**383.111   Required knowledge.**

(a) All CMV operators must have knowledge of the following 20 general areas:

(1) *Safe operations regulations.* Driver-related elements of the regulations contained in parts 391, 392, 393, 395, 396, and 397 of this subchapter, such as:

(i) Motor vehicle inspection, repair, and maintenance requirements;

(ii) Procedures for safe vehicle operations;

(iii) The effects of fatigue, poor vision, hearing impairment, and general health upon safe commercial motor vehicle operation;

(iv) The types of motor vehicles and cargoes subject to the requirements contained in part 397 of this subchapter; and

(v) The effects of alcohol and drug use upon safe commercial motor vehicle operations.

(2) *Safe vehicle control systems.* The purpose and function of the controls and instruments commonly found on CMVs.

(3) *CMV safety control systems.* (i) Proper use of the motor vehicle's safety system, including lights, horns, side and rear-view mirrors, proper mirror adjustments, fire extinguishers, symptoms of improper operation revealed through instruments, motor vehicle operation characteristics, and diagnosing malfunctions.

(ii) CMV drivers must have knowledge of the correct procedures needed to use these safety systems in an emergency situation, e.g., skids and loss of brakes.

(4) *Basic control.* The proper procedures for performing various basic maneuvers, including:

(i) Starting, warming up, and shutting down the engine;

(ii) Putting the vehicle in motion and stopping;

(iii) Backing in a straight line; and

(iv) Turning the vehicle, e.g., basic rules, off tracking, right/left turns and right curves.

(5) *Shifting.* The basic shifting rules and terms for common transmissions, including:

(i) Key elements of shifting, e.g., controls, when to shift, and double clutching;

(ii) Shift patterns and procedures; and

(iii) Consequences of improper shifting.

(6) *Backing.* The procedures and rules for various backing maneuvers, including:

(i) Backing principles and rules; and

(ii) Basic backing maneuvers, e.g., straight-line backing, and backing on a curved path.

(7) *Visual search.* The importance of proper visual search, and proper visual search methods, including:

(i) Seeing ahead and to the sides;

(ii) Use of mirrors; and

(iii) Seeing to the rear.

(8) *Communication.* The principles and procedures for proper communications and the hazards of failure to signal properly, including:

(i) Signaling intent, e.g., signaling when changing direction in traffic;

(ii) Communicating presence, e.g., using horn or lights to signal presence; and

(iii) Misuse of communications.

(9) *Speed management.* The importance of understanding the effects of speed, including:

(i) Speed and stopping distance;

(ii) Speed and surface conditions;

(iii) Speed and the shape of the road;

(iv) Speed and visibility; and

(v) Speed and traffic flow.

(10) *Space management.* The procedures and techniques for controlling the space around the vehicle, including:

(i) The importance of space management;

(ii) Space cushions, e.g., controlling space ahead/to the rear;

(iii) Space to the sides; and

(iv) Space for traffic gaps.

(11) *Night operation.* Preparations and procedures for night driving, including:

(i) Night driving factors, e.g., driver factors (vision, glare, fatigue, inexperience);

(ii) Roadway factors (low illumination, variation in illumination, unfamiliarity with roads, other road users, especially drivers exhibiting erratic or improper driving); and

(iii) Vehicle factors (headlights, auxiliary lights, turn signals, windshields and mirrors).

(12) *Extreme driving conditions.* The basic information on operating in extreme driving conditions and the hazards encountered in such conditions, including:

(i) Bad weather, e.g., snow, ice, sleet, high wind;

(ii) Hot weather; and

(iii) Mountain driving.

(13) *Hazard perceptions.* The basic information on hazard perception and clues for recognition of hazards, including:

(i) Road characteristics; and

(ii) Road user activities.

(14) *Emergency maneuvers.* The basic information concerning when and how to make emergency maneuvers, including:

(i) Evasive steering;

(ii) Emergency stop;

(iii) Off road recovery;

(iv) Brake failure; and

(v) Blowouts.

