

Summary of Ambulance Rules from states in the Eastern NASEMSO region  
(No reference from Maryland or North Carolina)

Reference to national specifications highlighted in **yellow**, waivers or exceptions to those standards highlighted in **green**.

Maine	No federal reference
NH	No requirements
Vermont	Reference to KKK, limited waivers possible
Mass	Reference to KKK, waiver requests considered
Conn	Reference to KKK, exceptions possible
RI	Reference to KKK, exemption possible
NY	No federal requirement
NJ	Reference to KKK, limited exceptions possible (BLS ambulance)
PA	No reference in law or administrative rule, but there may be a reference to federal requirement in other document
Delaware	Reference to KKK
VA	Reference to KKK, exceptions possible
WV	Reference to KKK
SC	Murky reference to KKK twice, plus a lot of state requirements
Ohio	Reference to AMD specifications

Maine

16 DEPARTMENT OF PUBLIC SAFETY - 163 BUREAU OF EMERGENCY MEDICAL SERVICES (MAINE EMS) - CHAPTER 3: GROUND AMBULANCE SERVICE AND NON-TRANSPORTING SERVICE LICENSES

**§1. Ground Ambulance Design Requirements**

1. A ground ambulance vehicle, unless it falls within Chapter 3 §11.3 of these Rules, must meet the following standards to be licensed:
  - A. Federal/state safety requirements. It must meet the applicable federal and Maine safety requirements including the State's periodic motor vehicle inspection requirements listed in the current edition of the Maine State Police Motor Vehicle Inspections Manual.
  - B. Interior size. It must meet the chassis manufacturer's specifications, and must have a minimum inside height of 60 inches at the center of the patient compartment, a minimum width of 48 inches at the center of the patient compartment, a walkway parallel to the length of the primary cot adequate to allow an attendant to walk from head to foot of the cot; and a minimum inside patient compartment length of 122 inches at the cot level.
  - C. Interior storage accommodations. The interior of the patient compartment must provide adequate stowage space for medical supplies, devices and installed systems. For purposes of this paragraph, "stowage" is defined as the storing, packing, or arranging of ambulance contents in a secure manner so as to protect the contents from damage and the personnel from injury. Interior compartment doors, latches and operating mechanisms must operate in accordance with the manufacturer's design.
  - D. Seat belts. Seat belts shall be provided in all permanent seat positions in the vehicle, including the squad bench. For purposes of this paragraph, "squad bench" is defined as a permanent, non-removable seat that is located in the patient compartment and which can serve as a seat for crew members or as a surface on which a patient may lie down.

- E. Patient restraint. The ambulance must be equipped with a multilevel patient stretcher designed for ambulances, mounted in, and detachable from the vehicle. The head of the stretcher must elevate. At least three strap-type restraining devices (chest, hip, lower extremity), not less than 2 inches wide, shall be provided for each stretcher, cot or litter. Additionally, the head of the cot shall be furnished with upper torso (over the shoulder) restraints designed to prevent motion of the patient during severe braking or in an accident. Restraining straps shall incorporate metal-to-metal quick release buckles.
- F. Litter fasteners. Crash-stable fasteners of the quick-release type shall secure the cot to the floor or side walls. Provision shall be made for the required portable stretchers to be secured in safe positions for transport. Stretcher mounts must be capable of fastening the stretcher to the vehicle to prevent any movement of the stretcher when in its fastened position.
- G. Patient compartment environmental equipment. The patient compartment shall be adequately heated, air-conditioned, and ventilated to provide for patient comfort.
- H. Communications equipment shall be adequate to allow the vehicle to contact on the regional radio frequency the hospitals to which it regularly takes patients. The ambulance shall also be able to maintain two-way communications contact with a full-time dispatching facility. As of January 1, 2001, all vehicles licensed or authorized by Maine EMS shall be capable of communications utilizing the designated Maine EMS statewide frequency, 155.385
- I. Attendants/driver communication. It shall be possible for the driver and the attendants, in their working positions, to speak to one another.
- J. Warning devices. All ambulances shall be equipped with a siren and with emergency warning lights, rotating or flashing, visible from 360 degrees at all times. Colors of ambulance lights are fixed by 29-A M.R.S.A. § 2054.
- K. Patient compartment illumination. Normal white illumination shall be provided in the patient area so as to provide a minimum of 35 foot candles of illumination measured on at least 90 percent of the cot's surface area.
- L. Name of service. Ground vehicles placed in service after March 1, 1992, must display the name of the service licensing the vehicle on the left (driver) and right (passenger) side of the vehicle in letters no less than 6 inches high or display a logo that adequately identifies the service. Vehicles temporarily transferred to a service under the provision of Chapter 3 §12.2 are exempt from this requirement.
- M. Main oxygen supply. The ambulance shall have a hospital type piped medical oxygen system capable of storing and supplying a minimum of 3,000 liters ("M" size tank). The oxygen pressure regulator must be a medical oxygen pressure reducing and regulator valve with an inlet filter at the cylinder and shall have a line relief valve set at 1378 kPa (200 psi) maximum, and a gauge range of 0 to 17225 kPa (0 to 2500 psi). The flow meter must be a pressure compensated type.
- N. Suction aspirator, permanently mounted. The ambulance vehicle shall have an electrically or (engine) vacuum-powered suction unit capable of providing a free air flow of at least 20 lpm and achieving a minimum of 300 mm. Hg within 4 seconds after the suction tube is closed.
- O. Exterior compartments and doors. Exterior compartments, exterior compartment doors and exterior patient/passenger doors must be equipped

