



INSPECTION UPDATE

Volume 12, Issue 1

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Inspection Update is a publication produced by Massachusetts Vehicle Check; a joint program of the Massachusetts Department of Environmental Protection (MassDEP), the Registry of Motor Vehicles (RMV) and Parsons Commercial Technology Group, Inc.

Health & Safety is Everyone's Responsibility: Massachusetts Vehicle Check Tips for Inspectors and Repair Technicians

In addition to the primary goals of reducing air pollution and making the roads safer, the Massachusetts Vehicle Check program is firmly committed to keeping the inspectors and repair technicians who contribute to these goals safe and healthy. As spring begins, here are a few workplace safety and health tips to consider implementing at your facility.

Be Proactive

Your safety and wellbeing is *priceless*. We encourage every inspector and repair technician to make safety a top priority. A proactive approach to safety is the best way to prevent accidents. Investing the time and energy to acquire the knowledge and skills that develop safe work practices could save your life and prevent serious injury to you and others.



- ❑ Conduct a monthly safety audit of your facility.
- ❑ Develop a checklist of potential hazards (e.g., obstructions, flammable materials, power tools, electrical systems, etc.).
- ❑ During the audit, look for any hazards that need to be addressed and develop a plan to minimize or eliminate them.
- ❑ Supplement these audits by conducting a brief safety meeting with your team. Discuss the results of each audit and any safety issues or concerns.

Be Prepared

We recommend every inspection or repair facility have the following safety items available:

- ❑ Fully stocked first aid kit.
- ❑ Eyewash stations.
- ❑ Fire extinguishers.
- ❑ Well marked emergency exits and/or emergency lighting.
- ❑ Lifts and hoists with safety locks.

Use Personal Protection Equipment and Common Sense

While you are working with vehicles, observe the following safety measures to protect your health:

- ❑ Always wear the correct eye protection.
- ❑ Wear hearing protection when exposed to loud, repetitive sounds, such as metal-cutting saws or engine noise.

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Safety is Everyone's Responsibility

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- ❑ Protect your hands by removing rings, watches and other jewelry, and wearing proper protective gloves.
- ❑ Wear closed-toe shoes with solid soles that have good traction. Consider shoes with steel toe boxes to reduce the risk that falling objects pose to your feet.

Inspection/Repair Bay Tips

Use the following precautions to improve inspection or repair bay safety:

- ❑ Ensure adequate ventilation. All running engines produce carbon monoxide, a toxic and flammable gas. Exposure to carbon monoxide can cause headaches, sleepiness, loss of consciousness and death.
- ❑ Designate separate areas for operations such as welding, cleaning and painting.

- ❑ Do not block or hinder access to fire extinguishers and doorways.
- ❑ Keep power tool guards and safety devices in place and functional.
- ❑ Keep floors and benches clean to reduce slipping and tripping hazards. Apply anti-slip compounds to interior floor surfaces. Keep entrances and sidewalks clear of snow and ice.
- ❑ Empty trash containers regularly. Discard rags, paper and other items soaked with flammable materials (such as oil, gas or solvents) in separate metal containers, rather than in your trash can.

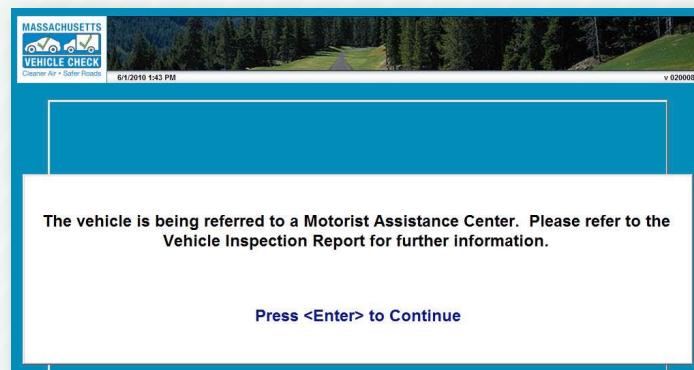
By taking a few minutes each month to evaluate your facility and making safety improvements, you will be investing in your own safety and health as well as that of your customers.

Open House for Registered Emissions Repair Technicians

During the week of April 18 to 21, Parsons will offer the third in a series of special Registered Emissions Repair Technician training seminars. All current and prospective registered repair technicians are invited to attend.



