

District of Columbia Department of Health
Health Emergency Preparedness and Response Administration
Division of Emergency Medical Services

EMS Ground Ambulance, Air Ambulance & Non-transporting Response Vehicles

Inspection & Certification Program Handbook

January 2014



EMS Ground Ambulance, Air Ambulance & Non-transporting Response Vehicle Equipment Inspection Program

Release Notes

January 2014 – Initial Release

Preface

The EMS Act of 2009, along with the current regulations outlined in the DCMR, Title 29, Chapter 5, mandates that all EMS response vehicles must be inspected prior to being placed into service. Further, any EMS response vehicle certified by the Department of Health is subject to an unannounced inspection at any time. All EMS response vehicles are expected to remain in compliance with the EMS Act (DC Code 7-2341), the DCMR and any applicable policies that are in effect at the time of the inspection.

As has been done in the past, the Department of Health sought out a national standard upon which to model the District standard. The standard that was used to determine the equipment required on an ambulance was developed by the American College of Surgeons Committee on Trauma, revised April 2009 (www.facs.org/trauma/publications/ambulance.pdf). This standard was developed and endorsed by a number of organizations including the:

- American College of Surgeons (ACS) Committee on Trauma (COT);
- American College of Emergency Physicians (ACEP);
- National Association of EMS Physicians (NAEMSP);
- Emergency Medical Services for Children (EMSC);
- American Academy of Pediatrics (AAP);
- Emergency Nurses Associations (ENA); and
- National Association of State EMS Officials (NASEMSO).

This handbook is designed to provide you with an overview of how the inspection program is designed to work. The handbook will cover the entire certification and inspection process, from entering a new vehicle into the program, continuing through the initial inspection and certification process, the on-going compliance process, the renewal process, and finally the removal of the ambulance from the program.

We hope that you find this Ambulance Inspection Program Handbook useful. If you see mistakes in this handbook please let us know. We are working hard to improve the services offered by the Department of Health, and we are working to be responsive to your needs as EMS educators and providers. Let us know how we can best help you.



Brian W. Amy, MD, MHA, MPH, FACPM
Senior Deputy Director
Health Emergency Preparedness and Response Administration (HEPRA)

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Entering an EMS Response Vehicle into the Program

Overview

An EMS response vehicle cannot operate in the District of Columbia unless that vehicle has been inspected and found to meet the current applicable standards. The EMS agency must submit an application to the Health Emergency Preparedness and Response Administration (HEPRA) of the Department of Health to enter an EMS response vehicle into the system. Upon receipt, an inspection is setup with the Inspector to have the vehicle reviewed. At the completion of the inspection, the vehicle is certified and can begin responding on EMS incidents and, if authorized, transporting patients at the level of care for which they are certified. To start this process, the organization must submit an application to enter the ambulance into the inspection program.

Application Process

To begin the process, the organization must complete an application and submit it to the EMS Division. The application contains information about the specific vehicle to be certified. Most of the information requested is straight forward (such a vehicle make, model, year of manufacture and VIN number).

The *Unit ID* is the number you have assigned to the unit, such as ‘Ambulance 5’ or ‘Medic 2.’ The *Unit ID* can change over time (for example, ‘Ambulance 5’ may be upgraded to ‘Medic 1’) but the VIN number would stay the same for the life of the ambulance.

In the Identification section, you are asked to describe the color scheme of the vehicle. The color scheme is a description of the vehicle coloring design. For example, “Overall white with a blue angle stripe on rear of unit”. Under that you need to identify any insignia or other unique characteristics of the unit. This may include items such as, “Rapid Aid in block italic lettering on either side of the ambulance box. Company emblem is located on driver and passenger doors, and left rear patient compartment door.”

The certification box verifies that the information on the application is accurate and complete. It also validates that the vehicle will be staffed in accordance with the current standards of the District of Columbia. Only individuals who are authorized by the agency to submit the application should sign on behalf of the agency.

Forward the completed application to HEPRA. Once the application is received, the data will be entered into our Emergency Medical Response Vehicle Registry. A member of HEPRA will then contact the person identified on the application to setup the initial certification inspection.

