating to inspections, and repair activities.
- Vehicle Inspection Reports.
- Records of all certificates in stock and/or issued.

The above listed station records shall be maintained in such a manner that the records for each transaction are kept together, to facilitate access to records by BAR or its representative.

CCR § 3340.15(f)

Customer Privacy - California Civil Code section 1798.81 requires that records containing customer information be destroyed or modified to make them unreadable when discarded.

1.6.5 Smog Check Signs

Smog Check Sign - All licensed stations shall display in public view a Smog Check sign that meets the following specifications:

- The Smog Check sign shall be 24 inches in width by 30 inches in height.
- The sign shall be made of 0.040 aluminum or steel.
- The design and content of the Smog Check sign shall be supplied by BAR via a camera-ready format. For more information, refer to www.bar.ca.gov.

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Station Service Signs - Separate service signs shall be posted for test only stations, repair only stations, STAR certified stations, and stations that only inspect and/or repair heavy duty vehicles, and stations that do not inspect heavy duty vehicles.

The service signs shall meet the specifications in BAR regulations and be securely fastened to, or immediately below, the required Smog Check station signs.

Repair Cost Limit Sign - Each Smog Check station shall display a BAR provided cost limit sign conspicuously in an area frequented by customers.

H&S § 44017.3, CCR §§ 3340.22, 3340.22.1, 3340.22.2, 3392.3.1

1.6.6 Unlicensed Activity

Smog Check tests and repairs must only be performed by a licensed repair technician in a licensed test and repair station.

H&S §§ 44014, 44032

1.6.7 Availability to the Public/Full Service to Customers

Licensed Smog Check stations must be open and available to the general public for Smog Check services. Stations may not discriminate based on race, color, sex, religion, ancestry, disability, marital status, or national origin.

Limited Service - Test and Repair Station - Before conducting the initial inspection, stations shall disclose to the customer orally and in writing (on the estimate) any of the following:

- A test and repair station does not have the adequate equipment, personnel, tools or reference materials to repair the vehicle, should the vehicle fail its inspection.
- A test and repair station, as matter of policy, does not repair certain types, makes or models of vehicles.
- A test and repair station, as matter of policy, does not repair certain types of vehicle inspection failures.

Limited Service - Repair Only Station

- A repair only station shall only accept a vehicle for repair if the station has the necessary equipment, tools, personnel, diagnostic and repair materials to repair that vehicle. If not, the vehicle shall not be accepted for repair.
- A repair only station is not obligated to accept a vehicle for repair if the station, as a matter of policy, chooses not to repair certain types, makes or models of vehicles, or certain types of inspection failures.

CCR §§ 3340.15(a), 3340.16.4, 3340.16.5, B&P § 125.6

1.6.8 Sublet Inspection and Repair

A licensed Smog Check station cannot sublet Smog Check inspections or repairs required as part of the Smog Check Program. Some exceptions apply. See section 2.1.6 for more information.

1.7 Station Audits

1.7.0 BAR Station Audits

BAR may visit stations to evaluate the effectiveness of tests and/or repairs made to vehicles subject to Smog Check inspection. Station audits may include but are not limited to:

- Audit emission analyzer accuracy, including operation of BAR code reader and/or dynamometer.
- Review the station's certificate records and smog inspection and/or repair invoices.
- Verify that inspection procedures and repair standards are being followed by observing Smog Check inspections and/or repairs being performed.
- Verify that the correct BAR approved calibration gases are being used.
- Conduct a visual inspection of the inspection equipment.
- Collect and verify data from the inspection equipment.
- Verify that the required signs and licenses are posted properly.
- Inspect required test equipment and reference material.

H&S § 44035(b), CCR §§ 3340.15(h), 3340.10(d)

1.8 Repair Assistance, Cost Waivers

1.8.0 Consumer Assistance Program

The Consumer Assistance Program (CAP) offers two options to assist consumers.

Repair Assistance: Eligible low-income consumers whose vehicle fails a biennial Smog Check may receive up to \$500 in emissions related repairs. Eligible consumers must take their vehicle to a STAR certified test and repair station to receive CAP subsidized repairs.

- Low Income Eligibility - Consumers whose household income is at or below 225% of the Federal poverty guidelines may qualify for repair assistance. For the latest information, refer to www.bar.ca.gov or contact CAP at (866) 272-9642.

Vehicle Retirement: Ordinary consumers who meet the eligibility requirements can receive \$1,000 to retire their vehicle. Low income motorists who meet the eligibility requirements can receive \$1,500 to retire their vehicle. Two options apply:

- A qualified consumer whose vehicle has failed its most recent Smog Check inspection may opt to retire the vehicle rather than repair the Smog Check failure; OR
- A qualified consumer whose vehicle is not due for biennial inspection may opt to retire their vehicle.

Eligibility requirements to retire a vehicle may be found on the CAP page at www.bar.ca.gov.

Consumer Application: Consumers interested in CAP must apply and qualify for repair assistance or vehicle retirement. A consumer may complete the CAP application online at www.bar.ca.gov, or by requesting a printed application by calling the DCA Consumer Information Center at (800) 952-5210 or the CAP administration office at (866) 272-9642.

Station Application: Licensed test and repair stations interested in performing CAP subsidized repairs must obtain STAR certification. The application for STAR certification details the station qualification criteria. The application is available at www.bar.ca.gov, or from BAR's Licensing Unit at (916) 403-8477.

CCR §§ 3392.2.1, 3394.1, 3394.3, 3394.6

1.8.1 Repair Cost Waivers

California law limits the amount of money required to be spent on repairs needed to pass a biennial Smog Check inspection to \$650. In general, a customer may qualify for a repair cost waiver if their vehicle fails to meet the biennial Smog Check standards after the customer has spent a minimum of \$650 on repairs at a Smog Check station. **Some exceptions apply for Visible Smoke Test failures; see Visible Smoke Test information on the next page.**

The repair cost waiver postpones the Smog Check certificate requirement for up to two years beginning on the due date of vehicle registration renewal. A vehicle that receives a waiver must be fully repaired by the next biennial Smog Check inspection requirement or title transfer. Of course, the customer can choose to repair the vehicle so that it passes the inspection and forgo the repair cost waiver option.

