



# Standard Guide for Scope of Performance of Emergency Medical Services Ambulance Operations<sup>1</sup>

This standard is issued under the fixed designation F 1517; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This guide covers minimum standards for the performance of emergency medical services (EMS) ambulance operators, including: operator qualifications, pre-run operation, and post-run aspects.

1.2 This guide shall promote the safe and efficient delivery of the ambulance, equipment, crew, passengers and patients, during all phases of the delivery of EMS involving the ambulance; at all times exercising the highest degree of care for the safety of the public. This guide may be applied to other EMS vehicles that do not necessarily provide patient transport.

1.3 This guide shall be used as the basis for training guides of the emergency medical services ambulance operator.

1.4 The values stated in SI units are to be regarded as the standard. The SI units given in parentheses are for information only.

1.5 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

## 2. Referenced Documents

### 2.1 ASTM Standards:

F 1031 Practice for Training the Emergency Medical Technician (Basic)<sup>2</sup>

F 1177 Terminology Relating to Emergency Medical Services<sup>2</sup>

F 1230 Specification for Minimum Performance Requirements for Emergency Medical Service (EMS) Ground Vehicles<sup>2</sup>

F 1258 Practice for Emergency Medical Dispatch<sup>2</sup>

## 3. Terminology

### 3.1 Definitions:

3.1.1 The definitions given in Terminology F 1177 are applicable to this guide.

3.1.2 *ambulance*—See Terminology F 1177.

### 3.2 Definitions of Terms Specific to This Standard:

3.2.1 *ambulance operations*—the efficient delivery of the ambulance, equipment, crew, passengers and patients, during all phases of the delivery of EMS involving the ambulance at all times exercising the highest degree of care for the safety of the public.

3.2.2 *ambulance service provider*—as outlined in this guide, a person, company, corporation or political entity responsible for operation, maintenance, or policy making, or combination thereof, regarding emergency medical vehicle operations.

3.2.3 *bona fide occupational qualification (BFOQ)*—the skills and knowledge relevant to the performance of a specific task.

3.2.4 *departure check*—the visual check of the vehicle and surrounding area ensuring that equipment and supplies have been retrieved and properly stored and that all compartment doors are secured.

3.2.5 *egress check*—the visual check of the vehicle and surrounding area prior to operating the ambulance.

3.2.6 *emergency mode*—as defined by individual state statutes that refer to emergency vehicles, equipment, and operations.

3.2.7 *full check*—a comprehensive and systematic evaluation of the ambulance at specified intervals, including documentation of the inspection, any deficiencies found and their corrective actions.

3.2.8 *operator*—a person who operates or assists with the operation of an ambulance.

3.2.9 *post-run*—the managed return of the ambulance and operators to optimal pre-run readiness.

3.2.10 *pre-run*—all aspects of assuring response readiness.

3.2.11 *quick check*—an abbreviated version of the full check, focusing on the major operational functions of the vehicle.

## 4. Significance and Use

4.1 This guide provides minimum guidelines for safe and efficient ambulance operation.

4.2 All ambulance operations and operators should follow this guide for the development of educational and training programs.

4.3 This guide is intended to promote safe and efficient ambulance operations and to reduce morbidity, mortality, and property loss associated with ambulance operations.

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 13.01.

4.4 This guide is intended to assist those who are responsible for the development and implementation of policies and procedures for ambulance operations.

**5. Medical Fitness to Drive**

5.1 Because of the complex relationship of certain medical and mental impairments, a medical screening program shall be established by all EMS entities bestowing the privilege of ambulance driving.

5.2 The authorization of ambulance drivers must always be based on bona fide occupational qualifications (BFOQ) pursuant to the task of ambulance operation. The following considerations must be evaluated:

5.2.1 A medical exam of the applicant by a licensed M.D. or D.O. attesting that the history and physical reveals no evidence of any medical or physical condition which would prove detrimental to operating an ambulance.

