

DEPARTMENT OF PUBLIC SAFETY

Chapter 38

Statutory Authority: 1976 Code Sections, Section 23-6-20 and 23-6-30

Synopsis:

The Department proposes to amend regulations 38-390 et seq., relating to the transportation of unmanufactured forest products. The text of the new regulations will revise the existing regulations to incorporate additional federal safety regulations. The language of existing regulations will also be revised and new language will be added.

Instructions: Remove existing regulations 38-390 et seq. and replace with the new language in these regulations.

Text:

PART 38-382—CONTROLLED SUBSTANCES AND ALCOHOL USE AND TESTING

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Subpart A—General

38-382.101 Purpose.

The purpose of part 38-382 is to establish programs designed to help prevent accidents and injuries resulting from the misuse of alcohol or use of controlled substances by drivers of commercial motor vehicles.

38-382.103 Applicability.

(a) 38-382 applies to every person and to all employers of such persons who operate a commercial motor vehicle in commerce in any State, and is subject to

- (1)The commercial driver's license requirements of part 38-383 of these regulations;
- (2)The Licencia Federal de Conductor (Mexico) requirements; or
- (3)The commercial drivers license requirements of the Canadian National Safety Code.

(b)An employer who employs himself/herself as a driver must comply with both the requirements in 38-382 that apply to employers and the requirements in 38-382 that apply to drivers. An employer who employs only himself/herself as a driver shall implement a random alcohol and controlled substances testing program of two or more covered employees in the random testing selection pool.

(c)The exceptions contained in Regulation 38-390.3(f) of this regulation do not apply to 38-382. The employers and drivers identified in Regulation 38-390.3(f) of this regulation must comply with the requirements of 38-382, unless otherwise specifically provided in paragraph (d).

(d)Exceptions. 38-382 shall not apply to employers and their drivers:

(1)Required to comply with the alcohol and/or controlled substances testing requirements of part 655 (Federal Transit Administration alcohol and controlled substances testing regulations); or

(2)Who a State must waive from the requirements of part 38-383 of this regulation. These individuals include active duty military personnel; members of the reserves; and members of the national guard on active duty, including personnel on full-time national guard duty, personnel on part-time national guard training and national guard military technicians (civilians who are required to wear military uniforms), and active duty U.S. Coast Guard personnel; or

(3)Who a State has, at its discretion, exempted from the requirements of part 38-383 of this regulation. These individuals may be:

(i)Operators of a farm vehicle which is:

(A)Controlled and operated by a farmer;

(B)Used to transport either agricultural products, farm machinery, farm supplies, or both to or from a farm;

(C)Not used in the operations of a common or contract motor carrier; and

(D)Used within 241 kilometers (150 miles) of the farmer's farm.

(ii)Firefighters or other persons who operate commercial motor vehicles which are necessary for the preservation of life or property or the execution of emergency governmental functions, are equipped with audible and visual signals, and are not subject to normal traffic regulation.

38-382.105 Testing procedures.

Each employer shall ensure that all alcohol or controlled substances testing conducted under 38-382 complies with the procedures set forth in part 40. The provisions of part 40 that address alcohol or controlled substances testing are made applicable to employers by 38-382.

38-382.107 Definitions.

Words or phrases used are defined in Sections 38-386.2 and 38-390.5 of this regulation, and Section 40.3 of the Federal Motor Carrier Safety Administration's procedures for transportation workplace drug and alcohol testing programs, except as provided below:

Actual knowledge for the purpose of subpart B, means actual knowledge by an employer that a driver has used alcohol or controlled substances based on the employer's direct observation of the employee, information provided by the driver's previous employer(s), a traffic citation for driving a CMV while under the influence of alcohol or controlled substances or an employee's admission of alcohol or controlled substance use, except as provided in Regulation 38-382.121. Direct observation as used in this definition means observation of alcohol or controlled substances use and does not include observation of employee behavior or physical characteristics sufficient to warrant reasonable suspicion testing under Regulation 38-382.307.

Alcohol means the intoxicating agent in beverage alcohol, ethyl alcohol, or other low molecular weight alcohols including methyl and isopropyl alcohol.

Alcohol concentration {or content} means the alcohol in a volume of breath expressed in terms of grams of alcohol per 210 liters of breath as indicated by an evidential breath test.

Alcohol use means the drinking or swallowing of any beverage, liquid mixture or preparation (including any medication), containing alcohol.

Commerce means:

(1)Any trade, traffic or transportation within the jurisdiction of the United States between a place in a State and a place outside of such State, including a place outside of the United States; and

(2)Trade, traffic, and transportation in the United States which affects any trade, traffic, and transportation described in paragraph (1) of this definition.

Commercial motor vehicle means a motor vehicle or combination of motor vehicles used in commerce to transport passengers or property if the vehicle:

(1)Has a gross combination weight rating of 11,794 or more kilograms (26,001 or more pounds) inclusive of a towed unit with a gross vehicle weight rating of more than 4,536 kilograms (10,000 pounds); or

(2)Has a gross vehicle weight rating of 11,794 or more kilograms (26,001 or more pounds); or

(3)Is designed to transport 16 or more passengers, including the driver; or

(4)Is of any size and is used in the transportation of materials found to be hazardous for the purposes of the Hazardous Materials Transportation Act (49 U.S.C. 5103(b)) and which require the motor vehicle to be placarded under the Hazardous Materials Regulations (49 CFR part 172, subpart F).

Confirmation (or confirmatory) drug test means a second analytical procedure performed on a urine specimen to identify and quantify the presence of a specific drug or drug metabolite.

Confirmation (or confirmatory) validity test means a second test performed on a urine specimen to further support a validity test result.

Confirmed drug test means a confirmation test result received by an MRO from a laboratory.

Consortium/Third Party Administrator (C/TPA) means a service agent that provides or coordinates one or more drug and/or alcohol testing services to DOT-regulated employers. C/TPAs typically provide or coordinate the provision of a number of such services and perform administrative tasks concerning the operation of the employers' drug and alcohol testing programs. This term includes, but is not limited to, groups of employers who join together to administer, as a single entity, the DOT drug and alcohol testing programs of its members (e.g., having a combined random testing pool). C/TPAs are not "employers".

Controlled substances mean those substances identified in Section 40.85 of the Federal Motor Carrier Safety Administration's procedures for transportation workplace drug and alcohol testing programs.

Designated employer representative (DER) is an individual identified by the employer as able to receive communications and test results from service agents and who is authorized to take immediate actions to remove employees from safety-sensitive duties and to make required decisions in the testing and evaluation processes. The individual must be an employee of the company. Service agents cannot serve as DERs.

Disabling damage means damage which precludes departure of a motor vehicle from the scene of the accident in its usual manner in daylight after simple repairs: (1)Inclusions. Damage to motor vehicles that could have been driven, but would have been further damaged if so driven; (2)Exclusions: (i)Damage which can be remedied temporarily at the scene of the accident without special tools or parts, (ii)Tire disablement without other damage even if no spare tire is available, (iii) Headlight or taillight damage, (iv)Damage to turn signals, horn, or windshield wipers which make them inoperative.

DOT Agency means an agency (or "operating administration") of the United States Department of Transportation administering regulations requiring alcohol and/or drug testing (14 CFR parts 61, 63, 65, 121, and 135; 49 CFR parts 199, 219, 382, and 655), in accordance with part 40.

Driver means any person who operates a commercial motor vehicle. This includes, but is not limited to: Full time, regularly employed drivers; casual, intermittent or occasional drivers; leased drivers and independent owner-operator contractors.

Employer means a person or entity employing one or more employees (including an individual who is self-employed) that is subject to DOT agency regulations requiring compliance. The term means the entity responsible for overall implementation of DOT drug and alcohol program requirements, including individuals employed by the entity who take personnel actions resulting from violations and any applicable DOT agency regulations. Service agents are not employers for the purposes of 38-382.

Licensed medical practitioner means a person who is licensed, certified, and/or registered, in accordance with applicable Federal, State, local, or foreign laws and regulations, to prescribe controlled substances and other drugs.

Performing (a safety-sensitive junction) means a driver is considered to be performing a safety-sensitive function during any period in which he or she is actually performing, ready to perform, or immediately available to perform any safety-sensitive functions.

Positive rate for random drug testing means the number of verified positive results for random drug, tests conducted under 38-382 plus the number of refusals of random drug tests required by 38-382, divided by the total number of random drug tests results (i.e., positives, negatives, and refusals) under 38-382.

Refuse to submit (to an alcohol or controlled substances test) means that a driver: (1)Fail to appear for any test (except a pre-employment test) within a reasonable time, as determined by the employer, consistent with applicable DOT agency regulations, after being directed to do so by the employer. This includes the failure of an employee (including an owner-operator) to appear for a test when called by a C/TPA (see Section 40.6Ha of the Federal Motor Carrier Safety Administration's procedures for transportation workplace drug and alcohol testing programs); (2)Fail to remain at the testing site until the testing process is complete. Provided, that an employee who leaves the testing site before the testing process commences (see Section 40.63(c) of the Federal Motor Carrier Safety Administration's procedures for transportation workplace drug and alcohol testing programs) a pre-employment test is not deemed to have refused to test; (3)Fail to provide a urine specimen for any drug test required by 38-382 or DOT agency regulations. Provided, that an employee who does not provide a urine specimen because he or she has left the testing site before the testing process commences (see Section 40.63(c) of the Federal Motor Carrier Safety Administration's procedures for transportation workplace drug and alcohol testing programs) for a pre-employment test is not deemed to have refused to test; (4)In the case of a directly observed or monitored collection in a drug test, fails to permit the observation or monitoring of the driver's provision of a specimen (see Sections 40.67(1) and 40.69(g) of the Federal Motor Carrier Safety Administration's procedures for transportation workplace drug and alcohol testing programs; (5)Fail to provide a sufficient amount of urine when directed, and it has been determined, through a required medical evaluation, that there was no adequate medical explanation for the failure (see Section 40.193(d)(2) of the Federal Motor Carrier Safety Administration's procedures for transportation workplace drug and alcohol testing programs;

- (6) Fail or declines to take a second test the employer or collector has directed the driver to take;
- (7) Fail to undergo a medical examination or evaluation, as directed by the MRO as part of the verification process, or as directed by the DER under Section 40.193(d) of the Federal Motor Carrier Safety Administration's procedures for transportation workplace drug and alcohol testing programs. In the case of a pre-employment drug test, the employee is deemed to have refused to test on this basis only if the pre-employment test is conducted following a contingent offer of employment;
- (8) Fail to cooperate with any part of the testing process (e.g., refuse to empty pockets when so directed by the collector, behave in a confrontational way that disrupts the collection process); or
- (9) Is reported by the MRO as having a verified adulterated or substituted test result.

Safety-sensitive function means all time from the time a driver begins to work or is required to be in readiness to work until the time he/she is relieved from work and all responsibility for performing work. Safety-sensitive functions shall include:

- (1) All time at an employer or shipper plant, terminal, facility, or other property, or on any public property, waiting to be dispatched, unless the driver has been relieved from duty by the employer;
- (2) All time inspecting equipment as required by Regulations 38-392.7 and 38-392.8 of these regulations or otherwise inspecting, servicing, or conditioning any commercial motor vehicle at any time;
- (3) All time spent at the driving controls of a commercial motor vehicle in operation;
- (4) All time, other than driving time, in or upon any commercial motor vehicle except time spent resting in a sleeper berth (a berth conforming to the requirements of Regulation 38-393.76 of this regulation);
- (5) All time loading or unloading a vehicle, supervising, or assisting in the loading or unloading, attending a vehicle being loaded or unloaded, remaining in readiness to operate the vehicle, or in giving or receiving receipts for shipments loaded or unloaded; and
- (6) All time repairing, obtaining assistance, or remaining in attendance upon a disabled vehicle.

Screening test (or initial test) means:

- (1) In drug testing, a test to eliminate "negative" urine specimens from further analysis or to identify a specimen that requires additional testing for the presence of drugs,
- (2) In alcohol testing, an analytical procedure to determine whether an employee may have a prohibited concentration of alcohol in a breath or saliva specimen.

Stand-down means the practice of temporarily removing an employee from the performance of safety-sensitive functions based only on a report from a laboratory to the MRO of a confirmed positive test for a drug or drug metabolite, an adulterated test, or a substituted test, before the MRO has completed verification of the test results.

Violation rate for random alcohol testing means the number of 0.04 and above random alcohol confirmation test results conducted under 38-382 plus the number of refusals of random alcohol tests required by 38-382, divided by the total number of random alcohol screening tests (including refusals) conducted under 38-382.

38-382.109 Preemption of State and local laws.

- (a) Except as provided in paragraph (b), 38-382 preempts any State or local law, rule, regulation, or order to the extent that:
 - (1) Compliance with both the State or local requirement is not possible; or
 - (2) Compliance with the State or local requirement is an obstacle to the accomplishment and execution of any requirement.

(b)38-382 shall not be construed to preempt provisions of State criminal law that impose sanctions for reckless conduct leading to actual loss of life, injury, or damage to property, whether the provisions apply specifically to transportation employees, employers, or the general public.

38-382.111 Other requirements imposed by employers.

Except as expressly provided in 38-382, nothing in 38-382 shall be construed to affect the authority of employers, or the rights of drivers, with respect to the use of alcohol, or the use of controlled substances, including authority and rights with respect to testing and rehabilitation.

38-382.113 Requirement for notice.

Before performing each alcohol or controlled substances test under 38-382, each employer shall notify a driver that the alcohol or controlled substances test is required by 38-382. No employer shall falsely represent that a test is administered under 38-382.

38-382.115 Starting date for testing programs.

(a)All domestic-domiciled employers must implement the requirements of 38-382 on the date the employer begins commercial motor vehicle operations.

(b)All foreign-domiciled employers must implement the requirements of 38-382 on the date the employer begins commercial motor vehicle operations in the United States,

38-382.117 Public interest exclusion.

No employer shall use the services of a service agent who is subject to public interest exclusion in accordance with 49 CFR part 40, Subpart R.

38-382.119 Stand-down waiver provision (Company must file waiver with FMCSA.).

(a)Employers are prohibited from standing employees down, except consistent with a waiver from the Federal Motor Carrier Safety Administration as required under 38-382.119.

(b)An employer subject to 38-382 who seeks a waiver from the prohibition against standing down an employee before the MRO has completed the verification process shall follow the procedures in 49 CFR 40.21. The employer must send a written request, which includes all of the information required by that section to the Federal Motor Carrier Safety Administrator (or the Administrator's designee). U.S. Department of Transportation, 400 Seventh Street, SW. Washington. DC 20590.

(c)The final decision whether to grant or deny the application for a waiver will be made by the Administrator or the Administrator's designee.

(d)After a decision is signed by the Administrator or the Administrator's designee the employer will be sent a copy of the decision, which will include the terms and conditions for the waiver or the reason for denying the application for a waiver.

(e)Questions regarding waiver applications should be directed to the Office of Enforcement and Compliance, Federal Motor Carrier Safety Administration, 400 Seventh Street, SW., Washington, DC 20590. The telephone number is (202) 366-5720.

38-382.121 Employee admission of alcohol and controlled substances use.

(a)Employees who admit to alcohol misuse or controlled substances use are not subject to the referral, evaluation and treatment requirements of 38-382 and part 40, provided that:

(1)The admission is in accordance with a written employer- established voluntary self-identification program or policy that meets the requirements of paragraph (b) above;

(2)The driver does not self-identify in order to avoid testing under the requirements of 38-382;

(3)The driver makes the admission of alcohol misuse or controlled substances use prior to performing a safety sensitive function (i.e., prior to reporting for duty); and

(4)The driver does not perform a safety sensitive function until the employer is satisfied that the employee has been evaluated and has successfully completed education or treatment requirements in accordance with the self-identification program guidelines.

(b)A qualified voluntary self-identification program or policy must contain the following elements:

(1)It must prohibit the employer from taking adverse action against an employee making a voluntary admission of alcohol misuse or controlled substances use within the parameters of the program or policy and paragraph (a) of 38-382.121;

(2)It must allow the employee sufficient opportunity to seek evaluation, education or treatment to establish control over the employee's drug or alcohol problem;

(3)It must permit the employee to return to safety sensitive duties only upon successful completion of an educational or treatment program, as determined by a drug and alcohol abuse evaluation expert, i.e. employee assistance professional, substance abuse professional, or qualified drug and alcohol counselor;

(4)It must ensure that:

(i)Prior to the employee participating in a safety sensitive function, the employee shall undergo a return to duty test with a result indicating an alcohol concentration of less than 0.02; and/or

(ii)Prior to the employee participating in a safety sensitive function, the employee shall undergo a return to duty controlled substance test with a verified negative test result for controlled substances use; and

(5)It may incorporate employee monitoring and include non-DOT follow-up testing.

Subpart B-Prohibitions

38-382.201 Alcohol concentration.

No driver shall report for duty or remain on duty requiring the performance of safety-sensitive functions while having an alcohol concentration of 0.04 or greater. No employer having actual knowledge that a driver has an alcohol concentration of 0.04 or greater shall permit the driver to perform or continue to perform safety-sensitive functions.

38-382.205 On-duty use.

No driver shall use alcohol while performing safety-sensitive functions. No employer having actual knowledge that a driver is using alcohol while performing safety-sensitive functions shall permit the driver to perform or continue to perform safety-sensitive functions.

38-382.207 Pre-duty use.

No driver shall perform safety-sensitive functions within four hours after using alcohol. No employer having actual knowledge that a driver has used alcohol within four hours shall permit a driver to perform or continue to perform safety-sensitive functions.

38-382.209 Use following an accident.

No driver required to take a post-accident alcohol test under Regulation 38-382.303 shall use alcohol for eight hours following the accident, or until he/she undergoes a post-accident alcohol test, whichever occurs first.

38-382.211 Refusal to submit to a required alcohol or controlled substances test
No driver shall refuse to submit to a post-accident alcohol or controlled substances test required under 38-382.303, a random alcohol or controlled substances test required under

38-382.305, a reasonable suspicion alcohol or controlled substances test required under

38-382.307, or a follow-up alcohol or controlled substances test required under Regulation 38-382.311. No employer shall permit a driver who refuses to submit to such tests to perform or continue to perform safety-sensitive functions.

38-382.213 Controlled substances use.

(a)No driver shall report for duty or remain on duty requiring the performance of safety-sensitive functions when the driver uses any controlled substance, except when the use is pursuant to the instructions of a licensed medical practitioner, as defined in Regulation 38-382.107, who has advised the driver that the substance will not adversely affect the driver's ability to safely operate a commercial motor vehicle.

(b)No employer having actual knowledge that a driver has used a controlled substance shall permit the driver to perform or continue to perform a safety-sensitive function.

(c)An employer may require a driver to inform the employer of any therapeutic drug use.

38-382.215 Controlled substances testing.

No driver shall report for duty, remain on duty or perform a safety-sensitive function, if the driver tests positive or has adulterated or substituted a test specimen for controlled substances. No employer having actual knowledge that a driver has tested positive or has adulterated or substituted a test specimen for controlled substances shall permit the driver to perform or continue to perform safety-sensitive functions.

Subpart C-Tests Required

38-382.301 Pre-employment testing.

(a)Prior to the first time a driver performs safety-sensitive functions for an employer, the driver shall undergo testing for controlled substances as a condition prior to being used, unless the employer uses the exception in paragraph (b). No employer shall allow a driver, who the employer intends to hire or use, to perform safety-sensitive functions unless the employer has received a controlled substances test result from the MRO or C/TPA indicating a verified negative test result for that driver.

(b)An employer is not required to administer a controlled substances test required by paragraph (a) if:

(1)The driver has participated in a controlled substances testing program that meets the requirements of 38-382 within the previous 30 days; and

(2)While participating in that program, either:

(i)Was tested for controlled substances within the past 6 months (from the date of application with the employer), or

(ii)Participated in the random controlled substances testing program for the previous 12 months (from the date of application with the employer); and

(3)The employer ensures that no prior employer of the driver of whom the employer has knowledge has records of a violation of 38-382 or the controlled substances use rule of another DOT agency within the previous six months.

(c)(1)An employer who exercises the exception in paragraph (b) shall contact the controlled substances testing program(s) in which the driver participates or participated and shall obtain and retain from the testing pro-gram(s) the following information: (1)Name(s) and address(es) of the program(s).

(ii)Verification that the driver participates or participated in the program(s).

(iii)Verification that the program(s) conforms to part 40. Verification that the driver is qualified under the rules of 38-382, including that the driver has not refused to be tested for controlled substances.

(v)The date the driver was last tested for controlled substances.

(vi)The results of any tests taken within the previous six months and any other violations of subpart B of 38-382.

(2)An employer who uses, but does not employ a driver more than once a year to operate commercial motor vehicles must obtain the information in paragraph (c)(1) at least once every six months. The records prepared under this paragraph shall be maintained in accordance with Regulation 38-382.401. If the employer cannot verify that the driver is participating in a controlled substances testing program in accordance with 38-382 and part 40 of the Federal Motor Carrier Safety Administration's procedures for transportation workplace drug and alcohol testing programs, the employer shall conduct a pre-employment controlled substances test.

(d)An employer may, but is not required to, conduct pre-employment alcohol testing under 38-382. If an employer chooses to conduct pre- employment alcohol testing, it must comply with the following requirements;

(1)It must conduct a pre-employment alcohol test before the first performance of safety-sensitive functions by every covered employee (whether a new employee or someone who has transferred to a position involving the performance of safety-sensitive functions).

(2)It must treat all safety-sensitive employees performing safety- sensitive functions the same for the purpose of pre-employment alcohol testing (i.e., it must not test some covered employees and not others).

(3)It must conduct the pre-employment tests after making a contingent offer of employment or transfer, subject to the employee passing the pre-employment alcohol test.

(4)It must conduct all pre-employment alcohol tests using the alcohol testing procedures of 49 CFR part 40.

(5)It must not allow a covered employee to begin performing safety-sensitive functions unless the result of the employee's test indicates an alcohol concentration of less than 0.04.

38-382.303 Post-accident testing.

(a)As soon as practicable following an occurrence involving a commercial motor vehicle operating on a public road in commerce, each employer shall test for alcohol for each of its surviving drivers:

(1)Who was performing safety-sensitive functions with respect to the vehicle, if the accident involved the loss of human life; or

(2)Who receives a citation within 8 hours of the occurrence under State or local law for a moving traffic violation arising from the accident, if the accident involved:

(i)Bodily injury to any person who as a result of the injury, immediately receives medical treatment away from the scene of the accident; or

(ii)One or more motor vehicles incurring disabling damage as a result of the accident, requiring the motor vehicle to be transported away from the scene by a tow truck or other motor vehicle.

(b)As soon as practicable following an occurrence involving a commercial motor vehicle operating on a public road in commerce, each employer shall test for controlled substances for each of its surviving drivers:

(1)Who was performing safety-sensitive functions with respect to the vehicle, if the accident involved the loss of human life; or

(2)Who receives a citation within thirty-two hours of the occurrence under State or local law for a moving traffic violation arising from the accident, if the accident involved:

(i)Bodily injury to any person who, as a result of the injury, immediately receives medical treatment away from the scene of the accident; or

(ii)One or more motor vehicles incurring disabling damage as a result of the accident, requiring the motor vehicle to be transported away from the scene by a tow truck or other motor vehicle.

(c)The following table notes when a post-accident test is required to be conducted by paragraphs (a)(1), (a)(2), (b)(1), and (b)(2);

TABLE FOR REGULATION 38-382.303(A) AND (B)

Type of accident involved	Citation issued to the CMV driver	Test must be performed by employer
(i) Human Fatality	Yes No	Yes Yes
(ii) Bodily injury with immediate medical treatment away from the scene	Yes No	Yes No
(iii) Disabling damage to any motor vehicle requiring tow away	Yes No	Yes No

(d)(1)Alcohol tests. If a required test is not administered within two hours following the accident, the employer shall prepare and maintain on file a record stating the reasons the test was not promptly administered. If a required test is not administered within eight hours following the accident, the employer shall cease attempts to administer an alcohol test and shall prepare and maintain the same record. Records shall be submitted to the FMCSA upon request.

(2)Controlled substance tests. If a required test is not administered within 32 hours following the accident, the employer shall cease attempts to administer a controlled substances test, and prepare and maintain on file a record stating the reasons the test was not promptly administered. Records shall be submitted to the FMCSA upon request.

(e)A driver who is subject to post-accident testing shall remain readily available for such testing or may be deemed by the employer to have refused to submit to testing. Nothing in 38-382 shall be construed to require the delay of necessary medical attention for injured people following an accident or to prohibit a driver from leaving the scene of an accident for the period necessary to obtain assistance in responding to the accident, or to obtain necessary emergency medical care.

(f)An employer shall provide drivers with necessary post-accident information, procedures and instructions, prior to the driver operating a commercial motor vehicle, so that drivers will be able to comply with the requirements of 38-382.

(g)(1)The results of a breath or blood test for the use of alcohol, conducted by Federal, State, or local officials having independent authority for the test, shall be considered to meet the

requirements, provided such tests conform to the applicable Federal, State or local alcohol testing requirements, and that the results of the tests are obtained by the employer.

(2)The results of a urine test for the use of controlled substances, conducted by Federal, State, or local officials having independent authority for the test shall be considered to meet the requirements, provided such tests conform to the applicable Federal, State or local controlled substances testing requirements, and that the results of the tests are obtained by the employer.

(h)Exception. 38-382 does not apply to:

(1)An occurrence involving only boarding or alighting from a stationary motor vehicle; or

(2)An occurrence involving only the loading or unloading of cargo; or

(3)An occurrence in the course of the operation of a passenger car or a multipurpose passenger vehicle (as defined in the National Highway Traffic Safety Administration's Standard Section 571.3) by an employer unless the motor vehicle is transporting passengers for hire or hazardous materials of a type and quantity that require the motor vehicle to be marked or placarded in accordance with Section 177.823 of the Federal Motor Carrier Safety Administration's hazardous materials regulations.

38-382.305 Random testing.

(a)Every employer shall comply with the requirements of 38-382. Every driver shall submit to random alcohol and controlled substance testing as required in 38-382.

(b)(1)Except as provided in paragraphs (c) through (e), the minimum annual percentage rate for random alcohol testing shall be 10 percent of the average number of driver positions.

(2)Except as provided in paragraphs (f) through (h), the minimum annual percentage rate for random controlled substances testing shall be 50 percent of the average number of driver positions.

(c)The FMCSA Administrator's decision to increase or decrease the minimum annual percentage rate for alcohol testing is based on the reported violation rate for the entire industry. All information used for this determination is drawn from the alcohol management information system reports required by Regulation 38-382.403. In order to ensure reliability of the data, the FMCSA Administrator considers the quality and completeness of the reported data, may obtain additional information or reports from employers, and may make appropriate modifications in calculating the industry violation rate. In the event of a change in the annual percentage rate, the FMCSA Administrator will publish in the FEDERAL REGISTER the new minimum annual percentage rate for random alcohol testing of drivers. The new minimum annual percentage rate for random alcohol testing will be applicable starting January 1 of the calendar year following publication in the FEDERAL REGISTER.

(d)(1)When the minimum annual percentage rate for random alcohol testing is 25 percent or more, the FMCSA Administrator may lower this rate to 10 percent of all driver positions if the FMCSA Administrator determines that the data received under the reporting requirements of Regulation 38-382.403 for two consecutive calendar years indicate that the violation rate is less than 0.5 percent.

(2)When the minimum annual percentage rate for random alcohol testing is 50 percent, the FMCSA Administrator may lower this rate to 25 percent of all driver positions if the FMCSA Administrator determines that the data received under the reporting requirements of Regulation 38-382.403 for two consecutive calendar years indicate that the violation rate is less than 1.0 percent but equal to or greater than 0.5 percent.

(e)(1)When the minimum annual percentage rate for random alcohol testing is 10 percent, and the data received under the reporting requirements of Regulation 38-382.403 for that calendar year indicate that the violation rate is equal to or greater than 0.5 percent, but less than 1.0 percent, the FMCSA Administrator will increase the minimum annual percentage rate for random alcohol testing to 25 percent for all driver positions.

(2)When the minimum annual percentage rate for random alcohol testing is 25 percent or less, and the data received under the reporting requirements of Regulation 38-382.403 for that calendar year indicate that the violation rate is equal to or greater than 1.0 percent, the FMCSA Administrator will increase the minimum annual percentage rate for random alcohol testing to 50 percent for all driver positions.

(f)The FMCSA Administrator's decision to increase or decrease the minimum annual percentage rate for controlled substances testing is based on the reported positive rate for the entire industry. All information used for this determination is drawn from the controlled substances management information system reports required by Regulation 38-382-403. In order to ensure reliability of the data, the FMCSA Administrator considers the quality and completeness of the reported data, may obtain additional information or reports from employers, and may make appropriate modifications in calculating the industry positive rate. In the event of a change in the annual percentage rate, the FMCSA Administrator will publish in the ~~FED-ERAL~~ REGISTER the new minimum annual percentage rate for controlled substances testing of drivers. The new minimum annual percentage rate for random controlled substances testing will be applicable starting January 1 of the calendar year following publication in the ~~FEDERAL~~ REGISTER.

(g)When the minimum annual percentage rate for random controlled substances testing is 50 percent, the FMCSA Administrator may lower this rate to 25 percent of all driver positions if the FMCSA administrator determines that the data received under the reporting requirements of Regulation 38-382.403 for two consecutive calendar years indicate that the positive rate is less than 1.0 percent.

(h)When the minimum annual percentage rate for random controlled substances testing is 25 percent, and the data received under the reporting requirements of Regulation 38-382.403 for any calendar year indicate that the reported positive rate is equal to or greater than 1.0 percent, the FMCSA Administrator will increase the minimum annual percentage rate for random controlled substances testing to 50 percent of all driver positions.

(i)(1)The selection of drivers for random alcohol and controlled substances testing shall be made by a scientifically valid method, such as a random number table or a computer-based random number generator that is matched with drivers' Social Security numbers, payroll identification numbers, or other comparable identifying numbers.

(2)Each driver selected for random alcohol and controlled substances testing under the selection process used, shall have an equal chance of being tested each time selections are made.

(3)Each driver selected for testing shall be tested during the selection period.

(j)(1)To calculate the total number of covered drivers eligible for random testing throughout the year, as an employer, you must add the total number of covered drivers eligible for testing during each random testing period for the year and divide that total by the number of random testing periods. Covered employees, and only covered employees, are to be in an employer's random testing pool, and all covered drivers must be in the random pool. If you are an employer conducting random testing more often than once per month (e.g., daily, weekly, bi-weekly) you do not need to compute this total number of covered drivers rate more than on a once per month basis.

(2)As an employer, you may use a service agent (e.g., a C/TPA) to perform random selections for you, and your covered drivers may be part of a larger random testing pool of covered employees. However, you must ensure that the service agent you use is testing at the appropriate percentage established for your industry and that only covered employees are in the random testing pool.

(k)(1)Each employer shall ensure that random alcohol and controlled substances tests conducted under 38-382 are unannounced.

(2)Each employer shall ensure that the dates for administering random alcohol and controlled substances tests conducted under 38-382 are spread reasonably throughout the calendar year.

(l)Each employer shall require that each driver who is notified of selection for random alcohol and/or controlled substances testing proceeds to the test site immediately; provided, however, that if the driver is performing a safety-sensitive function, other than driving a commercial motor vehicle, at the time of notification, the employer shall instead ensure that the driver ceases to perform the safety-sensitive function and proceeds to the testing site as soon as possible.

(m)A driver shall only be tested for alcohol while the driver is performing safety-sensitive functions, just before the driver is to perform safety-sensitive functions, or just after the driver has ceased performing such functions,

(n)If a given driver is subject to random alcohol or controlled substances testing under the random alcohol or controlled substances testing rules of more than one DOT agency for the same employer, the driver shall be subject to random alcohol and/or controlled substances testing at the annual percentage rate established for the calendar year by the DOT agency regulating more than 50 percent of the driver's function.

(o)If an employer is required to conduct random alcohol or controlled substances testing under the alcohol or controlled substances testing rules of more than one DOT agency, the employer may-

(1)Establish separate pools for random selection, with each pool containing the DOT-covered employees who are subject to testing at the same required minimum annual percentage rate; or

(2)Randomly select such employees for testing at the highest minimum annual percentage rate established for the calendar year by any DOT agency to which the employer is subject.

38-382.307 Reasonable suspicion testing.

(a)An employer shall require a driver to submit to an alcohol test when the employer has reasonable suspicion to believe that the driver has violated the prohibitions of subpart B of 38-382 concerning alcohol. The employer's determination that reasonable suspicion exists to require the driver to undergo an alcohol test must be based on specific, contemporaneous, articulable observations concerning the appearance, behavior, speech or body odors of the driver.

(b)An employer shall require a driver to submit to a controlled substances test when the employer has reasonable suspicion to believe that the driver has violated the prohibitions of subpart B of 38-382 concerning controlled substances. The employer's determination that reasonable suspicion exists to require the driver to undergo a controlled substances test must be based on specific, contemporaneous, articulable observations concerning the appearance, behavior, speech or body odors of the driver. The observations may include indications of the chronic and withdrawal effects of controlled substances.

(c)The required observations for alcohol and/or controlled substances reasonable suspicion testing shall be made by a supervisor or company official who is trained in accordance with Regulation 38-382.603. The person who makes the determination that reasonable suspicion exists to conduct an alcohol test shall not conduct the alcohol test of the driver.

(d)Alcohol testing is authorized by 38-382 only if the observations required by paragraph (a) are made during, just preceding, or just after the period of the work day that the driver is required to be in compliance with 38-382. A driver may be directed by the employer to only undergo reasonable suspicion testing while the driver is performing safety-sensitive functions, just before the driver is to perform safety-sensitive functions, or just after the driver has ceased performing such functions.

(e)(1)If an alcohol test required by 38-382 is not administered within two hours following the determination under paragraph (a), the employer shall prepare and maintain on file a record stating the reasons the alcohol test was not promptly administered. If an alcohol test required by 38-382 is not administered within eight hours following the determination under paragraph (a), the employer shall cease attempts to administer an alcohol test and shall state in the record the reasons for not administering the test.

(2)Notwithstanding the absence of a reasonable suspicion alcohol test under 38-382, no driver shall report for duty or remain on duty requiring the performance of safety-sensitive functions while the driver is under the influence of or impaired by alcohol, as shown by the behavioral, speech, and performance indicators of alcohol misuse, nor shall an employer permit the driver to perform or continue to perform safety-sensitive functions, until:

(i)An alcohol test is administered and the driver's alcohol concentration measures less than 0.02; or

(ii)Twenty four hours have elapsed following the determination under paragraph (a) that there is reasonable suspicion to believe that the driver has violated the prohibitions in 38-382 concerning the use of alcohol.

(3)Except as provided in paragraph (e)(2) of 38-382, no employer shall take any action under 38-382 against a driver based solely on the driver's behavior and appearance, with respect to alcohol use, in the absence of an alcohol test. This does not prohibit an employer with independent authority of 38-382 from taking any action otherwise consistent with law.

(f)A written record shall be made of the observations leading to an alcohol or controlled substances reasonable suspicion test, and signed by the supervisor or company official who made the observations, within 24 hours of the observed behavior or before the results of the alcohol or controlled substances tests are released, whichever is earlier.

38-382.309 Return-to-duty testing.

The requirements for return-to-duty testing must be performed in accordance with 49 CFR part 40. Subpart O.

38-382.311 Follow-up testing.

The requirements for follow-up testing must be performed in accordance with 49 CFR part 40, Subpart O.

Subpart D-Handling of Test Results, Records Retention, and Confidentiality

38-382.401 Retention of records.

(a)General requirement. Each employer shall maintain records of its alcohol misuse and controlled substances use prevention programs as provided in 38-382. The records shall be maintained in a secure location with controlled access.

(b)Period of retention. Each employer shall maintain the records in accordance with the following schedule:

(1)Five years. The following records shall be maintained for a minimum of five years:

(i)Records of driver alcohol test results indicating an alcohol concentration of 0.02 or greater,

(ii)Records of driver verified positive controlled substances test results,

(iii)Documentation of refusals to take required alcohol and/or controlled substances tests,

(iv)Driver evaluation and referrals,

(v)Calibration documentation.

(vi)Records related to the administration of the alcohol and controlled substances testing programs, and

(vii)A copy of each annual calendar year summary required by 38-382.403.

(2)Two years. Records related to the alcohol and controlled substances collection process (except calibration of evidential breath testing devices).

(3)One year. Records of negative and canceled controlled substances test results (as defined in part 40) and alcohol test results with a concentration of less than 0.02 shall be maintained for a minimum of one year.

(4)Indefinite period. Records related to the education and training of breath alcohol technicians, screening test technicians, supervisors, and drivers shall be maintained by the employer while the individual performs the functions which require the training and for two years after ceasing to perform those functions.

(c)Types of records. The following specific types of records shall be maintained. "Documents generated" are documents that may have to be prepared under a requirement of 38-382. If the record is required to be prepared, it must be maintained.

(1)Records related to the collection process:

(i)Collection logbooks, if used;

(ii)Documents relating to the random selection process;

(iii)Calibration documentation for evidential breath testing devices;

(iv)Documentation of breath alcohol technician training;

(v)Documents generated in connection with decisions to administer reasonable suspicion alcohol or controlled substances tests;

(vi)Documents generated in connection with decisions on post- accident tests;

(vii)Documents verifying existence of a medical explanation of the inability of a driver to provide adequate breath or to provide a urine specimen for testing; and

(viii)A copy of each annual calendar year summary as required by Regulation 38-382.403.

(2)Records related to a driver's test results:

(i)The employer's copy of the alcohol test form, including the results of the test;

(ii)The employer's copy of the controlled substances test chain of custody and control form;

(iii)Documents sent by the MRO to the employer, including those required by part 40, subpart G;

(iv)Documents related to the refusal of any driver to submit to an alcohol or controlled substances test required by 38-382;

(v)Documents presented by a driver to dispute the result of an alcohol or controlled substances test administered under 38-382; and

(vi)Documents generated in connection with verifications of prior employers' alcohol or controlled substances test results that the employer

(A) Must obtain in connection with the exception contained in Regulation 38-382.301, and

(B) Must obtain as required by Regulation 38-382.413.

(3) Records related to other violations of 38-382.

(4) Records related to evaluations:

(i) Records pertaining to a determination by a substance abuse professional concerning a driver's need for assistance; and

(ii) Records concerning a driver's compliance with recommendations of the substance abuse professional.

(5) Records related to education and training:

(i) Materials on alcohol misuse and controlled substance use awareness, including a copy of the employer's policy on alcohol misuse and controlled substance use;

(ii) Documentation of compliance with the requirements of Regulation 38-382.601 including the driver's signed receipt of education materials;

(iii) Documentation of training provided to supervisors for the purpose of qualifying the supervisors to make a determination concerning the need for alcohol and/or controlled substances testing based on reasonable suspicion;

(iv) Documentation of training for breath alcohol technicians as required by Section 40.213(a) of the Federal Motor Carrier Safety Administration's procedures for transportation workplace drug and alcohol testing programs; and

(v) Certification that any training conducted under 38-382 complies with the requirements for such training.

(6) Administrative records related to alcohol and controlled substances testing:

(i) Agreements with collection site facilities, laboratories, breath alcohol technicians, screening test technicians, medical review officers, consortia, and third party service providers;

(ii) Names and positions of officials and their role in the employer's alcohol and controlled substances testing program);

(iii) Semi-annual laboratory statistical summaries of urinalysis required by Section 40.111(a) of the Federal Motor Carrier Safety Administration's procedures for transportation workplace drug and alcohol testing programs; and

(iv) The employer's alcohol and controlled substances testing policy and procedures.

(d) Location of records. All records required by 38-382 shall be maintained as required by Regulation 38-390.31 of this regulation and shall be made available for inspection at the employer's principal place of business within two business days after a request has been made by an authorized representative of the Federal Motor Carrier Safety Administration.

(e) OMB control number.

(1) The information collection requirements of 38-382 have been reviewed by the Office of Management and Budget pursuant to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.) and have been assigned OMB control number 2126-0012.

(2) The information collection requirements of 38-382 are found in the following Regulations: Regulations 38-382.105, 38-382.113, 38-382.301, 38-382.303, 38-382.305, 38-382.307, 38-382.401, 38-382.403, 38-382.405, 38-382.409, 38-382.411, 38-382.601, and 38-382.603.

38-382.403 Reporting of results in a management information system.

(a) An employer shall prepare and maintain a summary of the results of its alcohol and controlled substances testing programs performed under 38-382 during the previous calendar year, when requested by the Secretary of Transportation, any DOT agency, or any State or local officials with regulatory authority over the employer or any of its drivers.