with latches, gaskets and operating mechanisms which operate in accordance with the manufacturer's design.

#### New York

- **800.22 Requirements For Certified Ambulance Vehicle Construction. All Ambulances Shall:**
  - (a) have the following headroom:
    - (1) if placed in-service after January 1, 1980 have a minimum of 54 inches headroom in the patient compartment measured from floor to ceiling, or
    - (2) if placed in-service on or before January 1, 1980, have a minimum of 48 inches headroom in the patient compartment, measured from floor to ceiling;
  - (b) have a clear interior width to accommodate two recumbent patients with adequate room for an attendant to provide patient care;
  - (c) have a patient compartment, longer at the head and foot than the patient-carrying device, and must have adequate space to allow an attendant to work at the head of the patient;
  - (d) have seat belts on all seats in the driver's and patient compartments, including the squad bench;
  - (e) have two-way voice communication equipment to provide communication with hospital emergency departments directly or through a dispatcher, throughout the duration of an ambulance call within their primary operating area. It shall be licensed by the Federal Communications Commission in other than the Citizens Band. Alternate communication systems are subject to approval of the department as being equivalent in capability.
  - (f) have a curbside door large enough to allow for removal of a recumbent patient on a stretcher or cot;
  - (g) have all ambulances built after July 1, 1990, equipped with a heating, ventilation and air conditioning system which maintains the patient compartment at approximately 75 degrees Fahrenheit regardless of outside temperature; and
  - (h) have all cots and devices used to transport patients secured while in motion. Such capability shall be demonstrated to the department upon inspection. These shall be crash resistant.

#### Pennsylvania

##### **§ 8104. Emergency medical services system programs.**

**(a) Planning and coordination.--The department shall plan, guide and coordinate programs on the following matters to promote effective and efficient operation of Statewide and regional EMS systems:**

**(4) The number and distribution of ambulances and other EMS vehicles in which:**

**(i) ambulances and other vehicles meet appropriate criteria relating to location, design, performance and equipment; and**

##### **§ 8129. Emergency medical services agencies.**

**(c) Issuance of license.--The department shall issue a**

license to an applicant when it is satisfied that:

**(2) The applicant meets supply and equipment requirements and each ambulance or other vehicle that will be used in providing EMS is adequately constructed and equipped and will be maintained and operated to safely and efficiently render the services offered.**

#### Rhode Island

R23-4.1-EMS

PART III Licensing Requirements for Ambulances and Ambulance Services

12.0 Standards for Ambulances and Ambulance Services

Design and Construction of Ambulances:

Class A-1, Class A-1A and Class A-2 Ambulances

12.41 All newly manufactured Class A Ambulances, when purchased, must conform to the U.S. Department of Transportation-approved General Services Administration ambulance design and construction specification KKK-A-1822A, dated April 1, 1980, and any amendments thereto current as of the date of manufacture except those pertaining to paint colors and markings. Exemption from this requirement will be considered by the Department upon submission of a written request, pursuant to the provisions of section 15.0 herein.