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A repair cost waiver can only be issued by a Referee facility.

Repair cost waivers do not apply to:

- Vehicles that received a cost waiver for any previous biennial inspection. (A vehicle cannot be issued more than one waiver under the same ownership and must be repaired before change of ownership. After changing ownership, the new owner may be eligible for another waiver.)
- Vehicles with tampered emission control equipment. (A repair cost waiver can only be issued after all tampered systems have been repaired.)
- Vehicles that are undergoing transfer of ownership.
- Initial registration of a direct import (grey market) vehicle, a vehicle previously registered outside the state, a dismantled/salvaged vehicle, a vehicle with an engine change, an alternate fuel vehicle, a specially constructed vehicle (SPCNS).
- Vehicles that fail the Visible Smoke Test and the owners' income exceed 225% of the Federal poverty guidelines.

Visible Smoke Test

A repair cost waiver is only available to low and moderate-income consumers whose vehicles fail the **Visible Smoke Test** and the following conditions are met:

- Low Income - The motor vehicle owner has a household income that meets the CAP low income eligibility standard.
- Moderate Income - The vehicle owner has a household income greater than the limit for CAP low income eligibility, but less than or equal to 225% of the Federal poverty guidelines.
- Moderate Income - The motor vehicle owner is not receiving any form of public assistance from any agency.
- The motor vehicle owner's household income has been verified in accordance with paragraph (2) of subsection (b) of CCR section 3394.6.
- The motor vehicle's required emissions control equipment is not missing and has not been rendered partially inoperative or inoperative as a result of tampering.

Note: Customers may be eligible for CAP (see section 1.8.0). Always inform customers about CAP options before beginning diagnosis and repair.

H&S §§ 44015, 44017, CCR §§ 3340.43, 3394.6

1.9 Customer Authorization

1.9.0 Estimate Preparation

A written estimate must be provided in accordance with the Automotive Repair Act before the inspection and/or repair can be conducted.

- An inspection estimate provided by a test and repair station shall contain a notice that informs the customer that they may choose another station for needed repairs and subsequent inspections.
- No licensed Smog Check station shall require, as a condition of performing the test, that any needed repairs or adjustment be done by the person, or at the facility of the person, performing the test.
- BAR's *Write It Right* guide is available to assist in licensees with the preparation of estimates and work orders. The guide is available at www.bar.ca.gov or contact a local BAR field office to obtain a copy.

B&P § 9884.9, H&S § 44033(c), CCR § 3353

Stations Unable to Make Certain Repairs

Before conducting the initial inspection, stations shall disclose to the customer both orally and in writing (on the estimate) any of the following:

- A test and repair station does not have the adequate equipment, personnel, tools or reference materials to repair the vehicle, should the vehicle fail its inspection.
- A test and repair station, as matter of policy, does not repair certain types, makes, or models of vehicles.
- A test and repair station, as matter of policy, does not repair certain types of vehicle inspection failures.

CCR § 3340.16.5

1.9.1 Station Obligations

Licensed Smog Check stations are expected to conduct themselves in an ethical manner consistent with the laws and regulations governing the inspection and repair of vehicles subject to Smog Check. In part, this includes:

- Providing consumers with complete estimates for inspections and, when applicable, diagnosis and repairs.
- Informing consumers of applicable program options, such as the repair cost waiver, CAP, and Referee services.
- Informing consumers of possible emissions warranty coverage for defective emissions related components. For more information, see section 2.2.0.
- Only requiring services and repairs consistent with vehicle manufacturer standards or nationally recognized industry practices.

1.10 Miscellaneous Inspection Scenarios

1.10.0 Garaged Outside Program Area

If a vehicle is registered in the Enhanced Area, but is garaged in a Basic Area, it must undergo an Enhanced Area inspection. Exceptions apply to fleet vehicles. See section 1.10.3 for fleet information.

H&S § 44011(b)

1.10.1 Motor Homes

Motor homes are often built using chassis and engines of earlier model years than the completed coaches (bodies). Motor home emission control requirements are determined by the chassis/engine model year, even though DMV registers the vehicle by the model year of the coach. The inspection systems allow for a three-year separation between the coach and chassis model years.

In Enhanced Areas, the ASM test requirement applies only to motor homes under 8501 GVWR.

CCR § 3340.42

If the motor home is equipped with a BAR Referee Label, see section III.

1.10.2 Specially Constructed (SPCNS) Vehicles or Kit Cars

Vehicle Code section 580 - "A "specially constructed vehicle" is a vehicle which is built for private use, not for resale, and is not constructed by a licensed manufacturer or remanufacturer. A specially constructed vehicle may be built from (1) a kit; (2) new or used, or a combination of new and used, parts; or (3) a vehicle reported for dismantling when reconstructed, does not resemble the original make of the vehicle dismantled. A specially constructed vehicle is not a vehicle which has been repaired or restored to its original design by replacing parts."

SPCNS vehicles must be equipped with a BAR Referee Label. The Referee label provides needed engine and emission control information.

- If the vehicle has a BAR Referee Label, use the emission control requirements listed on the label.
- If the vehicle does not have a BAR Referee Label, it must be inspected by a state Referee facility.

For information about BAR Referee labels, see section III.

H&S § 44017.4

1.10.3 Fleet Vehicles

Government Fleet: Smog Check inspection requirements apply to government fleet vehicles. To help verify compliance, government fleets are required to submit an annual inspection report (Annual Reporting Transmittal) found at www.bar.ca.gov.

Government fleets are issued a BAR identification number known as a “BAR file number.” Unless the fleet representative requests a certificate of compliance, the BAR file number is required when inspecting a government fleet vehicle.