(b)If an employer is notified, during the month of January, of a request by the Federal Motor Carrier Safety Administration to report the employer's annual calendar year summary information, the employer shall prepare and submit the report to the FMCSA by March 15 of that year. The employer shall ensure that the annual summary report is accurate and received by March 15 at the location that the FMCSA specifies in its request. The employer must use the Management Information System (MIS) form and instructions as required by 49 CFR part 40 (at Section 40.26 and appendix H to part 40 of the Federal Motor Carrier Safety Administration's procedures for transportation workplace drug and alcohol testing programs). The employer may also use the electronic version of the MIS form provided by the DOT. The Administrator may designate means (e.g., electronic program transmitted via the Internet), other than hard-copy, for MIS form submission. For information on the electronic version of the form, see: <http://www.fmcса.dot.gov/safetyprogs/drugs/engtesting.hm>.

(c)When the report is submitted to the FMCSA by mail or electronic transmission, the information requested shall be typed, except for the signature of the certifying official. Each employer shall ensure the accuracy and timeliness of each report submitted by the employer or a consortium.

(d)If you have a covered employee who performs multi-DOT agency functions (e.g., an employee drives a commercial motor vehicle and performs pipeline maintenance duties for the same employer), count the employee only on the MIS report for the DOT agency under which he or she is randomly tested. Normally, this will be the DOT agency under which the employee performs more than 50% of his or her duties. Employers may have to explain the testing data for these employees in the event of a DOT agency inspection or audit.

(e)A service agent (e.g., Consortia/Third party administrator as defined in 49 CFR 382.107) may prepare the MIS report on behalf of an employer. However, a company official [e.g., Designated employer representative] must certify the accuracy and completeness of the MIS report, no matter who prepares it.

38-382.405 Access to facilities and records.

(a)Except as required by law or expressly authorized or required in 38-382, no employer shall release driver information that is contained in records required to be maintained under Regulation 38-382.401.

(b)A driver is entitled, upon written request, to obtain copies of any records pertaining to the driver's use of alcohol or controlled substances, including any records pertaining to his or her alcohol or controlled substances tests. The employer shall promptly provide the records requested by the driver. Access to a driver's records shall not be contingent upon payment for records other than those specifically requested.

(c)Each employer shall permit access to all facilities utilized in complying with the requirements of 38-382 to the Secretary of Transportation, any DOT agency, or any State or local officials with regulatory authority over the employer or any of its drivers.

(d)Each employer shall make available copies of all results for employer alcohol and/or controlled substances testing conducted under 38-382 and any other information pertaining to the employer's alcohol misuse and/or controlled substances use prevention program, when requested by the Secretary of Transportation, any DOT agency, or any State or local officials with regulatory authority over the employer or any of its drivers.

(e)When requested by the National Transportation Safety Board as part of an accident investigation, employers shall disclose information related to the employer's administration of a post-accident alcohol and/or controlled substance test administered following the accident under investigation.

(f)Records shall be made available to a subsequent employer upon receipt of a written request from a driver. Disclosure by the subsequent employer is permitted only as expressly authorized by the terms of the driver's request.

(g)An employer may disclose information required to be maintained under 38-382 pertaining to a driver to the decision maker in a lawsuit, grievance, or administrative proceeding initiated by or on behalf of the individual, and arising from a positive DOT drug or alcohol test or a refusal to test (including, but not limited to, adulterated or substituted test results) of 38-382 (including, but not limited to, a worker's compensation, unemployment compensation, or other proceeding relating to a benefit sought by the driver). Additionally, an employer may disclose information in criminal or civil actions in accordance with Section 40.323(a)(2) of the Federal Motor Carrier Safety Administration's procedures for transportation workplace drug and alcohol testing programs.

(h)An employer shall release information regarding a driver's records as directed by the specific written consent of the driver authorizing release of the information to an identified person. Release of such information by the person receiving the information is permitted only in accordance with the terms of the employee's specific written consent as outlined in Section 40.32Kb of the Federal Motor Carrier Safety Administration's procedures for transportation workplace drug and alcohol testing programs.

38-382.407 Medical review officer notifications to the employer.

Medical review officers shall report the results of controlled substances tests to employers in accordance with the requirements of part 40, Subpart G.

38-382.409 Medical review officer record retention for controlled substances.

(a)A medical review officer or third party administrator shall maintain all dated records and notifications, identified by individual, for a minimum of five years for verified positive controlled substances test results. A medical review officer or third party administrator shall maintain all dated records and notifications, identified by individual, for a minimum of one year for negative and canceled controlled substances test results.

(b)No person may obtain the individual controlled substances test results retained by a medical review officer or third party administrator, and no medical review officer or third party administrator shall release the individual controlled substances test results of any driver to any person, without first obtaining a specific, written authorization from the tested driver. Nothing in this paragraph (c) shall prohibit a medical review officer or third party administrator from releasing, to the employer or to officials of the Secretary of Transportation, any DOT agency, or any State or local officials with regulatory authority over the controlled substances testing program under 38-382, the information delineated in part 40, Subpart G.

38-382.411 Employer notifications.

(a)An employer shall notify a driver of the results of a pre-employment controlled substances test conducted under 38-382, if the driver requests such results within 60 calendar days of being notified of the disposition of the employment application. An employer shall notify a driver of the results of random, reasonable suspicion and post-accident tests for controlled substances

conducted under 38-382 if the test results are verified positive. The employer shall also inform the driver which controlled substance or substances were verified as positive.

(b)The designated employer representative shall make reasonable efforts to contact and request each driver who submitted a specimen under the employer's program, regardless of the driver's employment status, to contact and discuss the results of the controlled substances test with a medical review officer who has been unable to contact the driver.

(c)The designated employer representative shall immediately notify the medical review officer that the driver has been notified to contact the medical review officer within 72 hours.

38-382.413 Inquiries for alcohol and controlled substances information from previous employers.

Employers shall request alcohol and controlled substances information from previous employers in accordance with the requirements of Section 40.25 of the Federal Motor Carrier Safety Administration's procedures for transportation workplace drug and alcohol testing programs.

Subpart E-Consequences for Drivers Engaging in Substance Use- Related Conduct

38-382.501 Removal from safety-sensitive function.

(a)Except as provided in subpart F of 38-382, no driver shall perform safety-sensitive functions, including driving a commercial motor vehicle, if the driver has engaged in conduct prohibited by subpart B of 38-382 or an alcohol or controlled substances rule of another DOT agency.

(b)No employer shall permit any driver to perform safety-sensitive functions; including driving a commercial motor vehicle, if the employer has determined that the driver has violated 38-382.

(c)For purposes of this subpart, commercial motor vehicle means a commercial motor vehicle in commerce as defined in Regulation 38-382.107, and a commercial motor vehicle in interstate commerce as defined in part 38-390 of this regulation.

38-382.503 Required evaluation and testing.

No driver who has engaged in conduct prohibited by subpart B of 38-382 shall perform safety-sensitive functions, including driving a commercial motor vehicle, unless the driver has met the requirements of part 40, subpart O. No employer shall permit a driver who has engaged in conduct prohibited by subpart B of 38-382 to perform safety-sensitive functions, including driving a commercial motor vehicle, unless the driver has met the requirements of part 40, subpart O.

38-382.505 Other alcohol-related conduct

(a)No driver tested under the provisions of subpart C of 38-382 who is found to have an alcohol concentration of 0.02 or greater but less than 0.04 shall perform or continue to perform safety-sensitive functions for an employer, including driving a commercial motor vehicle, nor shall an employer permit the driver to perform or continue to perform safety-sensitive functions, until the start of the driver's next regularly scheduled duty period, but not less than 24 hours following administration of the test.

(b)Except as provided in paragraph (a) of 38-382, no employer shall take any action under 38-382 against a driver based solely on test results showing an alcohol concentration less than 0.04. This does not prohibit an employer with authority independent of 38-382 from taking any action otherwise consistent with law.

38-382.507 Penalties.

Any employer or driver who violates the requirements of 38-382 shall be subject to the civil and/or criminal penalty provisions of 49 U.S.C. 521(b). In addition, any employer or driver who violates the requirements of 49 CFR part 40 shall be subject to the civil and/or criminal penalty provisions of 49 U.S.C. 521(b).

Subpart F-Alcohol Misuse and Controlled Substances Use Information, Training, and Referral

38-382.601 Employer obligation to promulgate a policy on the misuse of alcohol and use of controlled substances.

(a)General requirements. Each employer shall provide educational materials that explain the requirements of 38-382 and the employer's policies and procedures with respect to meeting these requirements.

(1)The employer shall ensure that a copy of these materials is distributed to each driver prior to the start of alcohol and controlled substances testing under 38-382 and to each driver subsequently hired or transferred into a position requiring driving a commercial motor vehicle.

(2)Each employer shall provide written notice to representatives of employee organizations of the availability of this information.

(b)Required content. The materials to be made available to drivers shall include detailed discussion of at least the following:

(1)The identity of the person designated by the employer to answer driver questions about the materials;

(2)The categories of drivers who are subject to the provisions of 38-382;

(3)Sufficient information about the safety-sensitive functions performed by those drivers to make clear what period of the work day the driver is required to be in compliance with 38-382;

(4)Specific information concerning driver conduct that is prohibited by 38-382;

(5)The circumstances under which a driver will be tested for alcohol and/or controlled substances under 38-382, including post-accident testing under Regulation 38-382.303(d);

(6)The procedures that will be used to test for the presence of alcohol and controlled substances, protect the driver and the integrity of the testing processes, safeguard the validity of the test results, and ensure that those results are attributed to the correct driver, including post-accident information, procedures and instructions required by Regulation 38-382.303(d);

(7)The requirement that a driver submit to alcohol and controlled substances tests administered in accordance with 38-382;

(8)An explanation of what constitutes a refusal to submit to an alcohol or controlled substances test and the attendant consequences;

(9)The consequences for drivers found to have violated subpart B of 38-382, including the requirement that the driver be removed immediately from safety-sensitive functions, and the procedures under part 40, subpart O;

(10)The consequences for drivers found to have an alcohol concentration of 0.02 or greater but less than 0.04;

(11)Information concerning the effects of alcohol and controlled substances use on an individual's health, work, and personal life; signs and symptoms of an alcohol or a controlled substances problem (the driver's or a co-worker's); and available methods of intervening when an alcohol or a controlled substances problem is suspected, including confrontation, referral to any employee assistance program and or referral to management.

(c)Optional provision. The materials supplied to drivers may also include information on additional employer policies with respect to the use of alcohol or controlled substances, including

any consequences for a driver found to have a specified alcohol or controlled substances level, that are based on the employer's authority independent of 38-382. Any such additional policies or consequences must be clearly and obviously described as being based on independent authority.

(d)Certificate of receipt. Each employer shall ensure that each driver is required to sign a statement certifying that he or she has received a copy of these materials described in 38-382. Each employer shall maintain the original of the signed certificate and may provide a copy of the certificate to the driver.

38-382.603 Training for supervisors.

Each employer shall ensure that all persons designated to supervise drivers receive at least 60 minutes of training on alcohol misuse and receive at least an additional 60 minutes of training on controlled substances use. The training will be used by the supervisors to determine whether reasonable suspicion exists to require a driver to undergo testing under Regulation 38-382.307. The training shall include the physical, behavioral, speech, and performance indicators of probable alcohol misuse and use of controlled substances. Recurrent training for supervisory personnel is not required.

38-382.605 Referral, evaluation, and treatment.

The requirements for referral evaluation, and treatment must be performed in accordance with 49 CFR part 40, Sub-part O.

PART 38-383 COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES

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Subpart A General

- 38-383.1 Purpose and scope.
 - (a)The purpose of 38-382 is to help reduce or prevent truck and bus accidents, fatalities, and injuries by requiring drivers to have a single commercial motor vehicle driver's license and by disqualifying drivers who operate commercial motor vehicles in an unsafe manner.
 - (b)38-382:
 - (1)Prohibits a commercial motor vehicle driver from having more than one commercial motor vehicle driver's license;
 - (2)Requires a driver to notify the driver's current employer and the driver's State of domicile of certain convictions;
 - (3)Requires that a driver provide previous employment information when applying for employment as an operator of a commercial motor vehicle;
 - (4)Prohibits an employer from allowing a person with a suspended license to operate a commercial motor vehicle;
 - (5)Establishes periods of disqualification and penalties for those persons convicted of certain criminal and other offenses and serious traffic violations, or subject to any suspensions, revocations, or cancellations of certain driving privileges;
 - (6)Establishes testing and licensing requirements for commercial motor vehicle operators;
 - (7)Requires States to give knowledge and skills tests to all qualified applicants for commercial drivers' licenses which meet the Federal standard;
 - (8)Sets forth commercial motor vehicle groups and endorsements;

(9)Sets forth the knowledge and skills test requirements for the motor vehicle groups and endorsements;

(10)Sets forth the Federal standards for procedures, methods, and minimum passing scores for States and others to use in testing and licensing commercial motor vehicle operators; and

(11)Establishes requirements for the State issued commercial license documentation.

38-383.3 Applicability.

(a)The rules in 38-382 apply to every person who operates a commercial motor vehicle (CMV) in interstate, foreign, or intrastate commerce, to all employers of such persons, and to all States.

(b)The exceptions contained in Regulation 38-390.3(g) of this regulation do not apply to 38-382. The employers and drivers identified in Regulation 38-390.3(g) must comply with the requirements of 38-382, unless otherwise provided in 38-383.

(c)Exception for certain military drivers. Each State must exempt from the requirements of 38-382 individuals who operate CMVs for military purposes. This exception is applicable to active duty military personnel; members of the military reserves; member of the national guard on active duty, including personnel on full time national guard duty, personnel on part time national guard training, and national guard military technicians (civilians who are required to wear military uniforms); and active duty U.S. Coast Guard personnel. This exception is not applicable to U.S. Reserve technicians.

(d)Exception for farmers, firefighters, emergency response vehicle drivers, and drivers removing snow and ice. A State may, at its discretion, exempt individuals identified in paragraphs (d)(1), (d)(2) and (d)(3) of 38-383 from the requirements of 38-382. The use of this waiver is limited to the driver's home State unless there is a reciprocity agreement with adjoining States.

(1)Operators of a farm vehicle which is:

(i)Controlled and operated by a farmer, including operation by employees or family members;

(ii)Used to transport either agricultural product, farm machinery, farm supplies, or both to or from a farm;

(iii)Not used in the operations of a common or contract motor carrier; and

(iv)Used within 241 kilometers (150 miles) of the farmer's farm.

(2)Firefighters and other persons who operate CMVs which are necessary to the preservation of life or property or the execution of emergency governmental functions, are equipped with audible and visual signals and are not subject to normal traffic regulation. These vehicles include fire trucks, hook and ladder trucks, foam or water transport trucks, police SWAT team vehicles, ambulances, or other vehicles that are used in response to emergencies.

(3)(i)A driver, employed by an eligible unit of local government, operating a commercial motor vehicle within the boundaries of that unit for the purpose of removing snow or ice from a roadway by plowing, sanding, or salting, if

(A)The properly licensed employee who ordinarily operates a commercial motor vehicle for these purposes is unable to operate the vehicle; or

(B)The employing governmental entity determines that a snow or ice emergency exists that requires additional assistance.

(ii)This exemption shall not preempt State laws and regulations concerning the safe operation of commercial motor vehicles.

(e)Restricted commercial drivers license (CDL) for certain drivers in the State of Alaska.

(1)The State of Alaska may, at its discretion, waive only the following requirements of 38-382 and issue a CDL to each driver that meets the conditions set forth in paragraphs (e) (2) and (3) of 38-383:

(i)The knowledge tests standards for testing procedures and methods of Subpart H, but must continue to administer knowledge tests that fulfill the content requirements of Subpart G for all applicants;

(ii)All the skills test requirements; and

(iii)The requirement under Regulation 38-383.153(a)(4) to have a photograph on the license document.

(2)Drivers of CMVs in the State of Alaska must operate exclusively over roads that meet both of the following criteria to be eligible for the exception in paragraph (e)(1) of 38-383:

(i)Such roads are not connected by land highway or vehicular way to the land connected State highway system; and

(ii)Such roads are not connected to any highway or vehicular way with an average daily traffic volume greater than 499.

(3)Any CDL issued under the terms of this paragraph must carry two restrictions:

(i)Holders may not operate CMVs over roads other than those specified in paragraph (e)(2); and

(ii)The license is not valid for CMV operation outside the State of Alaska.

(f)Restricted CDL for certain drivers in farm related service industries.

(1)A State may, at its discretion, waive the required knowledge and skills tests of Subpart H of 38-382 and issue restricted CDLs to employees of these designated farm related service industries:

(i)Agri chemical businesses;

(ii)Custom harvesters;

(iii)Farm retail outlets and suppliers;

(iv)Livestock feeders.

(2)A restricted CDL issued pursuant to this paragraph shall meet all the requirements of 38-382, except Subpart H of 38-382. A restricted CDL issued pursuant to this paragraph shall be accorded the same reciprocity as a CDL meeting all of the requirements of 38-382. The restrictions imposed upon the issuance of this restricted CDL shall not limit a person's use of the CDL in a non CMV during either validated or non validated periods, nor shall the CDL affect a State's power to administer its driver licensing program for operators of vehicles other than CMVs.

(3)A State issuing a CDL under the terms of this paragraph must restrict issuance as follows:

(i)Applicants must have a good driving record as defined in this paragraph. Drivers who have not held any motor vehicle operator's license for at least one year shall not be eligible for this CDL. Drivers who have between one and two years of driving experience must demonstrate a good driving record for their entire driving history. Drivers with more than two years of driving experience must have a good driving record for the two most recent years. For the purposes of this paragraph, the term good driving record means that an applicant:

(A)Has not had more than one license (except in the instances specified in Regulation 38-383.21(b));

(B)Has not had any license suspended, revoked, or canceled;

(C)Has not had any conviction for any type of motor vehicle for the disqualifying offenses contained in Regulation 38-383.51(b)(2);

(D)Has not had any conviction for any type of motor vehicle for serious traffic violations; and

(E)Has not had any conviction for a violation of State or local law relating to motor vehicle traffic control (other than a parking violation) arising in connection with any traffic accident, and has no record of an accident in which he/she was at fault.

(ii)Restricted CDLs shall have the same renewal cycle as unrestricted CDLs, but shall be limited to the seasonal period or periods as defined by the State of licensure, provided that the total number of calendar days in any 12 month period for which the restricted CDL is valid does not exceed 180. If a State elects to provide for more than one seasonal period, the restricted CDL is valid for commercial motor vehicle operation only during the currently approved season, and must be revalidated for each successive season. Only one seasonal period of validity may appear on the license document at a time. The good driving record must be confirmed prior to any renewal or revalidation.

(iii)Restricted CDL holders are limited to operating Group B and C vehicles, as described in Subpart F of 38-382.

(iv)Restricted CDLs shall not be issued with any endorsements on the license document. Only the limited tank vehicle and hazardous materials endorsement privileges that the restricted CDL automatically confers and are described in paragraph (f)(3)(v) are permitted.

(v)Restricted CDL holders may not drive vehicles carrying any placardable quantities of hazardous materials, except for diesel fuel in quantities of 3,785 liters (1,000 gallons) or less; liquid fertilizers (i.e., plant nutrients) in vehicles or implements of husbandry in total quantities of 11,355 liters (3,000 gallons) or less; and solid fertilizers (i.e., solid plant nutrients) that are not transported with any organic substance.

(vi)Restricted CDL holders may not hold an unrestricted CDL at the same time.

(vii)Restricted CDL holders may not operate a commercial motor vehicle beyond 241 kilometers (150 miles) from the place of business or the farm currently being served.

(g)Restricted CDL for certain drivers in the pyrotechnic industry.

(1)A State may, at its discretion, waive the required hazardous materials knowledge tests of Subpart H of 38-382 and issue restricted CDLs to part time drivers operating commercial motor vehicles transporting less than 227 kilograms (500 pounds) of fireworks classified as DOT Class 1.3G explosives.

(2)A State issuing a CDL under the terms of this paragraph must restrict issuance as follows:

(i)The GVWR of the vehicle to be operated must be less than 4,537 kilograms (10,001 pounds);

(ii)If a State believes, at its discretion, that the training required by Section 172.704 of the Federal Motor Carrier Safety Administration's hazardous materials regulations adequately prepares part time drivers meeting the other requirements of this paragraph to deal with fireworks and the other potential dangers posed by fireworks transportation and use, the State may waive the hazardous materials knowledge tests of Subpart H of 38-382. The State may impose any requirements it believes is necessary to ensure itself that a driver is properly trained pursuant to Section 172.704 of the Federal Motor Carrier Safety Administration's hazardous materials regulations.

(iii)A restricted CDL document issued pursuant to this paragraph shall have a statement clearly imprinted on the face of the document that is substantially similar as follows: "For use as a CDL only during the period from June 30 through July 6 for purposes of transporting less than 227 kilograms (500 pounds) of fireworks classified as DOT Class 1.3G explosives in a vehicle with a GVWR of less than 4,537 kilograms (10,001 pounds)."

(3)A restricted CDL issued pursuant to this paragraph shall meet all the requirements of 38-382, except those specifically identified. A restricted CDL issued pursuant to this paragraph shall be accorded the same reciprocity as a CDL meeting all of the requirements of 38-382. The restrictions imposed upon the issuance of this restricted CDL shall not limit a person's use of the CDL in a non CMV during either validated or non validated periods, nor shall the CDL affect a

State's power to administer its driver licensing program for operators of vehicles other than CMVs.

(4)Restricted CDLs shall have the same renewal cycle as unrestricted CDLs, but shall be limited to the seasonal period of June 30 through July 6 of each year or a lesser period as defined by the State of licensure.

(5)Persons who operate commercial motor vehicles during the period from July 7 through June 29 for purposes of transporting less than 227 kilograms (500 pounds) of fireworks classified as DOT Class 1.3G explosives in a vehicle with a GVWR of less than 4,537 kilograms (10,001 pounds) and who also operate such vehicles for the same purposes during the period June 30 through July 6 shall not be issued a restricted CDL pursuant to this paragraph.

38-383.5 Definitions.

As used in 38-382:

Administrator means the Federal Highway Administrator, the chief executive of the Federal Highway Administration, an agency within the Department of Transportation.

Alcohol or alcoholic beverage means: (a) Beer as defined in 26 U.S.C. 5052(a), of the Internal Revenue Code of 1954, (b) wine of not less than one half of one per centum of alcohol by volume, or (c) distilled spirits as defined in section 5002(a)(8), of the Internal Revenue Code of 1954.

Alcohol concentration (AC) means the concentration of alcohol in a person's blood or breath. When expressed as a percentage it means grams of alcohol per 100 milliliters of blood or grams of alcohol per 210 liters of breath.

Alien means any person not a citizen or national of the United States.

Commerce means (a) any trade, traffic or transportation within the jurisdiction of the United States between a place in a State and a place outside of such State, including a place outside of the United States and (b) trade, traffic, and transportation in the United States which affects any trade, traffic, and transportation described in paragraph (a) of this definition.

Commercial driver's license (CDL) means a license issued by a State or other jurisdiction, in accordance with the standards contained in 49 CFR part 383, to an individual which authorizes the individual to operate a class of a commercial motor vehicle.

Commercial driver's license information system (CDLIS) means the CDLIS established by FHWA pursuant to section 12007 of the Commercial Motor Vehicle Safety Act of 1986.

Commercial motor vehicle (CMV) means a motor vehicle or combination of motor vehicles used in commerce to transport passengers or property if the motor vehicle

(a)Has a gross combination weight rating of 11,794 kilograms or more (26,001 pounds or more) inclusive of a towed unit with a gross vehicle weight rating of more than 4,536 kilograms (10,000 pounds); or

(b)Has a gross vehicle weight rating of 11,794 or more kilograms (26,001 pounds or more); or

(c)Is designed to transport 16 or more passengers, including the driver; or

(d)Is of any size and is used in the transportation of hazardous materials as defined in 38-383.

Controlled substance has the meaning such term has under section 102(6), of the Controlled Substances Act (21 U.S.C. 802(6)) and includes all substances listed on schedules I through V of 21 CFR part 1308, as they may be revised from time to time. Schedule I substances are identified

in appendix D of this regulation and schedules II through V are identified in appendix E of this regulation.

Conviction means an un-vacated adjudication of guilt, or a determination that a person has violated or failed to comply with the law in a court of original jurisdiction or by an authorized administrative tribunal, an un-vacated forfeiture of bail or collateral deposited to secure the person's appearance in court, a plea of guilty or nolo contendere accepted by the court, the payment of a fine or court cost, or violation of a condition of release without bail, regardless of whether or not the penalty is rebated, suspended, or probated."

Disqualification means either:

- (a) The suspension, revocation, cancellation, or any other withdrawal by a State of a person's privileges to drive a commercial motor vehicle; or
- (b) A determination by the FHWA, under the rules of practice for motor carrier safety contained in part 386, that a person is no longer qualified to operate a commercial motor vehicle under part 38-391; or
- (c) The loss of qualification which automatically follows conviction of an offense listed in Regulation 38-383.51.

Driver applicant means an individual who applies to a State to obtain, transfer, upgrade, or renew a CDL.

Driver's license means a license issued by a State or other jurisdiction, to an individual which authorizes the individual to operate a motor vehicle on the highways.

Driver's license means a license issued by a State or other jurisdiction, to an individual which authorizes the individual to operate a motor vehicle on the highways.

Driving a commercial motor vehicle while under the influence of alcohol means committing any one or more of the following acts in a CMV: driving a CMV while the person's alcohol concentration is 0.04 percent or more; driving under the influence of alcohol, as prescribed by State law; or refusal to undergo such testing as is required by any State or jurisdiction in the enforcement of Regulation 38-383.51(b)(2)(i)(A) or (B), or Regulation 38-392.5(a)(2).

Eligible unit of local government means a city, town, borough, county, parish, district, or other public body created by or pursuant to State law which has a total population of 3,000 individuals or less.

Employee means any operator of a commercial motor vehicle, including full time, regularly employed drivers; casual, intermittent or occasional drivers; leased drivers and independent, owner operator contractors (while in the course of operating a commercial motor vehicle) who are either directly employed by or under lease to an employer.

Employer means any person (including the United States, a State, District of Columbia or a political subdivision of a State) who owns or leases a commercial motor vehicle or assigns employees to operate such a vehicle.

Endorsement means an authorization to an individual's CDL required to permit the individual to operate certain types of commercial motor vehicles.

Fatality means the death of a person as a result of a motor vehicle accident.

Felony means an offense under State or Federal law that is punishable by death or imprisonment for a term exceeding 1 year.

Foreign means outside the fifty United States and the District of Columbia.

"Gross vehicle weight rating" means the actual weight or the value specified by the manufacturer as maximum loaded weight of a single or a combination vehicle or the registered gross weight, whichever is greater. The gross vehicle weight rating of a combination vehicle (commonly referred to as the "gross combination weight rating") is the gross vehicle weight rating of the power unit plus the gross vehicle weight rating of a towed unit. South Carolina Code of Laws Section 56-1-2030.

Hazardous materials means any material that has been designated as hazardous under 49 U.S.C. 5103 and is required to be placarded under subpart F of 49 CFR part 172 or any quantity of a material listed as a select agent or toxin in 42 CFR part 73.

Motor vehicle means a vehicle, machine, tractor, trailer, or semitrailer propelled or drawn by mechanical power used on highways, except that such term does not include a vehicle, machine, tractor, trailer, semitrailer operated exclusively on a rail.

Nonresident CDL means a CDL issued by a State to an individual domiciled in a foreign country.

Out of service order means a declaration by an authorized enforcement officer of a Federal, State, Canadian, Mexican, or local jurisdiction that a driver, a commercial motor vehicle, or a motor carrier operation, is out of service pursuant to Regulations 386.72, 38-392.5, 395.13, 38-38-396.9, or compatible laws, or the North American Uniform Out of Service Criteria.

Representative vehicle means a motor vehicle which represents the type of motor vehicle that a driver applicant operates or expects to operate.

Serious traffic violation means conviction, when operating a commercial motor vehicle, of:

- (a) Excessive speeding, involving any single offense for any speed of 15 miles per hour or more above the posted speed limit;
- (b) Reckless driving, as defined by State or local law or regulation, including but not limited to offenses of driving a commercial motor vehicle in willful or wanton disregard for the safety of persons or property;
- (c) Improper or erratic traffic lane changes;
- (d) Following the vehicle ahead too closely;
- (e) A violation, arising in connection with a fatal accident, of State or local law relating to motor vehicle traffic control;
- (f) Driving a CMV without obtaining a CDL;
- (g) Driving a CMV without a CDL in the driver's possession. Any individual who provides proof to the enforcement authority that issued the citation, by the date the individual must appear in court or pay an fine for such a violation, that the individual held a valid CDL on the date the citation was issued, shall not be guilty of this offense; or
- (h) Driving a CMV without the proper class of CDL and/or endorsements for the specific vehicle group being operated or for the passengers or type of cargo being transported.

State means a State of the United States and the District of Columbia.

State of domicile means that State where a person has his/her true, fixed, and permanent home and principal residence and to which he/she has the intention of returning whenever he/she is absent.

"Tank vehicle" means a vehicle that is designed to transport a liquid or gaseous material within a tank that either is attached permanently or temporarily to the vehicle and which has a capacity of one thousand gallons or more. South Carolina Code of Laws Section 56-1-2030.

The term United States means the 50 States and the District of Columbia.

Vehicle means a motor vehicle unless otherwise specified.

Vehicle group means a class or type of vehicle with certain operating characteristics.

38-383.7 Validity of CDL issued by decertified State.

A CDL issued by a State prior to the date the State is notified by the Administrator, in accordance with the provisions of Regulation 384.405 of this regulation, that the State is prohibited from issuing CDLs, will remain valid until its stated expiration date.

Subpart B Single License Requirement

38-383.21 Number of drivers' licenses.

No person who operates a commercial motor vehicle shall at any time have more than one driver's license.

38-383.23 Commercial driver's license.

(a)General rule.

(1)Effective April 1, 1992, no person shall operate a commercial motor vehicle unless such person has taken and passed written and driving tests which meet the Federal standards contained in Subparts F, G, and H of 38-382 for the commercial motor vehicle that person operates or expects to operate.

(2)Effective April 1, 1992, except as provided in paragraph (b), no person shall operate a commercial motor vehicle unless such person possesses a CDL which meets the standards contained in Subpart J of 38-382, issued by his/her State or jurisdiction of domicile.

(b)Exception. If a commercial motor vehicle operator is domiciled in a foreign jurisdiction which, as determined by the Administrator, does not test drivers and issue a CDL in accordance with, or similar to, the standards contained in Subparts F, G, and H of 38-382, the person shall obtain a Nonresident CDL from a State which does comply with the testing and licensing standards contained in such Subparts F, G, and H.

(c)Learner's permit. State learner's permits, issued for limited time periods according to State requirements, shall be considered valid commercial drivers' licenses for purposes of behind the wheel training on public roads or highways, if the following minimum conditions are met:

(1)The learner's permit holder is at all time accompanied by the holder of a valid CDL; and

(2)He/she either holds a valid automobile driver's license, or has passed such vision, sign/symbol, and knowledge tests as the State issuing the learner's permit ordinarily administers to applicants for automobile drivers' licenses.

Subpart C Notification Requirements and Employer Responsibilities

38-383.31 Notification of convictions for driver violations.

(a)Each person who operates a commercial motor vehicle, who has a commercial driver's license issued by a State or jurisdiction, and who is convicted of violating, in any type of motor vehicle, a State or local law relating to motor vehicle traffic control (other than a parking violation) in a State or jurisdiction other than the one which issued his/her license, shall notify an official designated by the State or jurisdiction which issued such license, of such conviction. The notification must be made within 30 days after the date that the person has been convicted.

(b)Each person who operates a commercial motor vehicle, who has a commercial driver's license issued by a State or jurisdiction, and who is convicted of violating, in any type of motor vehicle, a State or local law relating to motor vehicle traffic control (other than a parking violation), shall notify his/her current employer of such conviction. The notification must be made within 30 days after the date that the person has been convicted. If the driver is not currently employed, he/she must notify the State or jurisdiction which issued the license according to Regulation 38-383.31(a).

(c)Notification. The notification to the State official and employer must be made in writing and contain the following information:

- (1)Driver's full name;
- (2)Driver's license number;
- (3)Date of conviction;
- (4)The specific criminal or other offense(s), serious traffic violation(s), and other violation(s) of State or local law relating to motor vehicle traffic control, for which the person was convicted and any suspension, revocation, or cancellation of certain driving privileges which resulted from such conviction(s);
- (5)Indication whether the violation was in a commercial motor vehicle;
- (6)Location of offense; and
- (7)Driver's signature.

38-383.33 Notification of driver's license suspensions.

Each employee who has a driver's license suspended, revoked, or canceled by a State or jurisdiction, who loses the right to operate a commercial motor vehicle in a State or jurisdiction for any period, or who is disqualified from operating a commercial motor vehicle for any period, shall notify his/her current employer of such suspension, revocation, cancellation, lost privilege, or disqualification. The notification must be made before the end of the business day following the day the employee received notice of the suspension, revocation, cancellation, lost privilege, or disqualification.

38-383.35 Notification of previous employment.

(a)Any person applying for employment as an operator of a commercial motor vehicle shall provide at the time of application for employment, the information specified in paragraph (c).

(b)All employers shall request the information specified in paragraph (c) from all persons applying for employment as a commercial motor vehicle operator. The request shall be made at the time of application for employment.

(c)The following employment history information for the 10 years preceding the date the application is submitted shall be presented to the prospective employer by the applicant:

- (1)A list of the names and addresses of the applicant's previous employers for which the applicant was an operator of a commercial motor vehicle;
- (2)The dates the applicant was employed by these employers; and

(3)The reason for leaving such employment.

(d)The applicant shall certify that all information furnished is true and complete.

(e)An employer may require an applicant to provide additional information.

(f)Before an application is submitted, the employer shall inform the applicant that the information he/she provides in accordance with paragraph (c) may be used, and the applicant's previous employers may be contacted for the purpose of investigating the applicant's work history.

38-383.37 Employer responsibilities.

No employer shall knowingly allow, require, permit, or authorize an employee to operate a commercial motor vehicle in the United States:

(a) During any period in which the driver has a CMV driver's license suspended, revoked, or canceled by a State, has lost the right to operate a commercial motor vehicle in a State, or has been disqualified from operating a commercial motor vehicle;

(b)During any period in which the employee has more than one commercial motor vehicle driver's license;

(c)During any period in which the employee, or the motor vehicle he/she is driving, or the motor carrier operation, is subject to an out of service order; or

(d)In violation of a Federal, State, or local law or regulation, pertaining to railroad-highway grade crossings.

Subpart D Driver Disqualifications and Penalties

38-383.51 Disqualification of drivers.

(a)General.

(1)A driver or holder of a CDL who is disqualified must not drive a CMV.

(2)An employer must not knowingly allow, require, permit, or authorize a driver who is disqualified to drive a CMV.

(3)A driver is subject to disqualification sanctions designated in paragraphs (b) and (c), if the holder of a CDL driver a CMV or non-CMV and is convicted of the violations.

(4)Determining first and subsequent violations. For purposes of determining first and subsequent violations of the offenses specified in this subpart, each conviction for any offense listed in Tables 1 through 4 resulting from a separate incident, whether committed in a CMV or non-CMV, must be counted.

(5)Reinstatement after lifetime disqualification. A State may reinstate any driver disqualified for life for offenses described in paragraphs (b)(1) through (b)(8), (Table 1 to Regulation 38-383.51) after 10 years if that person has voluntarily entered and successfully completed an appropriate rehabilitation program approved by the State. Any person who has been reinstated in accordance with this provision and who is subsequently convicted of a disqualifying offense described in paragraphs (b)(1) through (b)(8), (Table 1 to Regulation 38-383.51) must be reinstated.

(b)Disqualification for major offenses. Table 1 to Regulation 38-383.51 contains a list of the offenses and periods for which a driver must be disqualified, depending upon the type of vehicle the driver is operating at the time of the violation, as follows:

Table 1 to Sec. 38-383.51

If a driver operates a motor vehicle and is convicted of:	For a first conviction of refusal to be tested while operating a CMV, a person required to have a CDL and a CDL holder must be disqualified from operating a CMV for...	For a first conviction or refusal to be tested while operating a non-CMV, a CDL holder must be disqualified from operating a CMV for...	For a first conviction or refusal to be tested while operating a CMV transporting hazardous materials required to be placarded under the Hazardous Materials Regulations (49 CFR part 172, subpart F), a person required to have a CDL and CDL holder must be disqualified from operating a CMV for...	For a second conviction or refusal to be tested in a separate incident of any combination of offenses in this Table while operating a CMV, a person required to have a CDL and a CDL holder must be disqualified from operating a CMV for...	For a second conviction or refusal to be tested in a separate incident of any combination of offenses in this Table while operating a non-CMV, a CDL holder must be disqualified from operating a CMV for...
(1) Being under the influence of alcohol as prescribed by State law.	1 year	1 year	3 years	Life	Life
(2) Being under the influence of a controlled substance.	1 year	1 year	3 years	Life	Life
(3) Having an alcohol concentration of 0.04 or greater while operating a CMV.	1 year	Not applicable	3 years	Life	Not applicable
(4) Refusing to take an alcohol test as required by a State or jurisdiction under its implied consent laws or	1 year	1 year	3 years	Life	Life

regulations as defined in Sec. 38-383.72 of 38-382					
(5) Leaving the scene of an accident.	1 year	1 year	3 years	Life	Life
(6) Using the vehicle to commit a felony other than a felony described in paragraph (b)(9) of this table	1 year	1 year	3 years	Life	Life
(7) Driving a CMV when, as a result of prior violations committed operating a CMV, the driver's CDL is revoked, suspended, or canceled, or the driver is disqualified from operating a CMV.	1 year	Not applicable	3 years	Life	Not applicable
(8) Causing a fatality through the negligent operation of a CMV including but not limited to the crimes of motor vehicle manslaughter, homicide by motor vehicle and negligent homicide.	1 year	Not applicable	3 years	Life	Not applicable
(9) Using the vehicle in the commission of a felony involving manufacturing, distributing, or dispensing a controlled	Life-not eligible for 10-year reinstatement.	Life-not eligible for 10-year reinstatement.	Life-not eligible for 10-year reinstatement.	Life-not eligible for 10-year reinstatement.	Life-not eligible for 10-year reinstatement.

substance.					
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(c) Disqualification for serious traffic violations. Table 2 to Regulation 38-383.51 contains a list of the offenses and the periods for which a driver must be disqualified, depending upon the type of vehicle the driver is operating at the time of the violation, as follows:

Table 2 to Sec. 38-383.51

If a driver operates a motor vehicle and is convicted of:	For a second conviction of any combination of offenses in this Table in a separate incident within a 3-year period while operating a CMV, a person required to have a CDL, holder must be disqualified from operating a CMV for...	For a second conviction of any combination of offenses in this Table in a separate incident within a 3-year period while operating a non-CMV, a CDL holder must be disqualified from operating a CMV, if the conviction results in the revocation, cancellation, or suspension of the CDL holder's license or non-CMV driving privileges, for...	For a third or subsequent conviction of any combination of offenses in this Table in a separate incident within a 3-year period while operating a CMV, a person required to have a CDL and a CDL holder must be disqualified from operating a CMV for...	For a third or subsequent conviction of any combination of offenses in this Table in a separate incident within a 3-year period while operating a non-CMV, a CDL holder must be disqualified from operating a CMV, if the conviction results in the revocation, cancellation, or suspension of the CDL holder's license or non-CMV driving privileges for...
(1) Speeding excessively, involving and speed of 24.1 kmph (15 mph) or more above the posted speed limit.	60 days	60 days	120 days	120 days
(2) Driving recklessly, as defined by State or local law or regulation, including but not limited to, offenses of driving a motor vehicle in willful or wanton disregard for the safety of persons or	60 days	60 days	120 days	120 days

property.				
(3) Making improper or erratic traffic lane changes.	60 days	60 days	120 days	120 days
(4) Following the vehicle ahead too closely	60 days	60 days	120 days	120 days
(5) Violating State or local law relating to motor vehicle traffic control (other than a parking violation) arising in connection with a fatal accident.	60 days	60 days	120 days	120 days
(6) Driving a CMV without obtaining a CDL	60 days	Not applicable	120 days	Not applicable
(7) Driving a CMV without a CDL in the driver's possession.	60 days	Not applicable	120 days	Not applicable
(8) Driving a CMV without the proper class of CDL and/or endorsements for the specific vehicle group being operated or for the passengers or type of cargo being transported.	60 days	Not applicable	120 days	Not applicable

(d) Disqualification for violation of out of service orders. Table 3 to Regulation 38-383.51 contains a list of the offenses and periods for which a driver must be disqualified, when the driver is operating a CMV at the time of the violation, as follows:

Table 3 to Sec. 38-383.51

If a driver is convicted of operating a CMV in violation of a Federal, State or local law because...	For a first conviction a person required to have a CDL and a CDL holder must be disqualified from operating a CMV for...	For a second conviction of any combination of offenses in this Table in a separate incident within a 3-year period a person required to have a CDL and a CLD holder must be disqualified from operating a CMV for...	For a third or subsequent conviction of any combination of offenses in this Table in a separate incident within a 3-year period a person required to have a CDL and a CDL holder must be disqualified from operating a CMV for...
(1) The driver is not required to always stop, but fails to slow down and check that tracks are clear of an approaching train.	No less than 60 days	No less than 120 days	No less than 1 year
(2) The driver is not required to always stop, but fails to stop before	No less than 60 days	No less than 120 days	No less than 1 year

reaching the crossing, if the tracks are not clear.			
(3) The driver is always required to stop, but fails to stop before driving onto the crossing.	No less than 60 days	No less than 120 days	No less than 1 year
(4) The driver fails to have sufficient space to drive completely through the crossing without stopping.	No less than 60 days	No less than 120 days	No less than 1 year
(5) The driver fails to obey a traffic control device or the directions of an enforcement official at the crossing.	No less than 60 days	No less than 120 days	No less than 1 year
(6) The driver fails to negotiate a crossing because of insufficient undercarriage clearance.	No less than 60 days	No less than 120 days	No less than 1 year

(e) Disqualification for violating out-of-service orders. Table 4 Regulation 38-383.51 contains a list of the offenses and periods for which a driver must be disqualified when the driver is operating a CMV at the time of the violation, as follows:

Table 4 to Sec. 38-383.51

If a driver operates a motor vehicle and is convicted of:	For a first conviction while operating a CMV, a person required to have a CDL and a CDL holder must be disqualified from operating a CMV for...	For a second conviction in a separate incident within a 10-year period while operating a CMV, a person required to have a CDL and a CDL holder must be disqualified from operating a CMV for...	For a third or subsequent conviction in a separate incident within a 10-year period while operating a CMV, a person required to have a CDL and a CDL holder must be disqualified from operating a CMV for...
(1) Violating a driver or vehicle out-of-service order while transporting non-hazardous materials.	No less than 90 days or more than 1 year.	No less than 1 year or more than 5 years.	No less than 3 years or more than 5 years
(2) Violating a driver or vehicle out-of-service order while transporting hazardous materials required to be placarded under part 172, subpart F, or while operating a vehicle designed to transport 16 or more passengers including the driver.	No less than 180 days or more than 2 years.	No less than 3 years or more than 5 years.	No less than 3 years or more than 5 years.