#### New Jersey

##### **8:40-6.11 Vehicle certification to Federal specifications**

(a) Each BLS ambulance shall be certified to meet the version of Federal Specifications for Ambulances, KKK-A-1822, which was current at the time the vehicle was manufactured. The certification shall be made by the vehicle manufacturer or converter in accordance with applicable paragraphs of the Federal KKK-A-1822 specifications.

(b) The following exceptions to the Federal KKK-A-1822 specifications are permitted. Inclusion of the following items on a BLS ambulance is optional:

1. Spare tire and storage;
2. Tools for changing a tire;
3. 115 volt AC utility power;
4. Utility power connector;
5. Electrical 115 volt VAC receptacles;
6. Solid state inverter;
7. Spotlight;
8. Exterior storage accommodation;
9. Extrication equipment and storage;
10. Color, paint and finish; and
11. Color standards and tolerances.

(c) The following exceptions to the Federal KKK-A-1822 specifications are permitted, within the parameters noted:

1. BLS ambulance emergency lighting: The provider may specify emergency lights other than those required in the Federal specifications, but all exterior lighting shall be in accordance with standards for authorized emergency vehicles, as set forth at N.J.A.C. 13:24;
2. Suction aspirators: The installed and portable aspirators (suction units) shall meet the standards of this chapter; and
3. Emblems and markings: The purchaser of the vehicle may specify the location of additional lettering and markings beyond those required under the Federal specifications, so long as they are consistent with the limitations set forth in this chapter.

## Delaware

### 7.2.1 Vehicle Standards

7.2.1.1 All BLS Ambulances shall be registered and licensed in the State by the Delaware Division of Motor Vehicles.

#### EXCEPTIONS:

7.2.1.1.1 Those vehicles to which the international registration plan applies.

7.2.1.1.2 Those vehicles properly registered in some other state.

7.2.1.2 Vehicles shall have clearly visible letters on both sides and the rear identifying the name of the organization or corporation or the vehicle's specific identifier as specified under permit documentation. The letters shall be at least three inches in height.

7.2.1.3 Vehicle patient compartment shall conform with the criteria within the most current United States General Services Administration federal specifications for the Star of Life Ambulances.

## Ohio

**132.8(4)** Equipment and vehicle standards. The following standards shall apply:

a. Ambulances placed into service after July 1, 2002, shall meet, as a minimum, the National Truck and Equipment Association's Ambulance Manufacture Division (AMD) performance specifications.

## Virginia

12VAC5-31-810. Ground ambulance specifications.

A. A 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 and for the transportation of patients shall be permitted as a ground ambulance.

B. A ground ambulance must be commercially constructed and certified to comply with the current federal specification for the Star of Life ambulance (U.S. General Services Administration KKK-A-1822 standards) as of the date of vehicle construction, with exceptions as specified in these regulations.

A nationally recognized published standard

C. A ground ambulance must be constructed to provide sufficient space for the safe storage of all required equipment and supplies.

1. A ground ambulance must have a locking interior storage compartment or approved locking bracket used for the secure storage of medications and medication kits that is accessible from within the patient compartment. Medications and medication kits must be kept in a locked storage compartment or approved bracket at all times when not in use. The EMS agency must maintain medications and medication kits as specified in these regulations.

2. Required equipment and supplies specified in these regulations, excluding those in 12VAC5-31-860 I, J and K, must be available for access and use from inside the patient compartment.

## Massachusetts

### 170.450: All Ambulances Subject to Classification

All ambulances shall conform to the minimum standards of one of the classes set out in 105 CMR 170.455, .460, .465 and .470, and shall be certified accordingly as provided in 105 CMR 170.415 and .420. There are three classes of ground ambulances (Class I, II and V), and one class of air ambulance (Class IV).