- **Certificate Not Required** - A biennial certificate of compliance is not required for a government fleet vehicle. On BAR97 EIS, selecting “G” or “government” for the vehicle type will cause the EIS to ask for the BAR file number, thereby preventing a certificate of compliance from being issued. The BAR-OIS will ask if the vehicle is government and entering “yes” will cause a prompt for the BAR file number. In either case, **no certificate is issued and no certificate fee shall be charged.**
- **Request for Certificate** - A government agency may request an inspection without a BAR file number or may request a certificate of compliance for title transfer purposes. In these cases, do not select “government” as the vehicle type. Proceed with the inspection as you would for any other vehicle. If the vehicle passes, a Smog Check certificate will be issued. The certificate fee applies in the same manner as a non-government vehicle.
- **License Plate** - If a government vehicle displays an “E” at the beginning of the license plate, do not enter the “E.” Some government license plate numbers or assigned vehicle IDs may exceed seven digits. In these cases, enter the last seven digits of the number. Note: If testing federal government vehicles, the license plate issuing state will be District of Columbia (DC).

Government fleet vehicles are not eligible for repair cost waivers or consumer assistance.

Private Fleets: Private fleet inspection facilities must be licensed as a fleet Smog Check station and must employ licensed Smog Check inspectors and repair technicians to conduct inspections and repair. Private fleet vehicles are subject to the test type applicable to the program area in which the vehicle is garaged and operated. Example: If a fleet vehicle is registered to an office in an enhanced area, but the vehicle is garaged and operated in a basic area, a basic area inspection would apply.

Private fleet vehicles are not eligible for repair cost waivers or consumer assistance.

Questions regarding fleet vehicle smog inspections should be directed to BAR’s Fleet Operations Unit at (916) 403-0313.

H&S §§ 44011(a)(7), 44019, 44020

1.10.4 Military Personnel Vehicles

Federal law requires a Smog Check inspection for vehicles not registered in California but are owned and operated by non-resident military personnel on active duty in California. This requirement is independently enforced by each military base. Generally, military personnel must obtain a passing vehicle inspection report before a base access sticker can be issued; a certificate of compliance may not be required. The emissions inspection system provides inspection prompts for inspecting military personnel owned vehicles. Following these prompts will prevent the issuance of a certificate.

Federal Clean Air Act § 118

1.10.5 Clearance of Enforcement Documents

When a customer requests certification of a motor vehicle for correction of a violation noted on an enforcement form/citation, the Smog Check station shall certify (per citation requirements) that the correction has been made. In conjunction with such certification, the licensed inspector shall conduct a Smog Check inspection and issue a certificate of compliance, provided the vehicle passes the Smog Check inspection.

CCR § 3340.36

1.10.6 Smog Check Help

Additional information is available at www.bar.ca.gov or by contacting a local BAR field office (locations and numbers can be found in Appendix C) or the Industry Help Desk at (866) 860-8509.

Consumers should be referred to the Consumer Information Center at (800) 952-5210 for assistance.

SECTION II – REPAIR AND RETEST PROCEDURES

2.1 Vehicle Repair

2.1.0 Repair General Overview

- In accordance with the B&P section 9884.9 and CCR section 3353, provide the customer an estimate for the specific work needed to diagnose and repair the inspection failure. For more information, see section 2.1.1.
- The repair cost waiver applies to emissions, visual and functional test failures, unless the failure is due to tampered emission controls. For information about the repair cost waiver, see section 1.8.1.
- Diagnosis and repair must be performed in accordance with industry standard procedures. See repair standard described in section 2.1.2.
- In accordance with B&P section 9884.8 and CCR section 3356, provide the customer an invoice detailing the diagnosis and repair(s) performed.

2.1.1 Repair Estimate

In accordance with B&P section 9884.9 and CCR section 3353, prepare an estimate for the specific work needed to bring the vehicle into compliance. As applicable, list the repairs necessary to bring the vehicle into compliance, including the causes of visual, functional, and emission failures. The estimate must include price for labor and parts.

The repair invoice must itemize the diagnoses, repair(s) and parts. General statements such as “tune-up”, “low emissions service”, “scope and adjust”, are not acceptable. Listed items must be specific i.e. replace O2 sensor, set timing and RPM to manufacturer specifications, etc. When applicable, describe the on-board system fault code and the related system.

CCR §§ 3340.41.3, 3356

BAR’s *Write It Right* guide is available to assist in the preparation of estimates and invoices. Refer to www.bar.ca.gov or contact a local BAR office to obtain a copy.

2.1.2 Repair Standards

CCR section 3340.41(d) defines repair standards as follows:

“The specifications and procedures required by Section 44016 of the Health and Safety Code shall be the vehicle manufacturer’s recommended procedures for emission problem diagnosis and repair or the emission diagnosis and repair procedures found in industry-standard reference manuals and periodicals published by nationally recognized repair information providers. Smog Check stations and Smog Check technicians shall, at a minimum, follow the applicable specifications and procedures when diagnosing defects or performing repairs for vehicles that fail a Smog Check test.”

Section II – Repair and Retest Procedures

2.1.3 Pre-Repair Verification

Before proceeding with a Smog Check failure diagnosis and repair, a repair technician should consider the following:

- What do the inspection reports and, if applicable, repair records reveal about the failure?
- Have any conditions changed since the Smog Check inspection?
- What input can the consumer provide about the Smog Check failure? Has the consumer noticed any poor running conditions, fuel mileage drop, misfire, etc.
- Does the station have the tools, equipment and reference material necessary to diagnose and repair this type of vehicle?
- Does he or she have the expertise needed to diagnose and repair the failure?

2.1.4 Priority of Repairs

A repair cost waiver cannot be issued for a vehicle with tampered emission control equipment, regardless of the repair costs. Therefore, correcting tampered emission controls should be considered before emissions or functional test failures, including OBD failures.