38-383.53 Penalties.

(a)General rule. Any person who violates the rules set forth in Subparts B and C of 38-382 may be subject to civil or criminal penalties as provided for in 49 U.S.C. 521(b).

(b)Special penalties pertaining to violation of out of service orders

(1)Driver violations. A driver who is convicted of violating an out of service order shall be subject to a civil penalty of not less than \$1,000 nor more than \$2,500, in addition to disqualification under Regulation 38-383.51(d).

(2)Employer violations. An employer who is convicted of a violation of Regulation 38-383.37(c) shall be subject to a civil penalty of not less than \$2,500 nor more than \$10,000.

Subpart E Testing and Licensing Procedures

38-383.71 Driver application procedures.

(a)Initial Commercial Driver's License. Prior to obtaining a CDL, a person must meet the following requirements:

(1)A person who operates or expects to operate in interstate or foreign commerce, or is otherwise subject to part 38-391, shall certify that he/she meets the qualification requirements contained in part 38-391. A person who operates or expects to operate entirely in intrastate commerce and is not subject to part 38-391, is subject to State driver qualification requirements and must certify that he/she is not subject to part 38-391;

(2)Pass a knowledge test in accordance with the standards contained in Subparts G and H of 38-382 for the type of motor vehicle the person operates or expects to operate;

(3)Pass a driving or skills test in accordance with the standards contained in Subparts G and H of 38-382 taken in a motor vehicle which is representative of the type of motor vehicle the person operates or expects to operate; or provide evidence that he/she has successfully passed a driving test administered by an authorized third party;

(4)Certify that the motor vehicle in which the person takes the driving skills test is representative of the type of motor vehicle that person operates or expects to operate;

(5)Provide to the State of issuance the information required to be included on the CDL as specified in Subpart J of 38-382;

(6)Certify that he/she is not subject to any disqualification, suspension, revocation, or cancellation as contained in Regulation 38-383.51 and that he/she does not have a driver's license from more than one State or jurisdiction.

(7)The applicant shall surrender his/her non CDL driver's licenses to the State.

(8)Provide the names of all States where the applicant has previously been licensed to drive any type of motor vehicle during the previous 10 years.

(9)If applying for a hazardous materials endorsement, comply with Transportation Security Administration requirements codified in 49 CFR Part 1572, and provide proof of citizenship or immigration status as specified in Table 1. A lawful permanent resident of the United States requesting a hazardous materials endorsement must additionally provide his or her Bureau of Citizenship and Immigration Services (BCTS) Alien registration number.

Table 1 to Regulation 38-383.71—List of Acceptable Proofs of Citizenship or Immigration

Status	Proof of Status
U.S. Citizen:	1. U.S. Passport

2. Certificate of birth that bears an official seal and was issued by a State, county, municipal authority, or possession of the United States
3. Certification of Birth Aboard issued by the U.S. Department of State (Form FS-545 or DS 1350)
4. Certificate of Naturalization (Form N-550 or N-570)
5. Certificate of U.S. Citizenship (Form N-560 or N-561)

- Lawful Permanent Resident:
1. Permanent Resident Card, Alien Registration Receipt Card (Form I-551)
 2. Temporary I-551 stamp in foreign passport
 3. Temporary I-551 stamp on Form I-94, Arrival/Departure Record, with photograph of the bearer
 4. Re-entry Permit (Form I-327)

(b)License transfer. When applying to transfer a CDL from one State of domicile to a new State domicile, an applicant shall apply for a CDL from the new State of domicile within no more than 30 days after establishing his/her new domicile. The applicant shall:

- (1)Provide to the new State of domicile the certifications contained in Regulation 38-383.71(a)(1) and (6);
- (2)Provide to the new State of domicile updated information as specified in Subpart J of 38-382;
- (3)If the applicant wishes to retain a hazardous materials endorsement, comply with State requirements as specified in Regulation 38-383.73(b)(4);
- (4)Surrender the CDL from the old State of domicile to the new State of domicile; or
- (5)Provide the names of all States where the applicant has previously been licensed to drive any type of motor vehicle during the previous 10 years;

(c)License renewal. When applying for a renewal of a CDL, all applicants shall:

- (1)Provide certification contained in Regulation 38-383.71(a)(1);
- (2)Provide update information as specified in Subpart J of 38-382;
- (3)If a person wishes to retain a hazardous materials endorsement, he/she must comply with the requirements specified in Regulation 38-383.71(a)(9) and pass the test for such endorsement; and
- (4)Provide the names of all States where the applicant has previously been licensed to drive any type of motor vehicle during the previous 10 years.

(d)License upgrades. When applying to operate a commercial motor vehicle in a different group or endorsement from the group or endorsement in which the applicant already has a CDL, all persons shall:

- (1)Provide the necessary certifications as specified in Regulation 38-383.71(a)(1) and (a)(4);
- (2)Pass all tests specified in Regulation 38-383.71(a)(2) and (a)(3) for the new vehicle group and/or different endorsements; and
- (3)To obtain a hazardous materials endorsement, comply with the requirements for such endorsement specified in Regulation 38-383.71(a)(9).

(e)Nonresident CDL. When an applicant is domiciled in a foreign jurisdiction, as defined in Regulation 38-383.5, where the commercial motor vehicle operator testing and licensing standards do not meet the standards contained in Subparts G and H of 38-382, as determined by the Administrator, such applicant shall obtain a Nonresident CDL from a State which meets such standards. Such applicant shall:

- (1)Complete the requirements to obtain a CDL contained in Regulation 38-383.71(a); and

(2)After receipt of the CDL, and for as long as it is valid, notify the State which issued the CDL of any adverse action taken by any jurisdiction or governmental agency, foreign or domestic, against his/ her driving privileges. Such adverse actions would include but not be limited to license suspension or revocation, or disqualification from operating a commercial motor vehicle for the convictions described in 38-383.51. Notifications shall be made within the time periods specified in Regulation 38-383.33.

(f)If a State uses the alternative method described in Regulation 38-383.73(i) to achieve the objectives of the certifications in Regulation 38-383.71(a), then the driver applicant shall satisfy such alternative methods as are applicable to him/her with respect to initial licensing, license transfer, license renewal, and license upgrades.

38-383.72 Implied consent to alcohol testing.

Any person who holds a CDL shall be deemed to have consented to such testing as is required of him/her by any State or jurisdiction in the enforcement of Regulation 38-383.51(b)(2)(i) and Regulation 38-392.5(a)(2). Consent is implied by driving a commercial motor vehicle.

38-383.73 State procedures.

(a)Initial licensure. Prior to issuing a CDL to a person, a State shall:

(1)Require the driver applicant to certify, pass tests, and provide information as described in Secs. 38-383.71(a) (1) through (6);

(2)Check that the vehicle in which the applicant takes his/her test is representative of the vehicle group the applicant has certified that he/she operates or expects to operate;

(3)Initiate and complete a check of the applicant's driving record to ensure that the person is not subject to any disqualification, suspensions, revocations, or cancellations as contained in Regulation 38-383.51 and that the person does not have a driver's license from more than one State. The record check shall include but not be limited to the following:

(i)A check of the applicant's driving record as maintained by his/ her current State of licensure, if any;

(ii)A check with the CDLIS to determine whether the driver applicant already has a CDL, whether the applicant's license has been suspended, revoked, or canceled, or if the applicant has been disqualified from operating a commercial motor vehicle; and

(iii)A check with the National Driver Register (NDR), when it is determined to be operational by the National Highway Traffic Safety Administrator, to determine whether the driver applicant has:

(A)Been disqualified from operating a motor vehicle (other than a commercial motor vehicle);

(B)Had a license (other than CDL) suspended, revoked, or canceled for cause in the 3 year period ending on the date of application; or

(C)Been convicted of any offenses contained in section 205(a)(3) of the National Drivers Register Act of 1982 (23 U.S.C. 401 note); and

(iv)A request for the applicant's complete driving record from all States where the applicant was previously licensed over the last 10 years to drive any type of motor vehicle. Exception: A State is only required to make the driving record check specified in this paragraph (a)(3) for drivers renewing a CDL for the first time after September 30, 2002, provided a notation is made on the driver's record confirming that the driver record check required by this paragraph (a)(3) has been made and noting the date it was done; and

(4)Require the driver applicant, if he/she has moved from another State, to surrender his/her driver's license issued by another State.

(5)For persons applying for a hazardous materials endorsement, require compliance with the standards for such endorsement specified in Regulation 387.71(a)(9).

(b)License transfers. Prior to issuing a CDL to a person who has a CDL from another State, a State shall:

(1)Require the driver applicant to make the certifications contained in Regulation 38-383.71(a);

(2)Complete a check of the driver applicant's record as contained in Regulation 38-383.73(a)(3);

(3)Request and receive updates of information specified in Subpart J of 38-382;

(4)If such applicant wishes to retain a hazardous materials endorsement, require compliance with standards for such endorsement specified in Regulation 38-383.71(a)(9) and ensure that the driver has, within the 2 years preceding the transfer, either:

(i)Passed the test for such endorsement specified in Regulation 38-383.121; or

(ii)Successfully completed a hazardous materials test or training that is given by a third party and that is deemed by the State to substantially cover the same knowledge base as that described in Regulation 38-383.121; and

(5)Obtain the CDL issued by the applicant's previous State of domicile.

(c)License Renewals. Prior to renewing any CDL a State shall:

(1)Require the driver applicant to make the certifications contained in Regulation 38-383.71(a);

(2)Complete a check of the driver applicant's record as contained in Regulation 38-383.73(a)(3);

(3)Request and receive updates of information specified in Subpart J of 38-382; and

(4)If such applicant wishes to retain a hazardous materials endorsement, require the driver to pass the test specified in Regulation 38-383.121 and comply with the standards specified in Regulation 38-383.71(a)(9) for such endorsement.

(d)License upgrades. Prior to issuing an upgrade of a CDL, a State shall:

(1)Require such driver applicant to provide certifications, pass tests, and meet applicable hazardous materials standards specified in Regulation 38-383.71(d); and

(2)Complete a check of the driver applicant's record as described in Regulation 38-383.73(a)(3).

(e)Nonresident CDL. A State may issue a Nonresident CDL to a person domiciled in a foreign country if the Administrator has determined that the commercial motor vehicle testing and licensing standards in the foreign jurisdiction of domicile do not meet the standards contained in 38-382. State procedures for the issuance of a nonresident CDL, for any modifications thereto, and for notifications to the CDLIS shall at a minimum be identical to those pertaining to any other CDL, with the following exceptions:

(1)If the applicant is requesting a transfer of his/her Nonresident CDL, the State shall obtain the Nonresident CDL currently held by the applicant and issued by another State;

(2)The State shall add the word "Nonresident" to the face of the CDL, in accordance with Regulation 38-383.153(b); and

(3)The State shall have established, prior to issuing any Nonresident CDL, the practical capability of disqualifying the holder of any Nonresident CDL, by withdrawing, suspending, canceling, and revoking his/her Nonresident CDL as if the Nonresident CDL were a CDL issued to a resident of the State.

(f)License issuance. After the State has completed the procedures described in Regulation 38-383.73(a), (b), (c), (d) or (e), it may issue a CDL to the driver applicant. The State shall notify

the operator of the CDLIS of such issuance, transfer, renewal, or upgrade within the 10 day period beginning on the date of license issuance.

(g)Penalties for false information. If a State determines, in its check of an applicant's license status and record prior to issuing a CDL, or at any time after the CDL is issued, that the applicant has falsified information contained in Subpart J of 38-382 or any of the certifications required in Regulation 38-383.71(a), the State shall at a minimum suspend, cancel, or revoke the person's CDL or his/her pending application, or disqualify the person from operating a commercial motor vehicle for a period of at least 60 consecutive days.

(h)Reciprocity. A State shall allow any person who has a valid CDL which is not suspended, revoked, or canceled, and who is not disqualified from operating a commercial motor vehicle, to operate a commercial motor vehicle in the State.

(i)Alternative procedures. A State may implement alternative procedures to the certification requirements of Regulation 38-383.71(a) (1), (4), and (6), provided those procedures ensure that the driver meets the requirements of those paragraphs.

38-383.75 Third party testing.

(a)Third party tests. A State may authorize a person (including another State, an employer, a private driver training facility or other private institution, or a department, agency or instrumentality of a local government) to administer the skills tests as specified in Subparts G and H of 38-382, if the following conditions are met:

(1)The tests given by the third party are the same as those which would otherwise be given by the State; and

(2)The third party as an agreement with the State containing, at a minimum, provisions that:

(i)Allow the FHWA, or its representative, and the State to conduct random examinations, inspections and audits without prior notice;

(ii)Require the State to conduct on site inspections at least annually;

(iii)Require that all third party examiners meet the same qualification and training standards as State examiners, to the extent necessary to conduct skills tests in compliance with Subparts G and H;

(iv)Require that, at least on an annual basis, State employees take the tests actually administered by the third party as if the State employee were a test applicant, or that States test a sample of drivers who were examined by the third party to compare pass/fail results; and

(v)Reserve unto the State the right to take prompt and appropriate remedial action against the third party testers in the event that the third party fails to comply with State or Federal standards for the CDL testing program, or with any other terms of the third party contract.

(b)Proof of testing by a third party. A driver applicant who takes and passes driving tests administered by an authorized third party shall provide evidence to the State licensing agency that he/she has successfully passed the driving tests administered by the third party.

38-383.77 Substitute for driving skills tests.

At the discretion of a State, the driving skill test as specified in Regulation 38-383.113 may be waived for a CMV operator who is currently licensed at the time of his/her application for a CDL, and substituted with either an applicant's driving record and previous passage of an acceptable skills test, or an applicant's driving record in combination with certain driving experience. The State shall impose conditions and limitations to restrict the applicants from whom a State may accept alternative requirements for the skills test described in Regulation 38-383.113. Such conditions must require at least the following:

(a)An applicant must certify that, during the two year period immediately prior to applying for a CDL, he/she:

(1)Has not had more than one license (except in the instances specified in Regulation 38-383.21(b));

(2)Has not had any license suspended, revoked, or canceled;

(3)Has not had any convictions for any type of motor vehicle for the disqualifying offenses contained in Regulation 38-383.51(b)(2);

(4)Has not had more than one conviction for any type of motor vehicle for serious traffic violations; and

(5)Has not had any conviction for a violation of State or local law relating to motor vehicle traffic control (other than a parking violation) arising in connection with any traffic accident, and has no record of an accident in which he/she was at fault; and

(b)An applicant must provide evidence and certify that:

(1)He/she is regularly employed in a job requiring operation of a CMV, and that either:

(2)He/she has previously taken and passed a skills test given by a State with a classified licensing and testing system, and that the test was behind the wheel in a representative vehicle for that applicant's driver's license classification; or

(3)He/she has operated, for at least 2 years immediately preceding application for a CDL, a vehicle representative of the commercial motor vehicle the driver applicant operates or expects to operate.

Subpart F Vehicle Groups and Endorsements

38-383.91 Commercial motor vehicle groups.

(a)Vehicle group descriptions. Each driver applicant must possess and be tested on his/her knowledge and skills, described in Subpart G of 38-382, for the commercial motor vehicle group(s) for which he/she desires a CDL. The commercial motor vehicle groups are as follows:

(1)Combination vehicle (Group A) Any combination of vehicles with a gross combination weight rating (GCWR) of 11,794 kilograms or more (26,001 pounds or more) provided the GVWR of the vehicle(s) being towed is in excess of 4,536 kilograms (10,000 pounds).

(2)Heavy Straight Vehicle (Group B) Any single vehicle with a GVWR of 11,794 kilograms or more (26,001 pounds or more), or any such vehicle towing a vehicle not in excess of 4,536 kilograms (10,000 pounds) GVWR.

(3)Small Vehicle (Group C) Any single vehicle, or combination of vehicles, that meets neither the definition of Group A nor that of Group B, but that either is designed to transport 16 or more passengers including the driver, or is used in the transportation of materials found to be hazardous for the purposes of the Hazardous Materials Transportation Act and which require the motor vehicle to be placarded under the Hazardous Materials Regulations (49 CFR part 172, Subpart F).

(b)Representative vehicle. For purposes of taking the driving test in accordance with Regulation 38-383.113, a representative vehicle for a given vehicle group contained in Regulation 38-383.91(a), is any commercial motor vehicle which meets the definition of that vehicle group.

(c)Relation between vehicle groups. Each driver applicant who desires to operate in a different commercial motor vehicle group from the one which his/her CDL authorizes shall be required to retake and pass all related tests, except the following:

(1)A driver who has passed the knowledge and skills tests for a combination vehicle (Group A) may operate a heavy straight vehicle (Group B) or a small vehicle (Group C), provided that he/she possesses the requisite endorsement(s); and

(2)A driver who has passed the knowledge and skills tests for a heavy straight vehicle (Group B) may operate any small vehicle (Group C), provided that he/she possesses the requisite endorsement(s).

(d)Vehicle group illustration.

38-383.93 Endorsements.

(a)General. In addition to taking and passing the knowledge and skills tests described in Subpart G of 38-382, all persons who operate or expect to operate the type(s) of motor vehicles described in paragraph (b) shall take and pass specialized tests to obtain each endorsement. The State shall issue CDL endorsements only to drivers who successfully complete the tests.

(b)Endorsement descriptions. An operator must obtain State issued endorsements to his/her CDL to operate commercial motor vehicles which are:

- (1)Double/triple trailers;
- (2)Passenger vehicles;
- (3)Tank vehicles; or
- (4)Used to transport hazardous material as defined in Regulation 38-383.5.

(c)Endorsement testing requirements. The following tests are required for the endorsements contained in paragraph (b):

- (1)Double/Triple Trailers a knowledge test;
- (2)Passenger a knowledge and a skills test;
- (3)Tank vehicle a knowledge test; and
- (4)Hazardous Materials a knowledge test.

38-383.95 Air brake restrictions.

(a)If an applicant either fails the air brake component of the knowledge test, or performs the skills test in a vehicle not equipped with air brakes, the State shall indicate on the CDL, if issued, that the person is restricted from operating a CMV equipped with air brakes.

(b)For the purposes of the skills test and the restriction, air brakes shall include any braking system operating fully or partially on the air brake principle.

Subpart G Required Knowledge and Skills

38-383.110 General requirement.

All drivers of commercial motor vehicles shall have knowledge and skills necessary to operate a commercial motor vehicle safely as contained in this Subpart. A sample of the specific types of items which a State may wish to include in the knowledge and skills tests that it administers to CDL applicants is included in the appendix to this Subpart G.

38-383.111 Required knowledge.

All commercial motor vehicle operators must have knowledge of the following general areas:

(a)Safe operations regulations. Driver related elements of the regulations contained in 49 CFR parts 391, 392, 38, 395, 396, and 397, such as: Motor vehicle inspection, repair, and maintenance requirements; procedures for safe vehicle operations; the effects of fatigue, poor vision, hearing, and general health upon safe commercial motor vehicle operation; the types of motor vehicles and cargoes subject to the requirements; and the effects of alcohol and drug use upon safe commercial motor vehicle operations.

(b)Commercial motor vehicle safety control systems. 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. Commercial motor vehicle drivers shall have knowledge on the correct procedures needed to use these safety systems in an emergency situation, e.g., skids and loss of brakes.

(c)Safe vehicle control

(1)Control systems. The purpose and function of the controls and instruments commonly found on commercial motor vehicles.

(2)Basic control. The proper procedures for performing various basic maneuvers.

(3)Shifting. The basic shifting rules and terms, as well as shift patterns and procedures for common transmissions.

(4)Backing. The procedures and rules for various backing maneuvers.

(5)Visual search. The importance of proper visual search, and proper visual search methods.

(6)Communication. The principles and procedures for proper communications and the hazards of failure to signal properly.

(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.

38-383.113 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 Regulation 38-393.95, 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 Regulation 38-383.113 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.

38-383.115 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.

38-383.117 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 Regulation 38-383.91.

38-383.119 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.

38-383.121 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;
 - (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 A and B explosives.

Appendix to Subpart G Required Knowledge and Skills—Sample Guidelines

The following is a sample of the specific types of items which a State may wish to include in the knowledge and skills tests that it administers to CDL applicants. This appendix closely follows the framework of Regulation 38-383.111 and 38-383.113. It is intended to provide more specific guidance and suggestion to States. Additional detail in this appendix is not binding and States may depart from it at their discretion provided their CDL program tests for the general areas of knowledge and skill specified in Regulation 38-383.111 and 38-383.113.

Examples of specific knowledge elements

- (a) Safe operations regulations. Driver related elements of the following regulations:
- (1) Motor vehicle inspection, repair, and maintenance requirements as contained in parts 38-393 and 38-396;
 - (2) Procedures for safe vehicle operations as contained in part 38-392;
 - (3) The effects of fatigue, poor vision, hearing, and general health upon safe commercial motor vehicle operation as contained in parts 38-391, 38-392, and 395;

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

(5) The effects of alcohol and drug use upon safe commercial motor vehicle operations as contained in parts 38-391 and 395.e

(b) Commercial motor vehicle safety control systems. 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. Commercial motor vehicle drivers shall have knowledge on the correct procedures needed to use these safety systems in an emergency situation, e.g., skids and loss of brakes.

(c) Safe vehicle control

(1) Control systems. The purpose and function of the controls and instruments commonly found on commercial motor vehicles.

(2) 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.

(3) Shifting. The basic shifting rules and terms, as well as shift patterns and procedures 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.

(4) 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.

(5) 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.

(6) 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 speed or direction in traffic;
- (ii) Communicating presence, e.g., using horn or lights to signal presence; and
- (iii) Misuse of communications.

(7) 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.

(8) 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.

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

(i) Night driving factors, e.g., driver factors, (vision, glare, fatigue, inexperience), roadway factors, (low illumination, variation in illumination, familiarity with roads, other road users, especially drivers exhibiting erratic or improper driving), vehicle factors (headlights, auxiliary lights, turn signals, windshields and mirrors); and

(ii) Night driving procedures, e.g., preparing to drive at night and driving at night.

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

(i) Adverse weather;

(ii) Hot weather; and

(iii) Mountain driving.

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

(i) Importance of hazards recognition;

(ii) Road characteristics; and

(iii) Road user activities.

(12) 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.

(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, including:

(1) The importance of proper cargo handling, e.g., consequences of improperly secured cargo, drivers' responsibilities, Federal/State and local regulations.

(2) Principles of weight distribution.

(3) Principles and methods of cargo securement.

(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 and to prevention of enroute breakdowns.

(2) The effect of undiscovered malfunctions upon safety.

(3) 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.

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

(5) Reporting findings.

(f) Hazardous materials knowledge, as follows:

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

(2) 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) General air brake system nomenclature;
 - (2) The dangers of contaminated air (dirt, moisture and oil) 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, including knowledge about:
 - (i) Automatic fail safe devices;
 - (ii) System monitoring devices; and
 - (iii) Low pressure warning alarms.
 - (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, including:
 - (i) Tests which indicate the amount of air loss from the braking system within a specified period, with and without the engine running; and
 - (ii) Tests which indicate the pressure levels at which the low air pressure warning devices and the tractor protection valve should activate.
- (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.

Examples of Specific Skills Elements

These examples relate to paragraphs (a) and (b) of Regulation 38-383.113 only.

(a) Basic vehicle control skills. All applicants for a CDL must possess and demonstrate the following basic motor vehicle control skills for each vehicle group which the driver operates or expects to operate. These skills shall include:

- (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 and then make left and right turns;
- (6) Ability to shift as required and select appropriate gear for speed and highway conditions;
- (7) Ability to back along a curved path; and
- (8) Ability to observe the road and the behavior of other motor vehicles, particularly before changing speed and direction.

(b) Safe driving skills. All applicants for a CDL must possess and demonstrate the following safe driving skills for any vehicle group. These skills shall include:

- (1) Ability to use proper visual search methods.
- (2) Ability to signal appropriately when changing speed or 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, on visibility, and on vehicle weight; and

(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.

Subpart H Tests

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

38-383.131 Test procedures.

(a) Driver information manuals. Information on how to obtain a CDL and endorsements shall be included in manuals and made available by States to CDL applicants. All information provided to the applicant shall include the following:

(1) Information on the requirements described in Regulation 38-383.71, the implied consent to alcohol testing described in Regulation 38-383.72, the procedures and penalties, contained in Regulation 38-383.51(b) to which a CDL holder is exposed for refusal to comply with such alcohol testing, State procedures described in Regulation 38-383.73, and other appropriate driver information contained in Subpart E of 38-382;

(2) Information on vehicle groups and endorsements as specified in Subpart F of 38-382;

(3) The substance of the knowledge and skills which drivers shall have as outlined in Subpart G of 38-382 for the different vehicle groups and endorsements;

(4) Details of testing procedures, including the purpose of the tests, how to respond, any time limits for taking the test, and any other special procedures determined by the State of issuance; and

(5) Directions for taking the tests.

(b) Examiner procedures. A State shall provide to test examiners details on testing and any other State imposed requirements in the examiner's manual, and shall ensure that examiners are qualified to administer tests on the basis of training and/or other experience. States shall provide standardized scoring sheets for the skills tests, as well as standardized driving instructions for the applicants. Such examiners' manuals shall contain the following:

(1) Information on driver application procedures contained in Regulation 38-383.71, State procedures described in Regulation 38-383.73, and other appropriate driver information contained in Subpart E of 38-382;

(2) Details on information which must be given to the applicant;

(3) Details on how to conduct the tests;

(4) Scoring procedures and minimum passing scores;

(5) Information for selecting driving test routes;

(6) List of the skills to be tested;

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

(8) How performance of the skills will be scored; and

(9) Causes for automatic failure of skills tests.

38-383.133 Testing methods.

(a) All tests shall be constructed in such a way as to determine if the applicant possesses the required knowledge and skills contained in Subpart G of 38-382 for the type of motor vehicle or endorsement the applicant wishes to obtain.

(b) States shall develop their own specifications for the tests for each vehicle group and endorsement which must be at least as stringent as the Federal standards.

(c) States shall determine specific methods for scoring the knowledge and skills tests.

(d) Passing scores must meet those standards contained in Regulation 38-383.135.

(e) Knowledge and skills tests shall be based solely on the information contained in the driver manuals referred to in Regulation 38-383.131(a).

(f) Each knowledge test shall be valid and reliable so as to assure that driver applicants possess the knowledge required under Regulation 38-383.111.

(g) Each basic knowledge test, i.e., the test covering the areas referred to in Regulation 38-383.111 for the applicable vehicle group, shall contain at least 30 items, exclusive of the number of items testing air brake knowledge. Each endorsement knowledge test, and the air brake component of the basic knowledge test as described in Regulation 38-383.111(g), shall contain a number of questions that is sufficient to test the driver applicant's knowledge of the required subject matter with validity and reliability.

(h) The skills tests shall have administrative procedures, designed to achieve inter-examiner reliability, that are sufficient to ensure fairness of pass/fail rates.

38-383.135 Minimum passing scores.

(a) The driver applicant must correctly answer at least 80 percent of the questions on each knowledge test in order to achieve a passing score on such knowledge test.

(b) To achieve a passing score on the skills test, the driver applicant must demonstrate that he/she can successfully perform all of the skills listed in Regulation 38-383.113.

(c) If the driver applicant does not obey traffic laws, or causes an accident during the test, he/she shall automatically fail the test.

(d) The scoring of the basic knowledge and skills tests shall be adjusted as follows to allow for the air brake restriction (Regulation 38-383.95):

(1) If the applicant scores less than 80 percent on the air brake component of the basic knowledge test as described in Regulation 38-383.111(g), the driver will have failed the air brake component and, if the driver is issued a CDL, an air brake restriction shall be indicated on the license; and

(2) If the applicant performs the skills test in a vehicle not equipped with air brakes, the driver will have omitted the air brake component as described in Regulation 38-383.113(c) and, if the driver is issued a CDL, the air brake restriction shall be indicated on the license.

Subpart I—Requirement for Transportation Security Administration Approval of Hazardous Materials Endorsement Issuances

38-383.141 General.

(a) Applicability date. Beginning on January 31, 2005, 38-383 applies to State agencies responsible for issuing hazardous materials endorsements for a CDL, and applicants for such endorsements.

(b) Prohibition. A State may not issue, renew, upgrade, or transfer a hazardous materials endorsement for a CDL to any individual authorizing that individual to operate a commercial motor vehicle transporting a hazardous material in commerce unless the Transportation Security Administration has determined that the individual does not pose a security risk warranting denial of the endorsement.

(c) Individual notification. At least 180 days before the expiration date of the CDL or hazardous materials endorsement, a State must notify the holder of a hazardous materials endorsement that the individual must pass a Transportation Security Administration security screening process as part of any application for renewal of the hazardous materials endorsement. The notice must advise a driver that, in order to expedite the security screening process, he or she should file a renewal application as soon as possible, but not later than 90 days before the date of expiration of the endorsement. An individual who does not successfully complete the Transportation Security Administration security screening process referenced in paragraph (b) may not be issued a hazardous materials endorsement.

(d) Hazardous materials endorsement renewal cycle. Each State must require that hazardous materials endorsements be renewed every 5 years or less so that individuals are subject to a Transportation Security Administration security screening requirement referenced in paragraph (b) at least every 5 years.

Subpart J Commercial Driver's License Document

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

38-383.151 General.

The CDL shall be a document that is easy to recognize as a CDL. At a minimum, the document shall contain information specified in Regulation 38-383.153.

38-383.153 Information on the document and application.

(a) All CDLs shall contain the following information:

(1) The prominent statement that the license is a "Commercial Driver's License" or "CDL," except as specified in Regulation 38-383.153(b).

(2) The full name, signature, and mailing address of the person to whom such license is issued;

(3) Physical and other information to identify and describe such person including date of birth (month, day, and year), sex, and height;

(4) Color photograph of the driver;

(5) The driver's State license number;

(6) The name of the State which issued the license;

(7) The date of issuance and the date of expiration of the license;

(8) The group or groups of commercial motor vehicle(s) that the driver is authorized to operate, indicated as follows:

(i) A for Combination Vehicle;

(ii) B for Heavy Straight Vehicle; and

(iii) C for Small Vehicle.

- (9) The endorsement(s) for which the driver has qualified, if any, indicated as follows:
- (i) T for double/triple trailers;
 - (ii) P for passenger;
 - (iii) N for tank vehicle;
 - (iv) H for hazardous materials;
 - (v) X for a combination of the tank vehicle and hazardous materials endorsements; and
 - (vi) At the discretion of the State, additional codes for additional groupings of endorsements, as long as each such discretionary code is fully explained on the front or back of the CDL document.
- (b) If the CDL is a Nonresident CDL, it shall contain the prominent statement that the license is a "Nonresident Commercial Driver's License" or "Nonresident CDL." The word "Nonresident" must be conspicuously and unmistakably displayed, but may be noncontiguous with the words "Commercial Driver's License" or "CDL."
- (c) If the State has issued the applicant an air brake restriction as specified in Regulation 38-383.95, that restriction must be indicated on the license.
- (d) Except in the case of a Nonresident CDL:
- (1) A driver applicant must provide his/her Social Security Number on the application of a CDL; and
 - (2) The State must provide the Social Security Number to the CDLIS.

38-383.155 Tamperproofing requirements.

States shall make the CDL tamperproof to the maximum extent practicable. At a minimum, a State shall use the same tamperproof method used for noncommercial drivers' licenses.

PART 38-390 GENERAL

Subpart A General Applicability and Definitions

- 38-390.1 Purpose.
- 38-390.3 General applicability.
- 38-390.5 Definitions.
- 38-390.7 Rules of construction.

Subpart B General Requirements and Information

- 38-390.9 State and local laws, effect on.
- 38-390.11 Motor carrier to require observance of driver regulations.
- 38-390.13 Aiding or abetting violations.
- 38-390.15 Assistance in investigations and special studies.
- 38-390.16 [Reserved]
- 38-390.17 [Reserved]
- 38-390.19 Additional equipment and accessories.
- 38-390.21 Marking of commercial motor vehicles.
- 38-390.23 [Reserved]
- 38-390.25 [Reserved]
- 38-390.27 [Reserved]
- 38-390.29 [Reserved]
- 38-390.31 [Reserved]
- 38-390.33 Commercial motor vehicles used for purposes other than defined.
- 38-390.35 [Reserved]

- 38-390.37 Violation and penalty.

Subpart A General Applicability and Definitions

- 38-390.1 Purpose.

38-382 Establishes general applicability, definitions, general requirements and information as they pertain to persons subject to this chapter.

38-390.3 General applicability.

(a) The rules in regulation B of this chapter are applicable to all employers, employees, and commercial motor vehicles, which transport property or passengers in intrastate commerce.

(b) The rules in Part 38-383, Commercial Driver's License Standards; Requirements and Penalties, are applicable to every person who operates a commercial motor vehicle, as defined in Regulation 38-383.5 of this regulation, in interstate or intrastate commerce and to all employers of such persons.

(c) [Reserved]

(d) Additional requirements. Nothing in regulation B of this chapter shall be construed to prohibit an employer from requiring and enforcing more stringent requirements relating to safety of operation and employee safety and health.

(e) Knowledge of and compliance with the regulations.

(1) Every employer shall be knowledgeable of and comply with all regulations contained in this regulation which are applicable to that motor carrier's operations.

(2) Every driver and employee shall be instructed regarding, and shall comply with, all applicable regulations contained in this regulation.

(3) All motor vehicle equipment and accessories required by this regulation shall be maintained in compliance with all applicable performance and design criteria set forth in this regulation.

38-390.5 Definitions.

Unless specifically defined elsewhere, in this regulation:

Accident means:

(1) Except as provided in paragraph (2) of this definition, an occurrence involving a commercial motor vehicle operating on a public road in interstate or intrastate commerce which results in:

(i) A fatality;

(ii) Bodily injury to a person who, as a result of the injury, immediately receives medical treatment away from the scene of the accident; or

(iii) One or more motor vehicles incurring disabling damage as a result of the accident, requiring the motor vehicle to be transported away from the scene by a tow truck or other motor vehicle.

(2) The term accident does not include:

(i) An occurrence involving only boarding and alighting from a stationary motor vehicle; or

(ii) An occurrence involving only the loading or unloading of cargo; or

Alcohol concentration (AC) means the concentration of alcohol in a person's blood or breath. When expressed as a percentage it means grams of alcohol per 100 milliliters of blood or grams of alcohol per 210 liters of breath.

Business district means the territory contiguous to and including a highway when within any 600 feet along such highway there are buildings in use for business or industrial purposes, including but not limited to hotels, banks, or office buildings which occupy at least 300 feet of frontage on one side or 300 feet collectively on both sides of the highway.

Commercial motor vehicle means any self propelled or towed vehicle used on public highways in interstate or intrastate commerce to transport passengers or property when the vehicle:

- (1) Has a gross vehicle weight rating or gross combination weight rating of (26,001 or more pounds); or more and is engaged solely in the intrastate transportation of unmanufactured forest products; or
- (2) Is designed to transport more than 8 passengers, including the driver for compensation; or
- (3) Is designed or used to transport more than 15 passengers, including the driver, and is not used to transport passengers for compensation; or
- (4) Is used in transporting hazardous materials in a quantity requiring placarding under regulations issued by the Secretary under the Hazardous Materials Transportation Act (49 U.S.C. 5101 et. seq.).

Conviction means an unvacated adjudication of guilt, or a determination that a person has violated or failed to comply with the law in a court of original jurisdiction or by an authorized administrative tribunal, an unvacated forfeiture of bail or collateral deposited to secure the person's appearance in court, a plea of guilty or nolo contendere accepted by the court, the payment of a fine or court cost, or violation of a condition of release without bail, regardless of whether or not the penalty is rebated, suspended, or probated.

Disabling damage means damage which precludes departure of a motor vehicle from the scene of the accident in its usual manner in daylight after simple repairs.

(1) Inclusions: Damage to motor vehicles that could have been driven, but would have been further damaged if so driven.

(2) Exclusions:

(i) Damage which can be remedied temporarily at the scene of the accident without special tools or parts.

(ii) Tire disablement without other damage even if no spare tire is available.

(iii) Headlamp or taillight damage.

(iv) Damage to turn signals, horn, or windshield wipers which makes them inoperative.

Driveaway towaway operation means any operation in which a motor vehicle constitutes the commodity being transported and one or more set of wheels of the motor vehicle being transported are on the surface of the roadway during transportation.

Driver means any person who operates any commercial motor vehicle.

Driving a commercial motor vehicle while under the influence of alcohol means committing any one or more of the following acts in a CMV: Driving a CMV while the person's alcohol concentration is 0.04 percent or more; driving under the influence of alcohol, as prescribed by State law; or refusal to undergo such testing as is required by any State or jurisdiction in the enforcement of Regulation 38-383.51(b)(2)(i)(A) or (B), or Regulation 38-392.5(a)(2).

Emergency means any hurricane, tornado, storm (e.g. thunderstorm, snowstorm, ice storm, blizzard, sandstorm, etc.) high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, mud slide, drought, forest fire, explosion, blackout or other occurrence, natural or man-made, which interrupts the delivery of essential services (such as, electricity, medical care, sewer, water, telecommunications, and telecommunication transmissions) or essential supplies (such as, food and fuel) or otherwise immediately threatens human life or public welfare, provided such hurricane, tornado, or other event results in:

- (1) A declaration of an emergency by the President of the United States, the Governor of a State, or their authorized representatives having authority to declare emergencies; by the FMCSA Field Administrator for the geographical area in which the occurrence happens, or by other Federal, State or local government officials having authority to declare emergencies, or
- (2) A request by a police officer for tow trucks to move wrecked or disabled motor vehicles.

Emergency relief means an operation in which a motor carrier or driver of a commercial motor vehicle is providing direct assistance to supplement State and local efforts and capabilities to save lives or property or to protect public health and safety as a result of an emergency.

Employee means any individual, other than an employer, who is employed by an employer and who in the course of his or her employment directly affects commercial motor vehicle safety. Such term includes a driver of a commercial motor vehicle (including an independent contractor while in the course of operating a commercial motor vehicle), a mechanic, and a freight handler. Such term does not include an employee of the United States, any State, any political subdivision of a State, or any agency established under a compact between States and approved by the Congress of the United States who is acting within the course of such employment.

Employer means any person engaged in a business affecting interstate or intrastate commerce who owns or leases a commercial motor vehicle in connection with that business, or assigns employees to operate it, but such terms does not include the United States, any State, any political subdivision of a State, or an agency established under a compact between States approved by the Congress of the United States.

Farm vehicle driver means a person who drives only a commercial motor vehicle that is

- (a) Controlled and operated by a farmer as a private motor carrier of property;
- (b) Being used to transport either
 - (1) Agricultural products, or
 - (2) Farm machinery, farm supplies, or both, to or from a farm;
- (c) Not being used in the operation of a for hire motor carrier;
- (d) Not carrying hazardous materials of a type or quantity that requires the commercial motor vehicle to be placarded in accordance with Section 177.823 of the Federal Motor Carrier Safety Administration's hazardous materials regulations, and
- (e) Being used within 150 air miles of the farmer's farm.

