



Exhaust Notes

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Ecology's Emission Check contract with Applus Technologies has been extended. The current contract will remain in effect until December 31, 2019.

Focus on nitrogen oxides (NO_x)

Volkswagen has been in the news lately for use of a so-called "defeat device," which is really illegal software. This software was used to conceal nitrogen oxides, or NO_x, emissions.

Why is this a problem? NO_x has many impacts on human health. Breathing NO_x is unhealthy for everyone, but the young and old are especially vulnerable.

NO_x can impact people very early in life, even before they are born. It can decrease fetal growth, causing a baby to be born smaller than normal. Studies have also shown that young children are at higher risk of getting pneumonia when they are exposed to high levels of NO_x.

NO_x is harmful for people with existing heart or lung disease.

Older adults with heart disease are at risk from NO_x exposure. When a person with existing heart or blood vessel disease is exposed to NO_x, they are at higher risk of heart attack or stroke.

Respiratory disease and cancer are other health problems that have been linked to NO_x.

Where does NO_x come from? As current news stories indicate, diesel vehicles can be a source of high NO_x levels. Gasoline vehicles can emit NO_x as well.

The emission check program does not directly measure NO_x. Many OBD codes, however, can identify problems that may cause high NO_x. A vehicle that fails a tailpipe test can sometimes have excessive NO_x emissions in

addition to high CO or HC readings.

For example, a malfunctioning EGR system can trigger an OBD or tailpipe test (high HC reading) failure. The EGR valve allows a small amount of exhaust gas into the intake system to lower combustion temperature in both diesel and gasoline vehicles. This is important because NO_x is produced when a vehicle's combustion chamber reaches 2,500°F.

NO_x is one of many pollutants a malfunctioning or poorly maintained vehicle may emit in excessive amounts. As an automotive technician, you have an important role in reducing this dangerous pollutant in our air.

Is that vehicle waiver eligible?

Ideally, all emission repairs would be successful and all vehicles would pass the emission test. Despite an AES's best efforts, some vehicles will never pass. Sometimes the cost of a repair is more than an owner is willing to invest in an aging vehicle. Like it or not, waivers remain an important option for owners of failing vehicles.

As an AES, you know what's required for your customer to receive a waiver. In addition to spending \$150 or more on emission repairs, the customer's vehicle must be stock. Emission control equipment must be as installed by the manufacturer. If the emission

control equipment is not original, it must have appropriate replacement parts.

Test stations will deny waivers for vehicles with tampered emission control components. Before putting hours of work into addressing emission failures, it's a good idea to inform your customer of any components that are not stock and will result in waiver denial.

You can inform your customer when you give the repair estimate. Let them know that repairs may not fix the problem if proper emission controls are not in place. Make sure they are aware that they will not be able

to get a waiver in this situation. If you identify non-stock components, your customer has two options.

1. Replace the tampered equipment with stock or CARB certified equipment. This is the preferred option.
2. Attempt to pass the emission test with the non-stock equipment in place

Make sure your customer knows that a vehicle with tampered equipment cannot receive a waiver. If the vehicle does not pass despite emission repairs, the customer will need to replace any non-stock parts at their cost, regardless of the cost of initial repairs.



Emission testing by the numbers



Where did the list of trainers go? You can find this and upcoming scheduled trainings at: www.emissiontestwa.com.

Quarterly testing totals

Totals for March, April, and May

Have you ever wondered how many vehicles get emission tested in Washington? What about the number of waivers issued? You can now find this information here in *Exhaust Notes*.

These totals are derived from the testing procedures performed in Washington State and are the On Board Diagnostic (OBDII), Two Speed Idle (TSI) and Diesel tests.

The following tables show how many vehicles were tested in March, April, and May of 2016. Washington State's contractor, Applus Technologies, Inc. runs the Centralized Facilities.

Centralized Facilities	Tests	Waivers
Marysville	11427	382
Everett	17263	678
Lynnwood	17600	729
North Seattle	20391	758
South Seattle	18165	730
Redmond	11972	339
Bellevue	15166	469
Renton	27699	1230
Auburn	20020	967
Fife	16977	764
Puyallup	12576	400
Lakewood	20573	962
West Vancouver	11081	257
East Vancouver	22447	554
West Spokane	20397	622
East Spokane	9709	208
Total	273463	10049

The following table shows the numbers of vehicles tested at Authorized Test Facilities. The total number of vehicles tested at ATFs is 6838, or approximately 2.44%. Note that only Centralized Facilities issue waivers.

Authorized Test Facilities	Tests
Precision Tune-Gig Harbor	976
Precision Tune-University Place	711
Precision Tune-Tacoma	220
Precision Tune-Lakewood	130
Auto Repair and Emission-Burien	1359
Lee Johnson Auto-Kirkland	109
Juanita Firs-Juanita	2032
JP Automotive-Burien	98
Great Car Center-Gig Harbor	621
Midas Car Care-Des Moines	0
Hans VW Repair-Seattle	101
Meineke Car Care-Des Moines	84
CarMax-Spokane	59
Lloyd's Automotive-Burien	94
Glen's Auto Repair-Burien	164
Moose's Auto Tech-Tillicum	80
Total	6838

What Authorized Test Facilities need to know

If your shop performs emission tests, it's important to know what vehicles require testing. Who wants the hassle of refunding a customer who gets an unneeded test?

How well do you know which vehicles require testing? Take the following quiz to find out.

1. At what age are all vehicles exempt from testing?

- A. 15 years
- B. 25 years
- C. 20 years

2. 2009 and newer gasoline vehicles never require emission tests.

- A. True
- B. False

3. How often do vehicles require testing?

- A. every year
- B. Every 3 years
- C. Every 2 years

4. Diesel vehicles below ____ lbs. are exempt from testing.

- A. 6001
- B. 8500
- C. 10,000

5. Starting at model year ____, light duty diesel passenger vehicles are exempt from testing.

- A. 2009
- B. 2007
- C. 2012

Answers: 1. B, 2. A, 3. C, 4. A, 5. B

When is an oil change an approved repair?

Most vehicle owners and automotive technicians would consider an oil change routine maintenance rather than an emission repair. Neglecting this important task can, however, set emission codes in some OBD vehicles.

Recently a customer attempted to obtain a waiver at the test station with a repair order that featured a \$90 charge for an oil change. This order did not mention emissions. The station manager directed the customer to consult the repair shop.

The shop manager contacted Ecology. The Authorized Emission Specialist explained that the engine oil was down 3.5 quarts of oil. This

caused camshaft codes to show up on the emission test. The AES acknowledged that he had not explained this on the work order.

The AES wrote a new work order for the customer that stated:

"Failed emissions, scanned codes P0015 and P0025 camshaft timing over retarded as well as oil level 3.5 quarts low. Need oil change and proper level in order because low oil level can cause these codes to set. After oil change rechecked system and everything is working properly at this time."

The customer was then able to return to the station to receive a waiver after passing an under hood inspection.

What is the lesson of this repair story? Remember to clearly document the problems with the vehicle and the cause of the emissions failure. The emission test station manager needs this documentation to determine that repairs address the test failure.

It is the AES's responsibility to clearly indicate the cause of the emissions failure and the necessary repairs in order for the vehicle to pass the test.



Information For
Repair Facilities

Check out emissiontestwa.com for answers to AES technicians' most frequently asked questions.



Routine maintenance, like an oil change, rarely qualifies as an emission repair.



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To request ADA accommodation including materials in a format for the visually impaired, call Melanie Forster at Ecology, 360-407-6330. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.

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Emission Check

You're on the Road to Cleaner Air.

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