### 170.455: Class I

A Class I ambulance shall be used primarily for emergency dispatch to and transport of sick and injured persons from the scene of an emergency. A Class I ambulance may also be used for scheduled transportation by prior appointment of persons having known and non-emergent medical condition. It shall meet the following minimum requirements:

#### (A) Vehicle Design and Construction.

(1) An ambulance service may only purchase, accept, or put into operation a Class I vehicle which conforms with the United States Department of Transportation General Services Administration, Ambulance Design Criteria and Construction Specifications (KKK-A-1822E) which are in effect at the date of vehicle production. In the case of municipal services, standards are those in effect at the date of acceptance of a manufacturer's bid.

(2) The Commissioner or his designee may waive specific requirements included in the federal specifications referenced in 105 CMR 170.455(A)(1) where alternatives provide comparable protection of the public health and safety. Requests for waivers or variations must be filed and approved by the Department before the bid or order process is undertaken. Such requests for waiver or variations are not subject to the general waiver requirement set forth in 105 CMR 170.275.

(B) Vehicle Equipment. A Class I ambulance shall be equipped at a minimum with the vehicle equipment specified in the administrative requirements entitled "Vehicle Equipment Guidelines - Class I." Amendments to such administrative requirements shall be circulated to licensees for review and comment at least 60 days prior to adoption.

(C) Medical Equipment and Supplies. A Class I ambulance shall be equipped at a minimum with medical equipment and supplies as specified in the administrative requirements entitled "Medical Equipment and Supplies - Class I." Amendments to such administrative requirements shall be circulated to licensees for review and comment at least 60 days prior to adoption.

(D) Equipment to Gain Access to Patient. A Class I ambulance shall carry at a minimum the equipment to gain access as specified in the administrative requirements entitled "Equipment to Gain Access - Class I." Amendments to such administrative requirements shall be circulated to licensees for review and comment at least 60 days prior to adoption.

### 170.460: Class II

<http://www.mass.gov/eohhs/docs/dph/regs/105cmr170.pdf>

## Vermont

### 5.8 Ambulance design requirements:

5.8.1 All ambulances must meet the applicable Federal and VT safety requirements including those described by the Code of Federal Regulations, Federal Register, Society of Automotive Engineers, Vermont Statutes as of the date of manufacture, and the annual inspection required by the VT Department of Motor Vehicles.

5.9 An ambulance is for the purpose of providing on-scene emergency medical treatment in the event of illness or injury, and for subsequent transportation of the patient to an appropriate medical facility. Ambulances may also be used for emergency transfer of patients between medical facilities or for non-emergency transfers.

5.9.1 Any licensed ambulance shall conform to the design specification established and updated by the General Services Administration in effect at the time of manufacture.

These General Services Administration specifications are hereby incorporated by reference. The design specifications can be found on the Department's website currently at <http://www.healthvermont.gov/>.

5.9.2 At the request of a licensed ambulance service, the Department may at its discretion waive some details (e.g., color, markings, etc.) of the required design specification provided that the vehicle is in substantial design compliance and that such waiver relates to a matter not reducing vehicle performance or safety. The Department shall seek the advice of the EMS District Board in making specific determinations.

### Connecticut

#### **19a-179-18. Minimum vehicle standards**

(a) Basic ambulance vehicles shall be inspected at least annually by OEMS and shall conform to the following design and equipment standards:

(1) Design.

(A) Minimum 60" head room in patient compartment measured from floor aisle space to head liner.

(B) Minimum 114" interior length in patient compartment from inside back door to rear of driver's compartment.

(C) Minimum 12" unobstructed aisle space between primary patient stretcher and any obstruction for full length of primary patient stretcher on one side.

(D) Ability to achieve and maintain an average patient compartment temperature of 65 degrees - 70 degrees regardless of weather conditions.

(E) Electrical intercom or signal lights or an open partition to permit exchange of patient condition information between patient compartment and driver.

(F) Sufficient secure storage to permit secure loading and confinement of all items which could move freely about patient area in the event of a collision or roll over.

(G) Rotating or flashing warning lights visible 3600 about vehicle.

(H) Mechanical and/or electrical siren.

(I) Two-way radio communications that are compatible with the state approved communications system and will allow communicating with communications coordinating centers (e.g. regional communications centers, central emergency medical dispatch), dispatch and/or directly to the hospital.

(J) Exterior identification visible on two opposite sides of vehicle showing the name of the service the vehicle is operated by.