Inspectors discuss inspection questions with Mary Partington, Fall River MAC Customer Service Representative, at a recent MAC Open House.



How to Handle Vehicles that Receive Motorist Assistance Center Referrals

Many inspectors have now experienced the latest program enhancement to assist motorists – Motorist Assistance Center (MAC) readiness referrals – which has been active since early October 2010.

The goal of the readiness referral feature is to offer motorists an opportunity for MAC assistance before their 60 day inspection window closes. It is not a punishment or meant to be an intrusion; it is an opportunity for the program to provide direct assistance to motorists whose vehicles are struggling to successfully complete the emissions test.

1997 and newer model year vehicles may receive a MAC referral for OBD readiness monitor assistance if the vehicle has not completed the required number of monitors, or if the vehicle originally failed due to a catalyst efficiency code (P0420-P0439) and the catalyst monitor is “not ready.”

The workstation will print a turn-away document advising the motorist to call the motorist hotline at (866) 941-6277 for further assistance.

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Seating for the Motorist Assistance Center (MAC) Open Houses is limited; please contact the Registered Repair Coordinator at (781) 794-2961 as soon as possible to schedule this training opportunity.

How to Handle Vehicles that Receive MAC Referrals *(Continued from page 2)*

The vehicle will not be able to be re-inspected until the MAC referral is removed by an authorized MAC representative. All referral flags stay in place until cleared and do NOT automatically reset over time. Once flagged, the workstation will turn away the vehicle from all inspections, so the best (and only) advice the inspector can provide to the motorist is to call the motorist hotline. For readiness

referrals, the vehicle does not always need to be seen by the MAC. If you are a repair technician, the flag can be cleared after you have a brief phone conversation with the MAC representative.

It is important to remember that if a vehicle receives a MAC referral, no amount of re-testing will allow a re-inspection; you or your customer must contact the nearest MAC first. If you don't know how to contact the nearest MAC, please call the Station Help Desk at (866) 834-4677 for assistance.

Motorist Assistance Center (MAC) Success Story

This readiness case concerns a 2002 Mazda MPV van. The van failed its initial inspection with diagnostic trouble codes (DTCs) P0171 and P0174, System Lean Bank 1 and 2, with all emission monitors "ready" (completed). The motorist had a repair technician diagnose and repair engine vacuum leaks. Once repairs were completed, the technician cleared the codes, which also reset all monitors to "not ready" (incomplete). The motorist then drove the van as advised by the repair shop. Each attempt at a re-inspection resulted in a turn-away vehicle inspection report (VIR) due to an insufficient number of emission monitors being "ready" (completed). To pass the Massachusetts emissions test, 2001 and newer model year vehicles are allowed only one "not ready" (incomplete) non-continuous monitor.

Because the "Check Engine" light was off and there were no pending DTCs, the repair shop recommended additional driving. At the conclusion of the third turn-away re-inspection, the vehicle received a MAC referral. Once a vehicle receives a MAC referral, all attempts to re-inspect the vehicle will be prevented until the referral is cleared by a MAC representative.

The motorist contacted the hotline and was referred to the MAC for assistance. The MAC L-1 technician checked the vehicle and confirmed that the evaporative and exhaust gas recirculation (EGR) monitors were incomplete and that there were no current or pending codes. While checking the enabling criteria with the generic side of an OBD scan tool, the MAC L-1 discovered that the Intake Air Temperature (IAT) sensor reading was inaccurate.

It was a nice fall day with an ambient temperature of 65 °F, but the scan tool reading was much lower than the allowable minimum limit listed in the enabling criteria specifications.

The MAC technician recommended the motorist return to her repair shop to have the technician check the IAT sensor

All parameters must be within specifications before the engine is started to initiate the evaporative system test.

BARO:	72.3 kPa {542 mmHg, 21.3 inHg} or higher
IAT:	5 - 35 °C {41 - 95 °F}
FTL:	0.5 - 2.5 V
VPWR:	10.9 - 14.6 V

and provided the MAC contact information in case her repairer had any questions. The repair technician contacted the MAC and was advised to perform the resistance checks outlined in service literature for the IAT sensor, which is an integral part of the Mass Air Flow meter. The results of testing showed a faulty IAT sensor.

The repair technician then wanted to know why the van wasn't turning on the malfunction indicator light (MIL) or showing a pending DTC. The MAC L-1 explained that the recorded value was just inaccurate, not a temperature that was outside of the normal range, so the powertrain control module (PCM) suspended the monitors until the ambient air temperature reading was within the allowable limits to run the monitors.