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

(16) *Relationship of cargo to vehicle control.* The principles and procedures for the proper handling of cargo, including:

(i) Consequences of improperly secured cargo, drivers' responsibilities, and Federal/State and local regulations;

(ii) Principles of weight distribution; and

(iii) Principles and methods of cargo securement.

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

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

(ii) The effect of undiscovered malfunctions upon safety.

(iii) What safety-related parts to look for when inspecting vehicles, e.g., fluid leaks, interference with visibility, bad tires, wheel and rim defects, braking system defects, steering system defects, suspension system defects, exhaust system defects, coupling system defects, and cargo problems.

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

(v) Reporting findings.

(18) *Hazardous materials.* Knowledge of the following:

(i) What constitutes hazardous material requiring an endorsement to transport;

(ii) Classes of hazardous materials;

(iii) Labeling/placarding requirements; and

(iv) Need for specialized training as a prerequisite to receiving the endorsement and transporting hazardous cargoes.

(19) *Mountain driving.* Practices that are important when driving upgrade and downgrade, including:

(i) Selecting a safe speed;

(ii) Selecting the right gear; and

(iii) Proper braking techniques.

(20) *Fatigue and awareness.* Practices that are important to staying alert and safe while driving, including;

(i) Being prepared to drive;

(ii) What to do when driving to avoid fatigue;

(iii) What to do when sleepy while driving; and

(iv) What to do when becoming ill while driving.

(b) *Air brakes.* All CMV drivers operating vehicles equipped with air brakes must have knowledge of the following 7 areas:

(1) General air brake system nomenclature;

(2) The dangers of contaminated air supply (dirt, moisture, and oil);

(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, including knowledge about:

(i) Automatic fail-safe devices;

(ii) System monitoring devices; and

(iii) Low pressure warning alarms.

(6) Procedures for conducting en route and post-trip inspections of air-actuated brake systems, including:

(i) Ability to detect defects that may cause the system to fail;

(ii) Tests that indicate the amount of air loss from the braking system within a specified period, with and without the engine running; and

(iii) Tests that indicate the pressure levels at which the low air pressure warning devices and the tractor protection valve should activate.

(7) General operating practices and procedures, including:

(i) Proper braking techniques;

(ii) Antilock brakes;

(iii) Emergency stops; and

(iv) Parking brake.

(c) *Combination vehicles.* All CMV drivers operating combination vehicles must have knowledge of the following 3 areas:

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

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

(3) General operating practices and procedures, including:

(i) Safely operating combination vehicles; and

(ii) Air brakes.

[76 FR 26888, May 9, 2011]

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**§383.113   Required skills.**

(a) *Pre-trip vehicle inspection skills.* Applicants for a CDL must possess the following basic pre-trip vehicle inspection skills for the vehicle class that the driver operates or expects to operate:

(1) *All test vehicles.* Applicants must be able to identify each safety-related part on the vehicle and explain what needs to be inspected to ensure a safe operating condition of each part, including:

(i) Engine compartment;

(ii) Cab/engine start;

(iii) Steering;

(iv) Suspension;

(v) Brakes;

(vi) Wheels;

(vii) Side of vehicle;

(viii) Rear of vehicle; and

(ix) Special features of tractor trailer, school bus, or coach/transit bus, if this type of vehicle is being used for the test.

(2) *Air brake equipped test vehicles.* Applicants must demonstrate the following skills with respect to inspection and operation of air brakes:

(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) With the engine running, make sure 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.