Types of EMS Response Vehicle Inspections

During the life of the response vehicle it will likely be inspected multiple times. These inspections cover two primary areas:

- **Certification Inspection**
These inspections are done once a year and are required for initial certification and renewal of certification
- **Compliance Inspections**
These inspections are performed throughout the certification period. They insure continued compliance with the District ambulance equipment standards.

Vehicles may also have provisional inspections. These inspections are performed on EMS vehicles that have no crew assigned, such as reserve units. All of the equipment must be on the unit before it can be issued a provisional certification.

Initial Certification Inspection

The EMS Division will notify the contact person on the application to setup an appointment for the initial inspection. When the vehicle arrives for the inspection, the crew staffing the unit must meet the minimum certification standards for the type of unit being inspected. For example, if an ambulance is classified as an Advanced Life Support unit, at least one crewmember must be a DC certified Paramedic, while the other crew member must be a DC certified EMT. If the unit were to arrive with two DC certified EMTs, the inspection would not be conducted.

During this initial inspection the vehicle will be reviewed for compliance with the current applicable District standard. If the ambulance passes the inspection the inspector will place a certification sticker on both the front and rear of the vehicle (excluding air ambulances). The sticker will also have a month and date sticker that identifies the expiration date of the certification.

If the vehicle fails the inspection, the agency will be afforded the opportunity to correct the deficiencies. Depending on the severity of the deficiencies, the unit may need to be rescheduled for a follow-up inspection. During the time between the inspections, the unit will not be allowed to respond on EMS incidents or, if an ambulance, transport patients.

Compliance Inspections

During the certification period the vehicle is subject to unannounced compliance inspections. These inspections are unannounced and can occur at any time, at any place. The inspection performed is the same as that performed during a certification inspection. If a vehicle fails a compliance inspection, the inspector will determine if the vehicle can remain in service while repairs and/or corrections are made. If the inspector determines that the vehicle cannot remain in service, the certification stickers will be removed from the ambulance. The unit will not be allowed to respond on EMS incidents or, if an ambulance, transport patients. A follow-up inspection will need to be scheduled and completed in order to return the ambulance to service.

Certification Renewal Inspection

Prior to the expiration of the vehicle certification, your agency will be notified of the need to conduct a certification renewal inspection. An appointment will be setup during normal business hours. This inspection is conducted in the same manner as the initial certification inspection. Once the vehicle passes the inspection the date stickers that are currently on the ambulance will be replaced.

Provisional Inspections

Provisional inspections are performed on units that do not have an EMS crew assigned. This may be for units that are in reserve status but is ready for service should it become necessary. The agency will need to provide a representative that can assist the inspector during the inspection. The inspector will perform the inspection on the unit itself and issue the certificate and certification stickers upon the vehicle successfully completing the inspection. If the vehicle does not have the required equipment, or if the agency representative cannot locate or operate any of the required equipment, the vehicle will not pass the inspection and will not be issued a certificate.

What Occurs During an Ambulance Inspection?

When an ambulance reports for initial certification, an unannounced compliance inspection, or a renewal of certification inspection, the inspection itself is always conducted the same way. The inspection can occur at the ambulance station, at a hospital, or any other location when the unit is not actively involved in providing EMS care. What follows is a general overview of the ambulance inspection process.

The Inspector

The Inspector from HEPRA at the Department of Health will introduce him/herself upon approaching the ambulance. The inspector will have a Department of Health employee identification card. The inspector's name is also located on the inspection report.

Inspection of the Crew

The first part of the inspection is that of the ambulance crew. The inspector will confirm the unit identification and the crew members assigned to the unit. The Inspector will request to see the certification cards of all crew members on the vehicle. For Emergency Medical Technicians (EMTs) and Advanced Emergency Medical Technicians (AEMTs) this will include their District certification card, their NREMT certification card and their CPR card. For EMT-Intermediates and Paramedics, they are expected to have an Advanced Cardiac Life Support (ACLS) card in addition to the cards required of the BLS providers. All cards are expected to be current and valid. If the provider does not have any of their required certifications, or if any of the certifications have expired, the ambulance will be placed out of service.

