



INSPECTION UPDATE

VOLUME #19, ISSUE 3

FALL 2018

IN THIS ISSUE:

- 7D Inspection Update
- Meet the MASS Vehicle Check Software QA Team
- Did You Know?
- Tips and Tricks
- Unusual Things at the MACs
- Ongoing Repair Tech Training
- Commercial Training Opportunities
- Program Statistics

7D Inspection Update

There are new items for the 7D Safety Inspection. Starting October 1, 2018, the required changes to the 7D School Pupil transport vehicle will begin to be phased into the safety inspection procedures.

Phase 1: 7D vehicles regulation changes effective October 1, 2018:

1. All 4 tires on 7D vehicles need to have a minimum tread depth of 4/32 of an inch. Inspect for and reject the 7D vehicle if there is less than 4/32 of an inch in any original major tread groove, when measured with a tire depth gauge in the major tread groove.
2. All 7D vehicles will need to be supplied with the following additional safety equipment;
 - A body fluid clean up kit
 - A seat belt cutter
 - A fire/evacuation blanket (wheelchair vehicles only)
 - An update for the Fire Extinguisher: the total rating must be 2A10BC; and it must have a hose with a pressure gauge that is easily read without moving the extinguisher from its mounted position.
3. Both sides of all 7D vehicles must have the Company Name, City and State visibly displayed in lettering at least two inches high, 3/4 inch wide and in a contrasting color so it can be easily read.

Phase 2: 7D vehicles regulation changes effective October 1, 2019

1. All vehicles must have an interior school bus light indicator alerting the 7D operator that the school bus sign is turned on.
2. All vehicles must have an audible backup alarm.

Phase 3: 7D vehicles regulation changes effective October 1, 2020

1. All vehicles must have a child reminder system. The child reminder system control shall be located in the rear most seating compartment.
2. The size of vehicle cannot exceed a seating capacity for 10 passengers.

The new 7D regulations (540 CMR 21.00) are available on the program website under the Stations & Inspectors tab, "Station & Inspector Resources."

Meet the Massachusetts Vehicle Check Software QA Team

Terry Hayes and Craig Woleader figure they have been working together on vehicle safety inspection and emission testing technology for nearly 20 years. The current Massachusetts Vehicle Check workstation technology from Applus is the third system they have worked on together.

Terry, a former Applus employee, has been with the MassDOT Registry of Motor Vehicles (RMV) since 2008. Craig has been with MassDEP since 2001. Together, they oversee quality assurance (QA) for all of the software that powers the Massachusetts Vehicle Check program's workstations and dashboards.

Their approach to QA includes a lot of internal testing and beta testing with stations and inspectors prior to launching new software or updates. Once the software is launched they seek continuous feedback to make any necessary fixes and updates.

The duo keeps in constant contact with stations and inspectors to learn about any potential issues and to take suggestions from the field that will help them make improvements to the system. They do this through trouble tickets, calls to the customer service center, feedback from the L-1s at the Motorist Assistance Centers (MACs) and the Inspection and Maintenance Program Advisory Council (IMPAC) meetings.

Recently, a repetitive issue was brought to their attention involving Hyundai VINs that wouldn't scan and, therefore, prevented the inspection from being completed. Hayes and Woleader determined that this was due to an error in the manufacturer's barcode numbering. As a result, they had to custom program a solution to fix it so that inspections could be completed properly on these vehicles.

Hayes and Woleader make a conscious effort to look at the functionality of the software's features from the perspective of the user. This includes screen messages, keystrokes, navigation paths through various screens, system prompts and responses users need to make in order to complete a valid inspection and address any issues along the way.

"The inspectors are our number one customers because they are using the technology every day and need it to work properly and reliably in order to do their jobs and provide a high level of service to motorists," says Hayes.

They recognize that transitioning to a new program with new technology can be disruptive and stressful for stations and inspectors. So, one of their goals is to make the transition as smooth as possible by trying to keep workstation screens and menus the same from system to system while making improvements along the way.

"People often ask why we switch programs and technology," says Woleader. "The reason is that equipment gets obsolete and approaches to problems get obsolete too. There are things we are doing today that we could never have done with the old technology."

Examples of some of these new features include cameras in the bays, videoconferencing, wireless bar code readers and OBD scan tools, and more durable equipment. Many of these technological advances under the new program are the result of input from the industry and are viewed as significant improvements to the program.

"The software to run all these new features is very complex but the users only see a fraction of it. Most of it is on the back end," says Woleader.

"Based on feedback from the inspectors and motorists, the program is running great. But, still, for as long as the program runs, we will keep discussing updates and improvements. We always have a running list of things we want to improve," says Hayes.

Did You Know?

