



INSPECTION UPDATE

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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 Environment and Infrastructure Group, Inc.

EPA Sets Tier 3 Fuel Quality and Tailpipe Standards

The U.S. Environmental Protection Agency (EPA) recently announced finalized emission standards for cars, trucks and gasoline that will significantly reduce harmful pollution and prevent thousands of premature deaths and illnesses, while also improving the efficiency of vehicles we drive. The vehicle and fuel standards – including new limits on tailpipe emissions and the sulfur content of gasoline – drew on extensive input from the public and a broad range of stakeholders, including public health groups, auto manufacturers, petroleum refiners and state governments.

“Requiring lower-sulfur gasoline is a common sense and cost-effective step toward cleaner air and healthier people across our state and around the country,” said David W. Cash, Commissioner of the Massachusetts Department of Environmental Protection (MassDEP), who also applauded the tighter tailpipe limits.

The final standards will quickly and effectively cut harmful soot, smog and toxic emissions from cars and trucks, improve fuel economy, and reduce greenhouse gases. The standards will slash emissions across a range of pollutants that can cause premature death and respiratory illnesses. They strengthen criteria for smog-forming volatile organic compounds and nitrogen oxides by 80 percent, establish a 70 percent tighter particulate matter standard, and virtually eliminate fuel vapor emissions. These standards will also reduce vehicle emissions of toxic air pollutants, such as benzene, by up to 30 percent.

The final fuel standards will reduce gasoline sulfur levels by more than 60 percent by 2017 – down from 30 to 10 parts per million (ppm). Reducing sulfur in gasoline enables vehicle emission control technologies to perform more efficiently. This new low-sulfur gas will provide significant and immediate health benefits as every gas-powered vehicle on the road built prior to these standards will run cleaner – cutting smog-forming nitrogen oxide (NOx) emissions by 260,000 tons by 2018.



David W. Cash, Commissioner of the Massachusetts Department of Environmental Protection (MassDEP)

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Inspection Procedure Reminders

► Reminders about Covert Auditing

The Massachusetts Vehicle Check Program reminds inspectors that it conducts covert audits to ensure the integrity of the inspection process. Using vehicles that are intentionally altered to have specific emissions or safety failures, these audits help identify inspectors and stations that are performing inspections improperly.

Every inspection station is covertly audited at least once every two years. Since the start of Program Year 6 on October 1, 2013, the program has covertly audited more than 1,000 inspection stations.

A review of these covert audits shows that many inspectors have failed for improperly inspecting one or more of the required safety items such as the front steering and suspension items, the function of all safety belts, the function of the front windshield wipers, and the function and alignment of headlights.

The Registry of Motor Vehicles uses covert audits for enforcement purposes when a station or inspector fails to meet program requirements. The surest way to pass a covert audit is to always conduct a proper and complete inspection for every vehicle presented to your station. It is important to establish a routine so that you conduct all required elements of the emissions and safety inspection in a uniform and consistent manner that is based upon the initial training you received when you joined the program.



Your inspection procedure should include the correct entry of vehicle data, such as vehicle plate and odometer, and verification of registration and vehicle information. Your routine should also include providing each customer with all pages of the Vehicle Inspection Report and the [“My vehicle failed inspection...What do I do now?”](#) brochure. Anytime you need to order more failure brochures, which are provided to your station at no cost, please call the Technical Helpdesk at (877) 834-4677.

► Vehicle and Trailer Commercial Safety Inspections Poster

At the April 1, 2014, Inspection and Maintenance Program Advisory Council (IMPAC) meeting, a member of the inspection industry suggested that their customers would benefit from a poster that clearly outlined the Commercial Safety Inspection requirements for vehicles and trailers.

Based upon this suggestion, the Massachusetts Vehicle Check Program has produced a one-page poster that can be displayed in inspection stations or used by station managers or service writers to discuss Commercial Safety Inspection requirements with their customers. **The Van/Truck and Trailer Commercial Safety Inspection Poster** can be downloaded or printed from the following address: http://www.massvehiclecheck.state.ma.us/inspection_forms.html

If you have other suggestions that can improve the Massachusetts Vehicle Check Program, you are welcome to attend future IMPAC meetings and present your requests. To find out when and where the next IMPAC meeting will be held, please visit: http://www.massvehiclecheck.state.ma.us/inspection_impac.html.

► Station Address Management Tips

The Massachusetts Vehicle Check Program keeps three addresses for each station. Here are some tips to help station managers and inspectors keep their station addresses current.