(K) Any basic ambulance vehicle shall meet or exceed the design criteria of General Services Administration Specifications KKK-A-1822, as amended, with the following exceptions and/or substitutions [Federal specification number shown in parenthesis ( )]:

(i) Spare tire (3.6.10)

(ii) Tire changing tools (3.6.3)

(iii) Engine high idle speed control, automatic (3.7.6.1)

(iv) Internal 12 volt d.c. power (3.7.7.3)

(v) 115 volt a.c. utility power (3.7.8)

(vi) Utility power connector (3.7.8.1) - optional

(vii) Electrical 115 volt a.c. receptacles (3.7.8.2)

(viii) Solid state inverter (3.7.8.3)

(ix) Override front bumpers (3.9.6.1)

(x) Interior storage accommodations (3.11.3)

(xi) Exterior storage accommodations (3.11.1)

(xii) Extrication equipment and storage (3.11.2.1)

(xiii) Storage compartments and cabinet design transparent doors (3.11.3)

(xiv) Color, paint and finish (3.16.2)

(xv) Color standards and tolerances (3.16.2.1)

(xvi) Emblems and markings (3.16.4)-substitute the following:

a. Front of vehicle - the word "AMBULANCE" in block, reflectorized letters, not less than four inches high shall be mirror image, centered above the grill.

b. Sides and rear of vehicle - the work "AMBULANCE" shall be in block, reflectorized letters, not less than six inches high, centered on each side and rear of vehicle body.

(xvii) Rustproofing (3.18)

(xviii) "Star of Life" (4.3)

(xix) Intended Use (6.1)

## South Carolina

### Section 601. Ambulance Design and Equipment.

The following designs are hereby established as the minimum criteria for ambulances utilized in South Carolina and are effective with the publication of these regulations. Any emergency ambulance purchased after publication of these requirements must meet the following minimum criteria.

A. Based Unit: Chassis should not be less than three quarter ton. In the case of modular or other type body units, the chassis shall be proportionate to the body unit, weight and size; power train shall be compatible and matched to meet the performance criteria listed in the most current edition of the Federal KKK Specification; maximum effective sized tires; power steering; power brakes; heavy duty cooling system; heavy duty brakes; mirrors; heavy duty front and rear shock absorbers; 70 amp battery; 100 amp alternator; front end stabilizer; driver and passenger seat belts; padded dash; collapsible steering wheel; door locks for all doors; inside mirror; inside control handles on rear and side doors. Four-wheel drive is recommended for operating in mountainous area during winter months where snow and ice is prevalent, in rough terrain and at the seashores where traction in sand is difficult.

B. Color: There shall be no restrictions concerning the painted color of the ambulance.

C. Emblems and Markings: All items in this section shall be of reflective quality and in contrasting color to the exterior painted surface of the ambulance.

1. There shall be a continuous stripe, of not less than 3" on cab and 6" on patient compartment, to encircle the entire ambulance with the exclusion of the hood panel.

2. Emblems and markings shall be of the type, size and location as follows:

a. Front: The word "AMBULANCE", minimum of 4" in height, shall be in mirror image (reverse reading) for mirror identification by drivers ahead, with a "Star of Life", minimum of 3" height, to the left and right of the word "AMBULANCE." If vehicle design permits, there shall be a "Star of Life" of no less than 12" in height on the front section of the patient compartment.

b. Side: Each side of the patient compartment shall have the "Star of Life" not less than 12" in height. The word "AMBULANCE", not less than 6" in height, shall be under or beside each star. The name of the licensee as stated on their provider's license shall be of lettering not less than 3" in height.

c. Rear: The word "AMBULANCE", not less than 6" in height, and two "Star of Life" emblems of not less than 12" in height.

d. Top (roof): There shall be a "Star of Life" of not less than 32" in height as well as the individual provider's ambulance number (example: unit "23") of not less than 12" in height.

3. Prior to private sale of ambulance vehicles to the public, all emblems and markings in Section 601.C must be removed.

D. Interior Patient Compartment Dimensions:

1. Length: The compartment length shall provide a minimum of 25" clear space at the head and 15" at the foot of a 76" stretcher. Minimum inside length will be 116".