Farmer means any person who operates a farm or is directly involved in the cultivation of land, crops, or livestock which

- (a) Are owned by that person; or
- (b) Are under the direct control of that person.

Fatality means any injury which results in the death of a person at the time of the motor vehicle accident or within 30 days of the accident.

Federal Motor Carrier Safety Administration means the chief executive of the Federal Motor Carrier Safety Administration, an agency within the Department of Transportation.

Gross combination weight rating (GCWR) means the value specified by the manufacturer as the loaded weight of a combination (articulated) motor vehicle. In the absence of a value specified by the manufacturer, GCWR will be determined by adding the GVWR of the power unit and the total weight of the towed unit and any load thereon.

Gross vehicle weight rating (GVWR) means the value specified by the manufacturer as the loaded weight of a single motor vehicle.

Hazardous material means a substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated.

Hazardous substance means a material, and its mixtures or solutions, that is identified in the appendix to Section 172.101 of the Federal Motor Carrier Safety Administration's hazardous materials regulations, List of Hazardous Substances and Reportable Quantities, when offered for transportation in one package, or in one transport motor vehicle if not packaged, and when the quantity of the material therein equals or exceeds the reportable quantity (RQ). This definition does not apply to petroleum products that are lubricants or fuels, or to mixtures or solutions of hazardous substances if in a concentration less than that shown in the table in Section 171.8 of the Federal Motor Carrier Safety Administration's hazardous materials regulations based on the reportable quantity (RQ) specified for the materials listed in the appendix to Section 172.101 of the Federal Motor Carrier Safety Administration's hazardous materials regulations.

Hazardous waste means any material that is subject to the hazardous waste manifest requirements of the EPA specified in 40 CFR part 262 or would be subject to these requirements absent an interim authorization to a State under 40 CFR part 123, Subpart F.

Highway means any road, street, or way, whether on public or private property, open to public travel. "Open to public travel" means that the road section is available, except during scheduled periods, extreme weather or emergency conditions, passable by four-wheel standard passenger cars, and open to the general public for use without restrictive gates, prohibitive signs, or regulation other than restrictions based on size, weight, or class of registration. Toll plazas of public toll roads are not considered restrictive gates.

Interstate commerce means trade, traffic, or transportation in the United States-

- (1) Between a place in a State and a place outside of such State (including a place outside of the United States);
- (2) Between two places in a State through another State or a place outside of the United States; or
- (3) Between two places in a State as part of trade, traffic, or transportation origination or terminating outside the State or the United States.

Intrastate commerce means any trade, traffic, or transportation in any State which is not described in the term "interstate commerce."

Medical examiner means a person who is licensed, certified, and/or registered, in accordance with applicable State laws and regulations, to perform physical examinations. The term includes but is not limited to, doctors of medicine, doctors of osteopathy, physician assistants, advanced practice nurses, and doctors of chiropractic.

Motor carrier means a for hire motor carrier or a private motor carrier. The term includes a motor carrier's agents, officers and representatives as well as employees responsible for hiring, supervising, training, assigning, or dispatching of drivers and employees concerned with the installation, inspection, and maintenance of motor vehicle equipment and/or accessories. For purposes of regulation B, this definition includes the terms employer, and exempt motor carrier.

Motor vehicle means any vehicle, machine, tractor, trailer, or semitrailer propelled or drawn by mechanical power and used upon the highways in the transportation of passengers or property, or any combination thereof determined by the Federal Highway Administration, but does not include any vehicle, locomotive, or car operated exclusively on a rail or rails, or a trolley bus operated by electric power derived from a fixed overhead wire, furnishing local passenger transportation similar to street railway service.

Operator See driver.

Other terms: Any other term used in this regulation is used in its commonly accepted meaning, except where such other term has been defined elsewhere in this regulation. In that event, the definition therein given shall apply.

Out of service order means a declaration by an authorized enforcement officer of a Federal, State, Canadian, Mexican, or local jurisdiction that a driver, a commercial motor vehicle, or a motor carrier operation, is out of service pursuant to Secs. 386.72, 38-392.5, 38-396.9, or compatible laws, or the North American Uniform Out of Service Criteria.

Person means any individual, partnership, association, corporation, business trust, or any other organized group of individuals.

Previous employer means any DOT regulated person who employed the driver in the preceding 3 years, including any possible current employer.

Principal place of business means a single location designated by the motor carrier, normally its headquarters, where records required by parts 38-390 and 38-391 of this regulation will be maintained and where records required by part 38-382 must be made available for inspection within two business days after a request has been made by an authorized representative of the Federal/State Government.

Private motor carrier means a person who provides transportation of property or passengers, by commercial motor vehicle, and is not a for hire motor carrier.

Private motor carrier of passengers (business) means a private motor carrier engaged in the interstate transportation of passengers which is provided in the furtherance of a commercial enterprise and is not available to the public at large.

Private motor carrier of passengers (non-business) means private motor carrier involved in the interstate transportation of passengers that does not otherwise meet the definition of a private motor carrier of passengers (business).

Radar detector means any device or mechanism to detect the emission of radio microwaves, laser beams or any other future speed measurement technology employed by enforcement personnel to measure the speed of commercial motor vehicles upon public roads and highways for enforcement purposes. Excluded from this definition are radar detection devices that meet both of the following requirements:

- (1) Transported outside the driver's compartment of the commercial motor vehicle. For this purpose, the driver's compartment of a passenger carrying CMV shall include all space designed to accommodate both the driver and the passengers; and
- (2) Completely inaccessible to, inoperable by, and imperceptible to the driver while operating the commercial motor vehicle.

Residential district means the territory adjacent to and including a highway which is not a business district and for a distance of 300 feet or more along the highway is primarily improved with residences.

State means a State of the United States and the District of Columbia and includes a political subdivision of a State.

Trailer includes:

(a) Full trailer means any motor vehicle other than a pole trailer which is designed to be drawn by another motor vehicle and so constructed that no part of its weight, except for the towing device, rests upon the self propelled towing motor vehicle. A semi trailer equipped with an auxiliary front axle (converter dolly) shall be considered a full trailer.

(b) Pole trailer means any motor vehicle which is designed to be drawn by another motor vehicle and attached to the towing motor vehicle by means of a "reach" or "pole," or by being "boomed" or otherwise secured to the towing motor vehicle, for transporting long or irregularly shaped loads such as poles, pipes, or structural members, which generally are capable of sustaining themselves as beams between the supporting connections.

(c) Semi trailer means any motor vehicle, other than a pole trailer, which is designed to be drawn by another motor vehicle and is constructed so that some part of its weight rests upon the self propelled towing motor vehicle.

Truck means any self propelled commercial motor vehicle except a truck tractor, designed and/or used for the transportation of property.

Truck tractor means a self propelled commercial motor vehicle designed and/or used primarily for drawing other vehicles.

Unmanufactured Forest Products means logs, pulpwood, woodchips, bark, sawmill wood waste, stumps, pine straw and un-machined posts. This definition includes the movement of machinery and equipment:

- (a) To produce unmanufactured forest products; and
- (b) Used in silvicultural activities.

38-390.7 Rules of construction.

(a) [Reserved]

(b) In this regulation the word

- (1) Officer includes any person authorized by law to perform the duties of the office;
- (2) Writing includes printing and typewriting;
- (3) Shall is used in an imperative sense;
- (4) Must is used in an imperative sense;
- (5) Should is used in a recommendatory sense;
- (6) May is used in a permissive sense; and
- (7) Includes is used as a word of inclusion, not limitation.

Subpart B General Requirements and Information

38-390.9 State and local laws, effect on.

Except as otherwise specifically indicated, regulation B of this chapter is not intended to preclude States or subdivisions thereof from establishing or enforcing State or local laws relating to safety, the compliance with which would not prevent full compliance with these regulations by the person subject thereto.

38-390.11 Motor carrier to require observance of driver regulations.

Whenever in this regulation a duty is prescribed for a driver or a prohibition is imposed upon the driver, it shall be the duty of the motor carrier to require observance of such duty or prohibition. If the motor carrier is a driver, the driver shall likewise be bound.

38-390.13 Aiding or abetting violations.

No person shall aid, abet, encourage, or require a motor carrier or its employees to violate the rules of this chapter.

38-390.15 Assistance in investigations and special studies.

(a) A motor carrier shall make all records and information pertaining to an accident available to an authorized representative or special agent of the Federal Highway Administration upon request or as part of any inquiry within such time as the request or inquiry may specify. A motor carrier shall give an authorized representative of the Federal Highway Administration all reasonable assistance in the investigation of any accident including providing a full, true and correct answer to any question of the inquiry.

(b) Motor carriers shall maintain for a period of one year after an accident occurs, an accident register containing at least the following information:

(1) A list of accidents containing for each accident:

- (i) Date of accident,
- (ii) City or town in which or most near where the accident occurred and the State in which the accident occurred,
- (iii) Driver name,
- (iv) Number of injuries,
- (v) Number of fatalities, and
- (vi) Whether hazardous materials, other than fuel spilled from the fuel tanks of motor vehicles involved in the accident, were released.

(2) Copies of all accident reports required by State or other governmental entities or insurers.

38-390.16 [Reserved]

38-390.17 Additional equipment and accessories.

Nothing in this regulation shall be construed to prohibit the use of additional equipment and accessories, not inconsistent with or prohibited by this regulation, provided such equipment and accessories do not decrease the safety of operation of the commercial motor vehicles on which they are used.

38-390.19 [Reserved]

38-390.21 Marking of commercial motor vehicles.

(a) General. Every self propelled commercial motor vehicle operated in interstate or intrastate commerce and subject to the rules of regulation B of this chapter must be marked as specified in paragraphs (b), (c) and (d).

(b) Nature of marking. The marking must display the following information:

(1) The legal name or a single trade name of the motor carrier operating the self-propelled CMV.

(2) [Reserved]

(3) If the name of any person other than the operating carrier appears on the commercial motor vehicle operated under its own power, either alone or in combination, the name of the operating carrier shall be followed by the information required by paragraphs (b)(1), (2), and (3), and be preceded by the words "operated by."

(4) Other identifying information may be displayed on the commercial motor vehicle if it is not inconsistent with the information required by this paragraph.

(c) Size, shape, location, and color of marking. The marking must

(1) Appear on both sides of the self propelled commercial motor vehicle;

(2) Be in letters that contrast sharply in color with the background on which the letters are placed;

(3) Be readily legible, during daylight hours, from a distance of 50 feet while the commercial motor vehicle is stationary; and

(4) Be kept and maintained in a manner that retains the legibility required by paragraph (c)(3).

(d) Construction and durability. The marking may be painted on the commercial motor vehicle or may consist of a removable device, if that device meets the identification and legibility requirements of 38-390, and such marking shall be maintained in such a manner as to remain legible as required. South Carolina Code of Laws Section 56-5-4150.

38-390.23 [Reserved]

38-390.25 [Reserved]

38-390.29 [Reserved]

38-390.31 Copies or records or documents

(a) All records and documents required to be maintained under this regulation must be preserved in their original form for the period specified, unless the records and documents are suitably photographed and the microfilm is retained in lieu of the original record for the required retention period.

(b) To be acceptable in lieu of original records, the photographic copies of records must meet the following minimum requirements:

(1) Photographic copies shall be no less readily accessible than the original record or document as normally filed or preserved would be and suitable means or facilities shall be available to locate, identify, read, and reproduce such photographic copies.

(2) Any significant characteristic, feature or other attribute of the original record or document, which photography in black and white will not preserve, shall be clearly indicated before the photograph is made.

(3) The reverse side of printed forms need not be copied if nothing has been added to the printed matter common to all such forms, but an identified specimen of each form shall be on the film of reference.

(4) Film used for photographing copies shall be of permanent-record type meeting in all respects the minimum specification of the National Bureau of Standards, and all processed recommended by the manufacturer shall be observed to protect it from deterioration or accidental destruction.

(5) Each roll of film shall include a microfilm of certificate or certificates stating that the photographs are direct or facsimile reproductions of the original records. Such certificate(s) shall be executed by a person or persons having personal knowledge of the material covered thereby.

(c) All records and documents required to be maintained under this regulation may be destroyed after they have been suitably photographed for preservation.

(d) Exception. All records except those requiring a signature may be maintained through the use of computer technology provided the motor carrier can produce, upon demand, a computer printout of the required data.

38-390.33 Commercial motor vehicles used for purposes other than defined.

Whenever a commercial motor vehicle of one type is used to perform the functions normally performed by a commercial motor vehicle of another type, the requirements of this regulation shall apply to the commercial motor vehicle and to its operation in the same manner as though the commercial motor vehicle were actually a commercial motor vehicle of the latter type. Example: If a commercial motor vehicle other than a bus is used to perform the functions normally performed by a bus, the regulations pertaining to buses and to the transportation of passengers shall apply to that commercial motor vehicle.

38-390.35 Reserved.

38-390.37 Violation and penalty.

Any person who violates the rules set forth in this subchapter may be subject to civil or criminal penalties of the South Carolina Code of Laws 58-23-1120 or other related statutes.

PART 38-391 QUALIFICATIONS OF DRIVERS

Subpart A General

Sec.

38-391.1 Scope of the rules in 38-382; additional qualifications; duties of carrier drivers.

38-391.2 [Reserved]

Subpart B Qualification and Disqualification of Drivers

38-391.11 Qualifications of drivers.

38-391.13 Responsibilities of drivers.

38-391.15 Disqualification of drivers.

Subpart C Background and Character

38-391.21 Application for employment.

38-391.23 Investigation and inquiries.

- 38-391.25 Annual inquiry and review of driving record.
- 38-391.27 Record of violations.

Subpart D Tests

- 38-391.31 Road test.
- 38-391.33 Equivalent of road test.

Subpart E Physical Qualifications and Examinations – [Reserved]

Subpart F Files and Records

- 38-391.51 General requirements for driver qualification files.
- 38-391.52 Driver Investigation History File
- 38-391.53 [Reserved]

Subpart G Limited Exemptions – [Reserved]

Subpart A General

38-391.1 Scope of the rules in 38-382; additional qualifications; duties of carrier drivers.

(a) The rules in 38-382 establish minimum qualifications for persons who drive commercial motor vehicles as, for, or on behalf of motor carriers. The rules in 38-382 also establish minimum duties of motor carriers with respect to the qualifications of their drivers.

(b) A motor carrier who employs himself/herself as a driver must comply with both the rules in 38-382 that apply to motor carriers and the rules in 38-382 that apply to drivers.

38-391.2 [Reserved]

Subpart B Qualification and Disqualification of Drivers

38-391.11 General qualifications of drivers.

(a) A person shall not drive a commercial motor vehicle unless he/she is qualified to drive a commercial motor vehicle. Except as provided in Regulation 38-391.63, a motor carrier shall not require or permit a person to drive a commercial motor vehicle unless that person is qualified to drive a commercial motor vehicle.

(b) Except as provided in subpart G of 38-382, a person is qualified to drive a motor vehicle is he/she—

- (1) Is at least 18 years old;
- (2) Can read and speak the English language sufficiently to converse with the general public, to understand highway traffic signs and signals in the English language, to respond to official inquiries, and to make entries on reports and records;
- (3) Can, by reason of experience, training, or both, safely operate the type of commercial motor vehicle he/she drives;
- (4) [Reserved]

(5) Has a currently valid commercial motor vehicle operator's license issued only by one State or jurisdiction;

(6) Has prepared and furnished the motor carrier that employs him/her with the list of violations or the certificate as required by Regulation 38-391.27;

(7) Is not disqualified to drive a commercial motor vehicle under the rules in Regulation 38-391.15; and

(8) [Reserved]

38-391.13 Responsibilities of drivers.

In order to comply with the requirements of Regulation 38-392.9(a) and Regulation 38-393.9 of this regulation, a motor carrier shall not require or permit a person to drive a commercial motor vehicle unless the person:

(a) Can, by reason of experience, training, or both, determine whether the cargo he/she transports (including baggage in a passenger-carrying commercial motor vehicle) has been properly located, distributed, and secured in or on the commercial motor vehicle he/she drives;

(b) Is familiar with methods and procedures for securing cargo in or on the commercial motor vehicle he/she drives.

38-391.15 Disqualification of drivers.

(a) General. A driver who is disqualified shall not drive a commercial motor vehicle. A motor carrier shall not require or permit a driver who is disqualified to drive a commercial motor vehicle.

(b) Disqualification for loss of driving privileges.

(1) A driver is disqualified for the duration of the driver's loss of his/her privilege to operate a commercial motor vehicle on public highways, either temporarily or permanently, by reason of the revocation, suspension, withdrawal, or denial of an operator's license, permit, or privilege, until that operator's license, permit, or privilege is restored by the authority that revoked, suspended, withdrew, or denied it.

(c) Disqualification for criminal and other offenses.

(1) General rule. A driver who is convicted of (or forfeits bond or collateral upon a charge of) a disqualifying offense specified in paragraph (c)(2) is disqualified for the period of time specified in paragraph (c)(3), if—

(i) The offense was committed during on-duty time as defined in Regulation 390.5 (Driver) of this regulation or as otherwise specified; and

(ii) The driver is employed by a motor carrier or is engaged in activities that are in furtherance of a commercial enterprise in interstate, intrastate, or foreign commerce;

(2) Disqualifying offenses. The following offenses are disqualifying offenses:

(i) Driving a commercial motor vehicle while under the influence of alcohol. This shall include:

(A) Driving a commercial motor vehicle while the person's alcohol concentration is 0.04 percent or more;

(B) Driving under the influence of alcohol, as prescribed by State law; or

(C) Refusal to undergo such testing as is required by any State or jurisdiction in the enforcement of Regulation 38-391.15(c)(2)(i)(A) or (B), or Regulation 38-392.5(a)(2)

(ii) Driving a commercial motor vehicle under the influence of a 21 CFR 1308.11 Schedule I identified controlled substance, an amphetamine, a narcotic drug, a formulation of an amphetamine, or a derivative of a narcotic drug;

¹A copy of the Schedule I drugs and other substances may be obtained by writing to the Director, Office of Motor Carrier Research and Standards, Washington, DC 20590, or to any Regional Office of Motor Carriers of the Federal Highway Administration.

(iii) Transportation, possession, or unlawful use of a 21 CFR 1308.11 Schedule I identified controlled substance, amphetamines, narcotic drugs, formulations of an amphetamine, or derivatives of narcotic drugs while the driver is on duty, as the term driver is defined in Regulation 390.5 of this chapter;

(iv) Leaving the scene of an accident while operating a commercial motor vehicle; or

(v) A felony involving the use of a commercial motor vehicle.

(3) Duration of disqualification.

(i) First offenders. A driver is disqualified for 1 year after the date of conviction or forfeiture of bond or collateral if, during the 3 years preceding that date, the driver was not convicted of, or did not forfeit bond or collateral upon a charge of an offense that would disqualify the driver under the rules of 38-391. Exemption. The period of disqualifications is 6 months if the conviction or forfeiture of bond or collateral solely concerned the transportation or possession of substances named in paragraph (c)(2)(iii).

(ii) Subsequent offenders. A driver is disqualified for 3 years after the date of his/her conviction or forfeiture of bond or collateral if, during the years preceding that date, he/she was convicted of, or forfeited bond or collateral upon a charge of, an offense that would disqualify him/her under the rules in 38-391.

(d) Disqualification for violation of out of service orders

(1) General rule. A driver who is convicted of violating an out of service order is disqualified for the period of time specified in paragraph (d)(2).

(2) Duration of disqualification for violation of out of service orders

(i) First violation. A driver is disqualified for not less than 90 days nor more than one year if the driver is convicted of a first violation of an out of service order.

(ii) Second violation. A driver is disqualified for not less than one year nor more than five years if, during any 10 year period, the driver is convicted of two violations of out of service orders in separate incidents.

(iii) Third or subsequent violation. A driver is disqualified for not less than three years nor more than five years if, during any 10 year period, the driver is convicted of three or more violations of out of service orders in separate incidents.

(iii) Special rule for hazardous materials and passenger offenses. A driver is disqualified for a period of not less than 180 days nor more than two years if the driver is convicted of a first violation of an out of service order while transporting hazardous materials required to be placarded under the Hazardous Materials Transportation Act (49 U.S.C. 5101 et seq.), or while operating commercial motor vehicles designed to transport more than 15 passengers, including the driver. A driver is disqualified for a period of not less than three years nor more than five years if, during any 10 year period, the driver is convicted of any subsequent violations of out of service orders, in separate incidents, while transporting hazardous materials required to be placarded under the Hazardous Materials Transportation Act, or while operating commercial motor vehicles designed to transport more than 15 passengers, including the driver.

Subpart C--Background and Character

38-391.21 Application for employment.

(a) Except as provided in subpart G of 38-382, a person shall not drive a commercial motor vehicle unless he/she has completed and furnished the motor carrier that employs him/her with an application for employment that meets the requirements of paragraph (b).

(b) The application for employment shall be made on a form furnished by the motor carrier. Each application form must be completed by the applicant, must be signed by him/her, and must contain the following information:

- (1) The name and address of the employing motor carrier;
- (2) The applicant's name, address, date of birth, and social security number;
- (3) The addresses at which the applicant has resided during the 3 years preceding the date on which the application is submitted;
- (4) The date on which the applicant is submitted;
- (5) The issuing State, number, and expiration date of each unexpired commercial motor vehicle operator's license or permit that has been issued to the applicant;
- (6) The nature and extent of the applicant's experience in the operation of motor vehicles, including they type of equipment (such as buses, trucks, truck tractors, semitrailers, full trailers, and pole trailers) which he/she has operated;
- (7) A list of all motor vehicle accidents in which the applicant was involved during the 3 years preceding the date the application is submitted, specifying the date and nature of each accident and any fatalities or personal injuries it caused;
- (8) A list of all violations of motor vehicle laws or ordinances (other than violations involving only parking) of which the applicant was convicted or forfeited bond or collateral during the 3 years preceding the date the application is submitted;
- (9) A statement setting forth in detail the facts and circumstances of any denial, revocation, or suspension of any license, permit, or privilege to operate a motor vehicle that has been issued to the applicant, or a statement that no such denial, revocation, or suspension has occurred;
- (10)(i) A list of the names and addresses of the applicant's employers during the 3 years preceding the date the application is submitted;
 - (ii) The dates he or she was employed by that employer;
 - (iii) The reason for leaving the employ of that employer;
 - (iv) After October 29, 2004, whether the
 - (A) Applicant was subject to the FMCSRs while employed by that previous employer;
 - (B) Job was designated as a safety sensitive function in any DOT regulated mode subject to alcohol and controlled substances testing requirements as required by 49 CFT Part 40;
- (11) For those drivers applying to operate a commercial motor vehicle as defined by Part 38-383 of this regulation, a list of the names and addresses of the applicant's employers during the 7-year period preceding the 3 years contained in paragraph (b)(10) for which the applicant was an operator of a commercial motor vehicle, together with the dates of employment and the reasons for leaving such employment; and
- (12) The following certification and signature line, which must appear at the end of the application form and be signed by the applicant:

This certifies that this application was completed by me, and that all entries on it and information in it are true and complete to the best of my knowledge.

(Date)

signature)

(Applicant's

(c) A motor carrier may require an applicant to provide information in addition to the information required by paragraph (b) on the application form.

(d) Before an application is submitted, the motor carrier must inform the applicant that the information he/she provides in accordance with paragraph (b)(10) may be used, and the applicant's previous employers will be contacted, for the purpose of investigating the applicant's safety performance history information as required by paragraphs (d) and (e) of Regulation 38-391.23. The prospective employer must also notify the driver in writing of his/her due process rights as specified in Regulation 38-391.23(i) regarding information received as a result of these investigations.

38-391.23 Investigation and inquiries.

(a) Except as provided in subpart of 38-382, each motor carrier shall make the following investigations and inquiries with respect to each driver it employs, other than a person who has been a regularly employed driver of the motor carrier for a continuous period which began before January 1, 1971;

(1) An inquiry into the driver's driving record during the preceding 3 years to the appropriate agency of every State in which the driver held a motor vehicle operator's license or permit during those 3 years; and

(2) An investigation of the driver's safety performance history with Department of Transportation regulated employers during the preceding three years.

(b) A copy of the driver record(s) obtained in response to the inquiry or inquiries to each State driver record agency required by paragraph (a)(1) must be placed in the driver qualification file within 30 days of the date the driver's employment begins and be retained in compliance with Regulation 38-391.51. If no driving record exists from the State or States, the motor carrier must document a good faith effort to obtain such information, and certify that no record exists for that driver in that State. The inquiry to the State driver record agencies must be made in the form and manner each agency prescribes.

(c)(1) Replies to the investigations of the driver's safety performance history required by paragraph (a)(2), or documentation of good faith efforts to obtain the investigation data, must be placed in the driver investigation history file, after October 29, 2004, within 30 days of the date the driver's employment begins. Any period of time required to exercise the driver's due process rights to review the information received, request a previous employer to correct or include a rebuttal, is separate and apart from this 30-day requirement to document investigation of the driver safety performance history data.

(2) The investigation may consist of personal interviews, telephone interviews, letters, or any other method for investigating that the carrier deems appropriate. Each motor carrier must make a written record with respect to each previous employer contacted, or good faith efforts to do so. The record must include the previous employer's name and address, the date the previous employer was contacted, or the attempts made, and the information received about the driver from the previous employer. Failures to contact a previous employer, or of them to provide the required safety performance history information, must be documented. The record must be maintained pursuant to Regulation 38-391.53.

(3) Prospective employers should report failures of previous employers to respond to an investigation to the FMCSA following procedures specified at Regulation 386.12 of this chapter and keep a copy of such reports in the Driver Investigation file as part of documenting a good faith effort to obtain the required information.

(4) Exception. For a driver(s) with no previous employment experience working for a DOT regulated employer during the preceding three years, documentation that no investigation was

possible must be placed in the driver history investigation file, after October 29, 2004, within the required 30 days of the date the driver's employment begins.

(d) The prospective motor carrier must investigate, at a minimum, the information listed in this paragraph from all previous employers of the applicant that employed the driver to operate a CMV within the previous three years. The investigation request must contain specific contact information on where the previous motor carrier employers should send the information requested.

(1) General driver identification and employment verification information.

(2) The data elements as specified in Regulation 38-390.15(b)(1) of this chapter for accidents involving the driver that occurred in the three-year period preceding the date of the employment application.

(i) Any accidents as defined by Regulation 38-390.5 of this chapter.

(ii) Any accidents the previous employer may wish to provide that are retained pursuant to Regulation 38-390.15(b)(2), or pursuant to the employer's internal policies for retaining more detailed minor accident information.

(e) In addition to the investigations required by paragraph (d), the prospective motor carrier employers must investigate the information listed below in this paragraph from all previous DOT regulated employers that employed the driver within the previous three years from the date of the employment application, in a safety-sensitive function that required alcohol and controlled substance testing specified by 49 CFR Part 40.

(1) Whether, within the previous three years, the driver had violated the alcohol and controlled substances prohibitions under subpart B of Part 38-382 of this chapter, or 49 CFR part 40.

(2) Whether the driver failed to undertake or complete a rehabilitation program prescribed by a substance abuse professional (SAP) pursuant to Regulation 38-382.605 of this chapter, or 49 CFR part 40, subpart O. If the previous employer does not know this information (e.g., an employer that terminated an employee who tested positive on a drug test), the prospective motor carrier must obtain documentation of the driver's successful completion of the SAP's referral directly from the driver.

(3) For a driver who had successfully completed a SAP's rehabilitation referral, and remained in the employ of the referring employer, information on whether the driver had the following testing violations subsequent to completion of a Regulation 38-382.605 or 49 CFR part 40, subpart O referral:

(i) Alcohol tests with a result of 0.04 or higher alcohol concentration;

(ii) Verified positive drug tests;

(iii) Refusals to be tested (including verified adulterated or substituted drug test results).

(f) A prospective motor carrier employer must provide to the previous employer the driver's written consent meeting the requirements of Part 40.321(b) for the release of the information in paragraph (e). If the driver refuses to provide this written consent, the prospective motor carrier employer must not permit the driver to operate a commercial motor vehicle for that motor carrier.

(g) After October 29, 2004, previous employers must:

(1) Respond to each request for the DOT defined information in paragraphs (d) and (e) within 30 days after the request is received. If there is no safety performance history information to report for that driver, previous motor carrier employers are nonetheless required to send a response confirming the non-existence of any such data, including the driver identification information and dates of employment.

(2) Take all precautions reasonably necessary to ensure the accuracy of the records.

(3) Provide specific contact information in case a driver chooses to contact the previous employer regarding correction or referral of the data.

(4) Keep a record of each request and the response for one year, including the date, the party to whom it was released, and a summary identifying what was provided.

(5) Exception. Until May 1, 2006, carriers need only provide information for accidents that occurred after April 29, 2003.

(h) The release of information under 38-391 may take any form that reasonably ensures confidentiality, including letter, facsimile, or e-mail. The previous employer and its agents and insurers must take all precautions reasonably necessary to protect the driver safety performance history records from disclosure to any person not directly involved in forwarding the records, except the previous employer's insurer, except that the previous employer may not provide any alcohol or controlled substances information to the previous employer's insurer.

(i)(1) The prospective employer must expressly notify drivers with Department of Transportation regulated employment during the preceding three years—via the application form or other written document prior to any hiring decision—that he or she has the following rights regarding the investigative information that will be provided to the prospective employer pursuant to paragraphs (d) and (e):

(i) The right to review information provided by previous employers;

(ii) The right to have errors in the information corrected by the previous employer and for that previous employer to re-send the corrected information to the prospective employer.

(iv) The right to have a rebuttal statement attached to the alleged erroneous information, if the previous employer and the driver cannot agree on the accuracy of the information.

(2) Drivers who have previous Department of Transportation regulated employment history in the preceding three years, and wish to review previous employer-provided investigative information must submit a written request to the prospective employer, which may be done at any time, including when applying, or as late as 30 days after being employed or being notified of denial of employment. The prospective employer must provide this information to the applicant within five (5) business days of receiving the written request. If the prospective employer has not yet received the requested information from the previous employer(s), then the five-business day's deadline will begin when the prospective employer receives the requested safety performance history information. If the driver has not arranged to pick up or receive the requested records within thirty (30) days of the prospective employer making them available, the prospective motor carrier may consider the driver to have waived his/her request to review the records.

(j)(1) Drivers wishing to request correction of erroneous information in records received pursuant to paragraph (i) must send the request for the correction to the previous employer that provided the records to the prospective employer.

(2) After October 29, 2004, the previous employer must either correct and forward the information to the prospective motor carrier employer, or notify the driver within 15 days of receiving a driver's request to correct the data that it does not agree to correct to data. If the previous employer corrects and forwards the data as requested, that employer must also retain the corrected information as part of the driver's safety performance history record and provide it to subsequent prospective employers when requests for this information are received. If the previous employer corrects the data and forwards it to the prospective motor carrier employer, there is no need to notify the driver.

(3) Drivers wishing to rebut information in records received pursuant to paragraph (i) must send the rebuttal to the previous employer with instructions to include the rebuttal in that driver's safety performance history.

(4) After October 29, 2004, within five business days of receiving a rebuttal from a driver, the previous employer must:

- (i) Forward a copy of the rebuttal to the prospective motor carrier employer;
- (ii) Append the rebuttal to the driver's information in the carrier's appropriate file, to be included as part of the response for any subsequent investigating prospective employers for the duration of the three-year retention requirement.

(5) The driver may submit a rebuttal initially without a request for correction, or subsequent to a request for correction.

(6) The driver may report failures of previous employers to correct information or include the driver's rebuttal as part of the safety performance information, to the FMCSA following procedures specified at Regulation 386.12.

(k)(1) The prospective motor carrier employer must use the information described in paragraphs (d) and (e) only as part of deciding whether to hire the driver.

(2) The prospective motor carrier employer, its agents and insurers must take all precautions reasonably necessary to protect the records from disclosure to any person not directly involved in deciding whether to hire the driver. The prospective motor carrier employer may not provide any alcohol or controlled substances information to the prospective motor carrier employer's insurer.

(l)(1) No action or proceeding for defamation, invasion of privacy, or interference with a contract that is based on the furnishing or use of information in accordance with 38-391 may be brought against—

- (i) A motor carrier investigating the information, described in paragraphs (d) and (e), of an individual under consideration for employment as a commercial motor vehicle driver.

- (ii) A person who has provided such information; or

- (iii) The agents or insurers of a person described in paragraph (l)(1)(i) or (ii), except insurers are not granted a limitation on liability for any alcohol and controlled substance information.

(2) The protections in paragraph (l)(1) do not apply to persons who knowingly furnish false information, or who are not in compliance with the procedures specified for these investigations.

(Approved by the Office of Management and Budget under control number 2126-0004)

38-391.25 Annual inquiry and review of driving record.

(a) Except as provided in subpart G of 38-382, each motor carrier shall, at least once every 12 months, make an inquiry into the driving record of each driver it employs, covering at least the preceding 12 months, to the appropriate agency of every State in which the driver held a commercial motor vehicle operator's license or permit during the time period.

(b) Except as provided in subpart G of 38-382, each motor carrier shall, at least once every 12 months, review the driving record of each driver it employs to determine whether that driver meets minimum requirements for safe driving or is disqualified to drive a commercial motor vehicle pursuant to Regulation 38-391.15.

(1) The motor carrier must consider any evidence that the driver has violated any applicable Federal Motor Carrier Safety Regulations in this regulation or Hazardous Materials Regulations (49 CFR chapter I, regulation C).

(2) The motor carrier must consider the driver's accident record and any evidence that the driver has violated laws governing the operation of motor vehicles, and must give great weight to violations, such as speeding, reckless driving, and operating while under the influence of alcohol or drugs, that indicates the driver has exhibited a disregard for the safety of the public.

(c) Recordkeeping.

(1) A copy of the response from each State agency to the inquiry required by paragraph (a) shall be maintained in the driver's qualification file.

(2) A note, including the name of the person who performed the review of the driving record required by paragraph (b) and the date of such review, shall be maintained in the driver's qualification file.

38-391.27 Record of violations.

(a) Except as provided in subpart G of 38-382, each motor carrier shall, at least once every 12 months, require each driver it employs to prepare and furnish it with a list of all violations of motor vehicle traffic laws and ordinances (other than violations involving only parking) of which the driver has been convicted or on account of which he/she has forfeited bond or collateral during the preceding 12 months.

(b) Each driver shall furnish the list required in accordance with paragraph (a). If the driver has not been convicted of, or forfeited bond or collateral on account of, any violation which must be listed, he/she shall so certify.

(c) The form of the driver's list or certification shall be prescribed by the motor carrier. The following form may be used:

DRIVER'S CERTIFICATION

I certify that the following is a true and complete list of traffic violations (other than parking violations) for which I have been convicted or forfeited bond or collateral during the past 12 months.

Date of conviction
Location

Offense
Type of motor vehicle operated

If no violations are listed above, I certify that I have not been convicted or forfeited bond or collateral on account of any violation required to be listed during the past 12 months.

(Date of certification) (Driver's signature)

(Motor carrier's name)
(Motor carrier's address)

(Reviewed by: Signature) (Title)

(d) The motor carrier shall retain the list or certificate, or a copy of it, in its files as part of the driver's qualification file.

(e) Drivers who have provided information required by Regulation 38-383.31 of this regulation need not repeat that information in the annual list of violations.

Subpart D—Tests

38-391.31 Road test.

(a) Except as provided in subpart G, a person shall not drive a commercial motor vehicle unless he/she has first successfully completed a road test and has been issued a certificate of driver's road test in accordance with this 38-391.

(b) The road test shall be given by the motor carrier or a person designated by it. However, a driver who is a motor carrier must be given the test by a person other than himself/herself. The test shall be given by a person who is competent to evaluate and determine whether the person who takes the test has demonstrated that he/she is capable of operating the commercial motor vehicle, and associated equipment, that the motor carrier intends to assign him/her.

(c) The road test must be of sufficient duration to enable the person who gives it to evaluate the skill of the person who takes it at handling the commercial motor vehicle, and associated equipment, that the motor carriers intends to assign to him/her. As a minimum, the person who takes the test must be tested, while operating the type of commercial motor vehicle the motor carrier intends to assign him/her, on his/her skill at performing each of the following operations:

- (1) The pretrip inspection required by Regulation 38-392.7 of this regulation;
- (2) Coupling and uncoupling of combination units, if the equipment he/she may drive includes combination units;
- (3) Placing the commercial motor vehicle in operation;
- (4) Use of the commercial motor vehicles controls and emergency equipment;
- (5) Operating the commercial motor vehicle in traffic and while passing other motor vehicles;
- (6) Turning the commercial motor vehicle;
- (7) Braking, and slowing the commercial motor vehicle by means other than baking; and
- (8) Backing and parking the commercial motor vehicle.

(d) The motor carrier shall provide a road test form on which the person who gives the test shall rate the performance of the person who takes it at each operation or activity which is a part of the test. After he/she completes the form, the person who gave the test shall sign it.

(e) If the road test is successfully completed, the person who gave it shall complete a certificate of driver's road test in substantially the form prescribed in paragraph (f).

(f) The form for the certificate of driver's road test is substantially as follows:

CERTIFICATION OF ROAD TEST

Driver's name _____

Social Security No _____

Operator's or Chauffeur's License No _____

State _____

Type of power unit _____

Type of trailer(s) _____

If passenger carrier, type of bus _____

This is to certify that the above-named driver was given a road test under any supervision on _____, 20____, consisting of approximately _____ miles of driving.

It is my considered opinion that this driver possesses sufficient driving skill to operate safely the type of commercial motor vehicle listed above.

(Signature of examiner)

(Title)

(Organization and address of examiner)

(g) A copy of the certificate required by paragraph (e) shall be given to the person who was examined. The motor carrier shall retain in the driver qualification file of the person who was examined—

- (1) The original of the signed, road test form required by paragraph (d); and
- (2) The original or a copy of, the certificate required by paragraph (e).

38-391.33 Equivalent of road test.

(a) In place of, and as equivalent to, the road test required by Regulation 38-393.31, a person who seeks to drive a commercial motor vehicle may present, and a motor carrier may accept—

(1) A valid Commercial Driver's License as defined in Regulation 38-383.5 of this regulation, but not including double/triple trailer or tank vehicle endorsements, which has been issued to him/her to operate specific categories of commercial motor vehicles and which, under the laws of that State, licenses him/her after successful completion of a road test in a commercial motor vehicle of the type the motor carrier intends to assign to him/her; or

(2) A copy of a valid certificate of driver's road test issued to him/her pursuant to Regulation 38-391.31 within the preceding 3 years.

(b) If a driver presents, and a motor carrier accepts, a license or certificate as equivalent to the road test, the motor carrier shall retain a legible copy of the license or certificate in its files as part of the driver's qualification file.

(c) A motor carrier may require any person who presents a license or certificate as equivalent to the road test to take a road test or any other test of his/her driving skill as a condition to his/her employment as a driver.

38-391.53 Driver Investigation History File.

(a) After October 29, 2004, each motor carrier must maintain records relating to the investigation into the safety performance history of a new or prospective driver pursuant to paragraphs (d) and (e) of Regulation 38-391.23. This file must be maintained in a secure location with controlled access.

(1) The motor carrier must ensure that access to this data is limited to those who are involved in the hiring decision or who control access to the data. In addition, the motor carrier's insurer may have access to the data, except the alcohol and controlled substances data.

(2) This data must only be used for the hiring decision.

(b) The file must include:

(1) A copy of the driver's written authorization for the motor carrier to seek information about a driver's alcohol and controlled substances history as required under Regulation 38-391.23(d).

(2) A copy of the response(s) received for investigations required by paragraphs (d) and (e) of Regulation 38-391.23 from each previous employer, or documentation of good faith efforts to contact them. The record must include the previous employer's name and address, the date the previous employer was contacted, and the information received about the driver from the previous employer. Failures to contact a previous employer, or of them to provide the required safety performance history information, must be documented.

(c) The safety performance histories received from the previous employers for a driver who is hired must be retained for as long as the driver is employed by that motor carrier and for three years thereafter.

(d) A motor carrier must make all records and information in this file available an authorized representative or special agent of the Federal Motor Carrier Safety Administration, an authorized State or local enforcement agency representative, or an authorized third party, upon request or as part of any inquiry within the time period specified by the requesting representative.

PART 38-392 DRIVING OF COMMERCIAL MOTOR VEHICLES

Subpart A General

Sec.

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- 38-392.2 Applicable operating rules.
- 38-392.3 Ill or fatigued operator.
- 38-392.4 Drugs and other substances.
- 38-392.5 Alcohol prohibition.
- 38-392.6 Schedules to conform with speed limits.
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- 38-392.10 Railroad grade crossings; stopping required.
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- 38-392.67 Heater, flame producing; on commercial motor vehicle in motion.
- 38-392.68-38-392.69 [Reserved]
- 38-392.71 Radar detectors; use and/or possession.