Since some of the monitors had already completed, the MAC L-1 thought that the IAT sensor had failed after the technician had repaired the vacuum leak, thereby preventing the rest of the monitors from running. The repair technician made the necessary IAT sensor repairs, and the motorist drove the vehicle before returning to the MAC for a readiness check. The vehicle required only two driving days before all the monitors were completed. The MAC then cleared the referral flag and sent the motorist back to the inspection station where the vehicle passed easily.

The lesson from this MAC success story is that sometimes technicians should take a second look at the vehicle when monitors won't complete in a reasonable amount of time. As this example illustrates, there may be a problem with the vehicle that doesn't necessarily set a code. Technicians should remember to verify all enabling criteria, and should not overlook the basics when making repairs.



Nine-, 12- and 15-Passenger Van Safety Reminders

In October 2010, the National Highway Traffic Safety Administration (NHTSA) issued a reminder to vehicle owners of the inherent safety dangers of nine-, 12- and 15-passenger vans. Massachusetts Vehicle Check inspectors and repair technicians should discuss these safety tips with any of their customers using nine-, 12- and 15-passenger vans, such as pupil transportation providers, faith groups, non-profit organizations or colleges:



Source: NHTSA web site

- The organization must properly maintain the van to prevent accidents. Because of the van's size and weight, especially when loaded with passengers, these vans place extreme demands on tires and suspension components. If these components are compromised, drivers may not be able to keep control of the vehicle, especially in windy or slippery conditions.
- Van drivers must be fully trained, properly licensed and experienced in operating nine-, 12- and 15-passenger vans. These vans do not handle like passenger vehicles and are much more susceptible to vehicle rollover.
- Nine-, 12- and 15-passenger vans are very sensitive to loading and should not be overloaded under any circumstances. Overloading increases a van's rollover risk and makes a van more unstable during sudden handling maneuvers.
- Before every trip, drivers should check the tires for correct size, proper inflation and signs of wear. Correct tire size and inflation pressures can be found in the owner's manual. NHTSA recommends that spare tires not be used as replacements for worn tires.
- The driver and all passengers should wear safety belts at all times. Based on their age and size, children should be seated in age-appropriate child safety seats.
- Pre-primary, primary and secondary schools should not use 12- or 15-passenger vans for transporting school children, because these vans do not provide the same level of safety as school buses. It is against federal law to purchase or lease new 12- or 15-passenger vans for the purpose of transporting school children.

Additional information on nine-, 12- and 15-passenger van safety can be found at:

www.safercar.gov/Vehicle+Shoppers/Passenger+Van+Safety

Emissions Repair Parts Clarification

An article in the Summer 2010 edition of Inspection Update ("MA Requirement: Use Only Approved Emission Repair Parts") reported that the Massachusetts Low Emission Vehicle (LEV) Program required the installation of emissions-related aftermarket parts approved by and meeting the requirements of the California Air Resources Board (CARB).

While the Massachusetts Department of Environmental Protection (MassDEP) adopted California LEV emission standards and aftermarket parts requirements for model year 1995 and newer vehicles, the agency has not yet updated its own regulations to reflect revisions that CARB made to its aftermarket parts requirements in 2008.

Until MassDEP adopts CARB's most recent changes, the U.S. Environmental Protection Agency (EPA) policy for aftermarket parts applies in Massachusetts. This policy establishes that aftermarket replacement or rebuilt parts must perform the same emission control function as the parts that are being replaced and cannot adversely affect emissions performance. MassDEP intends to review CARB's 2008 revisions for potential inclusion in its LEV regulations. Any proposed amendments would be subject to a public hearing and comment period.

Brake Inspection Procedure Reminders

Brakes are one of the most important safety devices on the vehicle you are inspecting, so take the time to inspect them properly. Motorists and their passengers are depending on you to do a proper brake inspection.

The first procedure to remember is that the inspector must drive the vehicle into the inspection bay, not the motorist. It is impossible for the inspector to determine whether the vehicle has normal braking actions without driving the vehicle into the bay.