2. Width: Minimum inside width is 69 inches.

3. Height: Inside height of patient compartment shall be a minimum dimension of 60" from floor to ceiling.

E. Access to Vehicle:

## 1. Driver Compartment.

a. Driver's seat will have an adjustment to accommodate the 5th percentile to 95<sup>th</sup> percentile adult male.\*

\*Note: This means that the driver's area will accommodate the male drivers who are 90% of the smallest and largest in stature, which includes weight and size.

b. There shall be a door on each side of the vehicle in the driver's compartment.

c. Separation from the patient area is essential to afford privacy for radio communication and to protect the driver from an unruly patient. Provision for both verbal and visual communication between driver and attendant will be provided by a sliding shatterproof glass partition at upper portion of partition. The bulkhead must be strong enough to support an attendant's seat in the patient area at the top of the patient's head and to withstand deceleration forces of the attendant in case of accident.

## 2. Patient Compartment:

a. There shall be a door on the right side of the patient compartment near the patient's head area of the compartment. The side door must permit a technician to position himself at the patient's head and quickly remove him from the side of the vehicle should the rear door become jammed.

b. Rear doors shall swing clear of the opening to permit full access to the patient's compartment.

c. All patient compartment doors shall incorporate a holding device to prevent the door closing unintentionally from wind or vibration. When doors are open the holding device shall not protrude into the access area. Special purpose ambulances are exempt as long as access/egress is not obstructed due to wheelchair ramps or other specialized equipment.

d. Spare tire storage shall be positioned such that the tire can be removed without disturbing the patient.

## F. Interior Lighting

1. Driver Compartment: Lighting must be available for both the driver and an attendant, if riding in the driving compartment, to read maps, records, etc. There must be shielding of the driver's area from the lights in the patient compartment.

2. Patient Compartment: Illumination must be adequate throughout the compartment and provide an intensity of 40-foot candles at the level of the patient for adequate observation of vital signs, such as skin color and pupillary reflex, and for care in transit. Lights should be controllable from the entrance door, the head of the patient, and the driver's compartment. Reduced lighting level may be provided by rheostat control of the compartment lighting or by a second system of low intensity lights.

## G. Illumination Devices:

1. Illumination Devices: Flood and load lights - there shall be at least one flood light mounted not less than 75" above the ground and unobstructed by open doors located on each side of the vehicle. A minimum of one flood light, with a minimum of 150 lumens equivalent, shall be mounted above the rear doors of the vehicle.

2. Warning lights - at a minimum alternating flashing red lights must be on the corners of the ambulance so as to provide 3600 conspicuity.

3. Flares: Six red reflectorized or chemically induced illumination devices may be substituted for flares. Combustible type flares are not acceptable.

4. One set battery jumper cables, minimum 04 gauge copper, 600 amp rating.

## H. Seats:

1. A seat for both driver and attendant will be provided in the driver's compartment with armrests on each side of driver's compartment.

2. Technician (Patient Compartment): two fixed seats, padded, 18" wide 18" high; to head of patient behind the driver, the other one may be square bench type located on curb (right) side of the vehicle. Space under the seats may be designed as storage compartments.

I. Safety Factors for Patient Compartment:

1. Stretcher Fasteners: Crash-stable fasteners must be provided to secure a primary and secondary stretcher.

2. Stretcher Restraint: If the stretcher is floor supported on its own support wheels, a means shall be provided to secure it in position under all conditions. These restraints shall permit quick attachment and detachment for quick transfer of patient.

3. Patient Restraint: A restraining device shall be provided to prevent longitudinal or transverse dislodgement of the patient during transit, or to restrain an unruly patient to prevent further injury or aggravation to the existing injury.

4. Safety Belts for Drivers and Attendants:

a. Quick-release safety belts will be provided for both driver and attendants, plus all seated patients (squad bench). These safety belts will be retractable and self-adjustable.

5. Mirrors:

a. There shall be two exterior rear view mirrors, one mounted on the left side of the vehicle and one mounted on the right side. Location of mounting must be such as to provide maximum rear vision from the driver's seated position.

b. There shall be an interior rear view mirror to provide the driver with a view of occurrences in the patient compartment.

6. Windshield Wipers and Washers:

a. Vehicle is to be equipped with two electrical windshield wipers and washers in addition to defrosting and defogging systems.

7. Sun Visors:

a. There shall be a sun visor for both driver and attendant.