- 1) **Place of Business address.** The Place of Business address is approved and maintained by the Registry of Motor Vehicles (RMV). This address is used by the program to help motorists find your station on the program website at http://www.massvehiclecheck.state.ma.us/find_inspection_station.php. It is also used by the Technical Helpdesk to ship stickers and adhesive rolls, printer toner, and replacement workstation parts to your station.
- 2) **Mailing address.** The Mailing address is maintained by the Technical Helpdesk. This address is used by the program to send your station either RMV or program communications. This address will be the same as the Place of Business address unless you specify a separate Mailing address. Stations can have a separate Mailing address if they do not have a mail receptacle at their Place of Business or if they want to receive mail at an alternate location such as an offsite Post Office box or company headquarters office.

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Inspection Procedure Reminders

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3) **Billing address.** The Billing address is also maintained by the Technical Helpdesk. This address is used by the program to send invoices for replacement workstation parts or, in some limited cases, test authorization purchases. This address will be the same as the Place of Business address unless you specify a separate Billing address. Stations can use this address if they receive invoices at an alternate location such as an Accounts Payable or company headquarters office.

Stations cannot change the Place of Business address without receiving approval from the RMV prior to relocating. If your station is planning to relocate, please call the RMV at (857) 368-7310 to begin the review process.

Stations can change the Mailing or Billing address at any time by filling out and faxing or mailing the **Mailing and Billing Address Change Form** to the Technical Helpdesk. The change form is available at http://www.massvehiclecheck.state.ma.us/inspection_forms.html. If you have questions about your inspection station's Mailing or Billing Address, please call the Technical Helpdesk at (877) 834-4677.

► Honeywell Model 4600 Barcode Scanner Update

If you sell or inspect brand new vehicles, you may have noticed that vehicle manufacturers are beginning to display the Vehicle Identification Number (VIN) using a two-dimensional data matrix square format instead of a one-dimensional linear format. To the right is an example of this new format.



To update your Honeywell Model 4600 barcode scanner to read these VIN data matrix barcodes, please print and follow the reprogramming instructions from http://www.massvehiclecheck.state.ma.us/inspection_forms.html.

If your workstation has a Xenon 1900 barcode scanner, your scanner is already programmed to scan data matrix barcodes, so no action is required. If your workstation has a Honeywell Model 3800 barcode scanner, your scanner is not able to be updated to scan data matrix barcodes. You may continue to enter VINs using your keyboard or you may call the Technical Helpdesk at (877) 834-4677 to purchase an upgraded scanner.



► Coming Soon: Diesel Workstation Equipment Audits

The Department of Environmental Protection (MassDEP) is launching a new Massachusetts Vehicle Check quality assurance initiative: diesel equipment auditing. Audits will be performed only at inspection stations equipped with DieselTune DX270 smokemeters and will focus on determining their accuracy in measuring opacity values and exhaust noise levels.

Auditors will inspect the general condition of workstations before checking the opacity and acoustic functions of the equipment. The entire process should take less than an hour.

To measure the opacity function, auditors will bring three glass filters calibrated to low, medium and high density or "smoke" levels – roughly equivalent to the three opacity failure limits of 20, 30 and 40 percent. Auditors will put the calibrated glass filters into DX270 units and enter their corresponding values into the audit software, with the workstations then automatically determining passing or failing results.

The acoustic audit process is similar in that it will determine smokemeter accuracy in measuring noise values that represent quiet, normal and loud engines. Auditors will attach acoustic simulators that generate sounds while inspectors, under auditor supervision, put workstations through a series of diagnostic inspections that will not use up any test authorizations. At this time, acoustic audits will not result in formal pass or fail findings.

Registered Repair Technician Updates

► Emissions Repair Success Ratings Reminder

Each repair shop is responsible for entering its vehicle repair information for any given month *by the tenth day of the following month*. For more information about repair data entry, visit: http://www.massvehiclecheck.state.ma.us/inspection_repair_data_entry.php

► Winter and Spring 2014 Training Recap

In March, the Massachusetts Vehicle Check program offered a Registered Repair Technician ongoing training module titled "Understanding and Diagnosing Hybrid Vehicles."



At the trainings, Instructor Jerry "G" Truglia spoke about effective diagnostics and repairs on hybrid electric vehicles. In total, 38 repair technicians attended the trainings which were held at two Motorist Assistance Centers (MACs).



"G" Truglia instructs Registered Repair Technicians on the fundamentals of diagnosing and repairing hybrid electric vehicles and vehicles with OBD failures.

In April, five prospective Registered Repair Technicians took the On-Board Diagnostics (OBD) Diagnosis and Repair Training course taught by "G" Truglia at the Shrewsbury MAC.