1. **Tampers:** Tampered emission control systems must be restored to operate as designed by the manufacturer. The repair cost waiver does not apply to the repair of tampered emission control systems.
2. **Emissions/Functional:** When repairing failed vehicles, remember that the program goal is to most effectively reduce vehicle emissions.

A customer may choose to authorize or decline any repair and may choose to have the repairs performed by any licensed test and repair station, or repair only station.

See section 1.8.1 for repair cost limit information.

H&S §§ 44015, 44017(d).

2.1.5 “Non Smog Check” Repair Dealers

Automotive repair dealers that are not licensed Smog Check repair only or test and repair stations are prohibited from performing Smog Check related diagnoses and repairs.

H&S §§ 44014(a), 44032

Section II – Repair and Retest Procedures

2.1.6 Sublet Repair

A licensed Smog Check station cannot sublet Smog Check inspections or repairs required as part of the Smog Check Program, except for the following:

- Repairs of a vehicle's exhaust systems which are normally performed by muffler shops, provided that the malfunction is previously diagnosed by the specific station authorized by the customer to perform the vehicle repairs.
- Repairs of individual components that have been previously diagnosed as defective and removed by the specific station authorized by the customer to perform the vehicle repairs.
- Repairs of diesel-powered vehicles.
- Repairs to a vehicle's transmission.
- Corrections to the vehicle's on-board computer systems' software provided that the malfunction has been previously diagnosed by the specific station originally authorized by the customer to perform repairs to the vehicle.

If sublet repair is necessary, the station must obtain authorization from the customer for the sublet work. Upon the customer's request, the station must inform the customer of the location in which any sublet repair work will be performed. The station who obtained the original authorization is responsible for the sublet repair in the same manner as if the station or his or her employees had actually done the repair.

B&P § 9884.9, CCR §§ 3340.15(i), 3359

2.1.7 Owner Repairs

Owners of vehicles that fail a Smog Check inspection may repair their vehicles themselves.

2.1.8 EIS Manual Testing Mode

The BAR 97 EIS incorporates manual testing modes, which, in part, can be used in diagnoses of emission failures. The manual testing modes include:

- Emissions gas analyzer.
- Inspector/repair technician selected steady load (dyno only).
- ASM Diagnostic test (dyno only).
- Structured test drive (dyno only).
- Free-form test drive (dyno only).

Section II – Repair and Retest Procedures

Note: During a Smog Check inspection, the EIS compensates for sample dilution caused by small exhaust system leaks etc. However, this “Dilution Correction Factor” (DCF) may affect your gas analysis when diagnosing emission failures in manual mode. The EIS manual mode allows you to turn the DCF on and off. When diagnosing an emission failure, consider taking a reading with the DCF off and on. If the readings are much different, there may be an exhaust system leak.

The BAR OBD Inspection System (BAR-OIS) does not include manual or diagnostic functions, only the official inspection.

2.2 Vehicle Warranty

2.2.0 Emission Control System Warranty

Manufacturers of vehicles certified for sale in the USA are required by law to warrant that their emission control components will remain free from defects throughout the warranty period. California and Federal emissions warranties vary. **The warranty information provided in this guide is not intended to be all-inclusive. The warranties may vary from vehicle to vehicle. Inspectors/repair technicians should always refer to the warranty for each vehicle to determine applicable coverage.**

Inform the consumer if you find a defect that may be covered under warranty. The customer can choose to take the car to the new car dealer for repair.

2.2.1 Warranty Repair Requirements

Like any Smog Check related repair, warranty repairs resulting from a Smog Check inspection failure must be conducted by a licensed Smog Check repair only or test and repair station.

H&S § 44014

2.2.2 California Emissions Control Warranty

For California certified vehicles, manufacturers must warrant that the vehicle will pass any Smog Check inspection during the first **three years or 50,000 miles**. This means that any component failure leading to a Smog Check inspection failure during the first three years or 50,000 miles must be repaired under warranty free of charge, unless there is abuse, neglect, or tampering (as defined in the warranty) that affects the failure.

For “high-priced” emission control parts, the emission control warranty extends to **seven years or 70,000 miles**. High priced parts are determined at the time of vehicle certification and listed in the warranty statement included in the owner’s information package provided by the vehicle manufacturer.

For Partial Zero Emission Vehicles (PZEV) the warranty extends to **15 years or 150,000 miles** for all emission related components, and 10 years for hybrid vehicle batteries.

Specific vehicle warranties vary and are determined at the time of vehicle certification. **Always refer to the warranty for each vehicle to determine applicable coverage.** Repairs of Smog Check failures not covered by the emission warranties are the responsibility of the consumer and would be subject to the Smog Check repair cost waiver requirements.

CCR §§ 2037, 2038

2.2.3 Federal Warranties

The federal emissions warranty applies to 1995 and newer light duty vehicles. The warranty covers the cost of repairs that are needed to correct a Smog Check failure for the first **two years or 24,000 miles**. Some major emissions components (catalytic converters, electronic control unit/computer) are covered for the first **eight years or 80,000 miles**. Heavy-duty vehicle warranty terms may be different. **Note: Always refer to the warranty for each vehicle to determine applicable coverage.**

2.2.4 Independent Repair Dealer

The consumer can voluntarily choose to have an independent shop complete the repair of a warranted part rather than return the vehicle to the factory-authorized dealer. Vehicle manufacturers almost always require that warranty repairs be performed at factory-authorized dealers, except in case of emergency. **In all circumstances, refer to the warranty for each vehicle to determine applicable coverage.**

If the customer chooses to authorize potential warranty repair, consider the following actions:

- Ask the customer to sign a statement such as: **I have been advised of possible California or federal emissions warranty coverage and agree to have (shop name) complete the repairs.**
- Return the failed part(s) to the customer, who may choose to claim reimbursement from a factory-authorized dealer, if the part is covered by warranty.
- Advise the customer to keep all repair receipts.