The following procedures should be followed for each brake system component:

1. Power Brake System Procedure (if applicable):

Stop engine. Depress the brake pedal several times to eliminate all vacuum to the vacuum / power booster. Depress pedal with a light foot-force (25 lbs) when the vehicle is immobile. While maintaining force on the pedal, start engine and observe if pedal moves slightly downward when engine starts. **Reject the vehicle** if the brake pedal does not move slightly downward as the engine is started while force is applied to the brake pedal.



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Profile: Roger Montbleau, NESSARA

- Q. How was the New England Service Station & Automotive Repair Association (NESSARA) formed?

- A. NESSARA began in 1974 as the Bay State Gasoline Dealers Association of Massachusetts. This non-profit organization was formed to help protect the rights of service stations during the oil embargo of the mid-1970s. In 1992, the Bay State Gas Dealers Association of Massachusetts merged with the Tri State Gasoline Dealers of Maine, New Hampshire and Vermont to form what is now the New England Service Station and Automotive Repair Association.



Roger Montbleau
Owner & President,
Lowell Automatic
Transmission;
President, NESSARA

- Q. What member services does NESSARA provide?

- A. We serve our members by helping to keep them informed of all major issues that impact their business. NESSARA also creates cost savings and revenue-generating programs for our members to help them enhance their bottom line. Additionally, we lobby for or against legislation that will affect our members' day-to-day operations.

- Q. How many Massachusetts members does NESSARA have?

- A. Currently, we have between 400 and 500 members, including auto repair facilities, service stations, convenience stores, auto body shops and other automotive-related businesses across Massachusetts.

- Q. How do NESSARA members take part in the Massachusetts Vehicle Check Program?

- A. Our board of directors has formed committees to answer questions that arise as part of the Massachusetts Vehicle Check Program. Many times, the program members will contact NESSARA if they have issues or questions that pertain to auto emissions or for direction on answers to technical questions. NESSARA also has a strong working relationship with the Massachusetts Vehicle Check Program that plays a helpful role in bridging the gap between the program and our members.

- Q. What are some of the advantages to your members of being part of the program?

- A. Our board members stay closely involved with the program and regularly attend Inspection and Maintenance Program Advisory Council (IMPAC) meetings. They also alert our members to any changes or issues that may arise, such as equipment adjustments, and then relay this information to our members in a timely manner.

- Q. How did you get your start in the automotive industry?

- A. Growing up, my father and my uncle were partners in the auto repair industry and together they owned three gasoline retail locations in Lowell and Tewksbury. In 1960, they consolidated their employees into a new and much larger location, with 18 repair bays and approximately 40 employees. They specialized in automatic transmission rebuilding and a full-line of general repairs, including the Mass State Auto Inspection. They also owned a tow business, which they contracted with the City of Lowell. When I was discharged from the Navy in 1971, I took over a three repair bay Shell station. In 1984, I sold that location and purchased my father and uncle's location. My brother joined me as my new partner, helping to continue the line of our family business through present-day.

- Q. What type of repairs does your business, Lowell Automatic Transmission, specialize in?

- A. We specialize in automatic transmission rebuilding, and our L-1 techs have a high degree of skill, so we are able to help garages solve unusual transmission repairs or high-tech problems. Ultimately, we are a one-stop location that can solve almost any type of automotive problem.

- Q. As a business owner, what motivational quotes or mottos guide your business?

- A. I would have to say, "The customer is Number One, and we're here to serve them." This company has been here 50 years. We stand behind everything we do and have a lot of satisfied customers.

- Q. What advice do you have for those who may want to take a leadership role in the automotive industry?

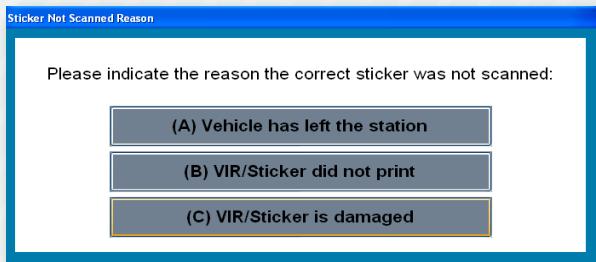
- A. I have always realized the value of trade organization membership because of its strength in numbers, so I joined NESSARA. Back in the early 1990s, I was invited to one of their board meetings. I was so energized that I asked for an opportunity to serve on the board. I would urge shop owners to join a trade organization like NESSARA to advance their business goals, keep up with information and education, and stay in compliance with all regulatory laws and rules that affect our industry. In these times, no man or business can be an island.