► 2014 Ongoing Training Courses

All current Registered Emissions Repair Technicians are required to attend one, four-hour ongoing training seminar each year to maintain their status in the Massachusetts Vehicle Check Program. Parsons is offering these quarterly seminars from 6:00 PM to 10:00 PM at Motorist Assistance Centers (MACs) located throughout the Commonwealth and listed below. The following 2014 classes are available:

Course Name	Locations and Dates
New Misfire Diagnostic Techniques	Medford MAC - September 15 Fall River MAC - September 16 Shrewsbury MAC - September 17 West Springfield MAC - September 18
Understanding, Utilizing and Using your Lab Scope	Braintree MAC - November 17 Pocasset MAC - November 18 Shrewsbury MAC - November 24 West Springfield MAC - November 25

The cost of each seminar is \$150, and payment can be made by either check or credit card. The applications for these courses are available at http://www.massvehiclecheck.state.ma.us/inspection_ongoing.html. Should you need help registering or have any questions about the course, please contact our Registered Repair Coordinator at (781) 794-2961. It is important to enroll as soon as possible as space is limited to 35 technicians per class.

► Prospective Registered Emissions Repair Technicians

If you would like to become a Registered Repair Technician, please visit http://www.massvehiclecheck.state.ma.us/inspection_repair_tech.html to review the application and training requirements.

Next Workstation Software Release Will Move Sticker Control to the VID

The Massachusetts Vehicle Check Program has been working on a major software release that will improve Vehicle Inspection Report (VIR) and sticker management. When released later this year, the Vehicle Inspection Database (VID) will maintain the sticker inventory of each workstation and pass that information to the workstation at the time of each inspection. This change will allow the Technical Helpdesk to more efficiently assist inspectors with sticker sequencing and printing problems as well as quality assurance lockouts. Keep an eye out for the workstation announcement about this software update later this year.

Inspection Update Profile

Edward J. Farrell, Jr., Owner
Dudley Automotive Services, Arlington, MA



Edward J. Farrell, Jr., Owner
of Dudley Automotive
Services in Arlington

Q: What services does Dudley Automotive Services offer?

A: Dudley Automotive Services is a full-service preventative maintenance and auto repair center, specializing in the following types of light- and medium-duty vehicle repairs: emissions-related, brakes, general, undercar, heating and cooling, electrical, transmission, electronic, and internal engine.

Q: What are your roles and responsibilities as owner?

A: Dudley Automotive is family owned and operated. My role includes vehicle diagnosis, managing the shop, parts

purchasing, and writing repair orders. I share this responsibility with my brother, Dan.

Q: How many employees do you have?

A: I have four family members who work with me: my sister, Mary, handles our bookkeeping; my brother, Dave, works in the shop; and my brother, Dan, is service manager. We have three additional employees.

Q: How did you get your start in the automotive industry? What made you want to open your own business?

A: Believe it or not, my grandfather started this business as an oil trucking company. By age 13, I was helping him repair the company's trucks. I went to a vocational high school, and spent my afternoons working in this very same shop. My grandfather passed away when I was 18, which is when I started Dudley Automotive as a corporation. We still have a number of larger vehicle repairs, offering a mix of medium-duty and automotive repairs.

Q: How did you gain your extensive emissions repair background?

A: I became involved with Boston Gas, and they sent me to school in Wisconsin, where I learned about alternative fuels. I was then invited to become a part of Clean Cities, a nationwide organization funded by the U.S. Department of Energy. Later I became an adjunct professor teaching alternative fuels at Wentworth Institute of Technology in Boston.

As member of an U.S. Agency for International Development (USAID) program that provided vehicle emissions repair training in developing countries, I traveled to several

countries including India, Brazil and Colombia. Upon my return to the U.S., I was hired by Applus+ Technologies to train Motor Vehicle Inspectors in the legacy inspection program. From 1999 to 2008, I had the pleasure of training over 4,000 inspectors.

Q: Have you attended any of the Ongoing Training seminars? How else do you keep up with changes in vehicle technology and emerging technologies in the Industry?

A: I always try to attend classes in person because there is camaraderie and teaching amongst the students. I have attended some classes at the Medford Motorist Assistance Center (MAC) because it is close to our shop. Some of the bigger supply houses, like CARQUEST and ACDelco provide great training to help us keep up with industry trends and changing technology. WORLDPAC also has a lot of factory trainers for foreign cars, such as Mercedes-Benz.

Q: How has being a Registered Repair Technician (RRT) helped your business?

