State and Consumer Services Agency
DEPARTMENT OF CONSUMER AFFAIRS
BAR
Bureau of Automotive Repair

Low Pressure Fuel Evaporative Test

Questions and Answers

Program Start Up

1. When will vehicles be tested for low pressure fuel evaporative emissions as part of their Smog Check inspection?

November 1, 2007 is the date BAR has targeted as the start date for this additional Smog Check test.

2. What model year vehicles will need to be tested?

1976 to 1995 model year vehicles will be tested, which includes all pre-OBDII vehicles subject to Smog Check.

3. Will the test be performed statewide?

Yes.

4. What percent of the 1976 to 1995 model year vehicles are testable?

In nearly 1,500 fuel evaporative tests conducted by BAR during roadside inspections of vehicles in 2005, BAR technicians found that the canister was accessible and they were able to crimp or plug the line in order to complete the test in about 92% of the fleet.

5. What is the impact on the consumer?

The most important impact on consumers is that the emission reductions will improve air quality and reduce their health risks. BAR's 2005 roadside inspection study showed that approximately 11% of consumers may have to pay more in order to repair failing vehicles; however, the air quality and resulting health benefits easily outweigh the increased costs associated with the program. Repairs will also result in fuel savings. In addition, fuel leaks can be a safety hazard and repairing those vehicles will reduce the chance of vehicle damage or injury.

6. Has any analysis been done to determine the effect of the new test on station throughput?

Yes. The average low-pressure test time is 4 minutes (from data entry to result) and can be performed concurrently with other elements of the Smog Check inspection.

7. Does fuel come back out when testing vehicles with full tanks?

No. Test procedures and filler neck adapters are designed to minimize fuel discharge.

8. Does the test alone release more vapors into the atmosphere than can be recovered with repairs?

According to the California Air Resources Board (ARB), the emissions reduction gained from finding and fixing a leak far exceed the small amount of vapors that might be lost during the test.

9. Has BAR quantified the vehicle fleet size subject to this test?

According to ARB calculations, there were 9.1 million 1976 to 1995 model-year vehicles in 2005. Statistics indicate the same fleet will decrease in size to 5.8 million by 2010.

Equipment

10. Do all Smog Check stations have to obtain the equipment?

Yes.

11. Is the state proposing that a station purchase one tester for each analyzer?

No. Only one tester per station is required, regardless of the number of analyzers. However, stations operating under different licenses may not share a single tester.

12. Can shop air be used instead of nitrogen?

Due to equipment manufacturer requirements and safety concerns, only nitrogen can be used. Nitrogen is relatively inexpensive and Industrial grade can be used. The nitrogen does not have to be provided by a certified blender.

Note: Low cost industrial grade nitrogen may be used; however, it must be at least 98% purity with no more than 100 parts per million hydrocarbons.

13. Can the BAR-97 phone line be used to upload LPFET data to BAR?

No. A different analog phone line must be used; however, it does not have to be a dedicated line.

14. Why isn't the equipment hooked up to the BAR-97?

The tester is being introduced as a stand-alone device to avoid imposing additional costs to Smog Check stations. While the tester has been designed to communicate with the BAR-97 (and likely the new proposed BAR-2010 analyzer), to do so would require a costly software update. No software update is being considered at this time.

15. What is the duration of the warranty and what will it cover?

The test equipment manufacturers are being held to BAR specifications that require at least a one-year warranty covering defects in materials, software, and workmanship. The service requirements include delivery of a replacement unit within three (3) working days of a service call.

16. Will the state require service contracts on the equipment?

No.

17. Does the test equipment require periodic maintenance or replacement of any parts?

Yes. Nitrogen, filler neck adapter gaskets and some filters may require periodic replacement.

18. How will the state ensure the tester performs reliably over time?

Thorough lab testing at BAR is followed by beta testing at select stations to assess test equipment prior to BAR certification. Bar also performs high and low temperature testing to ensure the equipment's accuracy and durability.

19. Will the test equipment be subjected to testing at an independent lab prior to BAR certification?

Yes. Underwriters Laboratories approval is required prior to BAR certification of the test equipment.

20. How will BAR deal with manufacturers whose test equipment falls out of specification?

BAR continually works with equipment manufacturers to improve in-service performance, and to ensure the test equipment functions as required by specification standards. Auditing equipment manufacturers allows BAR to address calibration issues. Also, these units are updatable through the communications port.

21. Will smoke generators be required?

No. Although smoke generators are effective tools at locating leaks, the gas analyzer portion of the BAR-97 EIS and the Low Pressure Fuel Evaporative Tester (LPFET) are equally effective. It is up to each Smog Check station to decide whether or not to purchase a smoke generator.

22. How many manufacturers have submitted test equipment to BAR for certification?

To date, only two manufacturers have submitted their equipment for evaluation. The manufacturers are:

- ESP/Waekon
- Delphi/SysTech

23. What is the anticipated cost of the new equipment?

Approximately $3,000.

24. Can current test equipment be modified to perform the low-pressure test at a lower cost?

No. The fuel cap tester and diagnostic tools, such as a smoke generator, would require considerable modification and significantly more costs to Smog Check stations.

25. Will there be additional equipment cost for nitrogen use and how will this cost affect the overall cost of the program?

