

**Georgia Department of Natural Resources  
Enhanced Inspection and Maintenance Program**

**I/M INSPECTION PROCEDURES MANUAL – Phase III**

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## Table of Contents

Table of Contents .....	3
<b>Glossary of Terms and Acronyms .....</b>	<b>3</b>
<b>I. Inspector Requirements and Responsibilities.....</b>	<b>4</b>
<b>II. Establishing Testing Criteria .....</b>	<b>5</b>
<b>III. Vehicle Identification, and Data Entry.....</b>	<b>6</b>
<b>IV. OBD Testing .....</b>	<b>8</b>
<b>V. ASM Exhaust Emission Testing.....</b>	<b>10</b>
<b>VI. TSI Exhaust Emission Testing .....</b>	<b>12</b>
<b>VII. The Visual Inspection.....</b>	<b>14</b>
<b>VIII. Fuel Cap Testing.....</b>	<b>15</b>
<b>IX. Conclusion of the Inspection .....</b>	<b>16</b>

### **Glossary of Terms and Acronyms**

1. ASM – Acceleration Simulation Mode. The type of loaded mode tailpipe test prescribed for 1995 and older vehicles to capture exhaust emission.
2. DLC – Data Link Connector (or Diagnostic Link Connector). The standardized 16-cavity connector where diagnostic scan tools interface with the vehicle's on-board computer. The DLC is located in the passenger compartment of the vehicle in any of nine locations as shown in the EPD-approved "OBD DLC Location Chart".
3. EPD – Environmental Protection Division of the Georgia Department of Natural Resources.
4. GAS – Georgia Analyzer System. The test systems that are used in Georgia to perform the I/M inspections.
5. Grandfathered Vehicles – Vehicles that were built to standards different from those set by the U.S. EPA. These vehicles must meet certain criteria in order to obtain this status. Grandfather vehicles are to be tested using TSI procedures only.
6. GCAF – Georgia's Clean Air Force
7. I/M – Inspection and Maintenance. The term use by the U.S. EPA for vehicle emission inspection programs.
8. KOEO – Key On Engine Off. A specific state of the ignition key where power is applied to the on-board computer and other circuits without allowing the engine to run.
9. MIL – Malfunction Indicator Light/Lamp. The dashboard or instrument panel light on 1996 and newer vehicles for notifying the driver that an emission related fault has been detected and the vehicle should be repaired as soon as possible.
10. OBD – On-Board Diagnostic. The computer system installed on 1996 and newer vehicles as required by Section 202(m) of the Clean Air Act (42 U.S.C. 7521) which is designed to identify engine or emissions control system problems which cause excessive tailpipe and evaporative emissions.
11. Rules – The Rules of the Department of Natural Resources, Chapter 391-3-20, Enhanced Inspection and Maintenance.
12. TSI – 2-Speed Idle. The type of tailpipe test to capture exhaust emission used under very limited circumstances as prescribed in the Rules and this manual.

13. U.S. EPA – United States Environmental Protection Agency
14. VID – Vehicle Inspection Database. The database (also referred to as the State's computer) containing the I/M test records.
15. VIN – Vehicle Identification Number. This number is located on the driver's side of the dashboard viewable through the windshield.
16. VIR – Vehicle Inspection Report. The Certificate of Emission Inspection given to the motorist indicating the final results of the inspection performed on the vehicle.

## **I. Inspector Requirements and Responsibilities**

- A. Only persons who have completed the required State-certified training class and holds a current valid inspector license shall perform inspections. Inspectors are responsible for all tests performed under his or her ID number and access code.
- B. Inspectors are required to perform their duties in a professional and courteous manner at all times. Inspectors who fail to conduct themselves in a professional manner, or who are rude or discourteous to motorists may be deemed in violation of the Rules and subject to enforcement action, including but not limited to suspension or revocation of the inspector's Certificate.
- C. It is the inspector's responsibility to read and understand the Rules, the Inspector Training Manual, and this Emissions Inspection Procedures Manual. If the inspector has a question about the Rules or some part of the inspection procedure, it is the inspector's responsibility to consult this Manual, their Inspector Training Manual, or contact GCAF or EPD to obtain clarification. The Rules and inspection procedures are subject to change each year, or as required. Inspectors can access the latest version of the Rules and the Emission Inspection Procedures manual from the EPD website or the GCAF website. A hard copy of each can be obtained by visiting the GCAF or EPD offices.
- D. It is the inspector's responsibility to read and understand I/M program materials, including but not limited to, GCAF Q&A brochures, Motorist's Rights chart (when provided by EPD), Repair *Watch* Public Report, GAS messages, all enforcement documentation from EPD (Notices of Violation, Consent Orders, Administrative Orders), the Traction Control chart (for ASM inspectors), and the DLC Locator Guide.
- E. Inspectors are required to wear their inspector photo ID cards on their front upper body and with their picture visually accessible at all times when performing inspections.
- F. Inspectors are responsible for memorizing and protecting their personal access codes. Inspectors should never leave their personal access code where others could see it, or allow others to look over their shoulder while they are entering the code. Inspectors are not allowed to divulge their access code to ANYONE. This includes supervisors, station owners, other inspectors, spouses, friends, associates, GCAF personnel and EPD personnel. If an inspector has given their access code to another person, suspects another person knows their access code, or is forced to give their access code to another person, the inspector is to notify GCAF immediately with all the details.
- G. Inspectors shall conduct inspections in the sequence prompted by the GAS.
- H. Inspectors shall not perform any inspections with a GAS unit that has failed an audit by GCAF, as is indicated by the posting a "Green" sheet on the GAS unit by the auditor. The Green sheet warns station owners and inspectors that the GAS unit has failed the audit and is no longer accurate to perform certified inspections and requires repairs by the manufacturer before any testing can resume. The Green sheet is titled "NOTICE OF EQUIPMENT FAILURE DURING AUDIT". Only manufacturer service technicians are allowed to remove the Green sheet, but only when the GAS has been fully repaired and GCAF notified. Inspectors and station owners shall not remove the Green sheet. It is a violation to perform any inspection with a GAS unit that has failed the audit and the inspector and/or