J. Environmental Equipment: Driver/Patient Compartment.

1. Heating: Shall be capable of heating the compartment to a temperature of 75<sup>o</sup> F. within a reasonable period while driving in an ambient temperature of 00 F. It must be designed to recirculate inside air, also be capable of introducing 20% of outside air with minimum effect on inside temperature. Fresh air intake shall be located in the most practical contaminant-free air space on the vehicle.

2. Heating Control: Heating shall be thermostatically or manually controlled. The heater blower motors must be at least a three (3) speed design. Separate switches will be installed in patient compartment.

3. Air Conditioning: Air Conditioning shall have a capacity sufficient to lower the temperature in the driver's and patient's compartment to 75<sup>o</sup> F within a reasonable period and maintain that temperature while operating in an ambient temperature of 95<sup>o</sup> F. The unit must be designed to deliver 20% of fresh outside air of 95<sup>o</sup> F. ambient temperature while holding the inside

temperature specified. All parts, equipment, workmanship, etc., shall be in keeping with accepted air conditioning practices.

4. Air Conditioning Controls: The unit air delivery control may be manual or thermostatic. The reheat type system is not required in the driver's compartment unit. Switches or other controls must be within easy reach of the driver in his normal driving position. Air delivery fan motor shall be at least a three (3) speed design. Switches and other control components must exceed in capacity the amperage and resistance requirements of the motors.

5. Insulation: The entire body, side, ends, roof, floor, and patient compartment doors shall be insulated to minimize conduction of heat, cold, or external noise entering the vehicle interior. The insulation shall be vermin and mildew-proof, fireproof, non-hygroscopic, non-setting type. Plywood floor when undercoated will be considered sufficient insulation for the floor area.

K. Storage Cabinets: All cabinets must meet the criteria as stated in the most current edition of the Federal KKK Specifications as to types of surfaces, design and storage. Cabinets must be of sufficient size and configuration to store all necessary equipment. All equipment must be accessible to attendant at all times.

L. Two-Way Radio Mobile: Two way radio mobile equipment shall be included which will provide a reliable system operating range of at least a 20 mile radius from the base station antenna. The mobile installation shall provide microphones for transmitting to at least medical control and receiving agencies, at both the driver's position and in the patient's compartment. Selectable speaker outputs, singly and in combination, shall be provided at the driver's position, in the patient's compartment, and through the PA system.

1. All radio frequencies utilized by a licensed service will be provided to the Department.
2. In the event technological advancements render the above components obsolete, the Department shall make determinations as to the efficacy of proposed technology on an individual basis prior to allowing their use.

M. Siren-Public Address: Siren and public address systems shall be provided. If a combined electronic siren and public address system is provided, in siren operation, the power output shall be 100 watts. In voice operation the power output shall be 45 watts through two exterior mounted speakers. The public address amplifier shall be independent of the mobile radio unit.

N. Antenna: Rooftop mounted with coaxial cable.

O. Glass Windows: All windows, windshield and door glass must be shatterproof.

West Virginia

## **§64-48-5.Vehicles.**

### 5.1. General Requirements.

5.1.a. Unless specified differently herein, ground ambulances shall meet applicable US Government Services Agency KKK-A-1822 or subsequent federally approved specifications at the time of the vehicle's manufacture.

5.1.i. Safety belts shall be available and operational for all seat positions in EMS vehicles, no shoulder harness-type restraints are allowed on side-facing seat positions.

5.1.k. Exterior Vehicle Marking Requirements:

5.1.k.1. All ground ambulances purchased on or after January 1, 2012, shall have the following retro reflective marking:

5.1.k.1.A. A four inch (4") wide stripe running the length of the sides of the vehicle at or below the level of the bottom of the windshield;

5.1.k.1.B. Rear facing vertical surfaces 50% of which have a forty-five (45) degree down-and-away chevron pattern of contrasting-color 6" stripes;

5.1.k.1.C. A four inch (4") wide stripe on 25% of the width of the front of the vehicle;

5.1.k.1.D. A two inch (2") wide vehicle side and rear boundary contour or edge markings; and

5.1.k.1.E. A twelve inch (12") "Star of Life" emblems on both sides and the rear of the vehicle.