Yes, although the additional cost is expected to be minor. Smog Check stations that do not currently use nitrogen would have to purchase or lease a cylinder, purchase a pressure regulator, and periodically refill their tanks. This could add up to 21 cents per test for nitrogen.

Technical Assistance

26. Will training be provided?

Yes, although only minimal training is required to perform the test. Equipment manufacturers will provide specific operating instructions in equipment manuals and through toll-free telephone support. In addition, a pinch point location guide will be provided. BAR also will conduct workshops prior to implementation. BAR is also producing a training video for Smog Check stations.

27. Will technical assistance be provided during start up?

Yes. During implementation, the manufacturers will provide a hotline and the BAR ET Help Desk will be available if needed.

28. What is a pinch point database?

It is a book and/or computer software application that shows the location of the optimal point to seal the evaporative system for testing.

29. What percent of the fleet are included in the pinch point database?

According to the independent contractor that developed the database, about 85% of the 1976 to 1995 model-year vehicles are included in the pinch point database, which illustrates the suggested crimping locations.

Testing

30. Which 1976 to 1995 model-year vehicles would be excepted from this test?

- ✓ Vehicles not originally equipped, and not required by state or federal law to be equipped, with a fuel evaporation control system;
- ✓ Vehicles with two or more fully operational fuel tanks;
- ✓ Vehicles powered exclusively by compressed natural gas (CNG), liquid natural gas (LNG) or liquid petroleum gas (LPG);
- ✓ Vehicles for which there are no filler neck adapters;
- ✓ Vehicles in their original factory configuration, with a fuel evaporative canister and fuel vapor hoses that are not accessible or would require the partial dismantling of the vehicle in order to gain access to them for testing.
- ✓ The technician shall note the vehicle's canister location on the Vehicle Inspection Report for these vehicles.

Note: If the canister is inaccessible, but the vapor line can be sealed at a location "upstream" of the canister, the test must be performed.

31. How should these excepted vehicles be documented?

Exception reasons must be documented on the Vehicle Inspection Report (VIR) and should be indicated on the customer invoice.

32. Will the state allow stations to bypass the low-pressure test in the event the tester breaks?

No. All components of the Smog Check inspection must be performed.

33. Must the test be performed even if the vehicle fails a visual evaporative check?

In cases where the visual failure is on the vapor capture side of the system and prevents the low pressure fuel evaporative test from being performed as per equipment manufacturer's procedures, the technician will not perform the test and enter "F" for failure.

34. How is the test to be performed on canisters with hard plastic lines?

Hard plastic lines can be disconnected and plugged.

35. Will a Test Only station be allowed to repair a hose if damaged during a test?

Yes. Current law allows Test Only stations to fix functionally tested components during the inspection at no charge to the customer. Another example is exhaust gas recirculation (EGR).

36. Does crimping decrease the life of hoses?

Yes. However, specific pliers were selected to minimize hose damage, and testing shows the frequency of damage is extremely small.

37. Does the test identify bad evaporative canisters?

No, the low-pressure evaporative test does not identify bad evaporative canisters.

38. If the purge part of the evaporative system is not tested, how can stations tell if the entire evaporative system is working after repairs have been made to just the fuel lines and/or tank?

Low pressure testing checks for leaks between the filler neck and the canister. BAR is not requiring purge testing at this time.

39. Why is a half-pound of pressure used for testing?

The USEPA recommends this amount of pressure when conducting a low pressure evaporative test. In addition, testing at higher pressures may cause damage to the vehicle's fuel system.

LPFET Repairs

40. Who will perform needed repairs on vehicles that fail the LPFET?

As with all Smog Check repairs, licensed Test and Repair stations should be able to make fuel evaporative system repairs.

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41. What if the vehicle owner is having trouble finding replacement parts for older vehicles?

If a vehicle owner experiences difficulty finding replacement parts, they should call BAR's emissions parts locator at (800) 622-7730.

42. The average repair cost has been stated as being $161. How was this calculated?

The $161 average repair cost estimate was provided by the California Air Resources Board (ARB) in their November 29, 2005, report "*Environmental Impacts of Implementing a Low Pressure Evaporative Test in the California Smog Check Program."* The report is on the ARB Web site and explains how the repair cost was calculated. (http://www.arb.ca.gov/msprog/smogcheck/evap_report.pdf)

43. What options are available to consumers whose vehicles fail the Smog Check due to the LPFET?

Consumers whose vehicles fail their biennial Smog Check may qualify for BAR's Consumer Assistance Program (CAP), which helps motorist with repair costs or pays them to retire (scrap) their vehicle.

44. What is the impact on the current cost waiver and buy back programs?

None. Failing the low-pressure test could qualify the vehicle's owner for a repair cost waiver, repair assistance or the vehicle retirement program, just like a failing tailpipe, functional, or visual inspection.

45. Will the CAP station reimbursement be adjusted?

No. CAP station reimbursement remains unchanged.

46. What evaporative system repairs have been performed?

The state of Delaware has been performing the low-pressure test and has advised BAR that almost half the repairs are hose and tubing replacements. In addition, 50 percent of the failing vehicles diagnosed during testing by ARB required only hose or tubing replacement.

More information can be found in the ARB **report *Environmental Impacts of Implementing a Low Pressure Evaporative Test in the California Smog Check Program*** which can be found at http://www.arb.ca.gov/msprog/smogcheck/evap_report.pdf.