station owner may be liable for unnecessary repairs made on vehicle falsely failed by the uncertified GAS unit.

## II. Establishing Testing Criteria

- A. It is the inspector's responsibility to determine if a vehicle presented is a covered vehicle and therefore subject to the program and required to be inspected. The requirements for covered vehicles are under section 391-3-20-.03 of the Rules.
- B. The inspector shall perform an emission inspection on any vehicle subject to the inspection program as stated in the Rules unless the vehicle exhibits conditions that make it unsafe to inspect or the motorist presents an unacceptable method of payment. Examples of safety related problems are, but not limited to, fuel, oil, transmission, or radiator leaks, and hazardous tire or brake conditions. It is recommended that the method and time of payment for the inspection be resolved before the beginning of the inspection. EPD is not responsible for collecting test fees for vehicles that drive off after the inspection without paying.
- C. Free retests for failing inspections are the responsibility of the inspection facility where the initial or paid inspection was performed. To be eligible for a free retest, the failing vehicle must be presented for retest within 30 days of the initial or paid failing inspection, which includes the day of that inspection. Only the testing facility where the initial or paid inspection was performed is required to provide a free retest, however, any facility may perform the re-inspection using the failing certificate number. If a facility is not able to provide the retest due to equipment problems or the lack of an inspector, it is the responsibility of the facility to make provisions for the motorist to receive a free retest at another inspection station.
- D. Before any re-inspection can be performed, a completed Emission Repair Form must be provided by the motorist to the inspector so the repair information can be entered at the conclusion of the inspection.
- E. The inspector shall perform a complete inspection. Once the inspector observes the catalytic converter, fuel cap or any other part of the vehicle that is required to be inspected, regardless of whether that component is present, missing or failing, the inspection has begun and the inspector shall complete the inspection and issue a VIR. The only exceptions are:
  - 1. When a vehicle develops a problem during the inspection process and the inspector determines it is no longer safe to test, the inspector shall abort the inspection and select the appropriate reason for aborting the inspection;
  - 2. When the vehicle is due an After-Repairs re-inspection and only those area that failed the initial inspection are required to be retested; and
  - 3. The exceptions specified in the section for OBD Testing relating to vehicles with an illuminated MIL (with the engine running), and a Readiness pre-check prior to an After-Repairs inspection.
- F. Covered vehicles that are otherwise subject to the program and classified as multi-fuel type vehicles must be inspected. If these vehicles are 1995 and older, they must be operating on gasoline while being inspected.
- G. The inspector shall take all reasonable precautions to avoid damage to vehicles during the emission inspection. If damage occurs, the inspector shall notify the station owner and the motorist.
- H. It is very important for the inspector to ensure the proper vehicle information is identified, collected and entered into the GAS unit. It also is very important for the inspector to follow the GAS unit's screen prompts and menus when entering vehicle information. Small mistakes here can cause, among other things, an improper test to be performed, falsely fail or falsely pass the vehicle, problems for the owner in completing the vehicle registration, mismatching and future retrieving of vehicle information and data, all of which can inconvenience the motorist, cause unnecessary repairs to be made or inhibit the registration process. This can subject the inspector and station owner to additional expenses to rectify

the problem. If an inspection is completed and it is determined, then or at a later date, that a mistake or error was made by the inspector in properly identifying the vehicle, entering the vehicle information in the GAS unit or performing the wrong test type, the inspector shall perform a new Initial Inspection on that vehicle at NO COST to the motorist. The inspector shall not use a FREE After-Repairs inspection to correct any error caused by the inspector. The inspector shall select "To Correct Vehicle Description Error on Previous Test".

- I. VID communication is required for all tests when possible. If the GAS unit is not communicating with the VID, the inspector shall:
  1. Notify the station owner of the problem immediately;
  2. Notify GCAF of the problem by placing a call to 1-800-449-2471 and obtain a ticket number; and
  3. Per EPD's recommendation, limit the inspection of vehicles to only those vehicles that are due a free re-inspection until such time that the communication problem is resolved.