Subpart A General

38-392.1 Scope of the rules in 38-382.

Every motor carrier, its officers, agents, representatives, and employees responsible for the management, maintenance, operation, or driving of commercial motor vehicles, or the hiring, supervising, training, assigning, or dispatching of drivers, shall be instructed in and comply with the rules in 38-382.

38-392.2 Applicable operating rules.

Every commercial motor vehicle must be operated in accordance with the laws, ordinances, and regulations of the jurisdiction in which it is being operated. However, if the South Carolina Unmanufactured Forest Products Trucking Regulations impose a higher standard of care than that law, ordinance, or regulation, the South Carolina Unmanufactured Forest Products Trucking Regulation must be complied with.

38-392.3 Ill or fatigued operator.

No driver shall operate a commercial motor vehicle, and a motor carrier shall not require or permit a driver to operate a commercial motor vehicle, while the driver's ability or alertness is so impaired, or so likely to become impaired, through fatigue, illness, or any other cause, as to make it unsafe for him/her to begin or continue to operate the commercial motor vehicle. However, in a case of grave emergency where the hazard to occupants of the commercial motor vehicle or other users of the highway would be increased by compliance with this 38-392, the driver may continue to operate the commercial motor vehicle to the nearest place at which that hazard is removed.

38-392.4 Drugs and other substances.

(a) No driver shall be on duty and possess, be under the influence of, or use, any of the following drugs or other substances:

- (1) Any Schedule I drug or other substance identified in appendix D to this regulation;
- (2) An amphetamine or any formulation thereof (including, but not limited, to "pep pills," and "bennies");
- (3) A narcotic drug or any derivative thereof; or
- (4) Any other substance, to a degree which renders the driver incapable of safely operating a motor vehicle.

(b) No motor carrier shall require or permit a driver to violate paragraph (a).

(c) Paragraphs (a) (2), (3), and (4) do not apply to the possession or use of a substance administered to a driver by or under the instructions of a licensed medical practitioner, as defined in Regulation 38-382.107 of this regulation, who has advised the driver that the substance will not affect the driver's ability to safely operate a motor vehicle.

(d) As used in 38-392, "possession" does not include possession of a substance which is manifested and transported as part of a shipment.

38-392.5 Alcohol prohibition.

(a) No driver shall

(1) Use alcohol, as defined in Regulation 38-382.107 of this regulation, or be under the influence of alcohol, within 4 hours before going on duty or operating, or having physical control of, a commercial motor vehicle; or

(2) Use alcohol, be under the influence of alcohol, or have any measured alcohol concentration or detected presence of alcohol, while on duty, or operating, or in physical control of a commercial motor vehicle; or

(3) Be on duty or operate a commercial motor vehicle while the driver possesses wine of not less than one half of one per centum of alcohol by volume, beer as defined in 26 U.S.C. 5052(a), of the Internal Revenue Code of 1954, and distilled spirits as defined in section 5002(a)(8), of such Code. However, this does not apply to possession of wine, beer, or distilled spirits which are:

- (i) Manifested and transported as part of a shipment; or
- (ii) Possessed or used by bus passengers.

(b) No motor carrier shall require or permit a driver to

(1) Violate any provision of paragraph (a); or

(2) Be on duty or operate a commercial motor vehicle if, by the driver's general appearance or conduct or by other substantiating evidence, the driver appears to have used alcohol within the preceding four hours.

(c) Any driver who is found to be in violation of the provisions of paragraph (a) or (b) shall be placed out of service immediately for a period of 24 hours.

(1) The 24 hour out of service period will commence upon issuance of an out of service order.

(2) No driver shall violate the terms of an out of service order issued under 38-392.

(d) Any driver who is issued an out of service order under 38-392 shall:

(1) Report such issuance to his/her employer within 24 hours; and

(2) Report such issuance to a State official, designated by the State which issued his/her driver's license, within 30 days unless the driver chooses to request a review of the order. In this case, the driver shall report the order to the State official within 30 days of an affirmation of the order by either the Regional Director of Motor Carriers for the Region or the Associate Administrator.

(e) Any driver who is subject to an out of service order under 38-392 may petition for review of that order by submitting a petition for review in writing within 10 days of the issuance of the order to the Regional Director of Motor Carriers for the Region in which the order was issued. The Regional Director of Motor Carriers may affirm or reverse the order.

38-392.6 Schedules to conform with speed limits.

No motor carrier shall schedule a run nor permit nor require the operation of any commercial motor vehicle between points in such period of time as would necessitate the commercial motor vehicle being operated at speeds greater than those prescribed by the jurisdictions in or through which the commercial motor vehicle is being operated.

38-392.7 Equipment, inspection and use.

No commercial motor vehicle shall be driven unless the driver thereof shall have satisfied himself/herself that the following parts and accessories are in good working order, nor shall any driver fail to use or make use of such parts and accessories when and as needed:

Service brakes, including trailer brake connections.

Parking (hand) brake.

Steering mechanism.

Lighting devices and reflectors.

Tires.

Horn.

Windshield wiper or wipers.

Rear vision mirror or mirrors.

Coupling devices.

38-392.8 Emergency equipment, inspection and use.

No commercial motor vehicle shall be driven unless the driver thereof is satisfied that the emergency equipment required by Regulation 38-393.95 of this regulation is in place and ready for use; nor shall any driver fail to use or make use of such equipment when and as needed.

38-392.9 Inspection of cargo, cargo securement devices and systems.

(a) General. A driver may operate a commercial motor vehicle and a motor carrier may not require or permit a driver to operate a commercial motor vehicle unless

(1) The commercial motor vehicle's cargo is properly distributed and adequately secured as specified in Secs. 38-393.100 to 38-393.118, 38-393.128 and 38-393.130 of this regulation.

(2) The commercial motor vehicle's tailgate, tailboard, doors, tarpaulins, spare tire and other equipment used in its operation, and the means of fastening the commercial motor vehicle's cargo are secured; and

(3) The commercial motor vehicle's cargo or any other object does not obscure the driver's view ahead or to the right or left sides, interfere with the free movement of his/her arms or legs, prevent his/her free and ready access to accessories required for emergencies, or prevent the free and ready exit of any person from the commercial motor vehicle's cab or driver's compartment.

(b) Drivers of trucks and truck tractors. Except as provided in paragraph (b)(4), the driver of a truck or truck tractor must

(1) Assure himself/herself that the provisions of paragraph (a) have been complied with before he/she drives that commercial motor vehicle;

(2) Inspect the cargo and the devices used to secure the cargo, within the first 50 miles after beginning a trip and cause any adjustments to be made to the cargo or load securement devices as necessary, including adding more securement devices, to ensure that cargo cannot shift on or within, or fall from the commercial motor vehicle; and

(3) Reexamine the commercial motor vehicle's cargo and its load securement devices during the course of transportation and make any necessary adjustment to the cargo or load securement

devices, including adding more securement devices, to ensure that cargo cannot shift on or within, or fall from, the commercial motor vehicle. Reexamination and any necessary adjustments must be made whenever --

- (i) The driver makes a change of his/her duty status; or
- (ii) The commercial motor vehicle has been driven for 3 hours; or
- (iii) The commercial motor vehicle has been driven for 150 miles, whichever occurs first.

(4) The rules in this paragraph (b) do not apply to the driver of a sealed commercial motor vehicle who has been ordered not to open it to inspect its cargo or to the driver of a commercial motor vehicle that has been loaded in a manner that makes inspection of its cargo impracticable.

38-392.9a [Reserved]

Subpart B Driving of Commercial Motor Vehicles

38-392.10 Railroad grade crossings; stopping required.

(a) Except as provided in paragraph (b), the driver of a commercial motor vehicle specified in paragraphs (a) (1) through (6) shall not cross a railroad track or tracks at grade unless he/she first: Stops the commercial motor vehicle within 50 feet of, and not closer than 15 feet to, the tracks; thereafter listens and looks in each direction along the tracks for an approaching train; and ascertains that no train is approaching. When it is safe to do so, the driver may drive the commercial motor vehicle across the tracks in a gear that permits the commercial motor vehicle to complete the crossing without a change of gears. The driver must not shift gears while crossing the tracks.

- (1) Every bus transporting passengers,
- (2) Every commercial motor vehicle transporting any quantity of a Division 2.3 chlorine.
- (3) Every commercial motor vehicle which, in accordance with the regulations of the Department of Transportation, is required to be marked or placarded with one of the following classifications:

- (i) Division 1.1; Explosives
- (ii) Division 1.2, or Division 1.3; Explosives
- (iii) Division 2.3; Poisonous Gas
- (iv) Division 4.3; Dangerous When Wet
- (v) Class 7; Radioactive
- (vi) Class 3; Flammable
- (vii) Division 5.1; Oxidizer
- (viii) Division 2.2; Non-Flammable Gas
- (ix) Division 2.3; Chlorine
- (x) Division 6.1; Poison
- (xi) Division 2.2; Oxygen
- (xii) Division 2.1; Flammable Gas
- (xiii) Class 3; Combustible liquid
- (xiv) Division 4.1; Flammable Solid
- (xv) Division 5.1; Oxidizer
- (xvi) Division 5.2; Organic Peroxide
- (xvii) Class 8; Corrosive
- (xviii) Division 1.4; Explosives

(4) Every cargo tank motor vehicle, whether loaded or empty, used for the transportation of any hazardous material as defined in the Hazardous Materials Regulations of the Department of Transportation, Parts 107 through 180.

(5) Every cargo tank motor vehicle transporting a commodity which at the time of loading has a temperature above its flash point as determined by Part 173.120.

(6) Every cargo tank motor vehicle, whether loaded or empty, transporting any commodity under exemption in accordance with the provisions of Subpart B of part 107.

(b) A stop need not be made at:

(1) A streetcar crossing, or railroad tracks used exclusively for industrial switching purposes, within a business district, as defined in Regulation 38-390.5 of this chapter.

(2) A railroad grade crossing when a police officer or crossing flagman directs traffic to proceed,

(3) A railroad grade crossing controlled by a functioning highway traffic signal transmitting a green indication which, under local law, permits the commercial motor vehicle to proceed across the railroad tracks without slowing or stopping.

(4) An abandoned railroad grade crossing which is marked with a sign indicating that the rail line is abandoned,

(5) An industrial or spur line railroad grade crossing marked with a sign reading "Exempt." Such "Exempt" signs shall be erected only by or with the consent of the appropriate State or local authority.

38-392.11 Railroad grade crossings; slowing down required.

Every commercial motor vehicle other than those listed in Regulation 38-392.10 shall, upon approaching a railroad grade crossing, be driven at a rate of speed which will permit said commercial motor vehicle to be stopped before reaching the nearest rail of such crossing and shall not be driven upon or over such crossing until due caution has been taken to ascertain that the course is clear.

Sec 38-392.12 - 38-392.13 [Reserved]

38-392.14 Hazardous conditions; extreme caution.

Extreme caution in the operation of a commercial motor vehicle shall be exercised when hazardous conditions, such as those caused by snow, ice, sleet, fog, mist, rain, dust, or smoke, adversely affect visibility or traction. Speed shall be reduced when such conditions exist. If conditions become sufficiently dangerous, the operation of the commercial motor vehicle shall be discontinued and shall not be resumed until the commercial motor vehicle can be safely operated. Whenever compliance with the foregoing provisions of this rule increases hazard to passengers, the commercial motor vehicle may be operated to the nearest point at which the safety of passengers is assured.

38-392.15 [Reserved]

38-392.16 Use of seat belts.

A commercial motor vehicle which has a seat belt assembly installed at the driver's seat shall not be driven unless the driver has properly restrained himself/herself with the seat belt assembly.

38-392.18 [Reserved]

Subpart C Stopped Commercial Motor Vehicles

38-392.20 - 38-392.21 [Reserved]

38-392.22 Emergency signals; stopped commercial motor vehicles.

(a) Hazard warning signal flashers. Whenever a commercial motor vehicle is stopped upon the traveled portion of a highway or the shoulder of a highway for any cause other than necessary traffic stops, the driver of the stopped commercial motor vehicle shall immediately activate the vehicular hazard warning signal flashers and continue the flashing until the driver places the warning devices required by paragraph (b). The flashing signals shall be used during the time the warning devices are picked up for storage before movement of the commercial motor vehicle. The flashing lights may be used at other times while a commercial motor vehicle is stopped in addition to, but not in lieu of, the warning devices required by paragraph (b).

(b) Placement of warning devices

(1) General rule. Except as provided in paragraph (b)(2), whenever a commercial motor vehicle is stopped upon the traveled portion or the shoulder of a highway for any cause other than necessary traffic stops, the driver shall, as soon as possible, but in any event within 10 minutes, place the warning devices required by Regulation 38-393.95 of this regulation, in the following manner:

(i) One at the traffic side of and 4 paces (approximately 3 meters or 10 feet) from the stopped commercial motor vehicle in the direction of approaching traffic;

(ii) One at 40 paces (approximately 30 meters or 100 feet) from the stopped commercial motor vehicle in the center of the traffic lane or shoulder occupied by the commercial motor vehicle and in the direction of approaching traffic; and

(iii) One at 40 paces (approximately 30 meters or 100 feet) from the stopped commercial motor vehicle in the center of the traffic lane or shoulder occupied by the commercial motor vehicle and in the direction away from approaching traffic.

(2) Special rules

(i) Fusees and liquid burning flares. The driver of a commercial motor vehicle equipped with only fusees or liquid burning flares shall place a lighted fusee or liquid burning flare at each of the locations specified in paragraph (b)(1). There shall be at least one lighted fusee or liquid burning flare at each of the prescribed locations, as long as the commercial motor vehicle is stopped. Before the stopped commercial motor vehicle is moved, the driver shall extinguish and remove each fusee or liquid burning flare.

(ii) Daylight hours. Except as provided in paragraph (b)(2)(iii), during the period lighted lamps are not required, three bi-directional reflective triangles, or three lighted fusees or liquid burning flares shall be placed as specified in paragraph (b)(1) within a time of 10 minutes. In the event the driver elects to use only fusees or liquid burning flares in lieu of bi-directional reflective triangles or red flags, the driver must ensure that at least one fusee or liquid burning flare remains lighted at each of the prescribed locations as long as the commercial motor vehicle is stopped or parked.

(iii) Business or residential districts. The placement of warning devices is not required within the business or residential district of a municipality, except during the time lighted lamps are required and when street or highway lighting is insufficient to make a commercial motor vehicle clearly discernable at a distance of 500 feet to persons on the highway.

(iv) Hills, curves, and obstructions. If a commercial motor vehicle is stopped within 500 feet of a curve, crest of a hill, or other obstruction to view, the driver shall place the warning signal required by paragraph (b)(1) in the direction of the obstruction to view a distance of 100 feet to 500 feet from the stopped commercial motor vehicle so as to afford ample warning to other users of the highway.

(v) Divided or one way roads. If a commercial motor vehicle is stopped upon the traveled portion or the shoulder of a divided or one way highway, the driver shall place the warning devices required by paragraph (b)(1), one warning device at a distance of 200 feet and one warning direction toward approaching traffic in the center of the lane or shoulder occupied by the

commercial motor vehicle. He/she shall place one warning device at the traffic side of the commercial motor vehicle within 10 feet of the rear of the commercial motor vehicle.

(vi)Leaking, flammable material. If gasoline or any other flammable liquid, or combustible liquid or gas seeps or leaks from a fuel container or a commercial motor vehicle stopped upon a highway, no emergency warning signal producing a flame shall be lighted or placed except at such a distance from any such liquid or gas as will assure the prevention of a fire or explosion.

38-392.24 Emergency signals; flame producing.

No driver shall attach or permit any person to attach a lighted fusee or other flame producing emergency signal to any part of a commercial motor vehicle.

38-392.25 Flame producing devices.

No driver shall use or permit the use of any flame producing emergency signal for protecting any commercial motor vehicle transporting Division 1.1, Division 1.2, or Division 1.3 explosives; any cargo tank motor vehicle used for the transportation of any Class 3 or Division 2.1, whether loaded or empty; or any commercial motor vehicle using compressed gas as a motor fuel. In lieu thereof, emergency reflective triangles, red electric lanterns, or red emergency reflectors shall be used, the placement of which shall be in the same manner as prescribed in Regulation 38-392.22(b).

Subpart D Use of Lighted Lamps and Reflectors

38-392.30 - 38-392.32 [Reserved]

38-392.33 Obscured lamps or reflectors.

No commercial motor vehicle shall be driven when any of the required lamps or reflectors are obscured by the tailboard, by any part of the load, by dirt, or otherwise.

Subpart E License Revocation; Duties of Driver

38-392.40--38-392.42 [Reserved]

Subpart F Fueling Precautions

38-392.50 Ignition of fuel; prevention.

No driver or any employee of a motor carrier shall:

(a) Fuel a commercial motor vehicle with the engine running, except when it is necessary to run the engine to fuel the commercial motor vehicle;

(b) Smoke or expose any open flame in the vicinity of a commercial motor vehicle being fueled;

(c) Fuel a commercial motor vehicle unless the nozzle of the fuel hose is continuously in contact with the intake pipe of the fuel tank;

(d) Permit, insofar as practicable, any other person to engage in such activities as would be likely to result in fire or explosion.

38-392.51 Reserve fuel; materials of trade.

Small amounts of fuel for the operation or maintenance of a commercial motor vehicle (including its auxiliary equipment) may be designated as materials of trade (see 49 CFR 171.8).

(a) The aggregate gross weight of all materials of trade on a motor vehicle may not exceed 200 kg (440 pounds).

(b) Packaging for gasoline must be made of metal or plastic and conform to requirements of 49 CFR Parts 171, 172, 173, and 178 or requirements of the Occupational Safety and Health Administration contained in 29 CFR 1910.106

(c) For Packing Group II (including gasoline), Packing Group III (including aviation fuel and fuel oil), or ORM-D, the material is limited to 30 kg (66 pounds) or 30 L (8 gallons).

(d) For diesel fuel, the capacity of the package is limited to 450 L (119 gallons).

(e) A Division 2.1 material in a cylinder is limited to a gross weight of 100 kg (220 pounds). (A Division 2.1 material is a flammable gas, including liquefied petroleum gas, butane, propane, liquefied natural gas, and methane).

38-392.52 [Reserved]

Subpart G Prohibited Practices

38-392.60 Unauthorized persons not to be transported.

(a) Unless specifically authorized in writing to do so by the motor carrier under whose authority the commercial motor vehicle is being operated, no driver shall transport any person or permit any person to be transported on any commercial motor vehicle other than a bus. When such authorization is issued, it shall state the name of the person to be transported, the points where the transportation is to begin and end, and the date upon which such authority expires. No written authorization, however, shall be necessary for the transportation of:

- (1) Employees or other persons assigned to a commercial motor vehicle by a motor carrier;
- (2) Any person transported when aid is being rendered in case of an accident or other emergency;
- (3) An attendant delegated to care for livestock.

(b) 38-392 shall not apply to the operation of commercial motor vehicles controlled and operated by any farmer and used in the transportation of agricultural commodities or products thereof from his/her farm or in the transportation of supplies to his/her farm.

38-392.61 - 38-392.65 [Reserved]

38-392.66 Carbon monoxide; use of commercial motor vehicle when detected.

(a) No person shall dispatch or drive any commercial motor vehicle or permit any passengers thereon, when the following conditions are known to exist, until such conditions have been remedied or repaired:

- (1) Where an occupant has been affected by carbon monoxide;
- (2) Where carbon monoxide has been detected in the interior of the commercial motor vehicle;
- (3) When a mechanical condition of the commercial motor vehicle is discovered which would be likely to produce a hazard to the occupants by reason of carbon monoxide.

38-392.67 Heater, flame producing; on commercial motor vehicle in motion.

No open flame heater used in the loading or unloading of the commodity transported shall be in operation while the commercial motor vehicle is in motion.

38-392.68 - 38-392.69 [Reserved]

38-392.71 Radar detectors; use and/or possession.

(a) No driver shall use a radar detector in a commercial motor vehicle, or operate a commercial motor vehicle that is equipped with or contains any radar detector.

(b) No motor carrier shall require or permit a driver to violate paragraph (a).

PART 38-393 PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION

Subpart A General

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- 38-393.3 Additional equipment and accessories.
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Subpart E Fuel Systems

- 38-393.65 All fuel systems.
- 38-393.67 Liquid fuel tanks.
- 38-393.69 Liquefied petroleum gas systems.

Subpart F Coupling Devices and Towing Methods

- 38-393.70 Coupling devices and towing methods, except for driveaway towaway operations.
- 38-393.71 Coupling devices and towing methods, driveaway towaway operations.

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- 38-393.75 Tires.
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- 38-393.88 Television receivers.
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- 38-393.93 Seats, seat belt assemblies, and seat belt assembly anchorages.
- 38-393.94 [Reserved]

Subpart H Emergency Equipment

- 38-393.95 Emergency equipment on all power units.

Subpart I Protection against Shifting or Falling Cargo

- 38-393.100 Which type of commercial motor vehicles are subject to the cargo securement standards of this subpart, and what general requirements apply?
- 38-393.102 What are the minimum performance criteria for cargo securement devices and systems?
- 38-393.104 What standards must cargo securement devices and systems meet in order to satisfy the requirements of this subpart?
- 38-393.106 What are the general requirements for securing articles of cargo?
- 38-393.108 How is the working load limit of a tiedown determined?
- 38-393.110 What else do I have to do to determine the minimum number of tiedowns?
- 38-393.112 Must a tiedown be adjustable?
- 38-393.114 What are the requirements for front end structures used as part of a cargo securement system?

Specific Securement requirements by Commodity Type

- 38-393.116.1 What are the rules for securing logs?
- 38-393.118 What are the rules for securing dressed lumber or similar building products?
- 38-393.120–38-393.126 [Reserved]
- 38-393.128 What are the rules for securing automobiles, light trucks and vans?
- 38-393.130 What are the rules for securing heavy vehicles, equipment and machinery?
- 38-393.132- 38-392.136 [Reserved]

Subpart J Frames, Cab and Body Components, Wheels, Steering, and Suspension Systems

- 38-393.201 Frames.
- 38-393.203 Cab and body components.
- 38-393.205 Wheels.
- 38-393.207 Suspension systems.
- 38-393.209 Steering wheel systems.

Subpart A General

- 38-393.1 Scope of the rules of 38-382.

Every employer and employee shall comply and be conversant with the requirements and specifications of 38-382. No employer shall operate a commercial motor vehicle, or cause or permit it to be operated, unless it is equipped in accordance with the requirements and specifications of 38-382.

38-393.3 Additional equipment and accessories.

Nothing contained in this regulation shall be construed to prohibit the use of additional equipment and accessories, not inconsistent with or prohibited by this regulation, provided such equipment and accessories do not decrease the safety of operation of the motor vehicles on which they are used.

38-393.5 Definitions.

As used in 38-382, the following words and terms are construed to mean:

Aggregate working load limit. The summation of the working load limits or restraining capacity of all devices used to secure an article of cargo on a vehicle.

Anchor Point. Part of the structure, fitting or attachment on a vehicle or articles of cargo to which a tiedown is attached.

Antilock Brake System or ABS means a portion of a service brake system that automatically controls the degree rotational wheel slip during braking by:

Article of cargo. A unit of cargo, other than a liquid, gas, or aggregate that lacks physical structure (e.g., grain, gravel, etc. including articles grouped together so that they can be handled as a single unit or unitized by wrapping, strapping, banding or edge protection device(s).

Blocking. A structure, device or other substantial article placed against or around an article of cargo to prevent horizontal movement of the article of cargo.

Bracing. A structure, device, or another substantial article placed against an article of cargo to prevent it from tipping that may also prevent it from shifting.

Brake. An energy conversion mechanism used to stop, or hold a vehicle stationary.

Brake Tubing/Hose. Metallic brake tubing, nonmetallic brake tubing and brake hose are conduits or lines used in a brake system to transmit or contain the medium (fluid or vacuum) used to apply the motor vehicle's brakes.

Chassis. The load supporting frame in a truck or trailer, exclusive of any appurtenances which might be added to accommodate cargo.

Clearance Lamp. A lamp used on the front and the rear of a motor vehicle to indicate its overall width and height.

Converter Dolly. A motor vehicle consisting of a chassis equipped with one or more axles, a fifth wheel and/or equivalent mechanism, and drawbar, the attachment of which converts a semitrailer to a full trailer.

Curb Weight. The weight of a motor vehicle with standard equipment, maximum capacity of fuel, oil, and coolant; and, if so equipped, air conditioning and additional weight of optional engine. Curb weight does not include the driver.

Dunnage. All loose materials used to support and protect cargo.

Emergency Brake System. A mechanism designed to stop a vehicle after a single failure occurs in the service brake system of a part designed to contain compressed air or brake fluid or vacuum (except failure of a common valve, manifold brake fluid housing or brake chamber housing).

Fifth Wheel. A device mounted on a truck tractor or similar towing vehicle (e.g., converter dolly) which interfaces with and couples to the upper coupler assembly of a semitrailer.

Frame vehicle. A vehicle with skeletal structure fitted with one or more bunk units for transporting logs. A bunk unit consists of U-shaped front and rear bunks that together cradle logs. The bunks are welded, gusseted or otherwise firmly fastened to the vehicle's main beams, and are an integral part of the vehicle.

Fuel Tank Fitting. Any removable device affixed to an opening in the fuel tank with the exception of the filler cap.

Grommet. A device that serves as a support and protection to that which passes through it.

Hazard Warning Signal. Lamps that flash simultaneously to the front and rear, on both the right and left sides of a commercial motor vehicle, to indicate to an approaching driver the presence of a vehicular hazard.

Head Lamps. Lamps used to provide general illumination ahead of a motor vehicle.

Heater. Any device or assembly of devices or appliances used to heat the interior of any motor vehicle. This includes a catalytic heater which must meet the requirements of Section 177.834(1) of the Federal Motor Carrier Safety Administration's hazardous materials regulations when flammable liquid or gas is transported.

Heavy Hauler Trailer. A trailer with one or more of the following characteristics:

- (1) Its brake lines are designed to adapt to separation or extension of the vehicle frame; or
- (2) Its body consists only of a platform whose primary cargo carrying surface is not more than 40 inches above the ground in an unloaded condition, except that it may include sides that are designed to be easily removable and a permanent "front end structure" as that term is used in Regulation 38-393.106.

Identification Lamps. Lamps used to identify certain types of commercial motor vehicles.

Lamp. A device used to produce artificial light.

License Plate Lamp. A lamp used to illuminate the license plate on the rear of a motor vehicle.

Longwood. All logs that are not shortwood, i.e., are over 4.9 m (16 feet) long. Such logs are usually described as long logs or treelength.

Low chassis vehicle. (1) A trailer or semitrailer manufactured on or after January 26, 1998, having a chassis which extends behind the rearmost point of the rearmost tires and which has a lower rear surface that meets the guard width, height, and rear surface requirements of the National Highway Traffic Safety Administration's Standard Section 571.224 in effect on the date of manufacture, or a subsequent edition. (2) A motor vehicle, not described by paragraph (1) of

this definition, having a chassis which extends behind the rearmost point of the rearmost tires and which has a lower rear surface that meets the guard configuration requirements of State Regulation 38-39386(b)(1).

Parking Brake System. A brake system used to hold a vehicle stationary.

Play. Any free movement of components.

Pulpwood Trailer. A trailer or semitrailer that is designed exclusively for harvesting logs or pulpwood and constructed with a skeletal frame with no means for attachment of a solid bed, body or container.

Rail Vehicle. A vehicle whose skeletal structure is fitted with stakes at the front and rear to contain logs loaded crosswise.

Rear Extremity. The rearmost point on a vehicle when the vehicle's cargo doors, tailgate or other permanent structure are positioned as they normally are when the vehicle is being driven. Non structural protrusions such as tail lights, hinges, and latches are deleted from the determination of the rearmost point.

Reflective Material. A material conforming to Federal Specification L S 300, "Sheeting and Tape, Reflective; Non exposed Lens, Adhesive Backing," (September 7, 1965) meeting the performance standard in either Table 1 or Table 1A of SAE Standard J594f, "Reflex Reflectors" (January, 1977).

Reflex Reflector. A device which is used on a vehicle to give an indication to an approaching driver by reflected lighted from the lamps on the approaching vehicle.

Saddle mount. A device, designed and constructed as to be readily demountable, used in driveaway towaway operations to perform the functions of a conventional fifth wheel:

(1) Upper half. Upper half of a "saddle mount" means that part of the device which is securely attached to the towed vehicle and maintains a fixed position relative thereto, but does not include the "king pin;"

(2) Lower half. Lower half of a "saddle mount" means that part of the device which is securely attached to the towing vehicle and maintains a fixed position relative thereto but does not include the "king pin;" and

(3) King pin. King pin means that device which is used to connect the "upper half" to the "lower half" in such manner as to permit relative movement in a horizontal plane between the towed and towing vehicles.

Service Brake System. A primary brake system used for slowing and stopping a vehicle.

Shortwood. All logs typically up to 4.9 m (16 feet) long. Such logs are often described as cut-up logs, cut-to-length logs, bolts or pulpwood. Shortwood may be loaded lengthwise or crosswise, though that crosswise is usually no more than 2.6 m (102 inches) long.

Side Extremities. The outermost point on the sides of the vehicle. Nonstructural protrusions such as tail lights, hinges, and latches are excluded from the determination of the outermost point.

Side Marker Lamp (Intermediate). A lamp shown to the side of a trailer to indicate the approximate middle of a trailer 30 feet or more in length.

Side Marker Lamps. Lamps used on each side of a trailer to indicate its overall length.

Steering Wheel Lash. The condition in which the steering wheel may be turned through some part of a revolution without associated movement of the front wheels.

Stop Lamps. Lamps shown to the rear of a motor vehicle to indicate that the service brake system is engaged.

Tail Lamps. Lamps used to designate the rear of a motor vehicle.

Tiedown. A combination of securing devices which forms an assembly that attaches articles of cargo to, or restrains articles of cargo on, a vehicle or trailer, and is attached to anchor point(s).

Tractor-pole trailer. A combination vehicle that carries logs lengthwise so that they form the body of the vehicle. The logs are supported by a bunk located on the rear of the tractor, and another bunk on the skeletal trailer. The tractor bunk may rotate about a vertical axis, and the trailer may have a fixed, scoping, or cabled reach, or other mechanical freedom, to allow it to turn.

Turn Signals. Lamps used to indicate a change in direction by emitting a flashing light on the side of a motor vehicle towards which a turn will be made.

Upper Coupler Assembly. A structure consisting of an upper coupler plate, king pin and supporting framework which interfaces with and couples to a fifth wheel.

Upper Coupler Plate. A plate structure through which the king pin neck and collar extend. The bottom surface of the plate contacts the fifth wheel when coupled.

Working load limit (WLL). The maximum load that may be applied to a component of a cargo securement system during normal service, usually assigned by the manufacturer of the component.

38-393.7 Matter incorporated by reference.

(a) Incorporation by reference. Part 38-393 includes references to certain matter or materials. The text of the materials is not included in the regulations contained in part 38-393. The materials are hereby made a part of the regulations in part 38-393. The Director of the Federal Register has approved the materials incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. For materials subject to change, only the specific version approved by the Director of the Federal Register and specified in the regulation is incorporated. Material is incorporated as it exists on the date of the approval and a notice of any change in these materials will be published in the Federal Register.

(b) Availability. The materials incorporated by reference are available as follows:

(1) Standards of the Underwriters Laboratories, Inc. Information and copies may be obtained by writing to: Underwriters Laboratories, Inc., 333 Pfingsten Road, Northbrook, Illinois 60062.

(2) Specifications of the American Society for Testing and Materials. Information and copies may be obtained by writing to: American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

(3) Specifications of the National Association of Chain Manufacturers. Information and copies may be obtained by writing to: National Association of Chain Manufacturers, P.O. Box 3143, York, Pennsylvania 17402 0143.

(4) Specifications of the Web Sling and Tiedown Association. Information and copies may be obtained by writing to: Web Sling and Tiedown Association, Inc., 710 East Ogden Avenue, suite 113, Naperville, Illinois 60563.

(5) Manuals of the Wire Rope Technical Board. Information and copies may be obtained by writing to: Wire Rope Technical Committee, P.O. Box 849, Stevensville, Maryland 21666.

(6) Standards of the Cordage Institute. Information and copies may be obtained by writing to: Cordage Institute, 350 Lincoln Street, No. 115, Hingham, Massachusetts 02043.

(7)-(9) [Reserved]

(10) All of the materials incorporated by reference are available for inspection at:

(i) The Federal Motor Carrier Safety Administration, Office of Bus and Truck Standards and Operations, 400 Seventh Street, SW., Washington, DC 20590; and

(ii) The Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Subpart B Lighting Devices, Reflectors, and Electrical Equipment

38-393.9 Lamps operable.

All lamps required by this subpart shall be capable of being operated at all times.

38-393.11 Lighting devices and reflectors.

The following Table 1 sets forth the required color, position, and required lighting devices by type of commercial motor vehicle. Diagrams illustrating the locations of lighting devices and reflectors, by type and size of commercial motor vehicle, are shown immediately following Table 1. All lighting devices on motor vehicles placed in operation after March 7, 1989, must meet the requirements of 49 CFR 571.108 in effect at the time of manufacture of the vehicle. Motor vehicles placed in operation on or before March 7, 1989, must meet either the requirements of this regulation or part 571 in effect at the time of manufacture.

TABLE 1 - REQUIRED COMMERCIAL VEHICLE LIGHTING EQUIPMENT						
	Qty	Color	Location	Position	Height above road surface in inches measured from the center of the lamp at curb weight	Required lighting devices/vehicles
Headlamps	2 At Least	White	Front	On the front at the same height, an equal number at each side of the vertical	not less than 22 nor more than 54	A,B,C

				centerline as far apart as practicable		
Turn Signal (Front) See Footnotes #2 & 12	2	Amber	At or Near Front	One on each side of the vertical centerline at the same height and as far apart as practicable	Not less than 15 nor more than 83	A,B,C
Identification Lamp (Front) Footnote #1	3	Amber	Front	Mounted on the vertical centerline of the vehicle or the vertical centerline of the cab where different from the centerline of the vehicle	All three on same level as close as practicable to the top of the vehicle with lamp centers spaced not less than 6 inches or more than 12 inches apart	B,C
Tail Lamp See Footnotes #5 & 11	2	Red	Rear	One lamp each side of the vertical centerline at the same height and as far apart as practicable	Both on the same level between 15 and 72	A,B,C,D,E,F,G,H
Stop Lamp See Footnotes #5 & 13	2	Red	Rear	One lamp each side of the vertical centerline at the same height and as far apart as practicable	Both on the same level between 15 and 72	A,B,C,D,E,F,G,H
Clearance Lamps See Footnotes #9 & 10	2	Amber	One on each side of front	One on each side of the vertical centerline to indicate	Both on same level as high as practicable	B,C,D,G,H

				width		
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TABLE 1 - REQUIRED COMMERCIAL VEHICLE LIGHTING EQUIPMENT – CONT'D

	Qty	Color	Location	Position	Height above road surface in inches measured from the center of the lamp at curb weight	Required lighting devices/vehicles
Clearance Lamps See Footnotes #9 & 10 (cont'd)	2	Red	One on each side of rear	One on each side of the vertical centerline to indicate overall width	Both on same level as high as practicable	B,D,G,H
Side Marker Lamp, Intermediate	2	Amber	One on each side	At or near midpoint between front and rear side marker lamps, if over 30' in length	Not less than 15	A,B,D,F,G
Reflex Reflector Intermediate (Side)	2	Amber	One on each side	At or near midpoint between front and rear side reflectors if over 30' in length	Between 15 and 60	A,B,D,F,G
Reflex Reflector (Rear) See Footnotes #5,6, & 8	2	Red	Rear	One on each side of vertical centerline, as far apart as practicable	Both on same level, between 15 and 60	A,B,C,D,E,F,G
Reflex Reflector (Rear Side) Footnote #4	2	Red	One on each side (Rear)	As far to the rear as practicable	Both on same level, between 15 and 60	A,B,D,F,G

Reflex Reflector (Front Side)	2	Amber	One on each side (Front)	As far to the front as practicable	Between 15 and 60	A,B,C,D,F,G
License Plate Lamp Rear See Footnote #11	1	White	At rear license plate	To illuminate the license plate from the top or sides	No requirements	A,B,C,D,F,G
Side Marker Lamp (Front)	2	Amber	One on each side	As far to the front as practicable	Not less than 15	A,B,C,D,F
Side Marker Lamp (Rear) See Footnotes #4 & 8	2	Red	One on each side	As far to the rear as practicable	Not less than 15 and on the rear of trailer, not more than 60	A,B,D,F,G
Turn Signal (Rear) See Footnotes #3 & 12	2	Amber or Red	Rear	One lamp on each side of the vertical centerline as far apart as practicable	Both on the same level, between 15 and 83	A,B,C,D,E,F,G
Vehicular Hazard Warning Flashing Lamps See Footnote #12	2	Amber	Front	One lamp on each side of vertical centerline as far apart as practicable	Both on same level, between 15 and 83	A,B,C,D,E,F,G
	2	Amber or Red	Rear	-----	-----	
Backup Lamp See Footnote #14	1	White	Rear	Rear	No requirement	A,B,C
Parking Lamp	2	Amber or White	Front	One lamp on each side of vertical centerline as far apart as practicable	Both on same level, between 15 and 72	A

*Lighting Required per Type of Commercial Vehicle as Shown Last Column of Table.

A. Small trucks less than 80 inches in overall width.

- B. Trucks 80 inches or more in overall width.
 - C. Truck Tractors.
 - D. Large semitrailers and full trailers 80 inches or more in overall width except converter dollies.
 - E. Converter dolly.
 - F. Small semitrailers and full trailers less than 80 inches in overall width.
 - G. Pole Trailers & Pulpwood Trailers.
 - H. Projecting loads.
- Lamps and reflectors may be combined as permitted by Paragraphs 38-393.22 and S4.4 of 49 CFR 571.108, Equipment combinations. Exception - Pulpwood, Longwood and Pole Trailers shall not be subject to use of side marker lamps, combination marker lamps or reflectors which require mounting at the top of the rear load standard as provided.

Footnote 1

Identification lamps may be mounted on the vertical centerline of the cab where different from the centerline of the vehicle, except where the cab is not more than 42 inches wide at the front roofline, then a single lamp at the center of the cab shall be deemed to comply with the requirements for identification lamps. No part of the identification lamps or their mountings may extend below the top of the vehicle windshield.

Footnote 2

Unless the turn signals on the front are so constructed (double faced) and located as to be visible to passing drivers, two turn signals are required on the rear of the truck tractor, one at each side as far apart as practicable.

Footnote 3

The identification lamps need not be visible or lighted if obscured by a vehicle in the same combination.

Footnote 4

Any semitrailer or full trailer vehicles manufactured on and after March 1, 1979, shall be equipped with rear side marker lamps at a height of not less than 15 inches (381 mm) nor more than 60 inches (1524 mm) above the road surface, as measured from the center of the lamp on the vehicle at curb weight. The rear side marker lamps shall be visible in the vehicle's rearview mirrors when the trailer is tracking straight.

Footnote 5

For purposes of these regulations, each converter dolly shall be equipped with one stop lamp, one tail lamp, and two reflectors on the rear at each side when towed singly by another vehicle. Each converter dolly shall be equipped with turn signals at the rear if the converter dolly obscures the turn signals at the rear of the towing vehicle when towed singly by another vehicle.

Footnote 6

Pole and pulpwood trailers will have two reflectors, one on each side, placed to indicate extreme width of the trailer.

Footnote 7

Pole and pulpwood trailers may have three identification lamps mounted on the vertical centerline of the rear of the cab of the truck tractor drawing the pole trailer, and higher than the load being transported, in lieu of the three identification lamps mounted on the rear vertical centerline of the trailer.

Footnote 8

Pole and pulpwood trailers shall have on the rearmost support for the load, one combination marker lamp or two single lamps showing amber to the front and red to the rear and side, mounted on each side to indicate maximum width of the pole trailer; and one red reflector on each side of the rearmost support for the load.

Footnote 9

Any motor vehicle transporting a load which extends more than 4 inches beyond the width of the motor vehicle, or having projections beyond the rear of such vehicles, shall be equipped with the following lamps in addition to other required lamps, have the loads marked.

Loads projecting more than 4 inches beyond sides of motor vehicles:

(1) The foremost edge of the projecting load at its outermost extremity shall be marked with an amber lamp visible from the front and both sides.

(2) The rearmost edge of the projecting load at its outermost extremity shall be marked with a red lamp visible from the rear and side.

(3) If any portion of the projecting load extends beyond both the foremost and rearmost edge, it shall be marked with an amber lamp visible from the front, both sides, and rear.

(4) If the projecting load does not measure more than 3 feet from front to rear, it shall be marked with an amber lamp visible from the front, both sides, and rear, except that if the projection is located at or near the rear it shall be marked by a red lamp visible from front, side, and rear.

