

(7) *Speed management.* The importance of understanding the effects of speed.

(8) *Space management.* The procedures and techniques for controlling the space around the vehicle.

(9) *Night operation.* Preparations and procedures for night driving.

(10) *Extreme driving conditions.* The basic information on operating in extreme driving conditions and the hazards that are encountered in extreme conditions.

(11) *Hazard perceptions.* The basic information on hazard perception and clues for recognition of hazards.

(12) *Emergency maneuvers.* The basic information concerning when and how to make emergency maneuvers.

(13) *Skid control and recovery.* The information on the causes and major types of skids, as well as the procedures for recovering from skids.

(d) *Relationship of cargo to vehicle control.* The principles and procedures for the proper handling of cargo.

(e) *Vehicle inspections:* The objectives and proper procedures for performing vehicle safety inspections, as follows:

(1) The importance of periodic inspection and repair to vehicle safety.

(2) The effect of undiscovered malfunctions upon safety.

(3) What safety-related parts to look for when inspecting vehicles.

(4) Pre-trip/enroute/post-trip inspection procedures.

(5) Reporting findings.

(f) *Hazardous materials knowledge, such as:* What constitutes hazardous material requiring an endorsement to transport; classes of hazardous materials; labeling/placarding requirements; and the need for specialized training as a prerequisite to receiving the endorsement and transporting hazardous cargoes.

(g) *Air brake knowledge as follows:*

(1) Air brake system nomenclature;

(2) The dangers of contaminated air supply;

(3) Implications of severed or disconnected air lines between the power unit and the trailer(s);

(4) Implications of low air pressure readings;

(5) Procedures to conduct safe and accurate pre-trip inspections.

(6) Procedures for conducting enroute and post-trip inspections of air actuated brake systems, including ability to detect defects which may cause the system to fail.

(h) *Operators for the combination vehicle group shall also have knowledge of:*

(1) Coupling and uncoupling—The procedures for proper coupling and uncoupling a tractor to semi-trailer.

(2) Vehicle inspection—The objectives and proper procedures that are *unique* for performing vehicle safety inspections on combination vehicles.

§383.113 Required skills.

(a) *Basic vehicle control skills.* All applicants for a CDL must possess and demonstrate basic motor vehicle control skills for each vehicle group which the driver operates or expects to operate. These skills should include the ability to start, to stop, and to move the vehicle forward and backward in a safe manner.

(b) *Safe driving skills.* All applicants for a CDL must possess and demonstrate the safe driving skills for their vehicle group. These skills should include proper visual search methods, appropriate use of signals, speed control for weather and traffic conditions, and ability to position the motor vehicle correctly when changing lanes or turning.

(c) *Air brake skills.* Except as provided in §393.95, all applicants shall demonstrate the following skills with respect to inspection and operation of air brakes:

(1) *Pre-trip inspection skills.* Applicants shall demonstrate the skills necessary to conduct a pre-trip inspection which includes the ability to:

(i) Locate and verbally identify air brake operating controls and monitoring devices;

(ii) Determine the motor vehicle's brake system condition for proper adjustments and that air system connections between motor vehicles have been properly made and secured;

(iii) Inspect the low pressure warning device(s) to ensure that they will activate in emergency situations;

(iv) Ascertain, with the engine running, that the system maintains an adequate supply of compressed air;

(v) Determine that required minimum air pressure build up time is within acceptable limits and that required alarms and emergency devices automatically deactivate at the proper pressure level; and

(vi) Operationally check the brake system for proper performance.

(2) *Driving skills.* Applicants shall successfully complete the skills tests contained in §383.113 in a representative vehicle equipped with air brakes.

(d) *Test area.* Skills tests shall be conducted in on-street conditions or under a combination of on-street and off-street conditions.

(e) *Simulation technology.* A State may utilize simulators to perform skills testing, but under no circumstances as a substitute for the required testing in on-street conditions.

§ 383.115 Requirements for double/triple trailers endorsement.

In order to obtain a Double/Triple Trailers endorsement each applicant must have knowledge covering:

(a) Procedures for assembly and hookup of the units;

(b) Proper placement of heaviest trailer;

(c) Handling and stability characteristics including off-tracking, response to steering, sensory feedback, braking, oscillatory sway, rollover in steady turns, yaw stability in steady turns; and

(d) Potential problems in traffic operations, including problems the motor vehicle creates for other motorists due to slower speeds on steep grades, longer passing times, possibility for blocking entry of other motor vehicles on freeways, splash and spray impacts, aerodynamic buffeting, view blockages, and lateral placement.

§ 383.117 Requirements for passenger endorsement.

An applicant for the passenger endorsement must satisfy both of the following additional knowledge and skills test requirements.

(a) *Knowledge test.* All applicants for the passenger endorsement must have knowledge covering at least the following topics:

(1) Proper procedures for loading/unloading passengers;

(2) Proper use of emergency exits, including push-out windows;

(3) Proper responses to such emergency situations as fires and unruly passengers;

(4) Proper procedures at railroad crossings and drawbridges; and

(5) Proper braking procedures.

(b) *Skills test.* To obtain a passenger endorsement applicable to a specific vehicle group, an applicant must take his/her skills test in a passenger vehicle satisfying the requirements of that group as defined in §383.91.

§ 383.119 Requirements for tank vehicle endorsement.

In order to obtain a Tank Vehicle Endorsement, each applicant must have knowledge covering the following:

(a) Causes, prevention, and effects of cargo surge on motor vehicle handling;

(b) Proper braking procedures for the motor vehicle when it is empty, full and partially full;

(c) Differences in handling of baffled/compartmental tank interiors versus non-baffled motor vehicles;

(d) Differences in tank vehicle type and construction;

(e) Differences in cargo surge for liquids of varying product densities;

(f) Effects of road grade and curvature on motor vehicle handling with filled, half-filled and empty tanks;

(g) Proper use of emergency systems; and

(h) For drivers of DOT specification tank vehicles, retest and marking requirements.

§ 383.121 Requirements for hazardous materials endorsement.

In order to obtain a Hazardous Material Endorsement each applicant must have such knowledge as is required of a driver of a hazardous materials laden vehicle, from information contained in 49 CFR parts 171, 172, 173, 177, 178, and 397 on the following:

(a) Hazardous materials regulations including:

(1) Hazardous materials table;

(2) Shipping paper requirements;

(3) Marking;

(4) Labeling;

(5) Placarding requirements;

(6) Hazardous materials packaging;