(b) *Basic vehicle control skills.* All applicants for a CDL must possess and demonstrate the following basic motor vehicle control skills for the vehicle class that the driver operates or expects to operate:

(1) Ability to start, warm up, and shut down the engine;

(2) Ability to put the motor vehicle in motion and accelerate smoothly, forward and backward;

(3) Ability to bring the motor vehicle to a smooth stop;

(4) Ability to back the motor vehicle in a straight line, and check path and clearance while backing;

(5) Ability to position the motor vehicle to negotiate safely and then make left and right turns;

(6) Ability to shift as required and select appropriate gear for speed and highway conditions; and

(7) Ability to back along a curved path.

(c) *Safe on-road driving skills.* All applicants for a CDL must possess and demonstrate the following safe on-road driving skills for their vehicle class:

(1) Ability to use proper visual search methods;

(2) Ability to signal appropriately when changing direction in traffic;

(3) Ability to adjust speed to the configuration and condition of the roadway, weather and visibility conditions, traffic conditions, and motor vehicle, cargo and driver conditions;

(4) Ability to choose a safe gap for changing lanes, passing other vehicles, as well as for crossing or entering traffic;

(5) Ability to position the motor vehicle correctly before and during a turn to prevent other vehicles from passing on the wrong side, as well as to prevent problems caused by off-tracking;

(6) Ability to maintain a safe following distance depending on the condition of the road, visibility, and vehicle weight;

(7) Ability to adjust operation of the motor vehicle to prevailing weather conditions including speed selection, braking, direction changes, and following distance to maintain control; and

(8) Ability to observe the road and the behavior of other motor vehicles, particularly before changing speed and direction.

(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.

[76 FR 26889, May 9, 2011]

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**§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, and yaw stability in steady turns;

(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; and

(e) Operating practices and procedures not otherwise specified.

[76 FR 26890, May 9, 2011]

**§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/compartmented 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;

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

(i) Operating practices and procedures not otherwise specified.

[76 FR 26890, May 9, 2011]

**§383.121   Requirements for hazardous materials endorsement.**

In order to obtain a hazardous materials 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;

(7) Hazardous materials definitions and preparation;

(8) Other regulated material (e.g., ORM-D);

(9) Reporting hazardous materials accidents; and

(10) Tunnels and railroad crossings.

(b) Hazardous materials handling including:

(1) Forbidden materials and packages;

(2) Loading and unloading materials;

(3) Cargo segregation;

(4) Passenger carrying buses and hazardous materials;

(5) Attendance of motor vehicles;

(6) Parking;

(7) Routes;

(8) Cargo tanks; and

(9) “Safe havens.”

(c) Operation of emergency equipment including:

(1) Use of equipment to protect the public;

(2) Special precautions for equipment to be used in fires;

(3) Special precautions for use of emergency equipment when loading or unloading a hazardous materials laden motor vehicle; and

(4) Use of emergency equipment for tank vehicles.

(d) Emergency response procedures including:

(1) Special care and precautions for different types of accidents;

(2) Special precautions for driving near a fire and carrying hazardous materials, and smoking and carrying hazardous materials;

(3) Emergency procedures; and

(4) Existence of special requirements for transporting Class 1.1 and 1.2 explosives.

(e) Operating practices and procedures not otherwise specified.

[76 FR 26890, May 9, 2011]

**Subpart H—Tests**

Source: 53 FR 27657, July 21, 1988, unless otherwise noted.

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**§383.131   Test manuals.**

(a) *Driver information manual.* (1) A State must provide an FMCSA pre-approved driver information manual to a CLP or CDL applicant. The manual must be comparable to the American Association of Motor Vehicle Administrators' (AAMVA's) “2005 CDL Test System (July 2010 or newer Version) Model Commercial Driver Manual”, which FMCSA has approved and provides to all State Driver Licensing Agencies. The driver information manual must include:

(i) Information on how to obtain a CDL and endorsements;

(ii) Information on the requirements described in §383.71, the implied consent to alcohol testing described in §383.72, the procedures and penalties contained in §383.51(b) to which a CLP or CDL holder is exposed for refusal to comply with such alcohol testing, State procedures described in §383.73, and other appropriate driver information contained in subpart E of this part;

(iii) Information on vehicle groups and endorsements as specified in subpart F of this part;

(iv) The substance of the knowledge and skills that drivers must have, as outlined in subpart G of this part for the different vehicle groups and endorsements; and

(v) Details of testing procedures, including the purpose of the tests, how to respond, and directions for taking the tests.