5.2.2 Eye exam by a licensed ophthalmologist/optometrist to include:

- 5.2.2.1 Visual acuity,
- 5.2.2.2 Depth perception,
- 5.2.2.3 Peripheral vision,
- 5.2.2.4 Night blindness,
- 5.2.2.5 Color blindness, and
- 5.2.2.6 Amblyopia.

5.2.3 An examination of the medical history of the individual, designed to identify drivers who may be impaired by:

- 5.2.3.1 Loss of consciousness,
- 5.2.3.2 Cardiovascular disease,
- 5.2.3.3 Neurological/neurovascular disorder,
- 5.2.3.4 Mental illness,
- 5.2.3.5 Substance abuse/dependency,
- 5.2.3.6 Insulin-dependent diabetes, and
- 5.2.3.7 Rheumatic, arthritic, orthopedic, muscular, neuromuscular, or vascular disease that interferes with the ability to control and operate a motor vehicle safely.

5.2.4 The presence of a medical condition by itself may not constitute an impaired operator, but shall identify an area for consideration by the physician in making a determination of the medical fitness to operating an ambulance.

**6. Qualifications to Drive**

6.1 Authorization shall be based upon cognitive evaluation of the operator regarding laws, guidelines, and policies relating to ambulance operation during emergency and non-emergency modes.

6.1.1 The provider shall have a policy that addresses operator fatigue.

6.2 An ambulance driving evaluation by the provider covering warning device operation, passing, intersection approach precautions, turning, backing, and parking techniques during emergency and non-emergency modes.

6.3 A review of the state motor vehicle record for the previous three years with specific attention to traffic convictions concerning:

- 6.3.1 Speed,
- 6.3.2 Careless and imprudent driving,
- 6.3.3 Driving under the influence of alcohol or other mind-altering substances, and

6.3.4 Moving violations.

6.4 A review of motor vehicle accidents for the previous five years.

6.5 The operator shall possess a valid motor vehicle operators license, and any other certification required by state or local laws or regulations.

**7. Pre-Run**

7.1 The operator shall have knowledge of and shall comply with all applicable federal, state statues, local ordinances, and regulations.

7.2 The operator shall have knowledge of the provider’s policies and procedures.

7.3 The operator shall have knowledge of roads, highways, and the locations of and accesses to major public facilities within the service area.

7.4 The provider shall have a process by which the operator is made aware of conditions that may affect traffic flow within the service area (street closures, construction, special events ... ).

7.5 The provider shall have a process by which the operator is made aware of present or forecasted environmental conditions affecting traffic flow within the service area (ice, snow, rain ... ).

7.6 Upon unit availability, the operator shall visually inspect the ambulance, and document the inspection in accordance with one of the methods as shown in Table 1. The vehicle shall be inspected for the following:

- 7.6.1 Apparent body or glass damage,
- 7.6.2 Proper function of emergency lights:
  - 7.6.2.1 Beacons or strobe,
  - 7.6.2.2 Light bar,
  - 7.6.2.3 Tunnel lights/flashers, and
  - 7.6.2.4 Other warning lights.
- 7.6.3 Vehicle operating lights:
  - 7.6.3.1 Headlights (high/low),
  - 7.6.3.2 Emergency flashers,
  - 7.6.3.3 Parking/running lights,
  - 7.6.3.4 Interior and exterior turn signal,
  - 7.6.3.5 Brake lights,
  - 7.6.3.6 Back up lights,
  - 7.6.3.7 Flood or scene lights,
  - 7.6.3.8 Dome lights: cab and patient compartment, and
  - 7.6.3.9 Spotlights.
- 7.6.4 Damage, wear, and pressure in tires,
- 7.6.5 Damage, loose, or missing lugs on wheels,
- 7.6.6 Proper opening, closing, locking, and seals of entry and compartment doors,
- 7.6.7 Fluid levels:
  - 7.6.7.1 Automatic transmission,

**TABLE 1 Emergency Medical Services Ambulance Maintenance Guidelines for Checklist Completion**

Runs per Week	Full Check, h	Quick Check, h
0 to 1	every 96	every 24
2 to 3	every 72	every 24
4 to 7	every 48	every 24
8 to 50	every 24	every 12
50 +	every 24	every 8