SECTION III – BAR REFEREE

3.1 Referee Services

3.1.0 Referee Inspection Services

In general, the BAR Referee provides services to accommodate unusual Smog Check circumstances not common to ordinary vehicles or stations. Referee inspection services can apply in the following circumstances:

- The consumer feels that his or her vehicle was tested and/or repaired improperly, which resulted in a Smog Check failure.
- The consumer may be eligible for a repair cost waiver (section 1.8.1).
- A consumer is unable to locate a required emission control part and may qualify for a limited parts exemption.
- The vehicle cannot be inspected by a licensed station due to OEM operating characteristics or design of the vehicle.
- The vehicle's engine has been changed with a non-replacement engine and is not equipped with a BAR Referee Label.
- The vehicle is a kit car (SPCNS) and is not equipped with a BAR Referee Label.
- The vehicle appears not to have been originally manufactured to California or USEPA requirements. These vehicles are considered grey market or direct import vehicles and include some Canadian and most Mexican market vehicles.
- Verification of a vehicle converted to operate on electricity only. Additional information regarding electric vehicles is located in Appendix F.
- Verification that an alternative fuel conversion system has been properly installed on a vehicle. Additional information regarding alternative fueled vehicles is located in Appendix F.
- Clearance of a law enforcement citation for excessive exhaust noise.
- Clearance of law enforcement citation for modified emission controls.
- The vehicle is exempt but received a "Smog Certificate Required" statement on the DMV registration renewal notice. The Referee can provide exempt vehicle verification to resolve situation with DMV.
- Inspection of a vehicle directed to the Referee because data collected from a Smog Check inspection did not match what was expected.

H&S §§ 44014, 44017.4, 44036, VC § 27150.2

3.1.1 Referee Appointments

To make an appointment, consumers may contact the Referee’s scheduling center at (800) 622-7733. An inspection cost may apply.

- If the vehicle is going to the Referee for a cost waiver, the customer should have the following documents, as applicable:
 - a. Initial VIR.
 - b. After-repair VIR.
 - c. Copy of the repair order/invoice indicating the cause of the Smog Check failure.
 - d. Repair receipts and the estimated costs of repairs.
 - e. CAP documents, when applicable.

3.1.2 BAR Referee Label

The BAR Referee Label serves as the emissions control “under-hood” label, providing emission control information for SPCNS, grey market vehicles, vehicles with engine changes, alternative fueled vehicles, and, as needed, other vehicles with unusual configurations. The Referee Label is typically, but not always, affixed to the left front door post. In some cases, the label may be located under the hood.

Figure 2: Example of Acceptable BAR Referee Label (all labels must include a serial number)



- PCV - Positive Crankcase Ventilation
- AIS - Air Injection System
- FR – Fill Pipe Restrictor
- EGR – Exhaust Gas Recirculation
- CCO Computer Controlled
- O2 – Oxygen Sensor
- TAC – Thermostatic Air Cleaner
- EVP – Fuel Evaporative System
- CAT – Catalytic Converter
- SPK – Spark Control
- MIL – Malfunction Indicator Lamp

APPENDIX A: DEFINITIONS AND ABBREVIATIONS LIST

ARD - Automotive Repair Dealer.

ASM - Acceleration Simulation Mode, dynamometer test.

BAR - Bureau of Automotive Repair.

Referee – BAR Referee is a state contractor that provides special test services for unusual Smog Check circumstances.

CAP - Consumer Assistance Program.

CARB - California Air Resources Board.

CACC - Clean Air Car Course: The combination of components operating together as a system.

CCR - California Code of Regulations.

CO - Carbon Monoxide: A colorless, odorless and deadly gas that results from a lack of oxygen when hydrocarbons are burned.

Computer Controlled Vehicle - A vehicle equipped with a computerized emission/engine management system.

DCF - Dilution Correction Factor.

Directed Vehicle - A vehicle restricted to Smog Check inspection and certification at a STAR station.

Dual Fuel Vehicle - A motor vehicle that is equipped to operate on gasoline and another fuel such as liquefied petroleum gas, CNG or liquefied natural gas.

ECS Label - Manufacturer underhood Emission Control System Label.

Emission Control System - For the purposes of a Smog Check inspection, an emission control system is an emission related component, or a combination of components operating together as a system.

EIS - Emission Inspection System.

Engine Change - An engine change is the installation of an engine that is different from the one that was originally installed in the vehicle and does not qualify as a "replacement engine."

Grey Market Vehicle - Vehicles that were manufactured for sale outside the U.S. and imported into the United States.

Gross Polluter - A vehicle that exceeds the gross polluter exhaust emission standards set forth in CCR section 3342.

GVWR - Gross Vehicle Weight Rating: The vehicle manufacturer's maximum weight rating for a vehicle (vehicle, load, passengers).

HC - Hydrocarbons: Harmful tailpipe emissions made up of unburned fuel. Hydrocarbons are a key element in forming photochemical Smog.

HEP - High Emitter Profile Database used to select most directed vehicles.

LPFET – Refers to the Low Pressure Fuel Evaporative Test and/or the system used to perform the testing.

Motor Home - A motor vehicle designated by DMV as a motor home originally designed or permanently altered and equipped for human habitation or camping purposes. A motor vehicle to which a camper has been temporarily attached is not a motor home.

N/A - Not Applicable. Emission controls system is not applicable to the vehicle under test.

OBD - On Board Diagnostics - Refers to the self test capability of a vehicle's on board computer systems.

OBD Monitor - Refers to the on board evaluation of particular emission control related systems, devices or components.

OEM - Original Equipment Manufacturer.

OIS - OBD Inspection System; BAR-OIS.

O2 - Oxygen: A colorless, odorless gas that makes up about 20 percent of the earth's atmosphere and is necessary for fuel combustion.

Referee Facility - A Referee Facility is a state-contracted vehicle emissions test facility that provides certain Smog Check services for consumers. A Referee Facility is authorized to offer specialized inspection services that are beyond the scope of California's licensed Smog Check stations.

Referee Label - A label used to provide engine and emission control information for unusual vehicles and or emission control configurations. These include, SPCNS, grey market vehicles, vehicles with engine changes. Referee labels are affixed by the BAR Referee.