(2) A State may include any additional State-specific information related to the CDL testing and licensing process.

(b) *Examiner information manual.* (1) A State must provide an FMCSA pre-approved examiner information manual that conforms to model requirements in paragraphs (b)(1)(i-xi) of this section to all knowledge and skills test examiners. To be pre-approved by FMCSA, the examiner information manual must be comparable to AAMVA's “2005 CDL Test System (July 2010 or newer Version) Model CDL Examiner's Manual,” which FMCSA has approved and provides to all State Driver Licensing Agencies. The examiner information manual must include:

(i) Information on driver application procedures contained in §383.71, State procedures described in §383.73, and other appropriate driver information contained in subpart E of this part;

(ii) Details on information that must be given to the applicant;

(iii) Details on how to conduct the knowledge and skills tests;

(iv) Scoring procedures and minimum passing scores for the knowledge and skills tests;

(v) Information for selecting driving test routes for the skills tests;

(vi) List of the skills to be tested;

(vii) Instructions on where and how the skills will be tested;

(viii) How performance of the skills will be scored;

(ix) Causes for automatic failure of skills tests;

(x) Standardized scoring sheets for the skills tests; and

(xi) Standardized driving instructions for the applicants.

(2) A State may include any additional State-specific information related to the CDL testing process.

[76 FR 26891, May 9, 2011, as amended at 81 FR 68347, Oct. 4, 2016]

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**§383.133   Test methods.**

(a) All tests must be constructed in such a way as to determine if the applicant possesses the required knowledge and skills contained in subpart G of this part for the type of motor vehicle or endorsement the applicant wishes to obtain.

(b) Knowledge tests:

(1) States must use the FMCSA pre-approved pool of test questions to develop knowledge tests for each vehicle group and endorsement. The pool of questions must be comparable to those in AAMVA's “2005 CDL Test System (July 2010 or newer Version) 2005 Test Item Summary Forms,” which FMCSA has approved and provides to all State Driver Licensing Agencies.

(2) The State method of generating knowledge tests must conform to the requirements in paragraphs (b)(2)(i) through (iv) of this section and be pre-approved by FMCSA. The State method of generating knowledge tests must be comparable to the requirements outlined in AAMVA's “2005 CDL Test System (July 2010 or newer Version) 2005 Requirements Document For Use In Developing Computer-Generated Multiple-Choice CDL Knowledge Tests”, which FMCSA has approved and provides to all State Driver Licensing Agencies to develop knowledge tests for each vehicle group and endorsement. These requirements include:

(i) The total difficulty level of the questions used in each version of a test must fall within a set range;

(ii) Twenty-five percent of the questions on a test must be new questions that were not contained in the previous version of the test;

(iii) Identical questions from the previous version of the test must be in a different location on the test and the three possible responses to the questions must be in a different order; and

(iv) Each test must contain a set number of questions with a prescribed number of questions from each of the knowledge areas.

(3) Each knowledge test must be valid and reliable so as to ensure that driver applicants possess the knowledge required under §383.111. The knowledge tests may be administered in written form, verbally, or in automated format and can be administered in a foreign language, provided no interpreter is used in administering the test.

(4) A State must use a different version of the test when an applicant retakes a previously failed test.

(c) Skills tests:

(1) A State must develop, administer and score the skills tests based solely on the information and standards contained in the driver and examiner manuals referred to in §383.131(a) and (b).

(2) A State must use the standardized scores and instructions for administering the tests contained in the examiner manual referred to in §383.131(b).