Next the inspector will select a member of the crew to assist with the inspection of the interior of the unit. The member will be expected to know the location and operation of all of the equipment that is required to be on the ambulance. They will also be expected to show that the equipment is in good working order. If the inspector asks a crew member for a piece of equipment and the crew member cannot find it, the item is considered missing. If the crew member cannot operate a piece of equipment, it is considered broken.

Inspection of the Exterior of the Ambulance

The inspector will then typically review the outside of the ambulance. The ambulance is expected to be in good mechanical condition. All lights, including emergency lights, headlights and running lights are expected to be working. All exterior doors and compartment doors are expected to be working properly, including latching properly in a stowed condition. Equipment stowed in the exterior compartments should be secure. The inspector may ask that the provider operate the siren, horn and emergency warning devices to ensure compliance with the standard. The ambulance is also expected to present a clean appearance on the exterior (current weather conditions are taken into consideration when reviewing the exterior of the vehicle)

It is possible that the inspector may find an item that, while not present on the inspection report, may impact the safe operation of the vehicle (for example, bald tires). If this occurs the inspector may fail the unit on safety grounds. The inspector would note such items in the Deficiencies section on the first page of the inspection form. Additional comments may be entered in the Health and Safety Concerns section of the report.

Inspection of the Interior of the Ambulance

The bulk of the inspection occurs inside the patient compartment of the ambulance. During the inspection the inspector may locate items in plain view or he may request that the provider assigned to the ambulance locate the item. If the item is a medication, it is expected that the drug has not expired. If the provider is unable to locate an item requested by the inspector, even if the item is in plain sight, the item is assumed to be missing and will be marked accordingly on the inspection record. If the item is in plain sight, the inspector will notify the EMS provider's supervisor. If the provider is unable to operate a piece of equipment it is assumed that the equipment is broken and will be marked accordingly. In addition to having the item on the ambulance, there are numerous items that require a quantity of more than one. If the minimum number of items is not present, the item will be marked as missing as it does not meet the minimum requirements.

The inspector will also be looking for loose items throughout the vehicle. It is understood that the delivery of EMS services requires the use of many individual items of medical equipment and supplies. Items that are loosely stored in the patient compartment can become projectiles in the event of a collision or rollover.

It is recommended that all loose items not actively in use for patient care be stored in a crashworthy fashion. All loose items of greater than nominal weight shall be stored within positively latching compartments with latches and hinges bolted through the frame or otherwise restrained in a crashworthy fashion ("Crashworthy" shall be defined as meaning that supplies, equipment, oxygen systems, patient litters and wheelchairs will remain in place during a serious accident or vehicle rollover). Crashworthy systems *may not* incorporate expandable components such as rubber straps or hook-and loop (e.g. Velcro™) fasteners. The inspector's test for crashworthiness of retention systems other than those governed by an existing standard (e.g. Ambulance Manufacturers' Division oxygen cylinder retention standard 003) shall be whether the item can be removed from place without unlatching or unbuckling the retention system.

The inspector will also inspect items for compliance with other national standards. The oxygen cylinders will be checked to insure they have not exceeded their hydrostatic test date. For a steel cylinder a test date followed by a star is good for 10 years. Without a star, and for all aluminum cylinders, the test date is good for five years. All oxygen tanks (portable and onboard) must have at least 300 psi to be considered serviceable.

A five-pound fire extinguisher is considered the minimum size acceptable on an ambulance. It should be tagged indicating a service date. The pressure gauge should show adequate pressure for use.

When inspecting medications and other medical supplies, all should be within the manufacturers' expiration date. DEA controlled substances must be under double lock. This approach may take a number of forms reflective of operating requirements, but should be approached systematically.

When reviewing IV fluids, it is recommended that a combination of bags be utilized. However, the unit must have at least a minimum combination of four bags that adds up to at 4,000-ml to be acceptable. A combination micro/macro-drip administration sets can be used as long as a total of four are present.