### **III. Vehicle Identification, and Data Entry**

- A. Identify and collect all vehicle information for data-entry into the GAS unit.
- B. The inspector shall enter his or her personal access code. Inspectors shall take precautions when entering their personal access code to not allow anyone to see them key-in the access code, or to obtain it by any other means. Remember, the inspector is responsible for all tests performed under his or her access code.
- C. Determine if the vehicle is to receive an Initial Inspection, or an After-Repairs Inspection. If it's an After-Repairs Inspection, those procedures are listed in paragraph F. below.
- D. Initial Inspections begin by entering the vehicle's VIN, Tag Number and State into GAS unit.
  1. The tenth digit of the VIN is the recommended place to obtain the model year of the vehicle. The Inspector Training Manual shows the VIN codes for each model year for all 1981 and newer vehicles manufactured for sale in the U.S.A.
  2. If the vehicle is older than 1981 or is a gray market vehicle, the inspector should obtain the model year from the vehicle registration documents.
  3. If the GAS unit indicates the VIN is incorrect, verify the VIN was entered correctly, or reenter the VIN correcting any errors, then proceed.
- E. Initiate communication with the VID. Provided communication is achieved, the VID will send back vehicle information matching the information the inspector entered. If the VID was unable to find a match for the vehicle, a screen will notify the inspector a match was not found and allow the inspector to proceed with entering all vehicle information.
  1. If the VID found a match and the vehicle information returned by the VID is the same as what the inspector collected from the vehicle, the inspector shall accept that returned data and continue with the inspection.
  2. If the VID found a match, BUT the vehicle information returned by the VID is NOT the same as what inspector collected from the vehicle, the inspector shall accept that returned data AND correct the data where errors exist.
  3. If the VID was not able to find a match, or if the GAS was not able to communicate with the VID, the inspector shall enter the vehicle information collected from the vehicle.
    - a. Inspectors shall utilize the menu prompts to ensure proper identification and entry of the Make, Model, Engine Size, Number of Cylinders, and Transmission Type.

- b. It is the inspector's responsibility to utilize the data review screens to confirm the accuracy of the data they entered. Errors must be corrected before proceeding with the inspection.

F. After-Repairs Inspection:

1. It is the inspector's responsibility to verify that the vehicle being presented for an After-Repairs Inspection is in fact the vehicle that failed the previous inspection.
  2. Before any After-Repairs inspection can be performed (free or paid), the inspector shall collect the completed Emission Repair Form from the motorist. All completed forms are to be retained by the station until collected by the Management Contractor or EPD.
    - a. Should a motorist not have a completed Emission Repair Form, inspectors shall provide them with a blank form and instruct them to have it completed by their repair technician before they can perform the After-Repairs inspection. The motorist can complete the Emission Repair Form, if they made self-repairs, or if their repair technician refuses to complete the form.
    - b. A completed Emission Repair Form is not required for an After-Repairs inspection of a vehicle that failed only the fuel cap portion of the previous inspection.
  4. The inspector shall enter the certificate number from the Emission Repair Form or VIR from the previous failed inspection and the VID will supply the previously entered data for the vehicle, provided communication with the VID is established. **ALWAYS VERIFY THAT THE VEHICLE'S VIN MATCHES THE VIN ON THE VIR OR EMISSION REPAIR FORM TO ENSURE YOU ARE INSPECTING THE CORRECT VEHICLE.** Verification is made by checking the VIN plate on the dash of the vehicle.
    - a. For an After-Repairs inspection where the vehicle supposedly only failed part of the previous inspection but the motorist cannot provide any documentation of the previous failed inspection, the results from the previous inspection must be obtained before the inspector can perform an After-Repairs inspection. The inspector must:
      - i. Ensure the GAS communicates with the VID to retrieve previous inspection results;
      - ii. Ensure the GAS is able to retrieve the previous inspection results from its memory by using the GAS unit's search feature; or
      - iii. Perform a full Initial Inspection on the vehicle, which is to be a paid inspection.
  5. It is the inspector's responsibility to confirm the accuracy of the vehicle information returned from the previous inspection and to correct this data before proceeding with the inspection.
- G. If the inspector makes an error during the inspection and issues a certificate that he or she knows contains an error, the inspector shall correct the error by immediately performing another inspection. The inspector shall not charge the motorist for any inspection to correct an error made by the inspector or use the motorist's free retest, but should initiate a new inspection with a new Certificate number at no charge to the motorist. The retest must be performed by selecting "NON-SCHEDULED INSPECTION AT OWNER'S REQUEST" from the "Inspection Reason" menu. This will allow the inspector correct the error, retest the vehicle, and then select "Free" when prompted by the GAS unit.
- H. The VIR shall include the fee charged for performing the inspection. No add-ons, including but not limited to, taxes, surcharges, credit card fees, labor, shop fees, environmental fees, etc. shall be added to the cost of the inspection. The fee charged for the inspection shall be the amount posted on the station's State approved sign. The amount printed on the VIR must match the amount on the station's sign.