Repair Only Station - A station licensed by BAR to diagnose, adjust and repair failed vehicles.

Replacement Engine - A replacement engine is defined as follows:

1. A new, rebuilt, remanufactured, or used engine of the same make, number of cylinders, and engine family as the original engine with the original emission controls reinstalled;

or
2. An engine which matches a configuration offered by the manufacturer for that year, make and model of vehicle, and the appropriate emission controls for the installed engine, and chassis components are present and connected.

Smog Check Inspector - A state license that allows an individual to inspect and certify vehicles subject to Smog Check in all areas of the state.

Smog Check Repair Technician - A state license that allows qualified individuals to diagnose, adjust and repair vehicles subject to Smog Check in all areas of the state.

SPCNS - Specially Constructed Vehicle.

Vehicle Code Section 580 - "A "specially constructed vehicle" is a vehicle which is built for private use, not for resale, and is not constructed by a licensed manufacturer or remanufacturer. A specially constructed vehicle may be built from (1) a kit; (2) new or used, or a combination of new and used, parts; or (3) a vehicle reported for dismantling when reconstructed, does not resemble the original make of the vehicle dismantled. A specially constructed vehicle is not a vehicle which has been repaired or restored to its original design by replacing parts.

STAR Station Certification - A voluntary certification program that allows stations meeting the eligibility requirements to test directed vehicles and, as applicable, perform state subsidized repairs - CAP repairs.

Tampered - Any emission control component which is missing, modified or disconnected.

Test and Repair Station - A station licensed by BAR to conduct inspections and, when needed, diagnose, adjust and repair failed vehicles.

Test Only Station - A station licensed by BAR to conduct inspections only. STAR test only stations may perform initial inspections of directed vehicles.

USEPA - United States Environmental Protection Agency.

VID - Vehicle Information Database.

VID Match -The process that successfully links or matches the vehicle information entered into the EIS to the corresponding VID records.

VIR - Vehicle Inspection Report.

VIN - Vehicle Identification Number.

APPENDIX B: LIST OF BUREAU OF AUTOMOTIVE REPAIR FIELD OFFICES

Bakersfield
3331 North Sillect Avenue
Bakersfield, CA 93308
(661) 335-7400

Culver City
6001 Bristol Parkway, Suite 100
Culver City, CA 90230
(310) 410-0024

Fleet Operations (Headquarters)
10949 North Mather Boulevard
Rancho Cordova, CA 95670.
(916) 403-0313

Fresno
7130 North Marks Avenue
Fresno, CA 93711
(559) 445-5015

Hercules
625 Alfred Nobel Drive, Suite A
Hercules, CA 94547
(510) 964-3030

Irvine
16735 Von Karmen Avenue, Suite 100
Irvine, CA 92606
(949) 988-5252

Riverside
1450 Iowa Avenue, Suite 150
Riverside, CA 92507
(951) 782-4250

Sacramento
10949 North Mather Boulevard
Rancho Cordova, CA 95670
(916) 403-8080

San Diego/Oceanside
16855 West Bernardo Drive, Suite 112
San Diego, CA 92127
(858) 716-1025

San Jose
6860 Santa Teresa Boulevard
San Jose, CA 95119
(408) 277-1860

South El Monte
1180 Durfee Avenue, Suite 120
South El Monte, CA 91733
(626) 575-6934

South San Francisco
395 Oyster Point Boulevard, Suite 102
S. San Francisco, CA 94080
(650) 827-2074

Valencia
27202 Turnberry Lane, Suite 250
Valencia, CA 91355
(661) 702-6600

APPENDIX C: IMPORTANT TELEPHONE NUMBERS AND WEBSITES

BAR

www.bar.ca.gov

California Air Resources Board

(800) 242-4450

www.arb.ca.gov

California Air Resources Board

Aftermarket parts website

www.arb.ca.gov/msprog/aftermkt/aftermkt.htm

Consumer Assistance Program

(Repair Assistance / Vehicle Retirement)

(866) 272-9642, (916) 403-8780

Department of Consumer Affairs

www.dca.ca.gov

Emission Parts Location Center

(800) 622-7733

Cal-VIS Billing

(Help Desk)

(888) 229-9389

Fleet Information

(916) 403-0313

General Information

(Consumer Information Center)

(800) 952-5210

Legislative Counsel

(legislative information)

www.leginfo.ca.gov

Licensing Questions

(BAR Licensing Unit)

(916) 403-8477

Office of Administrative Law

www.oal.ca.gov

Publication Ordering

(BAR Mail Room)

(916) 403-8472

Referee Scheduling Center

(800) 622-7733

Industry Help Desk

(866) 860-8509

Inspector/Repair Technician Access Code Changes

Please contact your local field office.

A list of the field offices and their telephone numbers are located in Appendix B.

Please direct technical or informational questions to your local BAR field office.

A list of the field offices and their telephone numbers are located in Appendix B.

APPENDIX D: STATE OF CALIFORNIA – ENGINE CHANGE GUIDELINES

The California Air Resources Board (CARB) and the Bureau of Automotive Repair (BAR) have jointly developed the following engine change guidelines with the focus on maintaining air quality for all Californians while also providing a reasonable pathway for the occurrence of engine changes on California vehicles. State and federal anti-tampering laws specifically prohibit any modification to the vehicle's original emission control system configuration as certified by the manufacturer. One such law is California Vehicle Code Section 27156 which states that no person shall disconnect, modify, or alter any required motor vehicle pollution control device. In addition, Section 3362.1 of the California Code of Regulations states, "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". In summary, these laws prohibit any engine change that degrades the effectiveness of the vehicle's original emission control system.