Gloves must meet the emergency medical examination glove requirements of NFPA 1999, Standard on Protective Clothing for Emergency Medical Operations. (<http://www.nfpa.org/>)

Other items that will be reviewed include reflective safety wear for each crewmember. Split or torn mattresses are unacceptable. If the stair chair is stored in the patient compartment, it must be secured with non-elastic straps. Loose, heavy objects or equipment, not secured in the patient compartment, could cause injury if the ambulance is in a crash. Seatbelts must be available for anyone in the ambulance and must be in good working order. Each ambulance should also include a copy of the DOT Emergency Response Guidebook and at least 20 triage tags. Wooden backboards cannot be used and must be removed from the unit.

Sharps containers should be secured to prevent spilling. For additional information refer to the OSHA document “Bloodborne Facts: Protect Yourself When Handling Sharps” (http://www.osha.gov/OshDoc/data_BloodborneFacts/bbfact02.pdf).

Lastly, the interior of the ambulance should present in a sanitary condition. Ambulances are expected to be cleaned in accordance with CDC guidelines for EMS Transport Vehicles (http://www.flu.gov/planning-preparedness/hospital/cleaning_ems.html).

Finishing the Ambulance Inspection

Once the inspection is complete, the Inspector will advise the crew if the ambulance has passed the inspection. If the ambulance has been found to be slightly deficient in an area, the Inspector may allow the crew the opportunity to correct the deficiency immediately. Any corrections should be done according to the agency’s standard operating procedures. If there are major deficiencies the unit will be placed out of service until it can be repaired and scheduled for a follow-up inspection. **The ambulance shall not be used as a transport vehicle if it does not pass the inspection. The inspection report will indicate if the unit has been decertified and not authorized to operate until it is repaired and reinspected. The certification stickers (if present) will be removed from the vehicle.**

When the ambulance passes either the initial certification or the renewal inspection the Inspector will apply updated certification stickers to the ambulance. A certificate will be issued to the EMS agency within ten business days. If the inspection was unannounced and the ambulance passed, the crew will be advised and allowed to continue their duties.

All ambulances undergoing an inspection will have a copy of the inspection sent to the agency. This will be done via e-mail.

Non-transporting EMS Response Vehicles

With the 2013 updates to the EMS Regulations (DCMR Title 29, Chapter 5), non-transporting EMS vehicles are also required to be inspected (DCMR Title 29 §511). Non-transporting EMS vehicles are defined as:

“An emergency medical response vehicle maintained and operated for response to the location of a medical emergency to provide immediate medical care at the basic or advanced life support level, but not to provide patient transport, shall be certified as a non-transport emergency medical response vehicle. Such vehicles would include fire apparatus, response cars, and other non-transport vehicles, but does not include air or watercraft.” (§511.1)

These vehicles are required to be inspected and certified (§511.2)

Like the ambulance inspection, the crewmember(s) certification is expected to match the care level being provided by response vehicle. ALS response vehicles must have at least one District certified EMT-I onboard, while BLS response vehicles must have at least one District certified EMT.

During an inspection of the non-transporting EMS response vehicle, the process will be similar to that for an ambulance. It is expected that the response vehicle will have adequate storage and security of the items that are required to be carried onboard the vehicle. Unlike an ambulance where much of the equipment is stored in cabinets, in the response vehicle it is expected that the equipment and supplies will be carried in bags or kits. In the same fashion as an ambulance, the equipment, bag or kit must be secured in the vehicle, and security must be in place for all medications to meet local and federal requirements. It is also required to have at least 20 triage tags on the vehicle. Like the ambulance, the EMS response vehicle is expected to be maintained according to standard vehicle safety requirements.

When an EMS response vehicle passes the inspection process and is certified, a certification sticker will be affixed to the vehicle in a manner similar to that performed with the ambulance. The inspection sticker shall note the month and year the certification expires.

If an EMS response vehicle fails an inspection, the vehicle can no longer be utilized to respond to EMS incidents and provide care. The unit can continue to be utilized for other duties (such as fighting fires or performing rescue work, etc). The unit must be reinspected and pass before it can return to service in an EMS first responder role.

Like the ambulance, a copy of the inspection and the certification will be provided to the EMS Agency.