- I. Under no circumstance is it allowed for any person to mark-through the amount printed on the VIR and charge the motorist a higher price than what is printed on the VIR or station's GCAF sign, whichever is less.
- J. At the conclusion of an inspection, if "FREE" is printed on the VIR, under no circumstance shall the motorist be charged for that inspection. If the inspection was to be a "Paid" inspection, but the VIR shows "FREE", the inspector shall perform another inspection selecting "Non Scheduled Test at Motorist's Request". In such situations, inspectors shall print additional copies of both VIRs to keep and document the circumstances of the situation in order to possibly avoid enforcement action.

#### IV. OBD Testing

##### A. General Information

1. The OBD test is the required test for all 1996 and newer vehicles subject to the program according to section 391-3-20-.03 of the Rules.
2. At this time, the visual check for the presence of the catalytic converter is not required to be performed when inspecting 1996 and newer vehicles. The vehicle's OBD system verifies the presence of the converter and its proper operation.
3. The fuel cap pressure test is required on all 1996 and newer vehicles, as prescribed in the Fuel Cap Testing section of this manual. Although the vehicle's OBD system can monitor the integrity of the vehicle's fuel storage system, which includes the fuel cap, the fuel cap tester on the GAS unit performs a much more stringent pressure test than can be achieved by the vehicle's OBD system.
4. Model year vehicles, 1996 through 2000 are allowed to have up to 2 OBD monitors showing "Not Ready" (Incomplete or Not Complete) and still pass the Readiness part of the OBD test.
5. Model year vehicles 2001 and newer are allowed to have 1 OBD monitor showing "Not Ready" (Incomplete or Not Complete) and still pass the Readiness part of the OBD test.
6. When a motorist presents an OBD vehicle that has the MIL illuminated when the engine is running, EPD and GCAF recommend the inspector advise the motorist that their vehicle will fail the OBD test and allow them to seek repairs before performing the Initial inspection. HOWEVER, this does NOT mean inspectors can refuse to inspect a vehicle with an illuminated MIL. If the motorist chooses to continue with the inspection, the inspector is required to perform the inspection.
7. When an OBD vehicle returns for an After-Repairs inspection, EPD and GCAF recommends that inspectors pre-check the Readiness status of the vehicle's OBD monitors before initiating the inspection. This may be accomplished by selecting Manual Mode Operation on the GAS unit, or using an aftermarket handheld OBD scan-tool. Connect the test lead to the DLC then start the engine and observe the status of the non-continuous monitors on the vehicle. For 1996 through 2000 Model Year vehicles, the OBD system must not have more than two (2) non-continuous monitors showing as "Not Ready" (Incomplete or Not Complete) in order for the vehicle to pass the Readiness check. For 2001 and newer Model Year vehicles, only one (1) non-continuous is allowed to be "not ready" for the vehicle to pass the Readiness check.
  - a. If it is determined the vehicle will not pass the Readiness check, EPD and GCAF recommends the inspector advise the motorist that the vehicle will not pass and by explaining that the vehicle needs to be driven some more so the OBD system can complete all of its self-checks of the emission control systems and become Ready for inspection. The general recommendation by EPD and GCAF is for inspectors to tell the motorist that for their vehicle to become "Ready", it needs to be driven for one to two weeks after repairs have been made (or when the battery has been disconnected or the OBD codes cleared). It is not advisable that inspectors waste the motorist's free retest or initiate a paid test without first advising the motorist the vehicle will fail because of Readiness. Inspectors should proceed only when the motorist has been notified and they authorize the inspector to go ahead with the inspection.

- b. If the vehicle will pass the Readiness check, the inspector should proceed with a complete OBD inspection of the vehicle.