The customer is Number One, and we're here to serve them.

Inspection Equipment Update

► How to Avoid a Workstation Lockout Due to Sticker Scanning

At the end of every inspection, the workstation will prompt the inspector to scan the 2D barcode from the printed vehicle inspection report (VIR). If you are unable to scan the 2D barcode for any reason you will need to hit the "ESC" key. The following screen will be displayed:



(A) Vehicle has left the station

If the sticker was affixed to the vehicle and the vehicle has left the bay, this is the option you would select. **Please note:** This option will **ALWAYS** result in a workstation quality assurance (QA) Lockout and should only be used if a sticker was put on a vehicle and you are unable to scan the 2D barcode since the vehicle and sticker are no longer in the inspection bay.

1. The workstation will prompt you to remove the next sticker from the sticker tray and scan the 1D barcode of that sticker.
2. Once scanned, you will be prompted to return the sticker to the tray.
3. You will then see a message advising you to safeguard any damaged/voided/unused stickers for the RMV.
4. At this point, your workstation will have a QA Lockout and you will need to call the Station Help Desk at (877) 834-4677 to have it removed.

(B) VIR/Sticker did not print

The following procedure should be used when the printer did not print a VIR/sticker, giving the inspector no 2D barcode to scan.

1. You will be prompted to enter the VIN of the vehicle you are inspecting.
2. Once the VIN is successfully entered, you will be prompted to check the printer for any jams or other physical problems.
 - a. Ensure that there are stickers and paper in the appropriate trays.
 - b. Ensure that there are no jams in the sticker or paper trays.
 - c. Remove the toner assembly from the printer to verify that there is no paper jam.

- a. Open the flap for the feed assembly (located along the top end of the back of the printer) and ensure that there is no paper jam.

- a. Close all trays and the feed flap, and return the toner assembly to the proper position and shut the front flap.

3. The workstation will prompt you to remove the next sticker from the sticker tray and scan the 1D barcode of that sticker.
4. Once scanned, you will be prompted to return the sticker to the tray.
5. You will then see a message advising to safeguard any damaged/voided/unused stickers for the RMV.
6. The VIR will print again once the "Enter" key is hit to move past the above message.
7. If you continue to have issues with printing the VIR correctly, please call the Station Help Desk at (877) 834-4677 to diagnose the issue.

(C) VIR/Sticker is damaged

If the physical VIR/sticker is damaged, or you are unable to scan the barcode that printed on the sticker, follow these instructions:

1. You will be prompted to enter the VIN of the vehicle you are inspecting
2. The workstation will prompt you to remove the next sticker from the sticker tray and scan the 1D barcode of that sticker.
3. Once scanned, you will be prompted to return the sticker to the tray.
4. You will then see a message advising to safeguard any damaged/voided/unused stickers for the RMV.
5. The VIR will print again once the "Enter" key is hit to move past the above message.
6. If you continue to have issues with stickers being printed in an unusable manner, please call the Station Help Desk at (877) 834-4677 to diagnose the issue.

In all cases, shutting down the workstation after the inspection has been concluded **when you are attempting to scan a sticker** will result in a workstation lockout that **will prevent you from conducting further inspections** until you have contacted the Station Help Desk and they have resolved the issue. If you are having any issues with completing a test, please call the Station Help Desk at (877) 834-4677.

Brake Inspection Procedure Reminders

(Continued from page 4)

2. Hydraulic Brake System (Pedal Reserve) Procedure:

With the vehicle stopped and the engine running, apply 125 lbs. foot-force to the brake pedal and hold for ten seconds. **Reject the vehicle** if the brake warning light illuminates or the brake pedal falls away under pressure and/or if less than 20 percent of the total available brake pedal travel remains.

3. Parking Brake Procedure:

With vehicle transmission in neutral, set the parking brake firmly. Inspect the parking brake function for setting and release. **Reject the vehicle** if the parking brake will not prevent the vehicle from rolling when the motor is accelerated to approximately 1,200 to 1,300 RPM in the lowest forward gear.

4. Service Brake Procedure:

The service brakes will be tested at a speed between 4 and 8 MPH. Service brakes must be reasonably equalized so that the vehicle does not pull noticeably to either side when brakes are applied. A test with the brake meter shall be made at a speed of 15 to 25 MPH in all questionable cases. **Reject the vehicle** if the brakes are not adequate to stop the vehicle from a speed of 20 MPH in not more than 30 feet for service (foot) brakes on pleasure vehicles. The parking (hand) brake should stop all vehicles in about 80 feet.