Air Ambulances

The last type of vehicle that this handbook will cover is that of the air ambulance. The role of the inspection of the air ambulance is to simply ensure that the minimum amount of medical equipment is carried aboard the aircraft. The inspector from the Department of Health will not be inspecting the aircraft for defects, but rather will rely on the FAA Airworthiness Certificate to demonstrate that the aircraft meets the standards set forth by the Federal Aviation Administration.

The inspection of the air ambulance is conducted in a similar fashion to the non-transporting EMS response vehicle. The crew should consist of at least one District-certified Emergency Medical Technician – Intermediate or Paramedic (or a licensed healthcare provider of equal or higher standing). The healthcare provider would be expected to have the appropriate certifications or license.

The vehicle's EMS equipment is the only items that will be inspected. No inspection of the aircraft or the aircraft systems will be performed by the EMS inspector. The inspector will rely on the crew members to make the aircraft safe for inspection.

If the aircraft is found to meet the requirements of the certification process, a certificate will be issued to the air medical provider to keep on file with the agency. No decals will be affixed to any part of the aircraft.

If the aircraft is found to have failed the inspection, the aircraft will not be certified for the transport of patients; however, it can continue to be used in other roles as determined by the agency.

Appendix A

Oxygen Cylinder Markings¹

Oxygen cylinders are used to store gaseous oxygen for patient care in the field environment. It is important to understand the markings on these cylinders in order to reduce the risks associated with their use. The primary risks associated with oxygen cylinders are the increased risk of fire and the risk of working with high pressure gas. Oxygen cylinders can have pressures as high as 2250 pounds per square inch gauge (psig). The Compressed Gas Association (CGA) and the Department of Transportation (DOT) provide guidance on the safe transportation, storage, and use of high pressure oxygen cylinders.

Oxygen cylinders are marked to designate the type of cylinder, maximum fill pressure, hydrostatic test date, inspector, manufacturer, and serial number. The marking are normally stamped into the shoulder of the cylinder. The hydrostatic test date and inspector mark indicate when the cylinder was last tested and who tested the cylinder. Most oxygen cylinders are required to be tested every 5 years. This test ensures the cylinder can safely hold the maximum fill pressure. There are two other markings which are sometimes found on these cylinders. The plus (+) sign located after the test date designates that the cylinder can be filled to 10% above the pressure stamped on the cylinder. The five-pointed star in the same location designates that the hydrostatic test date has been extended an additional 5 years. A cylinder with a five-pointed star would need to be tested every 10 years.



Examples

Vertical Alignment:

DOT-3AA 2015
1234567
XY Corp
8 ® 08 + ☆

Horizontal Alignment:

DOT-3AA 2015 1234567 XY Corp 8 ® 08 + ☆

Code

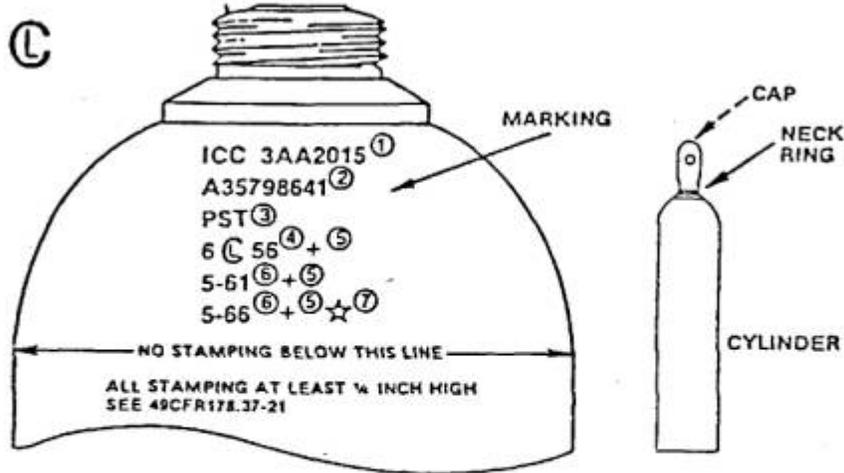
DOT = Department of Transportation
3AA = Seamless alloy-steel cylinder
2015 = 2015 psig fill pressure
1234567 = Serial number of cylinder
XY Corp = Manufacture of cylinder