## B. OBD Testing Procedure

1. These procedures begin at the point where the GAS unit prompts the inspector to start the OBD testing portion of the inspection. It is recommended that inspectors perform the OBD test in the order presented here.
2. The GAS unit will prompt the inspector to turn the ignition key OFF, locate the vehicle's DLC, connect the OBD test lead from the GAS unit to the DLC. The key is to remain in the off position for a minimum of 12 seconds.
3. If the inspector cannot locate the DLC, or the DLC is missing, damaged, tampered, obstructed, or inaccessible, the GAS unit will prompt the inspector to select the appropriate option from the following:
  - a. The DLC cannot be located by the I/M inspector. This choice will be an Unpaid/Abort.
  - b. The DLC is damaged or has been tampered with and connection is not possible. This choice will be a Paid/Fail inspection.
  - c. The DLC is obstructed or inaccessible and connection is not possible. This choice will be a Paid/Fail inspection.
  - d. Return to previous screen. This choice takes the inspector back to the previous screen prompting the inspector to connect the OBD lead to the DLC, should the inspector wish to try again.
4. After the OBD lead is properly connected to the DLC, the GAS unit will prompt for the MIL bulb check with the ignition Key in the "ON" position and the Engine OFF (KOEO). The inspector must make this visual check for MIL illumination with the key on and engine off. It is the inspector's responsibility to correctly identify the MIL from the many other indicator lights on the vehicle's instrument panel. The inspector shall observe the MIL lamp and enter the correct entry in the GAS unit as follows;
  - a. "Yes" the lamp did illuminate (passes the bulb check); or
  - b. "No" the lamp did NOT illuminate (fails the bulb check).
    - i. If the inspector selects "No" and discovers at the conclusion of the inspection the vehicle passes all other parts of the OBD test, the inspector shall make another visual bulb check for MIL illumination during KOEO to see if a mistake was made by the inspector during that part of the inspection.
    - ii. If the inspector discovers a mistake was made and the MIL is in fact functioning properly (passes the visual bulb-check), the inspector shall immediately perform another Initial inspection by selecting "Unscheduled inspection at motorist's request".
    - iii. The inspector shall NOT use the motorist's free After-Repairs inspection to resolve this situation. The motorist shall not be charged for this second inspection.
5. The GAS unit will then prompt the inspector to turn the ignition key to start the engine and allow the vehicle to idle.
  - a. If the OBD lead is successfully connected to the DLC and the GAS unit establishes communications with the vehicle's OBD system, the GAS unit will display "Communications

in Progress, Please Wait". The GAS unit then completes downloading all the required data from the vehicle and completes the OBD portion of the test.

- b. If there is a communications failure, the GAS unit will prompt the inspector - "OBD communications cannot be confirmed, readjust the connector try again". The inspector shall make at least three attempts to readjust the connector and try again. If the vehicle will not communicate with the GAS unit, the inspector fails the vehicle for the OBD portion of the inspection.
  - c. Inspectors and station owners are responsible for maintaining the GAS unit's OBD lead in good operational conditions. A faulty OBD lead will cause the inspector to falsely FAIL the vehicle for non-communication. Inspectors must ensure that a lack of communication between the GAS unit and the vehicle's OBD system is not caused by a faulty OBD lead. If in doubt, the inspector should terminate the inspection by initiating a "FREE" abort, and attempt the OBD test with another GAS unit (if another is available), or direct the motorist to another inspection station. The inspector can check the functionality of the GAS unit's OBD lead by initiating a "Manual Mode" OBD test on a vehicle that is positively known to communicate with the GAS.
6. At the conclusion of the OBD test, proceed on to the Fuel Cap test, unless prompted otherwise by the GAS unit.

## **V. ASM Exhaust Emission Testing**

### **A. General Information**

1. The ASM test is the required test for all 1995 and older vehicles subject to the program according to section 391-3-20-.03 of the Rules.
2. The visual check for the presence of the catalytic converter is required when inspecting 1995 and older vehicles as prescribed in the Visual Inspection section of this manual.
3. The fuel cap pressure test is required on all 1995 and older vehicles, as prescribed in the Fuel Cap Testing section of this manual.
4. Vehicles subject to the ASM test but that are equipped with non-disengageable All Wheel Drive (AWD), Full-Time 4-wheel drive (4WD), and/or non-disengageable traction-control on the drive axle shall receive a default TSI test.
  - a. Such vehicles are listed in the EPD-approved "Traction Control Chart" (labeled "Enhanced Emissions Loaded-Mode Testing Notes" version date, 1998 or later) and in most cases are automatically identified by the GAS unit when the vehicle information is entered at the beginning of the inspection, provided the correct vehicle information is entered by the inspector or returned from a VID match. Accordingly, the GAS unit will initiate the TSI test in lieu of the ASM test.
    - i. At the beginning of the ASM portion of the inspection, the GAS unit will display a screen asking the inspector if the vehicle can be ASM tested. Should the inspector encounter a vehicle that he or she is certain is equipped with non-disengageable All Wheel Drive (AWD), Full-Time 4-wheel drive (4WD), and/or non-disengageable traction-control on the drive axle, but the GAS does not automatically default to the TSI test, the inspector shall answer the question on the screen by selecting the proper reason for defaulting to the TSI test and then proceed on with the TSI test.
    - ii. Only those vehicles so equipped with non-disengageable All Wheel Drive (AWD), Full-Time 4-wheel drive (4WD), and/or non-disengageable traction-control on the drive axle are to receive the default TSI test. If the VID does not indicate the vehicle is so equipped by automatically defaulting to the TSI test and the inspector

is NOT certain the vehicle is so equipped, the inspector shall NOT conduct the TSI test.