Engine changes can present problems and challenges to vehicle owners, inspectors, and technicians. Our recommendation is to rebuild and reinstall the original engine, transmission, and emission control system configuration, use a California certified engine, or use a CARB exempted engine package. Exempted emissions compliant engine packages are restricted to specific applications and must not be installed in vehicle applications that are not included in the exemption. Check the Executive Order for details, which can be viewed at, <https://www.arb.ca.gov/msprog/aftermkt/devices/amquery-091517.php> by choosing Select Device Type: Engine Modification/Engine Change. It is important to remember that the guidelines in this document are for performing engine changes and are not exemption procedures. All vehicles with engine changes must pass an inspection by a BAR Referee and must have a BAR Referee label affixed to the vehicle inside the engine compartment. After the initial referee inspection, the vehicle will remain subject to ALL the same recipient vehicle requirements for future Smog Check inspections.

- I. Non-OBD II¹ certified vehicles receiving an OBD II certified engine must meet the following:
 - a. The donor engine must be in a stock certified configuration, and support ALL the certified OBD II functionality
 - b. 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. Any changes must not modify the stock functional design of the components (i.e. the intake air box must not be modified, EGR valves still properly mounted, etc.)
 - c. The transmission and evaporative systems will be allowed to remain in the recipient vehicle configuration, but must function appropriately (see i below)

¹ OBD II was phased in, and generally applies to model years 1996 and newer for gasoline vehicles, and 1998 and newer for diesel vehicles. The Vehicle Emission Control Information label for the vehicle will indicate if it is OBD II certified.

- d. **ALL** of the requirements (a-i) listed below for “All model year vehicles”
- II. Vehicles originally equipped with OBD II must receive an OBD II certified engine and meet the following:
- a. 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
 - b. ALL of the requirements (a-i) listed below for “All model year vehicles”
- III. Electric vehicle conversions must meet the following:
- a. Vehicles converted to 100% electric drive, with power supplied exclusively by on-board batteries, are considered in compliance with the engine change requirements provided:
 - i. All fuel system components are removed prior to inspection, including the fuel tank, lines and evaporative system
 - ii. No fuel-fired heater is installed on the vehicle
 - b. None of the requirements (a-i) listed below for “All model year vehicles” apply to electric vehicle conversions
- IV. All model year vehicles (gasoline, diesel, hybrid, CNG, LNG, LPG, etc.) must meet the following:
- a. **Model Year** - The installed engine must be of the same model year or newer than the model year of the recipient vehicle
 - b. **Engine Classification** - Vehicle and engine classifications of the donor and recipient vehicles must be the same based on Gross Vehicle Weight Rating (GVWR). Classification examples include passenger car, light-duty truck (LDT1, LDT2), light-heavy-duty truck (LHD1, LHD2), medium-duty vehicle (MDV), etc. For example, a heavy-duty truck engine may not be installed in a light-duty truck even if they have the same displacement. Non-emissions controlled engines, such as industrial and off-road-use-only engines, and non-certified “crate engines”, MAY NOT be installed in any emission- controlled vehicle
 - c. **Certification Type** - The certification type (California or Federal certification) of the engine and recipient vehicle must be the same or, if not, the engine must adhere to the more stringent standard. For example, a California certified engine may be installed in a Federal vehicle but a Federal engine may not be installed in a California vehicle. Proof of the certification type from the manufacturer or CARB EO of the donor engine must be provided at the time of the engine change inspection at the Referee
 - d. **Smog Check Tests** - The vehicle must pass **ALL** of the following Smog Check tests (regardless of model year) using the donor vehicle Smog Check test type requirements:

- i. BAR-97 tailpipe test (this item does not apply to diesel and hybrid vehicles). Acceleration Simulation Mode (ASM) test unless the vehicle is not compatible with dynamometer testing. In such cases, the Two Speed Idle (TSI) test shall apply. Emission standards appropriate for the model year of the donor vehicle will be applied. Note that Smog Check Program area test types do not apply to engine changes i.e. Basic area vehicles will receive an ASM test
- ii. BAR-OIS test when an On-Board Diagnostics (OBD II) certified donor engine is installed (**ALL** Smog Check Program areas)
- iii. Malfunction Indicator Light (MIL) ("CHECK ENGINE" light) must pass the bulb check, and full OBD functionality. This includes donor engines equipped with OBD-I (1995 and older OBD equipped engines) capabilities
- iv. Visual inspection of all emissions control systems

Functional tests when applicable for the donor vehicle (this item does not apply to diesel or hybrid vehicles), including:

- 1. Ignition Timing Test
 - 2. EGR System Functional Test
 - 3. Low Pressure Fuel Evaporative Test (LPFET)
 - 4. Fuel Cap Integrity Test
 - v. Visible Smoke Test (this item does not apply to hybrid vehicles)
 - vi. Liquid Fuel Leak (this item does not apply to diesel vehicles)
- e. **Exhaust System** - All exhaust after-treatment devices (catalytic converters, Diesel Particulate Filters (DPF), Diesel Oxidation Catalysts (DOC), Selective Catalytic Reduction (SCR), etc.) the donor vehicle was certified to use must be present and positioned under the vehicle in the same linear position within the exhaust stream as measured from the exhaust manifold outlet. If the device is integrated with the exhaust manifold, it must remain that way. Tolerances for this measurement as are follows:

- i. On the close-coupled end (nearest the engine), within 6 inches, and no closer than the stock configuration
- ii. On the other devices (rear catalyst, DPF, DOC, SCR, etc.) within 12 inches of the stock configuration

No other exhaust system changes are allowed, unless they occur downstream of the last emissions control device i.e. (Oxygen sensor (O2), NOx sensor, etc.). For example, the muffler location(s) may be modified.