¹ US Army Medical Department, Medical Research and Materiel Command, US Army Medical Materiel Agency. Obtained from <http://www.usamma.amedd.army.mil/assets/docs/oxygen%20cylinder%20markings.pdf>. Accessed on 27 Aug 2013

8 @ 08 = Month and Year, in this example, August 2008, the symbol of the inspector is commonly placed between month and year (@ used as example only)
 + = Cylinder maximum fill pressure can be 10% above 2015 psig or 2216.5 psig
 ☆ = Cylinder may be tested every 10 years versus the standard 5 years

MARKING REQUIREMENTS

178.36 to 178.68 Subpart C Specifications for Cylinders.



1. DOT or ICC marking may appear-new manufacture must read "DOT". 49CFR171.14 "3AA" indicates spec in 49CFR178.37. "2015" is the marked service pressure.
2. Serial number- no duplicates permitted with any particular symbol- serial number combination.
3. Symbol of manufacturer, user, or purchaser.
4. "5 56" date of manufacture. Month and year. "C" disinterested inspector's official mark.
5. Plus mark (+) indicates cylinder may be 10% overcharged per 49CFR173.302(C).
6. Retest dates
7. 5 pointed star indicates ten year retest interval See 49 CFR173.34(e)(15).

CAUTION: This is a training aid and does not include all provisions of the regulations.

Typical Oxygen Cylinder Markings Locations

If a cylinder is in use (filled or partially filled with oxygen) and it reaches its retest date, there is no requirement to pull the cylinder from use or empty the cylinder to facilitate retesting. The cylinder can stay in use until it is emptied. There is no time limit for keeping the cylinder in use. After the cylinder is emptied, it must be tested before it can be refilled and transported.



CGA Pamphlet C-9, Standard Color Marking of Compressed Gas Cylinders Intended for Medical Use, states the color for oxygen cylinders is green. No other gas should be placed in a cylinder designated for oxygen. It is a safe practice to validate the contents of cylinders with an oxygen analyzer before use. This will validate both content and concentration. Most cylinders filled by commercial sources will also have a label indicating the contents and an oxidizer or fire warning. These labels should not be removed or covered by other labels or markings.

Appendix B

Federal Aviation Administration

Airworthiness Certificate

Below is a sample of a FAA Standard Airworthiness Certificate

UNITED STATES OF AMERICA DEPARTMENT OF TRANSPORTATION—FEDERAL AVIATION ADMINISTRATION STANDARD AIRWORTHINESS CERTIFICATE			
1 NATIONALITY AND REGISTRATION MARKS	2 MANUFACTURER AND MODEL	3 AIRCRAFT SERIAL NUMBER	4 CATEGORY
N2631A	PIPER PA-22-135	22-903	NORMAL
5. AUTHORITY AND BASIS FOR ISSUANCE This airworthiness certificate is issued pursuant to the Federal Aviation Act of 1958 and certifies that, as of the date of issuance, the aircraft to which issued has been inspected and found to conform to the type certificate therefor, to be in condition for safe operation, and has been shown to meet the requirements of the applicable comprehensive and detailed airworthiness code as provided by Annex 8 to the Convention on International Civil Aviation, except as noted herein. Exceptions:			
NONE			
6 TERMS AND CONDITIONS Unless sooner surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator, this airworthiness certificate is effective as long as the maintenance, preventative maintenance, and alterations are performed in accordance with Parts 21, 43, and 91 of the Federal Aviation Regulations, as appropriate, and the aircraft is registered in the United States.			
DATE OF ISSUANCE	FAA REPRESENTATIVE <i>Marion W. Williams</i>	DESIGNATION NUMBER	
08-10-95	MARION W. WILLIAMS	SW-FSDO-OKC	
Any alteration, reproduction, or misuse of this certificate may be punishable by a fine not exceeding \$1,000, or imprisonment not exceeding 3 years, or both. THIS CERTIFICATE MUST BE DISPLAYED IN THE AIRCRAFT IN ACCORDANCE WITH APPLICABLE FEDERAL AVIATION REGULATIONS.			
FAA Form 8100-2 (8-82)		GPO 892-804	