- b. Refer to the section on TSI Testing of this manual for additional details and procedures for performing the TSI test.
5. Vehicles subject to the ASM test but that are Grandfathered vehicles which have had special standards established by EPD shall receive a default TSI test.
- a. Grandfathered vehicles that have been properly established as such by EPD or GCAF are automatically identified when the VIN is transmitted to the VID at the start of an inspection, provided the GAS unit is able to communicate with the VID and the correct VIN is entered by the inspector. With successful communication and proper VIN match, the VID will prompt the GAS unit to initiate the TSI test in lieu of the ASM test.
  - b. If the motorist presents to the inspector valid documentation from GCAF indicating the vehicle is a Grandfathered vehicle, but the VID does not prompt the GAS to initiate the TSI test, the inspector is to contact GCAF before performing any test on the vehicle. GCAF will investigate the situation and instruct the inspector accordingly. The inspector may be required to fax the documentation to GCAF. If the inspector is instructed by GCAF to proceed with the TSI test, the inspector shall keep a copy of the VIR along with a copy of the GCAF documentation presented by the motorist (return the original to the motorist) to document the situation.
  - c. Only those vehicles that have been properly identified and established as Grandfathered vehicles by GCAF or EPD are to receive the default TSI test. If the VID does not indicate the vehicle is a Grandfathered vehicle and the motorist does not present documentation from GCAF, inspectors shall NOT conduct the TSI test.

#### B. ASM Testing Procedure

1. These procedures begin at the point where the GAS unit prompts the inspector to start the ASM emission testing portion of the inspection. It is recommended that inspectors perform the ASM test in the order presented here. However, this is not necessary if the GAS unit prompts the steps in a different order.
2. Check the vehicle for conditions that make it unsafe to test. Example conditions are, but not limited to, fluid leaks, overheating, excessive engine noise, brake system problems, drive tires with bad or bald tread, exposed cords, embedded nails, screws or rocks that would be a hazard when driving the vehicle while in place on the dynamometer. Resolve all unsafe conditions before performing the ASM test.
3. Following the instructions of the dynamometer manufacturer and in accordance with the instruction received in the inspector training class, drive the vehicle to be inspected onto the dynamometer, stabilize, install the lateral restraints, chock the non-drive wheels and confirm the vehicle is at normal operating temperature before performing the ASM test. Do not perform the ASM test on a vehicle that is not up to normal operating temperature.
4. If the drive tires or dynamometer rolls are wet, drive the vehicle on to the dynamometer and select the "DRY TIRES" option. Once the rollers and tires are dry, continue as instructed by the GAS unit.
5. If the vehicle is a multi-fuel type vehicle it must be operating on gasoline while being ASM tested.
6. Fully insert the gas probe into the tailpipe of the vehicle being inspection. Dual gas probes shall be used if the vehicle is equipped with a true dual exhaust system.

7. Select the proper ignition system. RPM readings from the vehicle being tested must be obtained and maintained in a specific range throughout each mode of the ASM test. Confirm the GAS unit is properly reading the vehicle's RPM by properly connecting the RPM pickup/probe.
  - a. Regardless of the type of RPM pickup/probe used (Inductive pickup, RF pickup, Non-contact, Ground Tachometer connection, Battery connection, Low Voltage connection, etc.), it is the Inspector's responsibility to verify that the RPM readings are being correctly received from the vehicle being tested.
8. An external cooling fan for the vehicle's radiator shall be used if the ambient temperature is above 50 degrees F, or if the GAS unit prompts the inspector to use a cooling fan.
  - a. The cooling fan shall produce at least 3,000 cubic feet per minute (CFM) measured at no less than 3 feet from the fan blade or fan cage/grill.
  - b. The cooling fan shall be centered in front of the vehicle's radiator at a distance of not more than 3 feet from the grill opening to the radiator.
  - c. The position of the cooling fan shall be such that the air from the cooling fan flows through the radiator in same direction as air would normally flow through the radiator when the vehicle is driven on the road.
  - d. Failure to properly use a cooling fan when required may cause the vehicle to falsely fail the inspection or risk damaging the vehicle.
9. Prior to performing the drive-trace portion of the ASM test, turn off all manually switched vehicle blowers, compressors and electrical accessories such as, but not limited to, the air conditioning system, radio or stereo systems, and lights.
10. Place the vehicle in the appropriate gear and follow the GAS unit prompts when perform the drive-trace portion of the test for each mode of the ASM test.
11. If during the inspection the vehicle stalls three times, overheats, or becomes unsafe to test, the inspector shall abort the inspection. In some instances, these conditions will cause the GAS unit to automatically abort the test. In either case, the inspector shall:
  - a. Select the appropriate reason from the menu for aborting the inspection; and
  - b. Inform the motorist why the inspection was aborted. If the aborted inspection was a Paid inspection, the inspector must provide details on how the motorist can obtain their free After-Repairs inspection.
12. At the conclusion of the second mode of the ASM test, proceed on to the Fuel Cap test, unless prompted otherwise by the GAS unit.

## **VI. TSI Exhaust Emission Testing**

### **A. General Information**

1. The TSI test is reserved for the following limited vehicles and situations:
  - a. Grandfathered vehicles which have had special standards established by EPD.
    - i. Grandfathered vehicles that have been properly established as such by EPD or GCAF are automatically identified when the VIN is transmitted to the VID at the start of an inspection, provided the GAS unit is able to communicate with the VID and the correct VIN is entered by the inspector. With successful communication and proper VIN match, the VID will prompt the GAS unit to initiate the TSI test.