A: Being a Registered Repair Technician helps me differentiate myself from other shops, and allows me to take care of all of my customers' automotive needs from start to finish.

Q: What are some of your most challenging vehicle repairs?

A: Some of my most challenging repairs involve vehicles that don't communicate with the on-board diagnostics (OBD) scan tool, as well as OBDII readiness monitors that won't complete. In order to resolve these issues, I work closely with the MAC; they provide a lot of valuable information and act as a great sounding board.

Q: What should motorists begin to do to ready their vehicles for summer?

A: This past winter, there was a lot of sand and sodium chloride being applied to the roads, so I encourage motorists to have their vehicles checked for severely rotted brakes and fuel lines. Finding these problems early can prevent accidents and save lives.

Q: How do you advertise your business?

A: Because our business serves multiple generations of family members who rely on us to take care of them for all of their automotive needs, we don't find a need to advertise.

Q: What is your business motto?

A: We love to take on challenges, and enjoy the satisfaction of making difficult repairs. There is a sense of fulfillment in fixing a broken vehicle and seeing a customer's smile when they return for it.



Motorist Assistance Center Repair Technician's Corner

► Involving MAC Earlier Leads to Simpler Repairs

A 2007 Kia Rondo failed its initial inspection attempt for communications and the motorist was advised by the inspector to make an appointment with the nearest Motorist Assistance Center (MAC).

When the vehicle arrived, the MAC L-1 technician reviewed its inspection report (VIR). Because the VIR showed a Pin 16 voltage value in the proper range, the L-1 ruled out any obvious DLC voltage problems. So then the L-1 performed communication tests in an attempt to isolate the problem as a vehicle issue, not a workstation scan tool issue. The Kia Rondo repeated the communications failure with the workstation and with a separate, generic on-board diagnostics (OBD) scan tool.



2007 Kia Rondo. Source: Edmunds.com

When the L-1 asked the motorist about the history of the vehicle, the motorist revealed that this vehicle had demonstrated electrical hiccups in the past, such as the Low Tire Pressure, Air Bag, and Check Engine warning lights being intermittently illuminated.

Because the motorist was seeking to repair the vehicle and pass the reinspection, the L-1 technician advised the motorist to obtain a new repair diagnosis. The MAC provided their contact information and requested that this information be passed on to the repair facility chosen by the motorist. The L-1's goal was to help the repair facility save time by discussing the research he had already performed.

The first repair facility did not contact the MAC. Their diagnosis was to replace the Electronic Control Module (ECM), wiring harness and an electrical junction block for a cost of \$3,200. This shop did not charge for their diagnosis, but did strongly recommend expensive brake repairs, even though the vehicle had just passed its safety inspection. Because the motorist's immediate need was to successfully

pass the emissions re-test in the next 60 days, the MAC L-1 advised the motorist to seek a second opinion.

The second repair facility also did not contact the MAC. They were able to perform a valid OBD test, and the vehicle communicated with the workstation but had the Malfunction Indicator Lamp (MIL) on. The VIR displayed multiple diagnostic trouble codes (DTCs) indicating cam timing and throttle position issues, as well as a non-emissions system communication DTC. This facility performed repairs to address the cam timing codes and advised the motorist to drive the vehicle for at least a week, then return for a reinspection.

When the MIL turned on again, the motorist called the MAC to discuss her options. Since she did not have a complete diagnosis for the reason for the intermittent communication issue and the vehicle still had multiple DTCs present, the L-1 suggested she request a new diagnosis from a third repair shop. Because neither the first or second repair shop had contacted the MAC with their repair strategies, the MAC reminded the motorist to ask the third repair shop to keep the L-1 informed of their diagnostic approach and findings.

The third repair facility did contact the MAC. They traced the controller area network (CAN) circuit (short to voltage) DTC to a wiring harness connector in the right kick panel that was visibly corroded from water intrusion. Once the corrosion was removed, the shop drove the vehicle to set the readiness monitors and see if any DTCs returned. The repair shop and the MAC L-1 thought it was important to find out if electronic throttle control codes returned before considering the emission waiver or repair extension options. However, the monitors completed, none of the DTCs returned, and the vehicle successfully passed the reinspection.

This repairer involved the MAC in the repair process which provided the shop with the vehicle test history, the L-1's DTC research, and the motorist's complete story. The collaboration between the third repair shop and the MAC eliminated redundant research time and avoided repeating steps already performed.

Please remember that you can contact the nearest MAC as another tool at your disposal. Just as not every tool in your shop is used for every repair, you do not have to use the MACs for every OBD repair. However, the MAC can be quite helpful in the right circumstances. Whenever you contact a MAC, the team will work together with you to resolve your customer's vehicle emissions concerns. If you do not know your local MAC's contact information, contact the Technical Helpdesk (877-834-4677).