New Safety Regulations

In March 2017 the Registry of Motor Vehicles (RMV) issued new safety regulations. The new regulations are posted on the Massachusetts Vehicle Check website www.mavehiclecheck.com. Regulation changes include the following with the notated regulation section:

Non-commercial:

1. Glazing/Windows

- All glazing originally equipped on the vehicle must be in place and operate as originally designed. 540 CMR 4.04, (8), (a)
- The use of advertising wrap or vehicle wrap material on any window is prohibited. 540 CMR 4.04, (8), (h)

2. Lighting Devices

- Lighting Devices and Reflectors - All lighting devices and reflectors originally equipped on the vehicle at the time of manufacture shall be operable and operate as they were originally designed. 540 CMR 4.04, (10), (d)

3. Air Bags

- All vehicles ten or less model years old so equipped must comply with 49 CFR Parts 571 - 595. 540 CMR 4.04, (15)

Commercial:

1. Air Bags

- All vehicles ten or less model years old so equipped must comply with 49 CFR Parts 571 - 595. 540 CMR 4.05, (14)

2. Glazing/Windows

- All glazing originally equipped on the vehicle must be in place and operate as originally designed. 540 CMR 4.05(m), 1
- The use of advertising wrap or vehicle wrap material on any window is prohibited. 540 CMR 4.05, (m), 3, iii

Motorcycle:

- Sidecar - A headlamp on the sidecar is no longer required. 540 CMR 4.06 (19)

7D:

- Please see 7D article covered elsewhere in this newsletter.

New Tutorial Videos Now Available

Five new videos about receiving and loading stickers and replacing the Zebra printer ribbon have been added to the program website and on YouTube. To view these videos:

- Go to the Massachusetts Vehicle Check website www.mavehiclecheck.com;
- From the Stations & Inspectors tab, select Station & Inspector Resources;
- Scroll down to Videos; and
- Select the video you would like to view.

Article continued on to next page

Return All Loaned and Defective Workstation Parts

Please return all loaned and defective workstation parts as soon as you receive your part shipment from Applus. If you do not return the Applus-provided smoke meter or the defective part (that was replaced through shipping) within five days of delivery, you will be invoiced for it. Part returns after an invoice has been issued will not be accepted and the charge will not be reversed.

Workstation Instructions Changes

Software changes have been implemented so you no longer need to reboot your workstation weekly. Please continue to leave the workstation on the Station Menu overnight.

New Registration Problem Message

When you are entering vehicle data into the workstation, you are now notified if there is a registration problem with the vehicle you are inspecting.

After you enter the VIN, Plate Type and Plate Number, then select Continue, the workstation will confirm your entries against the registration record using the Registry of Motor Vehicles (RMV) database. In most cases, you will receive confirmation to continue the inspection.

If there is an issue with the registration information, the workstation now displays the following helpful information:

- 1. MESSAGE:** "Vehicle was found on ALARS successfully but there is a registration problem that is preventing testing. Please have the motorist contact RMV for resolution."
ACTION: Return the vehicle to the motorist and inform them they must contact RMV.
- 2. MESSAGE:** "Vehicle Not Found"
ACTION: Check the vehicle information you entered against the vehicle's registration and the vehicle being inspected. Confirm that all three (data entry, registration and vehicle) match. If you need to change the information you entered, select "Edit Plate Info"; this allows you to go back and re-enter the plate number or plate type. If you continue to receive Message 2, contact the customer service center for assistance.

Tips & Tricks

Resolving Zebra Printer Issues

- If you are having issues with the Zebra printer, please call the customer service center.
- Power off the Zebra printer before you do anything with it.
- When changing the ribbon, please refer to the ribbon replacement video on the Massachusetts Vehicle Check website.

Camera Won't Charge?

- If the camera will not charge, plug it into the wall (with the provided camera adaptor) and let it charge for 10 to 15 minutes.
- Always use the charger provided with the handheld digital camera. Other device chargers (phones, tablets, etc.) are not designed for the camera and may not work.

Having VID eConnection Issues?

- Try unplugging the black router, plugging it back in, and waiting three minutes to see if it comes back online.

VIR Printer Toner

- Remove the white tape from the toner cartridge before inserting it into the VIR printer. The tape blocks the toner from dispensing into the printer and removing it prevents an "out of toner" message with a new cartridge.

Unusual Things at the MACs

Unusual Thing #1

The L-1s at the Motorist Assistance Centers (MACs) have observed and handled multiple calls from motorists and inspectors pertaining to vehicle description (VIN, plate number) entry issues. We have many examples where the motorist has been turned-away from an inspection and told a vehicle is not registered only to find out the vehicle information was not entered correctly.

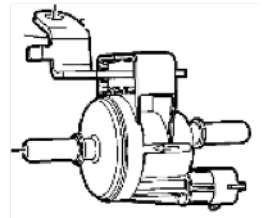
The most common problem the L-1s have seen is an inspector not taking the initial step of verifying that all the characters of a vehicle identification number (VIN) match on both the vehicle and its registration. We have also witnessed inspection stations testing vehicles when the VIN matches the vehicle being inspected but the registration is from a previous owner. In these cases, the plate number displayed on the (old) registration does not match the license plate on the vehicle.

To resolve this issue, Applus recently changed the workstation software to provide guidance to the inspector when there is a vehicle data entry mismatch. Please be sure to review the New Registration Problem Message in the Did You Know? section of this newsletter for more detail.