Footnote 10

Projections beyond rear of motor vehicle. On motor vehicles transporting loads which extend to the rear four (4) feet or more beyond the bed or body of the vehicle there must be displayed at the extreme rear end of the load, from a half hour after sunset to a half hour before sunrise, and at any other time when windshield wipers are required to be in use as a result of rain, sleet, or snow, or other inclement weather, a red light or lantern plainly visible from a distance of at least five hundred feet to the sides or rear. The red light or lantern required is in addition to the red rear light required upon every vehicle. At any other time of day there must be displayed at the extreme rear of the load a red flag or cloth not less than twelve inches by twelve inches and so hung that the entire area is visible to the driver of a vehicle approaching from the rear. South Carolina Code of Law - 56-5-4630.

Footnote 11

To be illuminated when tractor headlamps are illuminated.

Footnote 12

Every truck, and truck tractor shall be equipped with a signaling system that, in addition to signaling turning movements, shall have a switch or combination of switches that will cause the two front turn signals and the two rear signals to flash simultaneously as a vehicular traffic signal warning, required by Regulation 38-392 22(a). The system shall be capable of flashing simultaneously with the ignition of the vehicle on or off.

Footnote 13

To be actuated upon application of service brakes.

Footnote 14

Backup lamp required to operate when truck or truck tractor is in reverse.

38-393.13 Retroreflective sheeting and reflex reflectors, requirements for semitrailers and trailers manufactured before December 1, 1993.

(a) Applicability. All trailers and semitrailers manufactured prior to December 1, 1993, which have an overall width of 2,032 mm (80 inches) or more and a gross vehicle weight rating of 4,536 kg (10,001 pounds) or more, except trailers that are manufactured exclusively for use as offices or dwellings, pole trailers (as defined in Regulation 38-390.5 of these regulation), and trailers transported in a driveway-towaway operation, must be equipped with retroreflective sheeting or an array of reflex reflectors that meet the requirements. Motor carriers operating trailers, other than container chassis (as defined in Regulation 38-393.5), have until June 1, 2001, to comply with the requirements of 38-393. Motor carriers operating container chassis have until December 1, 2001, to comply with the requirements of 38-393.

(b) Retroreflective sheeting and reflex reflectors. Motor carriers are encouraged to retrofit their trailers with a conspicuity system that meets all of the requirements applicable to trailers manufactured on or after December 1, 1993, including the use of retroreflective sheeting or reflex reflectors in a red and white pattern (see Federal Motor Vehicle Safety Standard No. 108 (49 CFR 571.108), S5.7, Conspicuity systems). Motor carriers which do not retrofit their trailers to meet the requirements of FMVSS No. 108, for example by using an alternative color pattern, must comply with the remainder of this paragraph and with paragraph (c) or (d). Retroreflective sheeting or reflex reflectors in colors or color combinations other than red and white may be used on the sides or lower rear area of the semitrailer or trailer until June 1, 2009. The alternate color or color combination must be uniform along the sides and lower rear area of the trailer. The retroreflective sheeting or reflex reflectors on the upper rear area of the trailer must be white and conform to the requirements of FMVSS No. 108 (S5.7). Red retroreflective sheeting or reflex reflectors shall not be used along the sides of the trailer unless it is used as part of a red and white pattern. Retroreflective sheeting shall have a width of at least 50 mm (2 inches).

(c) Locations for retroreflective sheeting.

(1) Sides. Retroreflective sheeting shall be applied to each side of the trailer or semitrailer. Each strip of retroreflective sheeting shall be positioned as horizontally as practicable, beginning and ending as close to the front and rear as practicable. The strip need not be continuous but the sum of the length of all of the segments shall be at least half of the length of the trailer and the spaces between the segments of the strip shall be distributed as evenly as practicable. The centerline for each strip of retroreflective sheeting shall be between 375 mm (15 inches) and 1,525 mm (60 inches) above the road surface when measured with the trailer empty or unladed, or as close as practicable to this area. If necessary to clear rivet heads or other similar obstruction, 50 mm (2 inches) wide retroreflective sheeting may be separated into two 25 mm (1 inch) wide strips of the same length and color, separated by a space of not more than 25 mm (1 inch).

(2) Lower rear area. The rear of each trailer and semitrailer must be equipped with retroreflective sheeting. Each strip of retroreflective sheeting shall be positioned as horizontally as practicable, extending across the full width of the trailer, beginning and ending as close to the extreme edges as practicable. The centerline for each of the strips of retroreflective sheeting shall be between 375 mm (15 inches) and 1,525 mm (60 inches) above the road surface when measured with the trailer empty or unladen, or as close as practicable to this area.

(3) Upper rear area. Two pairs of white strips of retroreflective sheeting, each pair consisting of strips 300 mm (12 inches) long, must be positioned horizontally and vertically on the right and left upper corners of the rear of the body of each trailer and semitrailer, as close as practicable to the top of the trailer and as far apart as practicable. If the perimeter of the body, as viewed from the rear, is not square or rectangular, the strips may be applied along the perimeter, as close as practicable to the uppermost and outermost areas of the rear of the body on the left and right sides.

(d) Locations for reflex reflectors.

(1) Sides. Reflex reflectors shall be applied to each side of the trailer or semitrailer. Each array of reflex reflectors shall be positioned as horizontally as practicable, beginning and ending as close to the front and rear as practicable. The array need not be continuous but the sum of the length of all of the array segments shall be at least half of the length of the trailer and the spaces between the segments of the strip shall be distributed as evenly as practicable. The centerline for each array of reflex reflectors shall be between 375 mm (15 inches) and 1,525 mm (60 inches) above the road surface when measured with the trailer empty or unladen, or as close as practicable to this area. The center of each reflector shall not be more than 100 mm (4 inches) from the center of each adjacent reflector in the segment of the array. If reflex reflectors are arranged in an alternating color pattern, the length of reflectors of the first color shall be as close as practicable to the length of the reflectors of the second color.

(2) Lower rear area. The rear of each trailer and semitrailer must be equipped with reflex reflectors. Each array of reflex reflectors shall be positioned as horizontally as practicable, extending across the full width of the trailer, beginning and ending as close to the extreme edges as practicable. The centerline for each array of reflex reflectors shall be between 375 mm (15 inches) and 1,525 mm (60 inches) above the road surface when measured with the trailer empty or unladen, or as close as practicable to this area. The center of each reflector shall not be more than 100 mm (4 inches) from the center of each adjacent reflector in the segment of the array.

(3) Upper rear area. Two pairs of white reflex reflector arrays, each pair at least 300 mm (12 inches) long, must be positioned horizontally and vertically on the right and left upper corners of the rear of the body of each trailer and semitrailer, as close as practicable to the top of the trailer and as far apart as practicable. If the perimeter of the body, as viewed from the rear, is not square or rectangular, the arrays may be applied along the perimeter, as close as practicable to the uppermost and outermost areas of the rear of the body on the left and right sides. The center of each reflector shall not be more than 100 mm (4 inches) from the center of each adjacent reflector in the segment of the array.

38-393.17 Reserved

38-393.19 Requirements for turn signaling systems.

(a) Every truck, or truck tractor shall be equipped with a signaling system that in addition to signaling turning movements shall have a switch or combination of switches that will cause the two front turn signals and the two rear turn signals to flash simultaneously as a vehicular traffic hazard warning as required by Regulation 38-392.22 with the ignition on or off.

(b) Every semitrailer and full trailer shall be equipped so as to have the two rear turn signals to flash simultaneously with the two front turn signals of the towing vehicle as a vehicular traffic hazard warning as required by Regulation 38-392.22(a).

38-393.20 Clearance lamps to indicate extreme width and height.

Clearance lamps shall be mounted so as to indicate the extreme width of the motor vehicle (not including mirrors) and as near the top thereof as practicable: Provided, That when rear identification lamps are mounted at the extreme height of the vehicle, rear clearance lamps may be mounted at optional height: And provided further, That when mounting of front clearance lamps at the highest point of a trailer results in such lamps failing to mark the extreme width of the trailer, such lamps may be mounted at optional height but must indicate the extreme width of the trailer. Clearance lamps on truck tractors shall be so located as to indicate the extreme width of the truck tractor cab.

38-393.22 Combination of lighting devices and reflectors.

(a) Permitted combinations. Except as provided in paragraph (b), two or more lighting devices and reflectors (whether or not required by the rules in 38-382) may be combined optically if

- (1) Each required lighting device and reflector conforms to the applicable rules in 38-382; and
- (2) Neither the mounting nor the use of a non-required lighting device or reflector impairs the effectiveness of a required lighting device or reflector or causes that device or reflector to be inconsistent with the applicable rules in 38-382.

(b) Prohibited combinations.

(1) A turn signal lamp must not be combined optically with either a head lamp or other lighting device or combination of lighting devices that produces a greater intensity of light than the turn signal lamp.

(2) A turn signal lamp must not be combined optically with a stop lamp unless the stop lamp function is always deactivated when the turn signal function is activated.

(3) A clearance lamp must not be combined optically with a tail lamp or identification lamp.

38-393.23 Lighting devices to be electric.

Lighting devices shall be electric, except that red liquid burning lanterns may be used on the end of loads in the nature of poles, pipes, and ladders projecting to the rear of the motor vehicle.

38-393.24 Requirements for head lamps and auxiliary road lighting lamps.

(a) Mounting. Head lamps and auxiliary road lighting lamps shall be mounted so that the beams are readily adjustable, both vertically and horizontally, and the mounting shall be such that the aim is not readily disturbed by ordinary conditions of service.

(b) Head lamps required. Every truck, and truck tractor shall be equipped with a headlighting system composed of at least two head lamps, not including fog or other auxiliary lamps, with an equal number on each side of the vehicle. The headlighting system shall provide an upper and lower distribution of light, selectable at the driver's will.

(c) Fog, adverse weather, and auxiliary road lighting lamps. For the purposes of 38-393, fog, adverse weather, and auxiliary road lighting lamps, when installed, are considered to be a part of the headlighting system. Such lamps may be used in lieu of head lamps under conditions making their use advisable if there be at least one such lamp conforming to the appropriate SAE Standard¹ for such lamps on each side of the vehicle.

(d) Aiming and intensity. Head lamps shall be constructed and installed so as to provide adequate and reliable illumination and shall conform to the appropriate specification set forth in the SAE Standards¹ for "Electric Head Lamps for Motor Vehicles" or "Sealed Beam Head Lamp Units for Motor Vehicles."

38-393.25 Requirements for lamps other than head lamps.

(a) Mounting. All lamps shall be permanently and securely mounted in workmanlike manner on a permanent part of the motor vehicle, except that temporary lamps on motor vehicles being transported in driveaway towaway operations and temporary electric lamps on projecting loads need not be permanently mounted nor mounted on a permanent part of the vehicle. The requirement for three identification lamps on the centerline of a vehicle will be met as to location

by one lamp on the centerline, with the other two at right and left. All temporary lamps must be firmly attached.

(b) Visibility. All required exterior lamps shall be so mounted as to be capable of being seen at all distances between 500 feet and 50 feet under clear atmospheric conditions during the time lamps are required to be lighted. The light from front clearance and front identification lamps shall be visible to the front, that from sidemarker lamps to the side, that from rear clearance, rear identification, and tail lamps to the rear, and that from projecting loadmarker lamps from those directions required by Regulation 38-393.11. This shall not be construed to apply to lamps on one unit which are obscured by another unit of a combination of vehicles.

(c) Specifications. All required lamps except those already installed on vehicles tendered for transportation in driveaway and towaway operations shall conform to appropriate requirements of the SAE Standards and/or Recommended Practices¹ as indicated below, except that the minimum required marking of lamps conforming to the 1985 requirements shall be as specified in paragraph (d). Projecting load marker lamps shall conform to the requirements for clearance, side marker, and identification lamps. Turn signals shall conform to the requirements for class A, Type I turn signals, provided.

(1) Lamps on vehicles made before July 1, 1961, excepting replacement lamps as specified in paragraph (c)(2), shall conform to the 1952 requirements.

(2) Lamps on vehicles made on and after July 1, 1961, and replacement lamps installed on and after December 31, 1961, shall conform to the 1985 requirements.

(3) Lamps temporarily attached to vehicles transported in driveaway and towaway operations on and after December 31, 1961, shall conform to the 1985 requirements.

(d) Certification and markings. All lamps required to conform to the requirements of the SAE Standards¹ shall be certified by the manufacturer or supplier that they do so conform, by markings indicated below. The markings in each case shall be visible when the lamp is in place on the vehicle.

(1) Stop lamps shall be marked with the manufacturers or supplier's name or trade name and shall be marked "SAE S".

(2) Turn signal units shall be marked with the manufacturers or supplier's name or trade name and shall be marked "SAE AI" or "SAE I".

(3) Tail lamps shall be marked with the manufacturers or supplier's name or trade name and shall be marked "SAE T".

(4) Clearance, side marker, identification, and projecting load marker lamps, except combination lamps, shall be marked with the manufacturers or supplier's name or trade name and shall be marked "SAE" or "SAE P".

(5) Combination lamps shall be marked with the manufacturers or supplier's name or trade name and shall be marked "SAE" followed by the appropriate letters indicating the individual lamps combined. The letter "A", as specified in Regulation 38-393.26(c), may be included to certify that a reflector in the combination conforms to the requirements appropriate to such marking. If the letter "I" follows the letter "A" immediately the two letters shall be deemed to refer to a turn signal unit, as specified in paragraph (d)(2) of 38-393. Combination clearance and side marker lamps may be marked "SAE PC".

(e) Lighting devices to be steady burning. All exterior lighting devices shall be of the steady burning type except turn signals on any vehicle, stop lamps when used as turn signals, warning lamps on school when operating as such, and warning lamps on emergency and service vehicles authorized by State or local authorities, and except that lamps combined into the same shell or housing with any turn signal may be turned off by the same switch that turns the signal on for

flashing and turned on again when the turn signal as such is turned off. This paragraph shall not be construed to prohibit the use of vehicular hazard warning signal flashers as required by Regulation 38-392.22 or permitted by Regulation 38-392.18.

(f) Stop lamp operation. All stop lamps on each motor vehicle or combination of motor vehicles shall be actuated upon application of any of the service brakes, except that such actuation is not required upon activation of the emergency feature of trailer brakes by means of either manual or automatic control on the towing vehicle, and except that stop lamps on a towing vehicle need not be actuated when service brakes are applied to the towed vehicles or vehicles only, and except that no stop lamp need be actuated as such when it is in use as a turn signal or when it is turned off by the turn signal switch as provided in paragraph (e).

38-393.26 Requirements for reflectors.

(a) Mounting. All required reflectors shall be mounted upon the motor vehicle at a height not less than 15 inches nor more than 60 inches above the ground on which the motor vehicle stands, except that reflectors shall be mounted as high as practicable on motor vehicles which are so constructed as to make compliance with the 15 inch requirement impractical. They shall be so installed as to perform their function adequately and reliably, and except for temporary reflectors required for vehicles in driveaway towaway operations, or on projecting loads, all reflectors shall be permanently and securely mounted in workmanlike manner so as to provide the maximum of stability and the minimum likelihood of damage. Required reflectors otherwise properly mounted may be securely installed on flexible strapping or belting provided that under conditions of normal operation they reflect light in the required directions. Required temporary reflectors mounted on motor vehicles during the time they are in transit in any driveaway towaway operation must be firmly attached.

(b) Specifications. All required reflectors except those installed on vehicles tendered for transportation in driveaway and towaway operations shall comply with FMVSS 571.108 (49 CFR 571.108) in effect at the time the vehicle was manufactured or the current FMVSS 571.108 requirements.

(c) Certification and markings. All reflectors required to conform to the specifications in paragraph (b) shall be certified by the manufacturer or supplier that they do so conform, by marking with the manufacturer's or supplier's name or trade name and the letters "SAE A". The marking in each case shall be visible when the reflector is in place on the vehicle.

(d) Retroreflective surfaces. Retroreflective surfaces other than required reflectors may be used, provided:

(1) Designs do not resemble traffic control signs, lights, or devices, except that straight edge striping resembling a barricade pattern may be used.

(2) Designs do not tend to distort the length and/or width of the motor vehicle.

(3) Such surfaces shall be at least 3 inches from any required lamp or reflector unless of the same color as such lamp or reflector.

(4) No red color shall be used on the front of any motor vehicle, except for display of markings or placards required by Section 177.823 of the Federal Motor Carrier Safety Administration's hazardous materials regulations.

(5) Retroreflective license plates required by State or local authorities may be used.

South Carolina Code of State Laws 56-5-4580 (section 7) on every pole truck or trailer, a strip of light reflecting paint, tape or reflectors on the external sides of the pole support frame or bolsters, or both, where practical.

38-393.27 Wiring specifications.

(a) Wiring for both low voltage (tension) and high voltage (tension) circuits shall be constructed and installed so as to meet design requirements. Wiring shall meet or exceed, both mechanically and electrically, the following SAE Standards as found in the 1985 edition of the SAE Handbook:

- (1) Commercial vehicle engine ignition systems SAE J557 High Tension Ignition Cable.
- (2) Commercial vehicle battery cable SAE J1127 Jan 80 Battery Cable.
- (3) Other commercial vehicle wiring SAE J1128 Low Tension Primary Cable.

(b) The source of power and the electrical wiring shall be of such size and characteristics as to provide the necessary voltage as the design requires to comply with FMVSS 571.108.

(c) Lamps shall be properly grounded.

38-393.28 Wiring to be protected.

(a) The wiring shall

- (1) Be so installed that connections are protected from weather, abrasion, road splash, grease, oil, fuel and chafing;
- (2) Be grouped together, when possible, and protected by nonconductive tape, braid, or other covering capable of withstanding severe abrasion or shall be protected by being enclosed in a sheath or tube;
- (3) Be properly supported in a manner to prevent chafing;
- (4) Not be so located as to be likely to be charred, overheated, or enmeshed in moving parts;
- (5) Not have terminals or splices located above the fuel tank except for the fuel sender wiring and terminal; and
- (6) Be protected when passing through holes in metal by a grommet, or other means, or the wiring shall be encased in a protective covering.

(b) The complete wiring system including lamps, junction boxes, receptacle boxes, conduit and fittings must be weather resistant.

(c) Harness connections shall be accomplished by a mechanical means.

38-393.29 Grounds.

The battery ground and trailer return ground connections on a grounded system shall be readily accessible. The contact surfaces of electrical connections shall be clean and free of oxide, paint, or other nonconductive coating.

38-393.30 Battery installation.

Every storage battery on every vehicle, unless located in the engine compartment, shall be covered by a fixed part of the motor vehicle or protected by a removable cover or enclosure. Removable covers or enclosures shall be substantial and shall be securely latched or fastened. The storage battery compartment and adjacent metal parts which might corrode by reason of battery leakage shall be painted or coated with an acid resisting paint or coating and shall have openings to provide ample battery ventilation and drainage. Wherever the cable to the starting motor passes through a metal compartment, the cable shall be protected against grounding by an acid and waterproof insulating bushing. Wherever a battery and a fuel tank are both placed under

the driver's seat, they shall be partitioned from each other, and each compartment shall be provided with an independent cover, ventilation, and drainage.

38-393.31 Overload protective devices.

(a) The current to all low tension circuits shall pass through overload protective devices except that this requirement shall not be applicable to battery to starting motor or battery to generator circuits, ignition and engine control circuits, horn circuits, electrically operated fuel pump circuits, or electric brake circuits.

(b) Trucks and truck tractors meeting the definition of a commercial motor vehicle and manufactured after June 30, 1953 shall have protective devices for electrical circuits arranged so that:

(1) The headlamp circuit or circuits shall not be affected by a short circuit in any other lighting circuits on the motor vehicle; or

(2) The protective device shall be an automatic reset overload circuit breaker if the headlight circuit is protected in common with other circuits.

38-393.32 Detachable electrical connections.

Electrical wiring between towing and towed vehicles shall be contained in a cable or cables or entirely within another substantially constructed protective device. All such electrical wiring shall be mechanically and electrically adequate and free of short or open circuits. Suitable provision shall be made in every such detachable connection to afford reasonable assurance against connection in an incorrect manner or accidental disconnection. Detachable connections made by twisting together wires from the towed and towing units are prohibited. Precaution shall be taken to provide sufficient slack in the connecting wire or cable to accommodate without damage all normal motions of the parts to which they are attached.

38-393.33 Wiring, installation.

Electrical wiring shall be systematically arranged and installed in a workmanlike manner. All detachable wiring, except temporary wiring connections for driveaway towaway operations, shall be attached to posts or terminals by means of suitable cable terminals which conform to the SAE Standard¹ for "Cable Terminals" or by cable terminals which are mechanically and electrically at least equal to such terminals. The number of wires attached to any post shall be limited to the number which such post was designed to accommodate. The presence of bare, loose, dangling, chafing, or poorly connected wires is prohibited.

Subpart C Brakes

38-393.40 Required brake systems.

(a) General. A truck, truck tractor, or a combination of motor vehicles must have brakes adequate to control the movement of, and to stop and hold, the vehicle or combination of vehicles.

(b) Specific systems required.

(1) A truck, truck tractor, or combination of motor vehicles must have

(i) A service brake system that conforms to the requirements of Regulation 38-393.52; and

(ii) A parking brake system that conforms to the requirements of Regulation 38-393.41.

(2) A truck, truck tractor, or a combination of motor vehicles manufactured on or after July 1, 1973, must have an emergency brake system that conforms to the requirements of Regulation 38-393.52(b) and consists of either

(i) Emergency features of the service brake system; or

(ii) A system separate from the service brake system.

A control by which the driver applies the emergency brake system must be located so that the driver can readily operate it when he/she is properly restrained by any seat belt assembly provided for his/her use. The control for applying the emergency brake system may be combined with either the control for applying the service brake system or the control for applying the parking brake system. However, all three controls may not be combined.

(c) Interconnected systems.

(1) If the brake systems specified in paragraph (b) are interconnected in any way, they must be designed, constructed, and maintained so that, upon the failure of any part of the operating mechanism of one or more of the systems (except the service brake actuation pedal or valve)

(i) The vehicle will have operative brakes; and

(ii) In the case of a vehicle manufactured on or after July 1, 1973, the vehicle will have operative brakes capable of performing as specified in Regulation 38-393.52(b).

(2) A motor vehicle to which the emergency brake system requirements of Federal Motor Vehicle Safety Standard No. 105 (Section 571.105) applied at the time of its manufacture conforms to the requirements of paragraph (c)(1) if

(i) It is maintained in conformity with the emergency brake requirements of Standard No. 105 in effect on the date of its manufacture; and

(ii) It is capable of performing as specified in Regulation 38-393.52(b), except upon structural failure of its brake master cylinder body or effectiveness indicator body.

38-393.41 Parking brake system.

(a) Every commercial motor vehicle manufactured on and after March 7, 1990, except an agricultural commodity trailer, converter dolly, heavy hauler or pulpwood trailer, shall at all times be equipped with a parking brake system adequate to hold the vehicle or combination under any condition of loading as required by FMVSS 571.121. An agricultural commodity trailer, heavy hauler or pulpwood trailer shall carry sufficient chocking blocks to prevent movement when parked.

(b) The parking brake system shall at all times be capable of being applied in conformance with the requirements of paragraph (a) of 38-393.41 either the driver's muscular effort, or by spring action, or by other energy, provided, that if such other energy is depended on for application of the parking brake, then an accumulation of such energy shall be isolated from any common source and used exclusively for the operation of the parking brake.

(c) The parking brake system shall be held in the applied position by energy other than fluid pressure, air pressure, or electric energy. The parking brake system shall be such that it cannot be released unless adequate energy is available upon release of the parking brake to make immediate further application with the required effectiveness.

38-393.42 Brakes required on all wheels.

(a) Every commercial motor vehicle shall be equipped with brakes acting on all wheels.

(b) Exception.

(1) Trucks or truck tractors having three or more axles

(i) Need not have brakes on the front wheels if the vehicle was manufactured before July 25, 1980; or

(ii) Manufactured between July 24, 1980, and October 27, 1986, must be retrofitted to meet the requirements of 38-393 within one year from February 26, 1987, if the brake components have been removed.

(2) Any motor vehicle being towed in a driveaway towaway operation must have operative brakes as may be necessary to ensure compliance with the performance requirements of Regulation 38-393.52. This paragraph is not applicable to any motor vehicle towed by means of a tow bar when any other vehicle is full mounted on such towed motor vehicle or any combination of motor vehicles utilizing three or more saddle mounts. (See Regulation 38-393.71(a)(3).)

(3) Any full trailer, any semitrailer, or any pole trailer having a GVWR of 3,000 pounds or less must be equipped with brakes if the weight of the towed vehicle resting on the towing vehicle exceeds 40 percent of the GVWR of the towing vehicle.

38-393.43 Breakaway and emergency braking.

(a) Every motor vehicle, if used to tow a trailer equipped with brakes, shall be equipped with means for providing that in case of breakaway of such trailer the service brakes on the towing vehicle will be sufficiently operative to stop the towing vehicle.

(b) Every truck or truck tractor equipped with air brakes, when used for towing other vehicles equipped with air brakes, shall be equipped with two means of activating the emergency features of the trailer brakes. One of these means shall operate automatically in the event of reduction of the towing vehicle air supply to a fixed pressure which shall not be lower than 20 pounds per square inch nor higher than 45 pounds per square inch. The other means shall be a manually controlled device readily operable by a person seated in the driving seat. Its emergency position or method of operation shall be clearly indicated. In no instance may the manual means be so arranged as to permit its use to prevent operation of the automatic means. The automatic and manual means required may be, but are not required to be, separate.

(c) Every truck tractor and truck when used for towing other vehicles equipped with vacuum brakes, shall have, in addition to the single control required by Regulation 38-393.49 to operate all brakes of the combination, a second manual control device which can be used to operate the brakes on the towed vehicles in emergencies. Such second control shall be independent of brake air, hydraulic, and other pressure, and independent of other controls, unless the braking system be so arranged that failure of the pressure on which the second control depends will cause the towed vehicle brakes to be applied automatically. The second control is not required by this rule to provide modulated or graduated braking.

(d) Every trailer required to be equipped with brakes shall be equipped with brakes of such character as to be applied automatically and promptly upon breakaway from the towing vehicle, and means shall be provided to maintain application of the brakes on the trailer in such case for at least 15 minutes.

(e) Air brake systems installed on towed vehicles shall be so designed, by the use of "no bleed back" relay emergency valves or equivalent devices, that the supply reservoir used to provide air for brakes shall be safeguarded against backflow of air to the towing vehicle upon reduction of the towing vehicle air pressure.

(f) The requirements of paragraphs (b), (c), and (d) shall not be applicable to motor vehicles in driveaway towaway operations.

38-393.44 [Reserved]

38-393.45 Brake tubing and hose, adequacy.

(a) General requirements. Brake tubing and brake hose must

- (1) Be designed and constructed in a manner that insures proper, adequate, and continued functioning of the tubing or hose;
- (2) Be installed in a manner that insures proper continued functioning of the tubing or hose;
- (3) Be long and flexible enough to accommodate without damage all normal motions of the parts to which it is attached;
- (4) Be suitably secured against chafing, kinking, or other mechanical damage;
- (5) Be installed in a manner that prevents it from contacting the vehicle's exhaust system or any other source of high temperatures; and
- (6) Conform to the applicable requirements of paragraph (b) or (c). In addition, all hose installed on and after January 1, 1981, must conform to those applicable subsections of FMVSS 106 (49 CFR 571.106).

(b) Special requirements for metallic brake tubing, nonmetallic brake tubing, coiled nonmetallic brake tubing and brake hose.

(1) Metallic brake tubing, nonmetallic brake tubing, coiled nonmetallic brake tubing, and brake hose installed on a commercial motor vehicle on and after March 7, 1989, must meet or exceed one of the following specifications set forth in the SAE Handbook, 1985 edition:

(i) Metallic Air Brake Tubing SAE Recommended Practice J1149 Metallic Air Brake System Tubing and Pipe July 76.

(ii) Nonmetallic Air Brake Tubing SAE Recommended Practice J844 Nonmetallic Air Brake System Type B OCT 80.

(iii) Air Brake Hose SAE Recommended Practice J1402 Automotive Air Brake Hose and Hose Assemblies JUN 85.

(iv) Hydraulic Brake Hose SAE Recommended Practice J1401 Road Vehicle Hydraulic Brake Hose Assemblies for Use with Non Petroleum Base Hydraulic Fluid JUN 85.

(v) Vacuum Brake Hose SAE Recommended Practice J1403 Vacuum Brake Hose JUN 85.

(2) Except as provided in paragraph (c), brake hose and brake tubing installed on a motor vehicle before March 7, 1989, must conform to 49 CFR 393.45 effective October 31, 1983.

(c) Nonmetallic brake tubing. Coiled nonmetallic brake tubing may be used for connections between towed and towing vehicles or between the frame of a towed vehicle and the unsprung subframe of an adjustable axle of that vehicle if

(1) The coiled tubing has a straight segment (pigtail) at each end that is at least 2 inches in length and is encased in a spring guard or similar device which prevents the tubing from kinking at the fitting at which it is attached to the vehicle; and

(2) The spring guard or similar device has at least 2 inches of closed coils or similar surface at its interface with the fitting and extends at least 1 1/2 inches into the coiled segment of the tubing from its straight segment.

(d) Brake tubing and brake hose, uses. Metallic and nonmetallic brake tubing is intended for use in areas of the brake system where relative movement in the line is not anticipated. Brake hose and coiled nonmetallic brake tubing is intended for use in the brake system where substantial relative movement in the line is anticipated or the hose/coiled nonmetallic brake tubing is exposed to potential tension or impact such as between the frame and axle in a conventional type suspension system (axle attached to frame by suspension system). Nonmetallic brake tubing may be used through an articulation point provided movement is less than 4.5 degrees in a vertical plane, and 7.4 degrees in a transverse horizontal plane.

38-393.46 Brake tubing and hose connections.

All connections for air, vacuum, or hydraulic braking systems shall:

(a) Be adequate in material and construction to insure proper continued functioning;

(b) Be designed, constructed, and installed so as to insure, when properly connected, an attachment free of leaks, constrictions, or other defects;

(c) Have suitable provision in every detachable connection to afford reasonable assurance against accidental disconnection;

(d) Have the vacuum brake engine manifold connection at least three eighths inch in diameter.

(e) If installed on a vehicle on or after January 1, 1981, meet requirements under applicable subsections of FMVSS 106 (49 CFR 571.106).

(f) Splices in tubing if installed on a vehicle after March 7, 1989, must use fittings that meet the requirements of SAE Standard J512 OCT 80 Automotive Tube Fittings or for air brake systems SAE J246 March 81 Spherical and Flanged Sleeve (Compression) Tube Fittings as found in the SAE Handbook 1985 edition.

38-393.47 Brake lining.

The brake lining on every motor vehicle shall be so constructed and installed as not to be subject to excessive fading and grabbing and shall be adequate in thickness, means of attachment, and physical characteristics to provide for safe and reliable stopping of the motor vehicle.

38-393.48 Brakes to be operative.

(a) General rule. Except as provided in paragraphs (b) and (c), all brakes with which a motor vehicle is equipped must at all times be capable of operating.

(b) Devices to reduce or remove front wheel braking effort. A motor vehicle may be equipped with a device to reduce the braking effort upon its front wheels or, in the case of a three axle truck or truck tractor manufactured before March 1, 1975, to remove the braking effort upon its front wheels, if that device conforms to, and is used in compliance with, the rules in paragraph (b) (1) or (2).

(1) Manually operated devices. A manually operated device to reduce or remove the front wheel braking effort must not be

(i) Installed in a motor vehicle other than a truck, or truck tractor; or

(ii) Installed in a truck, or truck tractor manufactured after February 28, 1975; or

(iii) Used in the reduced mode except when the vehicle is operating under adverse conditions such as wet, snowy, or icy roads.

(2) Automatic devices. An automatic device to reduce the front wheel braking effort by up to 50 percent of the normal braking force, regardless of whether or not antilock system failure has occurred on any axle, must not

(i) Be operable by the driver except upon application of the control that activates the braking system; and

(ii) Be operable when the pressure that transmits brake control application force exceeds

(A) 85 psig on air mechanical braking systems; or

(B) 85 percent of the maximum system pressure in the case of vehicles utilizing other than compressed air.

(c) Towed vehicle. Paragraph (a) does not apply to

(1) A disabled vehicle being towed; or

(2) A vehicle being towed in a driveway towaway operation which is exempt from the general rule of 38-393.42 under paragraph (b) of that regulation.

38-393.49 Single valve to operate all brakes.

Every motor vehicle, the date of manufacture of which is subsequent to June 30, 1953, which is equipped with power brakes, shall have the braking system so arranged that one application valve shall when applied operate all the service brakes on the motor vehicle or combination of motor vehicles. This requirement shall not be construed to prohibit motor vehicles from being equipped with an additional valve to be used to operate the brakes on a trailer or trailers or as provided in Regulation 38-393.44. 38-393 shall not be applicable to driveaway towaway operations unless the brakes on such operations are designed to be operated by a single valve.

38-393.50 Reservoirs required.

(a) General. Every commercial motor vehicle using air or vacuum for breaking shall be equipped with reserve capacity or a reservoir sufficient to ensure a full service brake application with the engine stopped without depleting the air pressure or vacuum below 70 percent of that pressure or degree of vacuum indicated by the gauge immediately before the brake application is made. For purposes of 38-393, a full service brake application is considered to be made when the service brake pedal is pushed to the limit of its travel.

(b) Safeguarding of air and vacuum.

(1) Every truck, and truck tractor, when equipped with air or vacuum reservoirs and regardless of date of manufacture, shall have such reservoirs so safeguarded by a check valve or equivalent device that in the event of failure or leakage in its connection to the source of compressed air or vacuum the air or vacuum supply in the reservoir shall not be depleted by the leak or failure.

(2) Means shall be provided to establish the check valve to be in working order. On and after May 1, 1966, means other than loosening or disconnection of any connection between the source of compressed air or vacuum and the check valve, and necessary tools for operation of such means, shall be provided to prove that the check valve is in working order. The means shall be readily accessible either from the front, side, or rear of the vehicle, or from the driver's compartment.

(i) In air brake systems with one reservoir, the means shall be a cock, valve, plug, or equivalent device arranged to vent a cavity having free communication with the connection between the check valve and the source of compressed air or vacuum.

(ii) Where air is delivered by a compressor into one tank or compartment (wet tank), and air for braking is taken directly from another tank or compartment (dry tank) only, with the required check valve between the tanks or compartments, a manually operated drain cock on the first (wet) tank or compartment will serve as a means herein required if it conforms to the requirements herein.

(iii) In vacuum systems stopping the engine will serve as the required means, the system remaining evacuated as indicated by the vacuum gauge.

38-393.51 Warning devices and gauges.

(a) General. In the manner and to the extent specified in paragraphs (b), (c), (d), and (e), a truck, or truck tractor must be equipped with a signal that provides a warning to the driver when a failure occurs in the vehicle's service brake system.

(b) Hydraulic brakes. A vehicle manufactured on or after July 1, 1973, and having service brakes activated by hydraulic fluid must be equipped with a warning signal that performs as follows:

(1) If Federal Motor Vehicle Safety Standard No. 105 (Section 571.105) was applicable to the vehicle at the time it was manufactured, the warning signal must conform to the requirements of that standard.

(2) If Federal Motor Vehicle Safety Standard No. 105 (Section 571.105) was not applicable to the vehicle at the time it was manufactured, the warning signal must become operative, before or upon application of the brakes in the event of a hydraulic type complete failure of a partial system. The signal must be readily audible or visible to the driver.

(c) Air brakes. A vehicle (regardless of the date it was manufactured) having service brakes activated by compressed air (air mechanical brakes) or a vehicle towing a vehicle having service brakes activated by compressed air (air mechanical brakes) must be equipped, and perform, as follows:

(1) The vehicle must have a low air pressure warning device that conforms to the requirements of either paragraph (c)(1) (i) or (ii).

(i) If Federal Motor Vehicle Safety Standard No. 121 (Section 571.121) was applicable to the vehicle at the time it was manufactured, the warning device must conform to the requirements of that standard.

(ii) If Federal Motor Vehicle Safety Standard No. 121 (Section 571.121) was not applicable to the vehicle at the time it was manufactured, the vehicle must have a device that provides a readily audible or visible continuous warning to the driver whenever the pressure of the compressed air in the braking system is below a specified pressure, which must be at least one half of the compressor governor cutout pressure.

(2) The vehicle must have a pressure gauge which indicates to the driver the pressure in pounds per square inch available for braking.

(d) Vacuum brakes. A vehicle (regardless of the date it was manufactured) having service brakes activated by vacuum or a vehicle towing a vehicle having service brakes activated by vacuum must be equipped with

(1) A device that provides a readily audible or visible continuous warning to the driver whenever the vacuum in the vehicle's supply reservoir is less than 8 inches of mercury; and

(2) A vacuum gauge which indicates to the driver the vacuum in inches of mercury available for braking.

(e) Hydraulic brakes applied or assisted by air or vacuum. A vehicle having a braking system in which hydraulically activated service brakes are applied or assisted by compressed air or vacuum must be equipped with both a warning signal that conforms to the requirements of paragraph (b) and a warning device that conforms to the requirements of either paragraph (c) or paragraph (d).

(f) Maintenance. The warning signals, devices, and gauges required by 38-393 must be maintained in operative condition.

38-393.52 Brake performance.

(a) Upon application of its service brakes, a motor vehicle or combination of motor vehicles must under any condition of loading in which it is found on a public highway, be capable of

(1) Developing a braking force at least equal to the percentage of its gross weight specified in the table in paragraph (d);

(2) Decelerating to a stop from 20 miles per hour at not less than the rate specified in the table in paragraph (d); and

(3) Stopping from 20 miles per hour in a distance, measured from the point at which movement of the service brake pedal or control begins, that is not greater than the distance specified in the table in paragraph (d).

(b) Upon application of its emergency brake system and with no other brake system applied, a motor vehicle or combination of motor vehicles must, under any condition of loading in which it

is found on a public highway, be capable of stopping from 20 miles per hour in a distance, measured from the point at which movement of the emergency brake control begins, that is not greater than the distance specified in the table in paragraph (d).

(c) Conformity to the stopping distance requirements of paragraphs (a) and (b) shall be determined under the following conditions:

(1) Any test must be made with the vehicle on a hard surface that is substantially level, dry, smooth, and free of loose material.

(2) The vehicle must be in the center of a 12 foot wide lane when the test begins and must not deviate from that lane during the test.

(d) Vehicle brake performance table:

Type of motor vehicle	Service brake systems			Emergency brake systems
	Braking force as a percentage of gross vehicle or combination weight	Deceleration in feet per second per second	Application and braking distance in feet from initial speed of 20 m.p.h.	Application and braking distance in feet from initial speed of 20 m.p.h.
A. Passenger-carrying vehicles.				
(1) Vehicles with a seating capacity of 10 persons or less, including driver, and built on a passenger car chassis.....	65.2	21	20	54
	52.8	17	25	66
(2) Vehicles with a seating capacity of more than 10 persons, including driver, and built on a passenger car chassis; vehicles built on a truck chassis and having a manufacturer's GVWR of 10,000 pounds or less	43.5	14	35	85
	52.8	17	25	66
(3) All other passenger-carrying vehicles.....	43.4	14	35	85
B. Property-carrying vehicles.				
(1) Single unit vehicles				

having a manufacture's GVWR of 10,000 pounds or less				
(2) Single unit vehicles having a manufacture's GVWR of more than 10,000 pounds, except truck tractors. Combinations of a 2-axle towing vehicle and trailer having a GVWR or 3,000 pounds or less. All combinations of 2 or less vehicles in driveway or towaway operation.....	43.5	14	40	90
(3) All other property-carrying vehicles and combinations of property-carrying vehicles.....				

Notes: (a) There is a definite mathematical relationship between the figures in columns 2 and 3. If the decelerations set forth in column 3 are divided by 32.2 feet per second per second, the figures in column 2 will be obtained. (For example, 21 divided by 32.2 equals 65.2 percent.) Column 2 is included in the tabulation because certain brake testing devices utilize this factor.

(b) The decelerations specified in column 3 are an indication of the effectiveness of the basic brakes, and as measured in practical brake testing are the maximum decelerations attained at some time during the stop. These decelerations as measured in brake tests cannot be used to compute the values in column 4 because the deceleration is not sustained at the same rate over the entire period of the stop. The deceleration increases from zero to a maximum during a period of brake system application and brake force buildup. Also, other factors may cause the deceleration to decrease after reaching a maximum. The added distance which results because maximum deceleration is not sustained is included in the figures in column 4 but is not indicated by the usual brake testing devices for checking deceleration.

(c) The distances in column 4 and the decelerations in column 3 are not directly related. "Brake system application and braking distance in feet" (column 4) is a definite measure of the overall effectiveness of the braking system, being the distance traveled between the point at which the driver starts to move the braking controls and the point at which the vehicle comes to rest. It includes distance traveled while the brakes are being applied and distance traveled while the brakes are retarding the vehicle.