- f. **Exhaust Sensors** - All required after-treatment sensors including Oxygen (O2) sensor(s) must:

- i. Be within 1 inch of the original location (relative to the associated after-treatment device)
 - ii. Have bungs properly welded into the exhaust pipes and must be oriented in the exhaust stream identically to the original configuration
- g. **OBD II System** - Any vehicle with a replacement engine from a donor vehicle that was originally equipped with an OBD II system must support all OBD II functionality from the donor vehicle:
 - i. Calibration Identification (CalID) and Calibration Verification Number (CVN) must match a certified configuration for the donor engine
 - ii. **ALL** supported OBD readiness monitors must be in a ready (complete) condition. Vehicle owners may need to work with the manufacturer, dealer or repair shop with necessary tools and expertise to get potentially difficult monitors to be ready (complete)
 - iii. Readiness monitors must clear and reset properly
 - iv. The Original Equipment Manufacturer Diagnostic Link Connector (DLC) must be accessible and fully functional. No devices may be plugged into the DLC at the time of inspection. If more than one DLC is located on the vehicle, then the DLC for the engine must be labeled as "ENGINE DLC". The label must be robust, permanent, clearly readable, and highly visible
 - v. All sensors, switches, and wiring harnesses needed to make the system fully functional must be properly connected
 - vi. MIL must be in a visible location on the vehicle's instrument cluster and be clearly labeled as a MIL and functioning
- h. **Aftermarket Parts** - All non-OEM configurations or aftermarket components installed on the recipient vehicle or donor engine must adhere to BAR's Aftermarket Parts Verification Guidelines located in the Smog Check Manual, Appendix G available at www.bar.ca.gov. CARB's list of approved aftermarket parts with Executive Orders (EO's) can be found at <https://www.arb.ca.gov/msprog/aftermkt/devices/amquery.php>
- i. **Emissions Systems** - All emissions systems (including the evaporative system monitoring) from the donor vehicle must be installed and fully functional. For example, the evaporative system components, i.e. plumbing, canister, tanks, valves, etc. must be present and functioning. If a non-OBD II certified vehicle is receiving an OBD II certified replacement engine, the transmission and fuel storage/evaporative system from the recipient vehicle may still be used. However, these components and systems must be integrated with the engine's OBD II system such that the OBD system's transmission and evaporative system monitoring strategies remain operational.

APPENDIX E: ALTERNATIVE FUEL POWERED VEHICLES

Approved Alternative Fuel Conversion Systems

LPG, CNG and LNG introduction - The Air Resources Board requires manufacturers of Liquefied Petroleum Gas (LPG), Compressed Natural Gas (CNG) and Liquefied Natural Gas (LNG) conversion systems to obtain approval of these systems before they can be legally sold or installed on California vehicles. Approved systems must be installed in accordance with the manufacturer's installation instructions.

Contact the Air Resources Board at 800-242-4450, for additional conversion information and approved systems or check their web site at www.arb.ca.gov/msprog/aftermkt/aftermkt.htm.

Additional Alternative Fuel Regulations - Beginning with the 1994 model year, alternative fuel retrofit manufacturers are required to abide by new regulations. In addition to previous requirements, alternative fuel conversion systems will be required to:

- Be certified uniquely to engine families.
- Demonstrate durability equal to the converted vehicle.
- Be subject to in-use compliance testing.
- Be inspected by a Referee Center prior to possession by the owner (all vehicles retrofitted after 1/1/94).

These regulations ensure that the alternative fuel retrofit systems will maintain their emission levels throughout the life of the converted vehicle.

Electric vehicle introduction - The Air Resources Board certifies electric vehicle conversion kits. A conversion kit is designed to convert a vehicle to solely operate on electricity and be classified as a low emission vehicle. Low emission vehicles may be eligible for a state income tax credit.

Methanol/ethanol vehicles - Vehicles should be ARB and/or EPA certified vehicles. Use the underhood label to determine the required emission controls.

These vehicles are subject to Smog Check inspection.

Vehicle classes - For the purposes of this Appendix, vehicle classes are defined as follows:

- **"Passenger Car" (PC)** - any motor vehicle designed primarily for transportation of persons and having a design capacity of 12 persons or less.
- **"Light-duty Trucks" (LDT)** - any motor vehicle rated at 6,000 lbs. GVW or less which is designed primarily for purposes of transportation of property or is a derivative of such vehicle or is available with special features enabling off- street or off-highway operation and use.

- **"Medium-duty Vehicles" (MDV)** - any pre-1995 heavy-duty vehicle having a manufacturer's GVWR of 8,500 pounds or less, or any 1995 and later model year heavy-duty vehicle having a GVW of 14,000 pounds or less, or any low emission vehicle having a GVW greater than 6000 pounds but less than 14,000 pounds. Manufacturers may elect to certify pre-1995 vehicles up to 10,000 pounds as medium-duty vehicles.
- **"Heavy-duty Vehicles" (HDV)** - any motor vehicle having a manufacturer's GVWR greater than 6,000 pounds, excluding: light-duty trucks and 1978 and later medium-duty vehicles and 1995 and later vehicles less than 14,000 GVWR. Manufacturers may elect to certify pre-1995 vehicles up to 10,000 pounds as medium-duty vehicles.

LPG/CNG/LNG allowed modifications - The following modifications are allowed to the vehicle(s) emission control system when approved LPG, CNG and LNG conversion systems are installed.

1. The heated air intake may be removed.
2. The original air cleaner may be removed and replaced by a new one compatible with the alternative fuel conversion system.
3. The carbon canister may be removed on dedicated LPG, CNG and LNG fueled conversions.

Other modifications may be allowed. To verify any further modifications for specific systems, contact the California Air Resources Board at 800-242-4450 or www.arb.ca.gov.

Fuel conversion abbreviations - Abbreviations of fuel conversion type are as follows:

- **DF:** Dual Fuel - Designed to operate on either gasoline or an alternative fuel.
- **Electric:** Vehicle designed to operate only by electrical power.
- **Hybrid Electric:** Designed to operate on electricity and an auxiliary power source.
- **LPG:** Liquefied petroleum gas.
- **CNG:** compressed natural gas.
- **LNG:** liquefied natural gas.
- **VV:** variable venturi carburetor.
- **FI:** fuel injected.
- **TWC-CL:** three-way catalyst with closed loop.

H&S § 43006, CCR Title 13