EPA sets Tier 3 Standards

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The Tier 3 standards cut tailpipe pollution where people live and breathe – reducing harmful emissions along the streets and roadways that run through neighborhoods and near schools. By 2018, EPA estimates that the cleaner fuels and cars program will annually prevent between 225 and 610 premature deaths, significantly reduce ambient concentrations of ozone and decrease NOx emissions by about 260,000 tons. That is about 10 percent of emissions from on-highway vehicles, with those reductions reaching 25 percent (330,000 tons) by 2030.

By 2030, EPA estimates these new standards will annually prevent up to 2,000 premature deaths, 50,000 cases of respiratory ailments in children, 2,200 hospital admissions and asthma-related emergency room visits, and 1.4 million lost school days, work days and days when activities would be restricted due to air pollution. Total health-related benefits of Tier 3 standards in 2030 are estimated by EPA to be between \$6.7 and \$19 billion annually. The program will also reduce exposure to pollution near roads. More than 50 million people live, work, or go to school in close proximity to high-traffic roadways, and the average American spends more than one hour traveling along roads each day.

The final standards are expected to provide up to \$13 in health benefits for every dollar spent to meet the standards, more than was estimated for the proposal. The sulfur standards will cost less than a penny per gallon of gasoline on average once they are fully in place. The vehicle standards will have an average cost of about \$72 per vehicle in 2025. The standards support efforts by states to reduce harmful levels of smog and soot and aid their ability to attain and maintain science-based national ambient air quality standards to protect public health, while also providing flexibilities for small businesses, including hardship provisions and additional lead time for compliance.

In addition, the final standards will work together with California's clean cars and fuels program to create a harmonized nationwide vehicle emissions program that enables automakers to sell the same vehicles in all 50 states. The standards will be implemented over the same timeframe as the next phase of EPA's national program to reduce greenhouse gas (GHG) emissions from cars and light trucks beginning with model year 2017 vehicles. Together, the federal and California standards will maximize reductions in GHGs, air pollutants and air toxics from cars and light trucks while providing automakers regulatory certainty, streamlining compliance, and reducing costs to consumers.

For more information about EPA's Tier 3 program, please visit: <http://www.epa.gov/otaq/tier3.htm>.

Program Communications Wins 2014 Award of Distinction

On April 29, 2014, the Massachusetts Vehicle Check Program was given an Award of Distinction in the 20th Annual Communicator Awards in the Integrated Campaign: Green/Eco-Friendly Category. The 2014 Communicator Awards received over 6,000 entries from ad agencies, interactive agencies, production firms, in-house creative professionals, graphic designers, design firms, and public relations firms, making it one of the largest awards of its kind in the world.

The Communicator Awards are judged and overseen by the Academy of Interactive and Visual Arts (AIVA). The AIVA is an invitation-only 600+ member-based organization of leading professionals from various disciplines of the visual arts dedicated to embracing progress and the evolving nature of traditional and interactive media.



Wishing everyone Happy Independence Day!

MASSACHUSETTS



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Inspection Update

Massachusetts Vehicle Check Program

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Honeywell 4600 Barcode Scanner Update and Commercial Safety Poster Info Inside!

Massachusetts Vehicle Check Program At A Glance

Program at a Glance			Enforcement Statistics	
	Count	Failure Rate		Count
Non-Commercial Safety Inspections	1,023,261	5.4%	Violations Issued to Inspectors	107
Commercial Safety Inspections	37,937	4.8%	Violations Issued to Stations	131
7D Safety Inspections	5,493	1.7%	Inspector Privileges Revoked	5
OBD Emissions Inspections	818,089	7.1%	Inspector Required to Retrain	10
Opacity Emissions Inspections	20,653	1.6%	Inspectors Suspended	17
Emissions Waivers Issued	1		Stations Suspended	33
Repair Hardship Extensions Issued	15		Penalties Assessed	\$16,000
Hotline and Training Statistics			Licensed Stations	
	Count			Count
Motorist Calls Received	2,863		Class A Stations	1,186
Inspection Station Calls Received	6,265		Class B Stations	189
Initial Non-Comm. Inspectors Trained	261		Class C Stations	28
Initial Commercial Inspectors Trained	59		Class D Stations	310
Initial 7D Inspectors Trained	6		Class E Stations	9
Initial Motorcycle Inspectors Trained	31		Reg. Emissions Repair Shops	225

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