(d) The distance traveled during the period of brake system application and brake force buildup varies with vehicle type, being negligible for many passenger cars and greatest for combinations of commercial vehicles. This fact accounts for the variation from 20 to 40 feet in the values in column 4 for the various classes of vehicles.

(e) The terms "GVWR" and "GVW" refer to the manufacturer's gross vehicle rating and the actual gross vehicle weight, respectively.

38-393.53 Automatic brake adjusters and brake adjustment indicators.

(a) Automatic brake adjusters (hydraulic brake systems). Each commercial motor vehicle manufactured on or after October 20, 1993, and equipped with a hydraulic brake system, shall meet the automatic brake adjustment system requirements of Federal Motor Vehicle Safety Standard No. 105 (49 CFR 571.105, S5.1) applicable to the vehicle at the time it was manufactured.

(b) Automatic brake adjusters (air brake systems). Each commercial motor vehicle manufactured on or after October 20, 1994, and equipped with an air brake system shall meet the automatic brake adjustment system requirements of Federal Motor Vehicle Safety Standard No. 121 (49 CFR 571.121, S5.1.8) applicable to the vehicle at the time it was manufactured.

(c) Brake adjustment indicator (air brake systems). On each commercial motor vehicle manufactured on or after October 20, 1994, and equipped with an air brake system which contains an external automatic adjustment mechanism and an exposed pushrod, the condition of service brake under adjustment shall be displayed by a brake adjustment indicator conforming to the requirements of Federal Motor Vehicle Safety Standard No. 121 (49 CFR 571.121, S5.1.8) applicable to the vehicle at the time it was manufactured.

Subpart D Glazing and Window Construction

38-393.60 Glazing in specified openings.

(a) Glazing material. Glazing material used in windshields, windows, and doors on a motor vehicle manufactured on or after December 25, 1968, shall at a minimum meet the requirements of Federal Motor Vehicle Safety Standard (FMVSS) No. 205 in effect on the date of manufacture of the motor vehicle. The glazing material shall be marked in accordance with FMVSS No. 205 (49 CFR 571.205, S6)

(b) Windshield required. Each bus, truck and truck-tractor shall be equipped with a windshield. Each windshield or portion of a multi-piece windshield shall be mounted using the full periphery of the glazing material.

(c) Windshield condition. With the exception of the condition listed in paragraphs (c)(1), (c)(2), and (c)(3), each windshield shall be free of discoloration or damage in the area extending upward from the height of the top of the steering wheel (excluding a 51 mm (2 inch) border at the top of the windshield) and extending from a 25 mm (1 inch) border at each side of the windshield or windshield panel. Exception:

- (1) Coloring or tinting which meets the requirements of paragraph (d);
- (2) Any crack that is not intersected by any other cracks;
- (3) Any damaged area which can be covered by a disc 19 mm (3.4 inch) in diameter if not closer than 76 mm (3 inches) to any other similarly damaged area.

(d) Use of vision reducing matter. No motor vehicle may be operated with any label, sticker, decalcomania, or other vision reducing matter covering any portion of its windshield or windows at either side of the driver's compartment, except that stickers required by law may be affixed at the bottom of the windshield, provided no portion of any label, sticker, decalcomania, or other

vision reducing matter may extend upward more than 4 1/2 inches from the bottom of such windshield.

38-393.61 [Reserved]

38-393.62 Window obstructions.

Windows, if otherwise capable of complying with Regulation 38-393.61 (a) and (b), shall not be obstructed by bars or other such means located either inside or outside such windows such as would hinder the escape of occupants unless such bars or other such means are so constructed as to provide a clear opening, at least equal to the opening provided by the window to which it is adjacent, when subjected to the same test specified in Regulation 38-393.61(c). The point of application of such test force shall be such as will be most likely to result in the removal of the obstruction.

38-393.63 Reserved

Subpart E Fuel Systems

38-393.65 All fuel systems.

(a) Application of the rules. The rules apply to systems for containing and supplying fuel for the operation of motor vehicles or for the operation of auxiliary equipment installed on, or used in connection with, motor vehicles.

(b) Location. Each fuel system must be located on the motor vehicle so that

- (1) No part of the system extends beyond the widest part of the vehicle;
- (2) No part of a fuel tank is forward of the front axle of a power unit;
- (3) Fuel spilled vertically from a fuel tank while it is being filled will not contact any part of the exhaust or electrical systems of the vehicle, except the fuel level indicator assembly;
- (4) Fill pipe openings are located outside the vehicle's passenger compartment and its cargo compartment;
- (5) A fuel line does not extend between a towed vehicle and the vehicle that is towing it while the combination of vehicles is in motion; and

(c) Fuel tank installation. Each fuel tank must be securely attached to the motor vehicle in a workmanlike manner.

(d) Gravity or syphon feed prohibited. A fuel system must not supply fuel by gravity or syphon feed directly to the carburetor or injector.

(e) Selection control valve location. If a fuel system includes a selection control valve which is operable by the driver to regulate the flow of fuel from two or more fuel tanks, the valve must be installed so that either

- (1) The driver may operate it while watching the roadway and without leaving his/her driving position; or
- (2) The driver must stop the vehicle and leave his/her seat in order to operate the valve.

(f) Fuel lines. A fuel line which is not completely enclosed in a protective housing must not extend more than 2 inches below the fuel tank or its sump. Diesel fuel crossover, return, and withdrawal lines which extend below the bottom of the tank or sump must be protected against damage from impact. Every fuel line must be

- (1) Long enough and flexible enough to accommodate normal movements of the parts to which it is attached without incurring damage; and
- (2) Secured against chafing, kinking, or other causes of mechanical damage.

(g) Excess flow valve. When pressure devices are used to force fuel from a fuel tank, a device which prevents the flow of fuel from the fuel tank if the fuel feed line is broken must be installed in the fuel system.

38-393.67 Liquid fuel tanks.

(a) Application of the rules.

(1) A liquid fuel tank manufactured on or after January 1, 1973, and a side mounted gasoline tank must conform to all the rules.

(2) Reserved

(3) A diesel fuel tank manufactured before January 1, 1973, and mounted on a vehicle must conform to the rules in paragraph (c)(7)(iii) Reserved

(5) A gasoline tank, other than a side mounted gasoline tank, manufactured before January 1, 1973, and mounted on a vehicle must conform to the rules in paragraphs (c) (1) through (10), inclusive.

(6) Private motor carrier of passengers. Motor carriers engaged in the private transportation of passengers may continue to operate a commercial motor vehicle which was not subject to 38-393 or 49 CFR 571.301 at the time of its manufacture, provided the fuel tank of such vehicle is maintained to the original manufacturer's standards.

(b) Definitions. As used in 38-393

(1) The term liquid fuel tank means a fuel tank designed to contain a fuel that is liquid at normal atmospheric pressures and temperatures.

(2) A side mounted fuel tank is a liquid fuel tank which

(i) If mounted on a truck tractor, extends outboard of the vehicle frame and outside of the plan view outline of the cab; or

(ii) If mounted on a truck, extends outboard of a line parallel to the longitudinal centerline of the truck and tangent to the outboard side of a front tire in a straight ahead position. In determining whether a fuel tank on a truck or truck tractor is side mounted, the fill pipe is not considered a part of the tank.

(c) Construction of liquid fuel tanks

(1) Joints. Joints of a fuel tank body must be closed by arc , gas , seam , or spot welding, by brazing, by silver soldering, or by techniques which provide heat resistance and mechanical securement at least equal to those specifically named. Joints must not be closed solely by crimping or by soldering with a lead based or other soft solder.

(2) Fittings. The fuel tank body must have flanges or spuds suitable for the installation of all fittings.

(3) Threads. The threads of all fittings must be Dryseal American Standard Taper Pipe Thread or Dryseal SAE Short Taper Pipe Thread, specified in Society of Automotive Engineers Standard J476, as contained in the 1971 edition of the "SAE Handbook," except that straight (nontapered) threads may be used on fittings having integral flanges and using gaskets for sealing. At least four full threads must be in engagement in each fitting.

(4) Drains and bottom fittings.

(i) Drains or other bottom fittings must not extend more than three fourths of an inch below the lowest part of the fuel tank or sump.

(ii) Drains or other bottom fittings must be protected against damage from impact.

(iii) If a fuel tank has drains the drain fittings must permit substantially complete drainage of the tank.

(iv) Drains or other bottom fittings must be installed in a flange or spud designed to accommodate it.

(5) Fuel withdrawal fittings. Except for diesel fuel tanks, the fittings through which fuel is withdrawn from a fuel tank must be located above the normal level of fuel in the tank when the tank is full.

(6) [Reserved]

(7) Fill pipe.

(i) Each fill pipe must be designed and constructed to minimize the risk of fuel spillage during fueling operations and when the vehicle is involved in a crash.

(ii) The fill pipe and vents of a fuel tank having a capacity of more than 25 gallons of fuel must permit filling the tank with fuel at a rate of at least 20 gallons per minute without fuel spillage.

(iii) Each fill pipe must be fitted with a cap that can be fastened securely over the opening in the fill pipe. Screw threads or a bayonet type joint are methods of conforming to the requirements of this subdivision.

(8) Safety venting system. A liquid fuel tank with a capacity of more than 25 gallons of fuel must have a venting system which, in the event the tank is subjected to fire, will prevent internal tank pressure from rupturing the tank's body, seams, or bottom opening (if any).

(9) Pressure resistance. The body and fittings of a liquid fuel tank with a capacity of more than 25 gallons of fuel must be capable of withstanding an internal hydrostatic pressure equal to 150 percent of the maximum internal pressure reached in the tank during the safety venting systems test specified in paragraph (d)(1).

(10) Air vent. Each fuel tank must be equipped with a nonspill air vent (such as a ball check). The air vent may be combined with the fill pipe cap or safety vent, or it may be a separate unit installed on the fuel tank.

(11) Markings. If the body of a fuel tank is readily visible when the tank is installed on the vehicle, the tank must be plainly marked with its liquid capacity. The tank must also be plainly marked with a warning against filling it to more than 95 percent of its liquid capacity.

(12) Overfill restriction. A liquid fuel tank manufactured on or after January 1, 1973, must be designed and constructed so that

(i) The tank cannot be filled, in a normal filling operation, with a quantity of fuel that exceeds 95 percent of the tank's liquid capacity; and

(ii) When the tank is filled, normal expansion of the fuel will not cause fuel spillage.

(d) Liquid fuel tank tests. Each liquid fuel tank must be capable of passing the tests specified in paragraphs (d) (1) and (2).¹

(1) Safety venting system test

(i) Procedure. Fill the tank three fourths full with fuel, seal the fuel feed outlet, and invert the tank. When the fuel temperature is between 50 deg. F. and 80 deg. F., apply an enveloping flame to the tank so that the temperature of the fuel rises at a rate of not less than 6 deg. F. and not more than 8 deg. F. per minute.

(ii) Required performance. The safety venting system required by paragraph (c)(8) activate before the internal pressure in the tank exceeds 50 pounds per square inch, gauge, and the internal pressure must not thereafter exceed the pressure at which the system activated by more than five pounds per square inch despite any further increase in the temperature of the fuel.

(2) Leakage test

(i) Procedure. Fill the tank to capacity with fuel having a temperature between 50 deg. F. and 80 deg. F. With the fill pipe cap installed, turn the tank through an angle of 150 deg. in any direction about any axis from its normal position.

(ii) Required performance. Neither the tank nor any fitting may leak more than a total of one ounce by weight of fuel per minute in any position the tank assumes during the test.

(e) Side mounted liquid fuel tank tests. Each side mounted liquid fuel tank must be capable of passing the tests specified in paragraphs (e) (1) and (2) and the tests specified in paragraphs (d) (1) and (2).¹

¹The specified tests are a measure of performance only. Manufacturers and carriers may use any alternative procedures which assure that their equipment meets the required performance criteria.

(1) Drop test

(i) Procedure. Fill the tank with a quantity of water having a weight equal to the weight of the maximum fuel load of the tank and drop the tank 30 feet onto an unyielding surface so that it lands squarely on one corner.

(ii) Required performance. Neither the tank nor any fitting may leak more than a total of 1 ounce by weight of water per minute.

(2) Fill pipe test

(i) Procedure. Fill the tank with a quantity of water having a weight equal to the weight of the maximum fuel load of the tank and drop the tank 10 feet onto an unyielding surface so that it lands squarely on its fill pipe.

(ii) Required performance. Neither the tank nor any fitting may leak more than a total of 1 ounce by weight of water per minute.

(f) Certification and markings. Each liquid fuel tank shall be legibly and permanently marked by the manufacturer with the following minimum information:

(1) The month and year of manufacture,

(2) The manufacturer's name on tanks manufactured on and after July 1, 1988, and means of identifying the facility at which the tank was manufactured, and

(3) A certificate that it conforms to the rules 38-393 applicable to the tank. The certificate must be in the form set forth in either of the following:

(i) If a tank conforms to all rules 38-393 pertaining to side mounted fuel tanks: "Meets all FHWA side mounted tank requirements."

(ii) If a tank conforms to all rules in 38-393 pertaining to tanks which are not side mounted fuel tanks: "Meets all FHWA requirements for non side mounted fuel tanks."

(iii) The form of certificate specified in paragraph (f)(3) (i) or (ii) may be used on a liquid fuel tank manufactured before July 11, 1973, but it is not mandatory for liquid fuel tanks manufactured before March 7, 1989. The form of certification manufactured on or before March 7, 1989, must meet the requirements in effect at the time of manufacture.

38-393.69 Liquefied petroleum gas systems.

(a) A fuel system that uses liquefied petroleum gas as a fuel for the operation of a motor vehicle or for the operation of auxiliary equipment installed on, or used in connection with, a motor vehicle must conform to the "Standards for the Storage and Handling of Liquefied Petroleum Gases" of the National Fire Protection Association, Battery March Park, Quincy, MA 02269, as follows:

(1) A fuel system installed before December 31, 1962, must conform to the 1951 edition of the Standards.

(2) A fuel system installed on or after December 31, 1962, and before January 1, 1973, must conform to Division IV of the June 1959 edition of the Standards.

(3) A fuel system installed on or after January 1, 1973, and providing fuel for propulsion of the motor vehicle must conform to Division IV of the 1969 edition of the Standards.

(4) A fuel system installed on or after January 1, 1973, and providing fuel for the operation of auxiliary equipment must conform to Division VII of the 1969 edition of the Standards.

(b) When the rules require a fuel system to conform to a specific edition of the Standards, the fuel system may conform to the applicable provisions in a later edition of the Standards specified in 38-393.

(c) The tank of a fuel system must be marked to indicate that the system conforms to the Standards.

Subpart F Coupling Devices and Towing Methods

38-393.70 Coupling devices and towing methods, except for driveaway towaway operations.

(a) Tracking. When two or more vehicles are operated in combination, the coupling devices connecting the vehicles shall be designed, constructed, and installed, and the vehicles shall be designed and constructed, so that when the combination is operated in a straight line on a level, smooth, paved surface, the path of the towed vehicle will not deviate more than 3 inches to either side of the path of the vehicle that tows it.

(b) Fifth wheel assemblies

(1) Mounting

(i) Lower half. The lower half of a fifth wheel mounted on a truck tractor or converter dolly must be secured to the frame of that vehicle with properly designed brackets, mounting plates or angles and properly tightened bolts of adequate size and grade, or devices that provide equivalent security. The installation shall not cause cracking, warping, or deformation of the frame. The installation must include a device for positively preventing the lower half of the fifth wheel from shifting on the frame to which it is attached.

(ii) Upper half. The upper half of a fifth wheel must be fastened to the motor vehicle with at least the same security required for the installation of the lower half on a truck tractor or converter dolly.

(2) Locking. Every fifth wheel assembly must have a locking mechanism. The locking mechanism, and any adapter used in conjunction with it, must prevent separation of the upper and lower halves of the fifth wheel assembly unless a positive manual release is activated. The release may be located so that the driver can operate it from the cab. If a motor vehicle has a fifth wheel designed and constructed to be readily separable, the fifth wheel locking devices shall apply automatically on coupling.

(3) Location. The lower half of a fifth wheel shall be located so that, regardless of the condition of loading, the relationship between the kingpin and the rear axle or axles of the towing motor vehicle will properly distribute the gross weight of both the towed and towing vehicles on the axles of those vehicles, will not unduly interfere with the steering, braking, and other maneuvering of the towing vehicle, and will not otherwise contribute to unsafe operation of the vehicles comprising the combination. The upper half of a fifth wheel shall be located so that the weight of the vehicles is properly distributed on their axles and the combination of vehicles will operate safely during normal operation.

(c) Towing of full trailers. A full trailer must be equipped with a tow bar and a means of attaching the tow bar to the towing and towed vehicles. The tow bar and the means of attaching it must

(1) Be structurally adequate for the weight being drawn;

(2) Be properly and securely mounted;

(3) Provide for adequate articulation at the connection without excessive slack at that location; and

(4) Be provided with a locking device that prevents accidental separation of the towed and towing vehicles. The mounting of the trailer hitch (pintle hook or equivalent mechanism) on the towing vehicle must include reinforcement or bracing of the frame sufficient to produce strength and rigidity of the frame to prevent its undue distortion.

(d) Safety devices in case of tow bar failure or disconnection. Every full trailer and every converter dolly used to convert a semitrailer to a full trailer must be coupled to the frame, or an extension of the frame, of the motor vehicle which tows it with one or more safety devices to prevent the towed vehicle from breaking loose in the event the tow bar fails or becomes disconnected. The safety device must meet the following requirements:

(1) The safety device must not be attached to the pintle hook or any other device on the towing vehicle to which the tow bar is attached. However, if the pintle hook or other device was manufactured prior to July 1, 1973, the safety device may be attached to the towing vehicle at a place on a pintle hook forging or casting if that place is independent of the pintle hook.

(2) The safety device must have no more slack than is necessary to permit the vehicles to be turned properly.

(3) The safety device, and the means of attaching it to the vehicles, must have an ultimate strength of not less than the gross weight of the vehicle or vehicles being towed.

(4) The safety device must be connected to the towed and towing vehicles and to the tow bar in a manner which prevents the tow bar from dropping to the ground in the event it fails or becomes disconnected.

(5) Except as provided in paragraph (d)(6), if the safety device consists of safety chains or cables, the towed vehicle must be equipped with either two safety chains or cables or with a bridle arrangement of a single chain or cable attached to its frame or axle at two points as far apart as the configuration of the frame or axle permits. The safety chains or cables shall be either two separate pieces, each equipped with a hook or other means for attachment to the towing vehicle, or a single piece leading along each side of the tow bar from the two points of attachment on the towed vehicle and arranged into a bridle with a single means of attachment to be connected to the towing vehicle. When a single length of cable is used, a thimble and twin base cable clamps shall be used to form the forward bridle eye. The hook or other means of attachment to the towing vehicle shall be secured to the chains or cables in a fixed position.

(6) If the towed vehicle is a converter dolly with a solid tongue and without a hinged tow bar or other swivel between the fifth wheel mounting and the attachment point of the tongue eye or other hitch device

(i) Safety chains or cables, when used as the safety device for that vehicle, may consist of either two chains or cables or a single chain or cable used alone;

(ii) A single safety device, including a single chain or cable used alone as the safety device, must be in line with the centerline of the trailer tongue; and

(iii) The device may be attached to the converter dolly at any point to the rear of the attachment point of the tongue eye or other hitch device.

(7) Safety devices other than safety chains or cables must provide strength, security of attachment, and directional stability equal to, or greater than, safety chains or cables installed in accordance with paragraphs (d) (5) and (6).

(8) When two safety devices, including two safety chains or cables, are used and are attached to the towing vehicle at separate points, the points of attachment on the towing vehicle shall be located equally distant from, and on opposite sides of, the centerline of the towing vehicle. Where two chains or cables are attached to the same point on the towing vehicle, and where a bridle or a single chain or cable is used, the point of attachment must be on the longitudinal

centerline of the towing vehicle. A single safety device, other than a chain or cable, must also be attached to the towing vehicle at a point on its longitudinal centerline.

38-393.71 Coupling devices and towing methods, driveaway towaway operations.

(a) Number in combination.

(1) No more than three saddle mounts may be used in any combination.

(2) No more than one tow bar may be used in any combination.

(3) When motor vehicles are towed by means of triple saddle mounts, the towed vehicles shall have brakes acting on all wheels which are in contact with the roadway.

(b) Carrying vehicles on towing vehicle.

(1) When adequately and securely attached by means equivalent in security to that provided in paragraph (j)(2), a motor vehicle or motor vehicles may be full mounted on the structure of a towing vehicle engaged in any driveaway towaway operation.

(2) No motor vehicle or motor vehicles may be full mounted on a towing vehicle unless the relationship of such full mounted vehicles to the rear axle or axles results in proper distribution of the total gross weight of the vehicles and does not unduly interfere with the steering, braking, or maneuvering of the towing vehicle, or otherwise contribute to the unsafe operation of the vehicles comprising the combination.

(c) Carrying vehicles on towed vehicles.

(1) When adequately and securely attached by means equivalent in security to that provided in paragraph (j)(2), a motor vehicle or motor vehicles may be full mounted on the structure of towed vehicles engaged in any driveaway towaway operation.

(2) No motor vehicle shall be full mounted on a motor vehicle towed by means of a tow bar unless the towed vehicle is equipped with brakes and is provided with means for effective application of brakes acting on all wheels and is towed on its own wheels.

(3) No motor vehicle or motor vehicles shall be full mounted on a motor vehicle towed by means of a saddle mount unless the center line of the kingpin or equivalent means of attachment of such towed vehicle shall be so located on the towing vehicle that the relationship to the rear axle or axles results in proper distribution of the total gross weight of the vehicles and does not unduly interfere with the steering, braking, or maneuvering of the towing vehicle or otherwise contribute to the unsafe operation of vehicles comprising the combination; and unless a perpendicular to the ground from the center of gravity of the full mounted vehicles lies forward of the center line of the rear axle of the saddle mounted vehicle.

(4) If a motor vehicle towed by means of a double saddle mount has any vehicle full mounted on it, such saddle mounted vehicle shall at all times while so loaded have effective brakes acting on those wheels which are in contact with the roadway.

(d) Bumper tow bars on heavy vehicles prohibited. Tow bars of the type which depend upon the bumpers as a means of transmitting forces between the vehicles shall not be used to tow a motor vehicle weighing more than 5,000 pounds.

(e) Front wheels of saddle mounted vehicles restrained. A motor vehicle towed by means of a saddle mount shall have the motion of the front wheels restrained if under any condition of turning of such wheels they will project beyond the widest part of either the towed or towing vehicle.

(f) Vehicles to be towed in forward position. Unless the steering mechanism is adequately locked in a straight forward position, all motor vehicles towed by means of a saddle mount shall be towed with the front end mounted on the towing vehicle.

(g) Means required for towing.

(1) No motor vehicle or motor vehicles shall be towed in driveway towaway operations by means other than tow bar or saddle mount connections which shall meet the requirements.

(2) For the purpose of the regulations of 38-382:

(i) Coupling devices such as those used for towing house trailers and employing ball and socket connections shall be considered as tow bars.

(ii) Motor vehicles or parts of motor vehicles adequately, securely, and rigidly attached by devices meeting the requirements of paragraph (n) shall be considered as one vehicle in any position in any combination.

(h) Requirements for tow bars. Tow bars shall comply with the following requirements:

(1) Tow bars, structural adequacy and mounting. Every tow bar shall be structurally adequate and properly installed and maintained. To insure that it is structurally adequate, it must, at least, meet the requirements of the following table:

Gross weight of towed vehicle (pounds) ¹	Longitudinal strength in tension and comparison ²		
	All tow-bars	New tow-bars acquired and used by a motor carrier after Sept. 30, 1948	Strength as a beam (in any direction concentrated load at center) ^{2,3}
Less than 5,000	Pounds		
.....	3,000	6,500	3,000
5,000 and over
Less than 10,000	6,000	¹	¹
.....
10,000 and over
.....
Less than 15,000	9,000	¹	¹
.....

¹ The required strength of tow-bars for towed vehicles of 15,000 pounds and over gross weight and of new towbars acquired and used after Sept. 30, 1948, for towed vehicles of 5,000(¹) pounds and over gross weight shall be computed by means of the following formulae: Longitudinal strength = gross weight of towed vehicle x 1.3. Strength as a beam = gross weight of towed vehicle x 0.6.

² In testing, the whole unit shall be tested with all clamps, joints, and pins so mounted and fastened as to approximate conditions of actual operation.

³ This test shall be applicable only to tow-bars which are, in normal operation, subjected to a bending movement such as tow-bars for house trailer.

(2) Tow bars, jointed. The tow bar shall be so constructed as to freely permit motion in both horizontal and vertical planes between the towed and towing vehicles. The means used to provide the motion shall be such as to prohibit the transmission of stresses under normal operation between the towed and towing vehicles, except along the longitudinal axis of the tongue or tongues.

(3) Tow bar fastenings. The means used to transmit the stresses to the chassis or frames of the towed and towing vehicles may be either temporary structures or bumpers or other integral parts of the vehicles: Provided, however, that the means used shall be so constructed, installed, and maintained that when tested as an assembly, failure in such members shall not occur when the weakest new tow bar which is permissible under paragraph (h)(1) is subjected to the tests given therein.

(4) Means of adjusting length. On tow bars, adjustable as to length, the means used to make such adjustment shall fit tightly and not result in any slackness or permit the tow bar to bend. With the tow bar supported rigidly at both ends and with a load of 50 pounds at the center, the sag, measured at the center, in any direction shall not exceed 0.25 inch under any condition of adjustment as to length.

(5) Method of clamping. Adequate means shall be provided for securely fastening the tow bar to the towed and towing vehicles.

(6) Tow bar connection to steering mechanism. The tow bar shall be provided with suitable means of attachment to and actuation of the steering mechanism, if any, of the towed vehicle. The attachment shall provide for sufficient angularity of movement of the front wheels of the towed vehicle so that it may follow substantially in the path of the towing vehicle without cramping the tow bar. The tow bar shall be provided with suitable joints to permit such movement.

(7) Tracking. The tow bar shall be so designed, constructed, maintained, and mounted as to cause the towed vehicle to follow substantially in the path of the towing vehicle. Tow bars of such design on in our condition as to permit the towed vehicle to deviate more than 3 inches to either side of the path of a towing vehicle moving in a straight line as measured from the center of the towing vehicle are prohibited.

(8) Passenger car trailer type couplings. Trailer couplings used for driveaway towaway operations of passenger car trailers shall conform to Society of Automotive Engineers Standard No. J684c, "Trailer Couplings and Hitches Automotive Type," July 1970.¹

(9) Marking tow bars. Every tow bar acquired and used in driveaway towaway operations by a motor carrier shall be plainly marked with the following certification of the manufacturer thereof (or words of equivalent meaning):

This tow bar complies with the requirements of the Federal Highway Administration for (maximum gross weight for which tow bar is manufactured) vehicles.

Allowable Maximum Gross Weight _____

Manufactured _____

(month and year)

by _____

(name of manufacturer)

Tow bar certification manufactured before the effective date of this regulation must meet requirements in effect at the time of manufacture.

(10) Safety devices in case of tow bar failure or disconnection.

(i) The towed vehicle shall be connected to the towing vehicle by a safety device to prevent the towed vehicle from breaking loose in the event the tow bar fails or becomes disconnected. When safety chains or cables are used as the safety device for that vehicle, at least two safety chains or cables meeting the requirements of paragraph (h)(10)(ii) shall be used. The

tensile strength of the safety device and the means of attachment to the vehicles shall be at least equivalent to the corresponding longitudinal strength for tow bars required in the table of paragraph (h)(1). If safety chains or cables are used as the safety device, the required strength shall be the combined strength of the combination of chains and cables.

(ii) If chains or cables are used as the safety device, they shall be crossed and attached to the vehicles near the points of bumper attachments to the chassis of the vehicles. The length of chain used shall be no more than necessary to permit free turning of the vehicles. The chains shall be attached to the tow bar at the point of crossing or as close to that point as is practicable.

(iii) A safety device other than safety chains or cables must provide strength, security of attachment, and directional stability equal to, or greater than, that provided by safety chains or cables installed in accordance with paragraph (h)(10)(ii). A safety device other than safety chains or cables must be designed, constructed, and installed so that, if the tow bar fails or becomes disconnected, the tow bar will not drop to the ground.

(i) [Reserved]

(j) Requirements for upper half of saddle mounts. The upper half of any saddle mount shall comply with the following requirements:

(1) Upper half connection to towed vehicle. The upper half shall be securely attached to the frame or axle of the towed vehicle by means of U bolts or other means providing at least equivalent security.

(2) U bolts or other attachments. U bolts used to attach the upper half to the towed vehicle shall be made of steel rod, free of defects, so shaped as to avoid at any point a radius of less than 1 inch: Provided, however, That a lesser radius may be utilized if the U bolt is so fabricated as not to cause more than 5 percent reduction in cross sectional area at points of curvature, in which latter event the minimum radius shall be one sixteenth inch. U bolts shall have a diameter not less than required by the following table:

DIAMETER OF U-BOLTS IN INCHES

Weights in pounds of heaviest towed vehicle	Double or triple saddle mount			
	Front mount	Middle or front mount	Rear mount	Single saddle-mount ¹
Up to 5,000.....	0.625	0.5625	0.0500	0.500
5,000 and over.....	0.6875	0.625	0.5625	0.5625

¹The total weight of all the vehicles being towed shall govern. If other devices are used to accomplish the same purposes as U bolts they shall have at least equivalent strength of U bolts made of mild steel. Cast iron shall not be used for clamps or any other holding devices.

(3) U bolts and points of support, location. The distance between the most widely separated U bolts shall not be less than 9 inches. The distance between the widely separated points where the upper half supports the towed vehicle shall not be less than 9 inches, except that saddle mounts employing ball and socket joints shall employ a device which clamps the axle of the towed vehicle throughout a length of not less than 5 inches.

(4) Cradle type upper halves, specifications. Upper halves of the cradle type using vertical members to restrain the towed vehicle from relative movement in the direction of motion of the

vehicles shall be substantially constructed and adequate for the purpose. Such cradle mounts shall be equipped with at least one bolt or equivalent means to provide against relative vertical movement between the upper half and the towed vehicle. Bolts, if used, shall be at least one half inch in diameter. Devices using equivalent means shall have at least equivalent strength. The means used to provide against relative vertical motion between the upper half and the towed vehicle shall be such as not to permit a relative motion of over one half inch. The distance between the most widely separated points of support between the upper half and the towed vehicle shall be at least 9 inches.

(5) Lateral movement of towed vehicle.

(i) Towed vehicles having a straight axle or an axle having a drop of less than 3 inches, unless the saddle mount is constructed in accordance with paragraph (m)(2), shall be securely fastened by means of chains or cables to the upper half so as to insure against relative lateral motion between the towed vehicle and the upper half. The chains or cables shall be at least 3/16 inch diameter and secured by bolts of at least equal diameter.

(ii) Towed vehicles with an axle with a drop of 3 inches or more, or connected by a saddle mount constructed in accordance with paragraph (m)(2), need not be restrained by chains or cables provided that the upper half is so designed as to provide against such relative motion.

(iii) Chains or cables shall not be required if the upper half is so designed as positively to provide against lateral movement of the axle.

(k) Requirements for lower half of saddle mounts. The lower half of any saddle mount shall comply with the following requirements:

(1) U bolts or other attachments. U bolts used to attach the lower half to the towing vehicle shall be made of steel rod, free of defects, so shaped as to avoid at any point a radius of less than 1 inch: Provided, however, That a lesser radius may be utilized if the U bolt is so fabricated as not to cause more than 5 percent reduction in cross sectional area at points of curvature, in which latter event the minimum radius shall be one sixteenth inch. U bolts shall have a total cross sectional area not less than as required by the following table:

Total Cross-Sectional Area of U-Bolts in Square Inches

Weights in pounds of heaviest towed vehicle	Double or triple saddle mount			
	Front mount	Middle or front mount	Rear mount	Single saddle-mount¹
UP TO 5,000	1.2	1.0	0.8	0.8
5,000 and over...	1.4	1.2	1.0	1.0

¹The total weight of all the vehicles being towed shall govern. If other devices are used to accomplish the same purposes as U bolts they shall have at least equivalent strength of U bolts made of mild steel. Cast iron shall not be used for clamps or any other holding devices.

(2) Shifting. Adequate provision shall be made by design and installation to provide against relative movement between the lower half and the towing vehicle especially during periods of

rapid acceleration and deceleration. To insure against shifting, designs of the tripod type shall be equipped with adequate and securely fastened hold back chains or similar devices.

(3) Swaying.

(i) Adequate provision shall be made by design and installation to provide against swaying or lateral movement of the towed vehicle relative to the towing vehicle. To insure against swaying, lower halves designed with cross members attached to but separable from vertical members shall have such cross members fastened to the vertical members by at least two bolts on each side. Such bolts shall be of at least equivalent cross sectional area as those required for U bolts for the corresponding saddle mount as given in the table in paragraph (k)(1). The minimum distance between the most widely separated points of support of the cross member by the vertical member shall be three inches as measured in a direction parallel to the longitudinal axis of the towing vehicle.

(ii) The lower half shall have a bearing surface on the frame of the towing vehicle of such dimensions that the pressure exerted by the lower half upon the frame of the towing vehicle shall not exceed 200 pounds per square inch under any conditions of static loading. Hardwood blocks or blocks of other suitable material, such as hard rubber, aluminum or brakelining, if used between the lower half and the frame of the towing vehicle shall be at least 1/2 inch thick, 3 inches wide, and a combined length of 6 inches.

(iii) Under no condition shall the highest point of support of the towed vehicle by the upper half be more than 24 inches, measured vertically, above the top of the frame of the towing vehicle, measured at the point where the lower half rests on the towing vehicle.

(4) Wood blocks.

(i) Hardwood blocks of good quality may be used to build up the height of the front end of the towed vehicle, provided that the total height of such wood blocks shall not exceed 8 inches and not over two separate pieces are placed upon each other to obtain such height; however, hardwood blocks, not over 4 in number, to a total height not to exceed 14 inches, may be used if the total cross sectional area of the U bolts used to attach the lower half of the towing vehicle is at least 50 percent greater than that required by the table contained in paragraph (k)(1), or, if other devices are used in lieu of U bolts, they shall provide for as great a resistance to bending as is provided by the larger U bolts above prescribed.

(ii) Hardwood blocks must be at least 4 inches in width and the surfaces between blocks or block and lower half or block and upper half shall be planed and so installed and maintained as to minimize any tendency of the towed vehicle to sway or rock.

(5) Cross member, general requirements. The cross member, which is that part of the lower half used to distribute the weight of the towed vehicle equally to each member of the frame of the towing vehicle, if used, shall be structurally adequate and properly installed and maintained adequately to perform this function.

(6) Cross member, use of wood. No materials, other than suitable metals, shall be used as the cross member, and wood may not be used structurally in any manner that will result in its being subject to tensile stresses. Wood may be used in cross members if supported throughout its length by suitable metal cross members.

(7) Lower half strength. The lower half shall be capable of supporting the loads given in the following table. For the purpose of test, the saddle mount shall be mounted as normally operated and the load applied through the upper half:

MINIMUM TEST LOAD IN POUNDS

Weights in pounds of heaviest towed vehicle	Double or triple saddle mount			
	Front mount	Middle	or	Rear

		front mount	mount	saddle-mount ¹
UP 5,000..... 5,000 and over.....	TO 15,000 30,000	10,000 20,000	5,000 10,000	5,000 10,000

¹The total weight of all the vehicles being towed shall govern.

(l) Requirements for kingpins of saddle mounts. The kingpin of any saddle mount shall comply with the following requirements:

(1) Kingpin size.

(i) Kingpins shall be constructed of steel suitable for the purpose, free of defects, and having a diameter not less than required by the following table:

DIAMETER OF SOLID KINGPIN IN INCHES

Weights pounds heaviest vehicle	in of towed	Double or triple saddle mount							
		Front mount		Middle or front mount		Rear mount		Single saddle-mount ¹	
		Mild steel	H.T.S. ²	Mild steel	H.T.S. ²	Mild steel	H.T.S. ²	Mild steel	H.T.S. ²
UP 5,000..... 5,000 and over.....	TO	1.125 1.500	1.000 1.125	1.000 1.250	0.875 1.000	0.875 1.000	0.750 0.875	0.875 1.000	0.750 0.875

¹The total weight of all the vehicles being towed shall govern.

²High tensile steel is steel having a minimum ultimate strength of 65,000 pounds per square inch.

(ii) If a ball and socket joint is used in place of a kingpin, the diameter of the neck of the ball shall be at least equal to the diameter of the corresponding solid kingpin given in the above table. If hollow kingpins are used, the metallic cross sectional area shall be at least equal to the cross sectional area of the corresponding solid kingpin.

(2) Kingpin fit. If a kingpin bushing is not used, the king pin shall fit snugly into the upper and lower halves but shall not bind. Those portions of the upper or lower halves in moving contact with the kingpin shall be smoothly machined with no rough or sharp edges. The bearing surface thus provided shall not be less in depth than the radius of the kingpin.

(3) Kingpin bushing on saddle mounts. The kingpin of all new saddle mounts acquired and used shall be snugly enclosed in a bushing at least along such length of the kingpin as may be in moving contact with either the upper or lower halves. The bearing surface thus provided shall not be less in depth than the radius of the kingpin.

(4) Kingpin to restrain vertical motion. The kingpin shall be so designed and installed as to restrain the upper half from moving in a vertical direction relative to the lower half.

(m) Additional requirements for saddle mounts. Saddle mounts shall comply with the following requirements:

(1) Bearing surface between upper and lower halves. The upper and lower halves shall be so constructed and connected that the bearing surface between the two halves shall not be less than 16 square inches under any conditions of angularity between the towing and towed vehicles: Provided, however, That saddle mounts using a ball and socket joint shall have a ball of such dimension that the static bearing load shall not exceed 800 pounds per square inch, based on the projected cross sectional area of the ball: And further provided, That saddle mounts having the upper half supported by ball, taper, or roller bearings shall not have such bearings loaded beyond the limits prescribed for such bearings by the manufacturer thereof. The upper half shall rest evenly and smoothly upon the lower half and the contact surfaces shall be lubricated and maintained so that there shall be a minimum of frictional resistance between the parts.

(2) Saddle mounts, angularity. All saddle mounts acquired and used shall provide for angularity between the towing and towed vehicles due to vertical curvatures of the highway. Such means shall not depend upon either the looseness or deformation of the parts of either the saddle mount or the vehicles to provide for such angularity.

(3) Tracking. The saddle mount shall be so designed, constructed, maintained, and installed that the towed vehicle or vehicles will follow substantially in the path of the towing vehicle without swerving. Towed vehicles shall not deviate more than 3 inches to either side of the path of the towing vehicle when moving in a straight line.

(4) Prevention of frame bending. Where necessary, provision shall be made to prevent the bending of the frame of the towing vehicle by insertion of suitable blocks inside the frame channel to prevent kinking. The saddle mount shall not be so located as to cause deformation of the frame by reason of cantilever action.

(5) Extension of frame. No saddle mount shall be located at a point to the rear of the frame of a towing vehicle.

(6) Nuts, secured. All nuts used on bolts, U bolts, king pins, or in any other part of the saddle mount shall be secured against accidental disconnection by means of cotter keys, lock washers, double nuts, safety nuts, or equivalent means. Parts shall be so designed and installed that nuts shall be fully engaged.

(7) Inspection of all parts. The saddle mount shall be so designed that it may be disassembled and each separate part inspected for worn, bent, cracked, broken, or missing parts.

(8) Saddle mounts, marking. Every new saddle mount acquired and used in driveway towaway operations by a motor carrier shall have the upper half and the lower half separately marked with the following certification of the manufacturer thereof (or words of equivalent meaning).

This saddle mount complies with the requirements of the Federal Highway Administration for vehicles up to 5,000 pounds (or over 5,000 pounds):

Manufactured _____

(Month and year)

By _____
(Name of manufacturer)

(n) Requirements for devices used to connect motor vehicles or parts of motor vehicles together to form one vehicle

(1) Front axle attachment. The front axle of one motor vehicle intended to be coupled with another vehicle as defined in paragraph (g)(2)(ii) shall be attached with U bolts meeting the requirements of paragraph (j)(2).

(2) Rear axle attachment. The rear axle of one vehicle shall be coupled to the frame of the other vehicle by means of a connecting device which when in place forms a rectangle. The device shall be composed of two pieces, top and bottom. The device shall be made of 4 inch by 1/2 inch steel bar bent to shape and shall have the corners reinforced with a plate at least 3 inches by 1/2 inch by 8 inches long. The device shall be bolted together with 3/4 inch bolts and at least three shall be used on each side. Wood may be used as spacers to keep the frames apart and it shall be at least 4 inches square.

Subpart G Miscellaneous Parts and Accessories

38-393.75 Tires.