The ultimate goal is to make the inspection as quick and convenient as possible for the motorist. When the workstation software is not able to find a match for the data that you enter, the inspection cannot take place. The inspector should take an extra minute to confirm that the vehicle description entered into the workstation matches the vehicle registration and actual vehicle in the inspection bay.

Unusual Thing #2

An L-1 at one of the MACs was assisting a motorist with a 2011 Saturn Outlook, (same platform as a Chevrolet Traverse, GMC Acadia, etc.). The vehicle had failed its emissions test for an evaporative issue. Repairs were performed and the vehicle was returned to the motorist. The MAC became involved after the motorist drove the vehicle out of state and locally after an evaporative repair and the EVAP and CAT monitors were not ready. At the MAC appointment, a generic OBD scanner connected to the vehicle verified the two monitors were incomplete and found a pending P0496 code “purge flow detected during a non-purge event.”



The motorist confirmed that the purge valve was the part that was replaced. After performing a vacuum test of the old part--which the repair tech had put in a box and left in a cup holder--the L-1 agreed that the valve had indeed failed. A quick check of the replacement valve using the scan tool determined it did not appear to be operating correctly either. This vehicle would not get to ready status due to the new part not performing as well as an OEM valve.

Many scan tools have the ability to perform an “in-bay evaporative test” on the entire system. Before returning the vehicle to the customer, a better approach may have been for the technician to verify the repair after the component replacement. This could have been done with a PURGE/SEAL test (using a scan tool) in the bay after replacing the purge valve and before the vehicle was picked up by the motorist. If the Technician verified that the repair was complete it would have saved this motorist time, fuel, and the aggravation of completing multiple drive cycles.

Reminder: The MIL does not turn on for pending codes and they are not displayed on the official vehicle inspection report.

Ongoing Repair Tech Training

In September, the Massachusetts Vehicle Check program offered a Registered Emissions Repair Technician Ongoing Training course titled “General Motors Engine Performance.” During the training, instructor Gary Machiros covered testing techniques and tips using the scan tool and GM service information.

Article continued on to next page

Highlights included using case studies to discuss:

- Service Information:
 - Interpreting DTC information, hard to find PCM updates with TIS-to-Web calibration information
- Active Fuel Management:
 - Theory of operation and diagnosis
- Scan Tool DTC Information Diagnosis:
 - Interpreting DTC test status, DTC symptom codes, fail record information and more.
- Diagnosis with Scan Tool Data:
 - Knowing good data from bad data, i.e. fuel trim, calculated load, MAP, MAF, etc.

Case studies were presented that demonstrated real-world examples of diagnosing a DTC using the scan tool data and understanding the specific vehicle's code setting strategy.



West Springfield



Norwood

Article continued on to next page

UPCOMING TRAINING SESSIONS

All Registered Emissions Repair Technicians are required to attend one four-hour training session every year to maintain their registration in the Massachusetts Vehicle Check Program. These free training seminars are scheduled quarterly and held at Motorist Assistance Center (MAC) locations across Massachusetts.

This fall, Ongoing Training is scheduled at four of the MACs: West Springfield, Bourne, Shrewsbury, and Medford.

REPAIR TRAINING OPPORTUNITIES	DATE	LOCATION
Ongoing Training: Fuel Trim Diagnosis	October 29, 2018	West Springfield MAC
Ongoing Training: Misfire Diagnosis	November 1, 2018	Bourne MAC
Ongoing Training: Fuel Trim Diagnosis	November 19, 2018	Shrewsbury MAC
Ongoing Training: Fuel Trim Diagnosis	November 26, 2018	Medford MAC

To sign up for an upcoming training event, download the application from the program website: [click here](#).



Shrewsbury

Commercial Training Opportunities

COMMERCIAL TRAINING OPPORTUNITIES	DATE	LOCATION
Commercial Training	October 16, 2018	Medford MAC
Commercial Training	October 23, 2018	Shrewsbury MAC

To sign up for a commercial training event, download the application from the program website: [click here](#).

Program Statistics

PROGRAM AT A GLANCE	COUNT	FAILURE RATE
Non-Commercial Safety Inspections	3,647,124	5.90%
Commercial Safety Inspections	129,574	7.20%
7D Safety Inspections	7,433	2.60%
OBD Emissions Inspections	3,907,943	3.60%
Opacity Emissions Inspections	79,020	3.30%
Emissions Waivers Issued	2	
Repair Hardships Issued	10	

ENFORCEMENT STATISTICS	COUNT
Violations Issued to Inspectors	50
Violations Issued to Stations	55
Inspector Privileges Revoked	1
Inspector Required to Retrain	0
Inspectors Suspended	0
Stations Suspended	1

HOTLINE AND TRAINING STATISTICS	COUNT
Motorist Calls Received	8,601
Inspection Station Calls Received	56,237
Initial Non-Commercial Inspectors Trained	1,072
Initial Commercial Inspectors Trained	209
Initial 7D Inspectors Trained	35
Initial Motorcycle Inspectors Trained	61
Commercial Recertifications	328

LICENSED STATIONS	COUNT
Class A Stations	1,217
Class B Stations	234
Class C Stations	49
Class D Stations	352
Class E Stations	14