(3) An applicant must complete the skills tests in a representative vehicle to ensure that the applicant possess the skills required under §383.113. In determining whether the vehicle is a representative vehicle for the skills test and the group of CDL for which the applicant is applying, the vehicle's gross vehicle weight rating or gross combination weight rating must be used, not the vehicle's actual gross vehicle weight or gross combination weight.

(4) Skills tests must be conducted in on-street conditions or under a combination of on-street and off-street conditions.

(5) Interpreters are prohibited during the administration of skills tests. Applicants must be able to understand and respond to verbal commands and instructions in English by a skills test examiner. Neither the applicant nor the examiner may communicate in a language other than English during the skills test.

(6) The skills test must be administered and successfully completed in the following order: Pre-trip inspection, basic vehicle control skills, on-road skills. If an applicant fails one segment of the skills test:

(i) The applicant cannot continue to the next segment of the test; and

(ii) Scores for the passed segments of the test are only valid during initial issuance of the CLP. If the CLP is renewed, all three segments of the skills test must be retaken.

(d) Passing scores for the knowledge and skills tests must meet the standards contained in §383.135.

[76 FR 26891, May 9, 2011, as amended at 81 FR 68347, Oct. 4, 2016]

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**§383.135   Passing knowledge and skills tests.**

(a) *Knowledge tests.* (1) To achieve a passing score on each of the knowledge tests, a driver applicant must correctly answer at least 80 percent of the questions.

(2) If a driver applicant who fails the air brake portion of the knowledge test (scores less than 80 percent correct) is issued a CLP or CDL, an air brake restriction must be indicated on the CLP or CDL as required in §383.95(a).

(3) A driver applicant who fails the combination vehicle portion of the knowledge test (scores less than 80 percent correct) must not be issued a Group A CLP or CDL.

(b) *Skills Tests.* (1) To achieve a passing score on each segment of the skills test, the driver applicant must demonstrate that he/she can successfully perform all of the skills listed in §383.113 and attain the scores listed in Appendix A of the examiner manual referred to in §383.131(b) for the type of vehicle being used in the test.

(2) A driver applicant who does not obey traffic laws, causes an accident during the test, or commits any other offense listed as a reason for automatic failure in the standards contained in the driver and examiner manuals referred to in §§383.131(a) and (b), must automatically fail the test.

(3) If a driver applicant who performs the skills test in a vehicle not equipped with any type of air brake system is issued a CDL, an air brake restriction must be indicated on the license as required in §383.95(a).

(4) If a driver applicant who performs the skills test in a vehicle equipped with air over hydraulic brakes is issued a CDL, a full air brake restriction must be indicated on the license as required in §383.95(b).

(5) If a driver applicant who performs the skills test in a vehicle equipped with an automatic transmission is issued a CDL, a manual transmission restriction must be indicated on the license as required in §383.95(c).

(6) If a driver applicant who performs the skills test in a combination vehicle requiring a Group A CDL equipped with any non-fifth wheel connection is issued a CDL, a tractor-trailer restriction must be indicated on the license as required in §383.95(d).

(7) If a driver applicant wants to remove any of the restrictions in paragraphs (b)(3) through (5) of this section, the applicant does not have to retake the complete skills test. The State may administer a modified skills test that demonstrates that the applicant can safely and effectively operate the vehicle's full air brakes, air over hydraulic brakes, and/or manual transmission. In addition, to remove the air brake or full air brake restriction, the applicant must successfully perform the air brake pre-trip inspection and pass the air brake knowledge test.

(8) If a driver applicant wants to remove the tractor-trailer restriction in paragraph (b)(6) of this section, the applicant must retake all three skills tests in a representative tractor-trailer.

(c) *State recordkeeping.* States must record and retain the knowledge and skills test scores of tests taken by driver applicants. The test scores must either be made part of the driver history record or be linked to the driver history record in a separate file.

[76 FR 26892, May 9, 2011]