1. These procedures begin at the point where the GAS unit prompts the inspector to start the TSI emission testing portion of the inspection. It is recommended that inspectors perform the TSI test in the order presented here. However, this is not necessary if the GAS unit prompts the steps in a different order.
2. Check the vehicle for conditions that make it unsafe to test. Example conditions are, but not limited to, fluid leaks, overheating, and excessive engine noise. Resolve all unsafe conditions before performing the TSI test.
3. Chock the wheels and confirm the vehicle is up to normal operating temperature before performing the TSI test. Do not perform the TSI test on a vehicle that is not up to normal operating temperature.
4. If the vehicle is a multi-fuel type vehicle it must be operating on gasoline while being TSI tested.
5. Fully insert the gas probe into the tailpipe of the vehicle being inspection. Dual gas probes shall be used if the vehicle is equipped with a true dual exhaust system.
6. Select the proper ignition system type. RPM readings from the vehicle being tested must be obtained and maintained in a specific range throughout each mode of the TSI test. Confirm the GAS unit is properly reading the vehicle's RPM by properly connecting the RPM pickup/probe.
  - a. Regardless of the type of RPM pickup/probe used (Inductive pickup, RF pickup, Non-contact, Ground Tachometer connection, Battery connection, Low Voltage connection, etc.), it is the Inspector's responsibility to verify that the RPM readings are being correctly received from the vehicle being tested.
7. Place the vehicle in neutral or park as necessary and perform the TSI portion of the inspection following the GAS unit prompts through to the conclusion of this portion of the inspection.
8. Some vehicles are equipped with a unique transmission (ZF transmission). The GAS unit will automatically bypass the elevated 2500-RPM mode of the TSI test to prevent damage to the ZF transmission, provided the vehicle is properly identified and the correct information entered into the GAS unit by the inspector. Station owners and/or inspectors are responsible for resultant damaged of ZF transmissions due to improper vehicle identification and/or data entry of the information by the inspector.
9. If during the inspection the vehicles stalls three times, overheats, or becomes unsafe to test, the inspector shall abort the inspection. In some instances, these conditions will cause the GAS unit to automatically abort the test. In either case, the inspector shall:
  - a. Select the appropriate reason from the menu for aborting the inspection; and
  - b. Inform the motorist why the inspection was aborted. If the aborted inspection was a Paid inspection, the inspector must provide details on how the motorist can obtain their free After-Repairs inspection.
10. At the conclusion of the TSI test, proceed on to the Fuel Cap test, unless prompted otherwise by the GAS unit.

## **VII. The Visual Inspection**

### **A. General Information**

1. The visual check for the presence of the catalytic converter is required for all 1995 and older vehicles subject to the program according to section 391-3-20-.03 of the Rules.

### **B. Visual Inspection Procedure**

1. At the beginning of an ASM test or TSI test, the GAS unit prompts the inspector to perform the visual inspection to check the vehicle being inspected for the presence of a catalytic converter(s).
2. There are three possible selections, but only one correct selection for each vehicle.
  - a. If the vehicle was manufactured with a catalytic converter and the catalytic is present on the vehicle and it has not been by-passed or obviously rendered inoperable, then the inspector should enter "P" for Present.
  - b. If the vehicle has was manufactured with a catalytic converter and the converter has been removed, by-passed, or has been obviously rendered inoperable, then the inspector should enter "F" for Fail.
  - c. If the vehicle was manufactured without a catalytic converter, then the inspector should enter "N" for Not Applicable.
3. It is the inspector's responsibility to determine if the vehicle was originally manufactured with or without a catalytic converter, either by the emission control decal under the hood or by reference materials. If the inspector cannot determine this, the inspector shall initiate an "unpaid" abort of the inspection at no charge to the motorist.
4. At the conclusion of the visual inspection, proceed on to the ASM test or TSI test, unless prompted otherwise by the GAS unit.

## **VIII. Fuel Cap Testing**

### **A. General Information**

1. The Fuel Cap test is the required test for all vehicles subject to the program according to section 391-3-20-.03 of the Rules.
2. Although the OBD system on 1996 and newer vehicles can monitor the integrity of the vehicle's fuel storage system, which includes the fuel cap, the fuel cap tester on the GAS unit performs a much more stringent pressure test than can be achieved by the vehicle's OBD system.
3. It is the inspector's responsibility to ensure the tester's fuel cap adaptors and cup are in good working order. If they become damaged or badly worn, it will cause the inspector to falsely "FAIL" the vehicle. Damaged or badly worn adaptors or cup are to be reported to the station owner immediately and replaced before using the devices to test fuel caps.