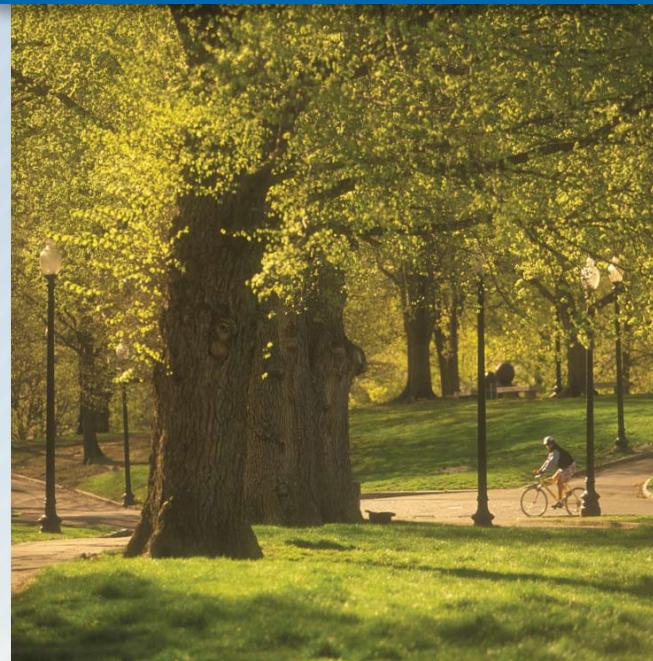
5. Hydraulic Brake System (Visual) Procedure:

Visually check hydraulic hoses and tubes for leaks, cracks, chafing, flattened or restricted sections, or improper retention. **Reject the vehicle** if there is evidence of fluid leaks, collapsed, cracked, chafing, swelling, restriction, damage on the hydraulic tubing/hoses, or if the brake components are not secure or improperly retained.

Replacement Part Invoices

By the end of 2010, the Massachusetts Vehicle Check Program made final determinations on all disputes and appeals of the invoices that were mailed in January 2010. The Massachusetts Vehicle Check program mailed these findings to inspection stations from September to December 2010. If you have any questions regarding the status of an invoice, please call the Station Help Desk at (877) 834-4677.

Change of Address/Save a Tree



Please keep us up to date with current information to help us ensure that you continue to receive this Inspection Update. If you have moved or would prefer to receive the newsletter by e-mail, please check the appropriate box and send this information to:

Massachusetts Vehicle Check Program
55 Messina Drive, Unit C
Braintree, MA 02184.

You may also fax changes to (866) 873-8932 or e-mail them to info@massvehiclecheck.state.ma.us.

- Change of Address
- Save a Tree, use E-mail
- New Repair Shop
- Phone Number Change

Station Name _____

Name _____

Address _____

City, State, Zip _____

Phone _____

Fax _____



Inspection Update
Massachusetts Vehicle Check Program
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Motorist Assistance Center (MAC) Referral and Brake Inspection Reminders Inside!

Massachusetts Vehicle Check Program At A Glance

Inspection Statistics	Count	Failure Rate	Enforcement Statistics	Count
Non-Commercial Safety Inspections	1,396,264	5.8%	Violations Issued to Inspectors	84
Commercial Safety Inspections	66,505	5.8%	Violations Issued to Stations	90
7D Safety Inspections	13,178	4.0%	Inspector Privileges Revoked	1
OBD Emissions Inspections	811,332	7.2%	Inspector Required to Retrain	12
Opacity Emissions Inspections	20,600	2.1%	Inspectors Suspended	16
Emissions Waivers Issued	1		Stations Suspended	23
Repair Hardship Extensions Issued	29		Penalties Assessed	\$18,000
Hotline and Training Statistics	Count		Licensed Stations	Count
Motorist Calls Received	3,846		Class A Stations	1,210
Inspection Station Calls Received	6,863		Class B Stations	185
Initial Non-Comm. Inspectors Trained	363		Class C Stations	36
Initial Commercial Inspectors Trained	75		Class D Stations	268
Initial 7D Inspectors Trained	8		Class E Stations	9
Initial Motorcycle Inspectors Trained	0		Registered Emissions Repair Shops	303

For period 10/01/2010 to 12/31/2010



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