### **B. Fuel Cap Testing Procedure**

1. At the conclusion of the OBD, ASM or TSI test the GAS unit prompts the inspector to perform the fuel cap pressure test. Inspectors shall not remove the fuel cap(s) from newer vehicles until the conclusion of the OBD test and until the GAS unit has prompted the inspector to do so.
2. The inspector must select the proper option for the fuel cap test. The choices are: (a) The fuel cap is testable, (b) The fuel cap is untestable (no adaptor provided), and (c) The fuel cap is missing.
  - a. The fuel cap is testable, if the vehicle is listed in the current approved "Stant" fuel cap tester manual. Use the fuel cap adaptor listed in the manual for testing the vehicle's fuel cap to determine a "PASS" or "FAIL".
    - i. If the fuel cap fits the listed adaptor and does not have a leak, the fuel cap passes the pressure test.
    - ii. If the fuel cap fits the listed adaptor properly but fails the pressure test, the cap has a leak and is to be replaced.

1. Inspectors can perform a retest on the fuel cap in this situation before concluding the inspection. Inspectors shall remove the cap from the adaptor, wipe off the sealing surface of the adaptor and the cap, reattach the cap, and retest the cap. The electronic test record indicates whether or not the inspector performs a retest on the fuel cap.
    - iii. If the vehicle's fuel cap does not fit the proper adaptor and the cap does not seal tight on the vehicle's fuel tank, the fuel cap is not the proper cap for the vehicle. The inspector shall fail the fuel cap in this situation.
    - iv. If the fuel cap fits the vehicle's fuel tank snugly and appears to seal properly, but does not fit the prescribed adaptor listed in the "Stant" manual, then the inspector should call GCAF at 770-421-9051 or EPD at 404-363-7028 to report the problem and seek guidance. Should the inspector be given authorization to by-pass the fuel cap test in this situation, the inspector will be required to document the situation by keeping a copy of the VIR and recording on it the persons name the inspector talked to at EPD or GCAF.
  - b. If there is no adaptor listed in the "Stant" fuel cap adaptor manual for the vehicle being tested, the inspector may by-pass fuel cap test, provided the fuel cap is not missing and it appears to fit the fuel tank properly.
  - c. If the fuel cap is missing or it appears to not fit the tank properly, the vehicle fails the fuel cap test.
3. For fuel caps that fail the pressure test prescribed under paragraph a. above, the GAS unit software allows the inspector the option of offering the motorist a replacement fuel cap before completing the inspection. All replacement fuel caps must be tested before the conclusion of the inspection.
  - a. Inspectors shall select "Replacement Fuel Cap" when the failing fuel cap is replace by a new or used replacement fuel cap. This selection will prompt the inspector to test the replacement cap and is the determining test for obtaining the final results of the fuel cap test. The electronic test record indicates whether or not the inspector performed a replacement fuel cap test.
  - b. Inspectors shall not install or test a replacement fuel cap without prior approval by the vehicle owner. IT IS A VIOLATION WHEN AN INSPECTOR PASSES A FAILING FUEL CAP AND INSTRUCTS THE MOTORIST TO GO BUY A NEW CAP.
4. These procedures shall be performed on each fuel cap on the vehicle, up to a maximum of two fuel caps.
  - a. If there are more than two fuel caps, all must be present and fit properly for the vehicle to pass the fuel cap test.
  - b. The inspector shall always test the main fuel cap, and one alternative cap when a vehicle has more than two fuel caps.
5. At the conclusion of the fuel cap test, the GAS unit will prompt the inspector to conclude the final steps of the inspection.

## **IX. Conclusion of the Inspection**

### **A. General Information**

1. Inspectors are required to perform their duties in a professional and courteous manner at all times. This is especially important when informing the motorist that their vehicle has failed the inspection. Inspectors who fail to conduct themselves in a professional manner, or who are rude or

discourteous to motorists may be deemed in violation of the Rules and subject to enforcement action, including but not limited to suspension or revocation of the inspector's Certificate.

2. For vehicles that fail the inspection, no recommendations for repairs should be made based solely on the results of the inspection (except for fuel cap failures). Inspectors should NOT try to diagnose the problem or make recommendations for repairs unless the inspector is actively employed as a repair technician.

#### B. Conclusion Procedure

1. Inspectors are required to supply every motorist with a VIR that is signed by the inspector who performed the inspection and inform the motorist of the results of the inspection. This includes aborted inspections (Free or Paid), Failed inspections, and Passed Inspections.
2. Inspectors shall not charge the motorist more than what is printed on the VIR.
3. For vehicles that fail the inspection, the inspector shall:
  - a. Verbally inform motorists, those that are eligible for a free retest, that they are entitled to receive a FREE retest if they return to that station (or one owned by the same company) within 30 days, expressing that the 30-day time period includes the day of the current test;
  - b. Give the motorist the "**Emission Repair Form**" printed by the GAS prior to the VIR, explaining that it must be completed and returned to the inspector in order to obtain a reinspection;
  - c. Give the motorist a current GCAF "**Q&A**" brochure, pointing out the sections labeled "**My Vehicle Didn't Pass. Why?**", and "**Repair Waiver Requirements**";
  - d. Give the motorist an opportunity to view the station's copy of the current "**Repair Watch Public Report**"; and
  - e. Advise motorists to investigate if their vehicle is still covered by a manufacturer's emission control warranty or subject to a recall related to the emission control system.

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