(a) No motor vehicle shall be operated on any tire that (1) has body ply or belt material exposed through the tread or sidewall, (2) has any tread or sidewall separation, (3) is flat or has an audible leak, or (4) has a cut to the extent that the ply or belt material is exposed.

(b) Any tire on the front wheels of a truck, or truck tractor shall have a tread groove pattern depth of at least 4/32 of an inch when measured at any point on a major tread groove. The measurements shall not be made where tie bars, humps, or fillets are located.

(c) Except as provided in paragraph (b), tires shall have a tread groove pattern depth of at least 2/32 of an inch when measured in a major tread groove. The measurement shall not be made where tie bars, humps or fillets are located.

(d) Reserved

(e) No truck or truck tractor shall be operated with re-grooved tires on the front wheels which have a load carrying capacity equal to or greater than that of 8.25 20 8 ply rating tires.

(f) Tire loading restrictions. No motor vehicle (except manufactured homes, which are governed by paragraph (g)) shall be operated with tires that carry a weight greater than that marked on the sidewall of the tire or, in the absence of such a marking, a weight greater than that specified for the tires in any of the publications of any of the organizations listed in Federal Motor Vehicle Safety Standard No. 119 (49 CFR 571.119, S5.1(b) unless:

(1) The vehicle is being operated under the terms of a special permit issued by the State: and

(2) The vehicle is being operated at a reduced speed to compensate for the tire loading in excess of the manufacture's rated capacity for the tire. In no case shall the speed exceed 80 km/hr (50 mph).

TABLE 1 - INFLATION PRESSURE MEASUREMENT CORRECTION FOR HEAT

	Minimum inflation pressure buildup	
Average speed of tire in previous hour	Tires with 1,814 kg. (4,00 lbs) maximum load rating or less	Tires with over 1,814 kg. (4,000 lbs) load rating
66 to 88.5 km/h (41 to 55 mi/h)	34.5 kPa (5 psi)	103.4 kPa (15 psi)

38-393.76 Sleeper berths.

(a) Dimensions--

(1) Size. A sleeper berth must be at least the following size:

Date of installation on motor vehicle	Length measured on center-line of longitudinal axis (inches)	Width measured on centerline of transverse axis (inches)	Height measured from highest point of top of mattress (inches)¹
Before January 1, 1953.....	72	18	18
After December 31, 1952, and before October 1, 1975...	75	21	21
After September 30, 1975.....	75	24	24

¹In the case of a sleeper berth which utilizes an adjustable mechanical suspension system, the required clearance can be measured when the suspension system is adjusted to the height to which it would settle when occupied by a driver.

(2) Shape. A sleeper berth installed on a motor vehicle on or after January 1, 1953 must be of generally rectangular shape, except that the horizontal corners and the roof corners may be rounded to radii not exceeding 10 1/2 inches.

(3) Access. A sleeper berth must be constructed so that an occupant's ready entrance to, and exit from, the sleeper berth is not unduly hindered.

(b) Location.

(1) A sleeper berth must not be installed in or on a semitrailer or a full trailer other than a house trailer.

(2) A sleeper berth located within the cargo space of a motor vehicle must be securely compartmentalized from the remainder of the cargo space. A sleeper berth installed on or after January 1, 1953 must be located in the cab or immediately adjacent to the cab and must be securely fixed with relation to the cab.

(c) Exit from the berth.

(1) Except as provided in paragraph (c)(2), there must be a direct and ready means of exit from a sleeper berth into the driver's seat or compartment. If the sleeper berth was installed on or after January 1, 1963, the exit must be a doorway or opening at least 18 inches high and 36 inches wide. If the sleeper berth was installed before January 1, 1963, the exit must have sufficient area to contain an ellipse having a major axis of 24 inches and a minor axis of 16 inches.

(2) A sleeper berth installed before January 1, 1953 must either:

(i) Conform to the requirements of paragraph (c)(1); or

(ii) Have at least two exits, each of which is at least 18 inches high and 21 inches wide, located at opposite ends of the vehicle and useable by the occupant without the assistance of any other person.

(d) Communication with the driver. A sleeper berth which is not located within the driver's compartment and has no direct entrance into the driver's compartment must be equipped with a

means of communication between the occupant and the driver. The means of communication may consist of a telephone, speaker tube, buzzer, pull cord, or other mechanical or electrical device.

(e) Equipment. A sleeper berth must be properly equipped for sleeping. Its equipment must include:

(1) Adequate bed clothing and blankets; and

(2) Either:

(i) Springs and a mattress; or

(ii) An innerspring mattress; or

(iii) A cellular rubber or flexible foam mattress at least four inches thick; or

(iv) A mattress filled with a fluid and of sufficient thickness when filled to prevent "bottoming out" when occupied while the vehicle is in motion.

(f) Ventilation. A sleeper berth must have louvers or other means of providing adequate ventilation. A sleeper berth must be reasonably tight against dust and rain.

(g) Protection against exhaust and fuel leaks and exhaust heat. A sleeper berth must be located so that leaks in the vehicle's exhaust system or fuel system do not permit fuel, fuel system gases, or exhaust gases to enter the sleeper berth. A sleeper berth must be located so that it will not be overheated or damaged by reason of its proximity to the vehicle's exhaust system.

(h) Occupant restraint. A motor vehicle manufactured on or after July 1, 1971, and equipped with a sleeper berth must be equipped with a means of preventing ejection of the occupant of the sleeper berth during deceleration of the vehicle. The restraint system must be designed, installed, and maintained to withstand a minimum total force of 6,000 pounds applied toward the front of the vehicle and parallel to the longitudinal axis of the vehicle.

38-393.77 Heaters.

On every motor vehicle, every heater shall comply with the following requirements:

(a) Prohibited types of heaters. The installation or use of the following types of heaters is prohibited:

(1) Exhaust heaters. Any type of exhaust heater in which the engine exhaust gases are conducted into or through any space occupied by persons or any heater which conducts engine compartment air into any such space.

(2) Unenclosed flame heaters. Any type of heater employing a flame which is not fully enclosed, except that such heaters are not prohibited when used for heating the cargo of tank motor vehicles.

(3) Heaters permitting fuel leakage. Any type of heater from the burner of which there could be spillage or leakage of fuel upon the tilting or overturning of the vehicle in which it is mounted.

(4) Heaters permitting air contamination. Any heater taking air, heated or to be heated, from the engine compartment or from direct contact with any portion of the exhaust system; or any heater taking air in ducts from the outside atmosphere to be conveyed through the engine compartment, unless said ducts are so constructed and installed as to prevent contamination of the air so conveyed by exhaust or engine compartment gases.

(5) Solid fuel heaters except wood charcoal. Any stove or other heater employing solid fuel except wood charcoal.

(6) Portable heaters. Portable heaters shall not be used in any space occupied by persons except the cargo space of motor vehicles which are being loaded or unloaded.

(b) Heater specifications. All heaters shall comply with the following specifications:

(1) Heating elements, protection. Every heater shall be so located or protected as to prevent contact therewith by occupants, unless the surface temperature of the protecting grilles or of any exposed portions of the heaters, inclusive of exhaust stacks, pipes, or conduits shall be lower than would cause contact burns. Adequate protection shall be afforded against igniting parts of the vehicle or burning occupants by direct radiation. Wood charcoal heaters shall be enclosed within a metal barrel, drum, or similar protective enclosure which enclosure shall be provided with a securely fastened cover.

(2) Moving parts, guards. Effective guards shall be provided for the protection of passengers or occupants against injury by fans, belts, or any other moving parts.

(3) Heaters, secured. Every heater and every heater enclosure shall be securely fastened to the vehicle in a substantial manner so as to provide against relative motion within the vehicle during normal usage or in the event the vehicle overturns. Every heater shall be so designed, constructed, and mounted as to minimize the likelihood of disassembly of any of its parts, including exhaust stacks, pipes, or conduits, upon overturn of the vehicle in or on which it is mounted. Wood charcoal heaters shall be secured against relative motion within the enclosure required by paragraph (c)(1), and the enclosure shall be securely fastened to the motor vehicle.

(4) Relative motion between fuel tank and heater. When either in normal operation or in the event of overturn, there is or is likely to be relative motion between the fuel tank for a heater and the heater, or between either of such units and the fuel lines between them, a suitable means shall be provided at the point of greatest relative motion so as to allow this motion without causing failure of the fuel lines.

(5) [Reserved]

(6) Heater hoses. Hoses for all hot water and steam heater systems shall be specifically designed and constructed for that purpose.

(7) Electrical apparatus. Every heater employing any electrical apparatus shall be equipped with electrical conductors, switches, connectors, and other electrical parts of ample current carrying capacity to provide against overheating; any electric motor employed in any heater shall be of adequate size and so located that it will not be overheated; electrical circuits shall be provided with fuses and/or circuit breakers to provide against electrical overloading; and all electrical conductors employed in or leading to any heater shall be secured against dangling, chafing, and rubbing and shall have suitable protection against any other condition likely to produce short or open circuits.

(8) Storage battery caps. If a separate storage battery is located within the personnel or cargo space, such battery shall be securely mounted and equipped with nonspill filler caps.

(9) Combustion heater exhaust construction. Every heater employing the combustion of oil, gas, liquefied petroleum gas, or any other combustible material shall be provided with substantial means of conducting the products of combustion to the outside of the vehicle:

Provided, however, That this requirement shall not apply to heaters used solely to heat the cargo space of motor vehicles where such motor vehicles or heaters are equipped with means specifically designed and maintained so that the carbon monoxide concentration will never exceed 0.2 percent in the cargo space. The exhaust pipe, stack, or conduit if required shall be sufficiently substantial and so secured as to provide reasonable assurance against leakage or discharge of products of combustion within the vehicle and, if necessary, shall be so insulated as to make unlikely the burning or charring of parts of the vehicle by radiation or by direct contact. The place of discharge of the products of combustion to the atmosphere and the means of discharge of such products shall be such as to minimize the likelihood of their reentry into the vehicle under all operating conditions.

(10) Combustion chamber construction. The design and construction of any combustion type heater except cargo space heaters permitted by the proviso of paragraph (c)(9) and unenclosed flame heaters used for heating cargo of tank motor vehicles shall be such as to provide against the leakage of products of combustion into air to be heated and circulated. The material employed in

combustion chambers shall be such as to provide against leakage because of corrosion, oxidation, or other deterioration. Joints between combustion chambers and the air chambers with which they are in thermal and mechanical contact shall be so designed and constructed as to prevent leakage between the chambers and the materials employed in such joints shall have melting points substantially higher than the maximum temperatures likely to be attained at the points of jointure.

(11) Reserved

(12) Heater, automatic fuel control. Gravity or siphon feed shall not be permitted for heaters using liquid fuels. Heaters using liquid fuels shall be equipped with automatic means for shutting off the fuel or for reducing such flow of fuel to the smallest practicable magnitude, in the event of overturn of the vehicle. Heaters using liquefied petroleum gas as fuel shall have the fuel line equipped with automatic means at the source of supply for shutting off the fuel in the event of separation, breakage, or disconnection of any of the fuel lines between the supply source and the heater.

(13) "Tell tale" indicators. Heaters subject to paragraph (c)(14) and not provided with automatic controls shall be provided with "tell tale" means to indicate to the driver that the heater is properly functioning. This requirement shall not apply to heaters used solely for the cargo space in semitrailers or full trailers.

(14) Shut off control. Automatic means, or manual means if the control is readily accessible to the driver without moving from the driver's seat, shall be provided to shut off the fuel and electrical supply in case of failure of the heater to function for any reason, or in case the heater should function improperly or overheat. This requirement shall not apply to wood charcoal heaters or to heaters used solely to heat the contents of cargo tank motor vehicles, but wood charcoal heaters must be provided with a controlled method of regulating the flow of combustion air.

(15) Certification required. Every combustion type heater, except wood charcoal heaters, the date of manufacture of which is subsequent to December 31, 1952, and every wood charcoal heater, the date of manufacture of which is subsequent to September 1, 1953, shall be marked plainly to indicate the type of service for which such heater is designed and with a certification by the manufacturer that the heater meets the applicable requirements for such use. For example, "Meets I.C.C. Flue Vented Cargo Space Heater Requirements," and after December 31, 1967, such certification shall read "Meets FHWA Flue Vented Cargo Space Heater Requirements," etc.

(i) Exception. The certification for a catalytic heater which is used in transporting flammable liquid or gas shall be as prescribed under Section 177.834(1) of the Federal Motor Carrier Safety Administration's hazardous materials regulations.

38-393.78 Windshield wipers.

(a) Every truck, and truck tractor, having a windshield, shall be equipped with at least two automatically operating windshield wiper blades, one on each side of the centerline of the windshield, for cleaning rain, snow, or other moisture from the windshield and which shall be in such condition as to provide clear vision for the driver, unless one such blade be so arranged as to clean an area of the windshield extending to within 1 inch of the limit of vision through the windshield at each side: Provided, however, That in driveaway towaway operations shall apply only to the driven vehicle: And provided further, That one windshield wiper blade will suffice when such driven vehicle in driveaway towaway operation constitutes part or all of the property being transported and has no provision for two such blades.

(b) Every truck, and truck tractor, the date of manufacture of which is subsequent to June 30, 1953, which depends upon vacuum to operate the windshield wipers, shall be so constructed that the operation of the wipers will not be materially impaired by change in the intake manifold pressure.

38-393.79 Defrosting device.

Every truck, and truck tractor having a windshield, when operating under conditions such that ice, snow, or frost would be likely to collect on the outside of the windshield or condensation on the inside of the windshield, shall be equipped with a device or other means, not manually operated, for preventing or removing such obstructions to the driver's view: Provided, however, That 38-393 shall not apply in driveaway towaway operations when the driven vehicle is a part of the shipment being delivered.

38-393.80 Rear vision mirrors.

(a) Every truck, and truck tractor shall be equipped with two rear vision mirrors, one at each side, firmly attached to the outside of the motor vehicle, and so located as to reflect to the driver a view of the highway to the rear, along both sides of the vehicle. All such regulated rear vision mirrors and their replacements shall meet, as a minimum, the requirements of FMVSS No. 111 (49 CFR 571.111) in force at the time the vehicle was manufactured.

(b) Exceptions.

(1) Mirrors installed on a vehicle manufactured prior to January 1, 1981, may be continued in service, provided that if the mirrors are replaced they shall be replaced with mirrors meeting, as a minimum, the requirements of FMVSS No. 111 (49 CFR 571.111) in force at the time the vehicle was manufactured.

(2) Only one outside mirror shall be required, which shall be on the driver's side, on trucks which are so constructed that the driver has a view to the rear by means of an interior mirror.

(3) In driveway towaway operations, the driven vehicle shall have at least one mirror furnishing a clear view to the rear. (49 U.S.C. 3102; 49 CFR 1.48.)

38-393.81 Horn.

Every truck, truck tractor, and every driven motor vehicle in driveaway towaway operations shall be equipped with a horn and actuating elements which shall be in such condition as to give an adequate and reliable warning signal.

38-393.82 Speedometer.

Every truck and truck tractor, manufactured after January 1, 1996, shall be equipped with a speedometer indicating vehicle speed in miles per hour, which shall be operative with reasonable accuracy; however, this requirement shall not apply to any driven vehicle which is part of a shipment being delivered in a driveaway towaway operation if such driven vehicle is equipped with an effective means of limiting its maximum speed to 45 miles per hour, nor to any towed vehicle.

38-393.83 Exhaust systems.

(a) Every motor vehicle having a device (other than as part of its cargo) capable of expelling harmful combustion fumes shall have a system to direct the discharge of such fumes. No part shall be located where its location would likely result in burning, charring, or damaging the electrical wiring, the fuel supply, or any combustible part of the motor vehicle.

(b) No exhaust system shall discharge to the atmosphere at a location immediately below the fuel tank or the fuel tank filler pipe.

(c) [Reserved]

(d) [Reserved]

(e) The exhaust system of every truck and truck tractor shall discharge to the atmosphere at a location to the rear of the cab or, if the exhaust projects above the cab, at a location near the rear of the cab.

(f) No part of the exhaust system shall be temporarily repaired with wrap or patches.

(g) No part of the exhaust system shall leak or discharge at a point forward of or directly below the driver/sleeper compartment. The exhaust outlet may discharge above the cab/sleeper roofline.

(h) The exhaust system must be securely fastened to the vehicle.

(i) Exhaust systems may use hangers which permit required movement due to expansion and contraction caused by heat of the exhaust and relative motion between engine and chassis of a vehicle.

38-393.84 Floors.

The flooring in all motor vehicles shall be substantially constructed, free of unnecessary holes and openings, and shall be maintained so as to minimize the entrance of fumes, exhaust gases, or fire. Floors shall not be permeated with oil or other substances likely to cause injury to persons using the floor as a traction surface.

38-393.85 [Reserved]

38-393.86 Rear end protection.

(a)(1) General requirements for trailers and semitrailers manufactured on or after January 26, 1998. Each trailer and semitrailer with a gross vehicle weight rating of 4,536 kg (10,000 lbs) or more, and manufactured on or after January 26, 1998, must be equipped with a rear impact guard that meets the requirements of Federal Motor Vehicle Safety Standard No. 223 (49 CFR 571.223) in effect at the time the vehicle was manufactured. When the rear impact guard is installed on the trailer or semitrailer, the vehicle must, at a minimum, meet the requirements of FMVSS No. 224 (49 CFR 571.224) in effect at the time the vehicle was manufactured. The requirements of paragraph (a) do not apply to pole trailers (as defined in Regulation 38-390.5 of this chapter); pulpwood trailers, low chassis vehicles, special purpose vehicles, wheels back vehicles (as defined in Regulation 38-393.5); and trailers towed in driveaway-towaway operations (as defined in Regulation 38-390.5).

(2) Impact guard width. The outermost surfaces of the horizontal member of the guard must extend to within 100 mm (4 inches) of the side extremities of the vehicle. The outermost surface of the horizontal member shall not extend beyond the side extremity of the vehicle.

(3) Guard height. The vertical distance between the bottom edge of the horizontal member of the guard and the ground shall not exceed 560 mm (22 inches) at any point across the full width of the member. Guards with rounded corners may curve upward within 255 mm (10) of the longitudinal vertical planes that are tangent to the side extremities of the vehicle.

(4) Guard rear surface. At any height 520 mm (22 inches) or more above the ground, the rearmost surface of the horizontal member of the guard must be within 305 mm (12 inches) of the rear extremity of the vehicle. This paragraph shall not be construed to prohibit the rear surface of the guard from extending beyond the rear extremity of the vehicle. Guards with rounded corners may curve forward with 255 mm (10 inches) of the side extremity.

(5) Cross-sectional vertical height. The horizontal member of each guard must have a cross sectional vertical height of at least 100 mm (3.94 inches) at any point across the guard width.

(6) Certification and labeling requirements for rear impact protection guards. Each rear impact guard used to satisfy the requirements of paragraph (a)(1) must be permanently marked or labeled as required by FMVSS No. 223 (49 CFR 571.223, S5.3). The label must be on the forward-facing surface of the horizontal member of the guard, 305 mm (12 inches) inboard of the right end of the guard. The certification label must contain the following information:

- (i) The impact guard manufacturer's name and address;
- (ii) The statement "Manufactured in ____" (inserting the month and year that the guard was manufactured); and,
- (iii) The letters "DOT", constituting a certification by the guard manufacturer that the guard conforms to all requirements of FMVSS No. 223.

(b)(1) Requirements for motor vehicles manufactured after December 31, 1952 (except trailers or semitrailers manufactured on or after January 26, 1998). Each motor vehicle manufactured after December 31, 1952, (except truck tractors, pole trailers, pulpwood trailers, or vehicles in driveaway-towaway operations) in which the vertical distance between the rear bottom edge of the body (or the chassis assembly if the chassis is the rearmost part of the vehicle) and the ground is greater than 76.2 cm (30 inches) when the motor vehicle is empty, shall be equipped with a rear impact guard(s). The rear impact guard(s) must be installed and maintained in such a manner that:

- (i) The vertical distance between the bottom of the guard(s) and the ground does not exceed 76.2 cm (30 inches) when the motor vehicle is empty;
- (ii) The maximum lateral distance between the closest points between guards, if more than one is used, does not exceed 61 cm (24 inches);
- (iii) The outermost surfaces of the horizontal member of the guard are no more than 45.7 cm (18 inches) from each side extremity of the motor vehicle;
- (iv) The impact guard(s) is no more than 61 cm (24 inches) forward to the rear extremity of the motor vehicle.

(2) Construction and attachment. The rear impact guard(s) must be substantially constructed and attached by means of bolts, welding, or other comparable means.

(3) Vehicle components and structures that may be used to satisfy the requirements of paragraph (b). Low chassis, or other parts of the vehicle provide the rear end protection comparable to impact guard(s) conforming to the requirements of paragraph (b)(1) shall be considered to be in compliance with those requirements.

38-393.87 Flags on projecting loads.

Any motor vehicle having a load or vehicle component which extends beyond the sides more than 4 inches or more than 4 feet beyond the rear shall have the extremities of the load marked with a red flag, not less than 12 inches square.

38-393.88 Television receivers.

Any motor vehicle equipped with a television viewer, screen or other means of visually receiving a television broadcast shall have the viewer or screen located in the motor vehicle at a point to the rear of the back of the driver's seat if such viewer or screen is in the same compartment as the driver and the viewer or screen shall be so located as not to be visible to the driver, while he/she is driving the motor vehicle. The operating controls for the television receiver shall be so located that the driver cannot operate them without leaving the driver's seat.

38-393.89 – 38-393.92 [Reserved]

38-393.93 Seats, seat belt assemblies, and seat belt assembly anchorages.

(a) Reserved

(b) Trucks and truck tractors

(1) Trucks and truck tractors manufactured on and after January 1, 1965, and before July 1, 1971. Except as provided in paragraph (d), after June 30, 1972, every truck and truck tractor manufactured on or after January 1, 1965, and before July 1, 1971, must be equipped with a Type 1 or Type 2 seat belt assembly that conforms to Federal Motor Vehicle Safety Standard No. 209 (Section 571.209) installed at the driver's seat and at the right front outboard seat, if the vehicle has one, and seat belt assembly anchorages that conform to the location and geometric requirements of Federal Motor Vehicle Safety Standard No. 210 (Section 571.210) for each seat belt assembly that is required by this subparagraph.

(2) Trucks and truck tractors manufactured on or after July 1, 1971. Every truck and truck tractor manufactured on or after July 1, 1971, except a truck or truck tractor being transported in driveaway towaway operation and having an incomplete vehicle seating and cab configuration, must conform to the requirements of Federal Motor Vehicle Safety Standard No. 208\1\ (Section 571.208) (relating to installation of seat belt assemblies) and Federal Motor Vehicle Safety Standard No. 210\1\ (Section 571.210) (relating to installation of seat belt assembly anchorages).\1\See footnote to Regulation 38-393.93(a).

(3) Trucks and truck tractors manufactured on or after January 1, 1972. Every truck and truck tractor manufactured on or after January 1, 1972, except a truck or truck tractor being transported in driveaway towaway operation and having an incomplete vehicle seating and cab configuration, must conform to the requirements of Federal Motor Vehicle Safety Standard No. 207\1\ (Section 571.207) (relating to seating systems).

(c) Effective date of standards. Whenever paragraph (a) or (b) requires conformity to a Federal Motor Vehicle Safety Standard, the vehicle or equipment must conform to the version of the Standard that is in effect on the date the vehicle is manufactured or on the date the vehicle is modified to conform to the requirements of paragraph (a) or (b), whichever is later.

(d) Trucks and truck tractors manufactured on or after January 1, 1965, and before July 1, 1971, and operated in the State of Hawaii, must comply with the provisions of paragraph (b) on and after January 1, 1976.

38-393.94 Reserved

Subpart H Emergency Equipment

38-393.95 Emergency equipment on all power units.

Except for a lightweight vehicle, every truck, truck tractor, and every driven vehicle in driveaway towaway operation must be equipped as follows:

(a) Fire extinguisher.

(1) Except as provided in paragraph (a)(4), every power unit must be equipped with a fire extinguisher that is properly filled and located so that it is readily accessible for use. The fire extinguisher must be securely mounted on the vehicle. The fire extinguisher must be designed, constructed, and maintained to permit visual determination of whether it is fully charged. The fire extinguisher must have an extinguishing agent that does not need protection from freezing. The fire extinguisher must not use a vaporizing liquid that gives off vapors more toxic than those produced by the substances shown as having a toxicity rating of 5 or 6 in the Underwriters' Laboratories "Classification of Comparative Life Hazard of Gases and Vapors."¹

(2)(i) On or after July 1, 1971, a power unit that is used to transport hazardous materials must be equipped with a fire extinguisher having an Underwriters' Laboratories rating of 10 B:C or more.

(ii) On and after January 1, 1973, a power unit that is not used to transport hazardous materials must be equipped with either

(A) A fire extinguisher having an Underwriters' Laboratories rating of 5 B:C or more; or

(B) Two fire extinguishers, each of which has an Underwriters' Laboratories rating of 4 B:C or more.

(iii) Each fire extinguisher required by this subparagraph must be labeled or marked with its Underwriters' Laboratories rating and must meet the requirements of paragraph (a)(1).

(3) For purposes of this paragraph, a power unit is used to transport hazardous materials only if the power unit or a motor vehicle towed by the power unit must be marked or placarded in accordance with Section 177.823 of the Federal Motor Carrier Safety Administration's hazardous materials regulations.

(4) This paragraph does not apply to the driven unit in a driveaway towaway operation.

(b) [Reserved]

(c) Spare fuses. At least one spare fuse or other overload protective device, if the devices used are not of a reset type, for each kind and size used. In driveaway towaway operations, spares located on any one of the vehicles will be deemed adequate.

(d) (e) [Reserved]

(f) Warning devices for stopped vehicles. Except as provided in paragraph (g), one of the following combinations of warning devices:

(2) Vehicles equipped with warning devices on and after January 1, 1974.

(i) Three bidirectional emergency reflective triangles that conform to the requirements of Federal Motor Vehicle Safety Standard No. 125, Section 571.125; or

(ii) At least 6 fusees or 3 liquid burning flares. The vehicle must have as many additional fusees or liquid burning flares as are necessary to satisfy the requirements of Regulation 38-392.22.

(3) Supplemental warning devices. Other warning devices may be used in addition to, but not in lieu of, the required warning devices, provided those warning devices do not decrease the effectiveness of the required warning devices.

(g) Restrictions on the use of flame producing devices. Liquid burning flares, fusees, oil lanterns, or any signal produced by a flame shall not be carried on any commercial motor vehicle transporting Division 1.1, 1.2, 1.3 (explosives) hazardous materials; any cargo tank motor vehicle used for the transportation of Division 2.1 (flammable gas) or Class 3 (flammable liquid) hazardous materials whether loaded or empty; or any commercial motor vehicle using compressed gas as a motor fuel.

(h) Requirements for emergency reflective triangles manufactured before January 1, 1974.

(1) Each reflector shall be a collapsible equilateral triangle, with legs not less than 17 inches long and not less than 2 inches wide. The front and back of the exposed leg surfaces shall be covered with red reflective material not less than one half inch in width. The reflective surface, front and back, shall be approximately parallel. When placed in position, one point of the triangle shall be upward. The area within the sides of the triangle shall be open.

(2) Reflective material: The reflecting material covering the leg of the equilateral triangle shall comply either with:

(i) The requirements for reflex reflector elements made of red methyl methacrylate plastic material, meeting the color, sealing, minimum candle power, wind test, vibration test, and

corrosion resistance test of section 3 and 4 of Federal Specification RR R 1185, dated November 17, 1966, or

(ii) The requirements for red reflective sheeting of Federal Specification L S 300, dated September 7, 1965, except that the aggregate candlepower of the assembled triangle, in one direction, shall be not less than eight when measured at 0.2 deg. divergence angle and 4 deg. incidence angle, and not less than 80 percent of the candlepower specified for 1 square foot of material at all other angles shown in Table II, Reflective Intensity Values, of L S 300.

(3) Reflective surfaces alignment: Every reflective triangle shall be so constructed that, when the triangle is properly placed, the reflective surfaces shall be in a plane perpendicular to the plane of the roadway surface with a permissible tolerance of plus minus 10 deg. Reflective triangles which are collapsible shall be provided with means for holding the reflective surfaces within the required tolerance. Such holding means shall be readily capable of adjustment without the use of tools or special equipment.

(4) Reflectors mechanical adequacy: Every reflective triangle shall be of such weight and dimensions as to remain stationary when subjected to a 40 mile per hour wind when properly placed on any clean, dry paved road surface. The reflective triangle shall be so constructed as to withstand reasonable shocks without breakage.

(5) Reflectors, incorporation in holding device: Each set of reflective triangles shall be adequately protected by enclosure in a box, rack, or other adequate container specially designed and constructed so that the reflectors may be readily extracted for use.

(6) Certification: Every red emergency reflective triangle designed and constructed to comply with these requirements shall be plainly marked with the certification of the manufacturer that it complies therewith.

(i) Requirements for red emergency reflectors. Each red emergency reflector shall conform in all respects to the following requirements:

(1) Reflecting elements required. Each reflector shall be composed of at least two reflecting elements or surfaces on each side, front and back. The reflecting elements, front and back, shall be approximately parallel.

(2) Reflecting elements to be Class A. Each reflecting element or surface shall meet the requirement for a red Class A reflector contained in the SAE Recommended Practice\1\ "Reflex Reflectors." The aggregate candlepower output of all the reflecting elements or surface in one direction shall not be less than 12 when tested in a perpendicular position with observation at one third degree as specified in the Photometric Test contained in the above mentioned Recommended Practice.

(3) Reflecting surfaces, protection. If the reflector or the reflecting elements are so designed or constructed that the reflecting surfaces would be adversely affected by dust, soot, or other foreign matter or contacts with other parts of the reflector or its container, then such reflecting surfaces shall be adequately sealed within the body of the reflector.

(4) Reflecting surfaces to be perpendicular. Every reflector shall be so constructed that, when the reflector is properly placed, every reflecting element or surface is in a plane perpendicular to the plane of the roadway surface. Reflectors which are collapsible shall be provided with means for locking the reflector elements or surfaces in the required position; such locking means shall be readily capable of adjustment without the use of tools or special equipment.

(5) Reflectors, mechanical adequacy. Every reflector shall be of such weight and dimensions as to remain stationary when subjected to a 40 mile per hour wind when properly placed on any clean, dry, paved road surface. The reflector shall be so constructed as to withstand reasonable shocks without breakage.

(6) Reflectors, incorporation on holding device. Each set of reflectors and the reflecting elements or surfaces incorporated therein shall be adequately protected by enclosure in a box,

rack, or other adequate container specially designed and constructed so that the reflectors may be readily extracted for use.

(7) Certification. Every red emergency reflector designed and constructed to comply with these requirements shall be plainly marked with the certification of the manufacturer that it complies therewith.

(j) Requirements for fusees and liquid burning flares. Each fusee shall be capable of burning for 30 minutes, and each liquid burning flare shall contain enough fuel to burn continuously for at least 60 minutes. Fusees and liquid burning flares shall conform to the requirements of Underwriters Laboratories, Inc., UL No. 912, Highway Emergency Signals, Fourth Edition, July 30, 1979, (with an amendment dated November 9, 1981). (See Regulation 38-393.7(b) for information on the incorporation by reference and availability of this document.) Each fusee and liquid burning flare shall be marked with the UL symbol in accordance with the requirements of UL 912.

(k) Requirements for red flags. Red flags shall be not less than 12 inches square, with standards adequate to maintain the flags in an upright position.

Subpart I Protection Against Shifting or Falling Cargo

38-393.100 Which types of commercial motor vehicles are subject to the cargo securement standards of this subpart, and what general requirements apply?

(a) Applicability. The rules in this subpart are applicable to trucks, truck tractors, semitrailers, full trailers, and pole trailers.

(b) Prevention against loss of load. Each commercial motor vehicle must, when transporting cargo on public roads, be loaded and equipped, and the cargo secured, in accordance with this subpart to prevent the cargo from leaking, spilling, blowing or falling from the motor vehicle.

(c) Prevention against shifting of load. Cargo must be contained, immobilized or secured in accordance with this subpart to prevent shifting upon or within the vehicle to such an extent that the vehicle's stability or maneuverability is adversely affected.

Sec 38-393.102 What are the minimum performance criteria for cargo securement devices and systems?

(a) Performance criteria. Cargo securement devices and systems must be capable of withstanding the following three forces, applied separately:

- (1) 0.8 g deceleration in the forward direction;
- (2) 0.5 g acceleration in the rearward direction; and
- (3) 0.5 acceleration in a lateral direction.

(b) Performance criteria for devices to prevent vertical movement of loads that are not contained within the structure of the vehicle. Securement systems must provide a downward force equivalent to at least 20 percent of the weight of the article of cargo if the article is not fully contained within the structure of the vehicle. If the article is fully contained within the structure of the vehicle, it may be secured in accordance with Regulation 38-393.106(b).

(c) Prohibition on exceeding working load limits. Cargo securement devices and systems must be designed, installed, and maintained to ensure that the maximum forces acting on the devices or systems do not exceed the working load limit for the devices under the conditions listed in paragraphs (a) and (b).

(d) Equivalent means of securement. Cargo that is immobilized, or secured in accordance with the applicable requirements of Regulations 38-393.104 through 38-393.136, is considered as meeting the performance criteria of 38-393.

38-393.104 What standards must cargo securement devices and systems meet in order to satisfy the requirements of this subpart?

(a) General. All devices and systems used to secure cargo to or within a vehicle must be capable of meeting the requirements of Regulation 38-393.102.

(b) Prohibition on the use of damaged securement devices. All vehicle structures, systems, parts, and components used to secure cargo must be in proper working order when used to perform that function with no damaged or weakened components that will adversely effect their performance for cargo securement purposes, including reducing the working load limit, and must not have any cracks or cuts.

(c) Vehicle structures and anchor points. Vehicle structures, floors, walls, decks, tiedown anchor points, headerboards, bulkheads, stakes, posts and associated mounting pockets used to contain or secure articles of cargo must be strong enough to meet the performance criteria of Regulation 38-393.102, with no damaged or weakened components that will adversely effect their performance for cargo securement purposes, including reducing the working load limit, and must not have any cracks or cuts.

(d) Material for dunnage, chocks, cradles, shoring bars, blocking and bracing. Material used as dunnage or dunnage bags, chocks, cradles, shoring bars, or used for blocking and bracing, must not have damage or defects which would compromise the effectiveness of the securement system.

(e) Manufacturing standards for tiedown assemblies. Tiedown assemblies (including chains, wire rope, steel strapping, synthetic webbing, and cordage) and other attachment or fastening devices used to secure articles of cargo to, or in, commercial motor vehicles must conform to the following applicable standards:

An assembly component of ...	Must conform to
(1) Steel strapping 1,2	Standard Specification for Strapping, Flat Steel and Seals, American Society for Testing and Materials (ASTM) D3953-97, February 1998.4
(2) Chain	National Association of Chain Manufacturers' Welded Steel Chain Specifications, November 15, 1999. 4
(3) Webbing	Web Sling and Tiedown Association's Recommended Standard Specifications for Synthetic Web Tiedowns, WSTDA-T1, 1998. 4
(4) Wire rope 3	Wire Rope Technical Board's Wire Rope Users Manual, 2 nd Edition, November 1985. 4
(5) Cordage	Cordage Institute rope standard: (i) PETRS-2, Polyester Fiber Rope, three-Strand and eight-Strand Constructions, January 1993; 4 (ii) PPRS-2 Polypropylene Fiber Rope, three-Strand and eight-Strand Constructions, August 1992; 4

	(iii)	CRS-1, Polyester/Polypropylene Composite Rope Specifications, three-Strand and eight-Strand Standard Construction, May 1979; 4
	(iv)	NRS-1, Nylon Rope Specifications, three-Strand and eight-Strand Standard Construction, May 1979; 4
	(v)	C-1, Double Braided Nylon Rope Specifications DBN, January 1984. 4

1 Steel strapping not marked by the manufacturer with a working load limit will be considered to have a working load limit equal to one-fourth of the breaking strength listed in SATM D3953-97.

2 Steel strapping 25.4 mm (1 inch) or wider must have at least two pairs of crimps in each seal and, when an end-over-end lap joint is formed, must be sealed with at least two seals.

3 Wire rope which is not marked by the manufacturer with a working load limit shall be considered to have a working load limit equal to one-fourth of the nominal strength listed in the manual.

4 See Regulation 38-393.7 for information on the incorporation by reference and availability of this document.

(f) Use of tiedowns.

(1) Tiedowns and securing devices must not contain knots.

(2) If a tiedown is required, it must be repaired in accordance with the applicable standards in paragraph (e), or the manufacturer's instruction.

(3) Each tiedown must be attached and secured in a manner that prevents it from becoming loose, unfastening, opening or releasing while the vehicle is in transit.

(4) All tiedowns and other components of a cargo securement system used to secure loads on a trailer equipped with rub rails, must be located inboard of the rub rails whenever practicable.

(5) Edge protection must be used whenever a tiedown would be subject to abrasion or cutting at the point where it touches an article of cargo. The edge protection must resist abrasion, cutting and crushing.

38-393.106 What are the general requirements for securing articles of cargo?

(a) Applicability. The rules are applicable to the transportation of all types of articles of cargo, except commodities in bulk that lack structure or fixed shape (e.g., liquids, gases, grain, liquid concrete, sand, gravel, aggregates) and are transported in a tank, hopper, box or similar device that forms part of the structure of a commercial motor vehicle. The rules apply to the cargo types covered by the commodity-specific rules of Regulations 38-393.116 through 38-393.118, 38-393.128 and 38-393.130.

(b) General. Cargo must be firmly immobilized or secured on or within a vehicle by structures of adequate strength, dunnage or dunnage bags, shoring bars, tiedowns or a combination of these.

(c) Cargo placement and restraint.

(1) Articles of cargo that are likely to roll must be restrained by chocks, wedges, a cradle or other equivalent means to prevent rolling. The means of preventing rolling must not be capable of becoming unintentionally unfastened or loose while the vehicle is in transit.

(2) Articles or cargo placed beside each other and secured by transverse tiedowns must either:

(i) Be placed in direct contact with each other, or

(ii) Be prevented from shifting towards each other while in transit.

(d) Minimum strength of cargo securement devices and systems. The aggregate working load limit of any securement system used to secure an article or group of articles against movement must be at least one-half times the weight of the article or group of articles. The aggregate working load limit is the sum of:

(1) One-half of the working load limit of each associated connector or attachment mechanism used to secure a part of the article of cargo to the vehicle; and

(2) One-half of the working load limit for each end section of a tiedown that is attached to an anchor point.

38-393.108 How is the working load limit of a tiedown determined?

(a) The working load limit (WLL) of a tiedown, associated connector or attachment mechanism is the lowest working load limit of any of its components (including tensioner), or the working load limit of the anchor points to which it is attached, whichever is less.

(b) The working load limits of tiedowns may be determined by using either the tiedown manufacturer's markings or by using the tables. The working load limits listed in the tables are to be used when the tiedown material is not marked by the manufacturer with the working load limit. Tiedown materials which are marked by the manufacturer with working load limits that differ from the tables, shall be considered to have a working load limit equal to the value for which they are marked.

(c) Synthetic cordage (e.g., nylon, polypropylene, polyester) which is not marked or labeled to enable identification of its composition or working load limit shall be considered to have a working load limit equal to that for polypropylene fiber rope.

(d) Welded steel chain which is not marked or labeled to enable identification of its grade or working load limit shall be considered to have a working load limit equal to that for grade 30 proof coil chain.

(e)(1) Wire rope which is not marked by the manufacturer with a working load limit shall be considered to have a working load limit equal to one-fourth of the nominal strength listed in the Wire Rope Users Manual.

(3) Wire which is not marked or labeled to enable identification of its construction type shall be considered to have a working load limit equal to that for 6x37, fiber core wire rope.

(f) Manila rope which is not marked by the manufacturer with a working load limit shall be considered to have a working load limit based on its diameter as provided in the tables or working load limits.

(g) Friction mats which are not marked or rated by the manufacturer shall be considered to provide resistance to horizontal movement equal to 50 percent of the weight placed on the mat.

Tables to Sec. 38-393.108
[Working Load Limits (WLL), Chain]

Size (inches)	mm	WLL in kg (pounds)				
		Grade 30 proof coil	Grade 43 high test	Grade 70 transport	Grade 80 alloy	Grade 100 alloy
1.7	(1/4)	580 (1,300)	1,180 (2,600)	1,430 (3,150)	1,570	1,950

.....				(3,500)	(4,300)
2.8 (5/16)	860 (1,900)	1,770 (3,900)	2,130 (4,700)	2,000 (4,500)	2,600 (5,700)
.....					
3.10 (3/8)	1,200 (2,650)	2,450 (5,400)	2,990 (6,600)	3,200 (7,100)	4,000 (8,800)
.....					
4.11 (7/16)	1,680 (3,700)	3,270 (7,200)	3,970 (8,750)		
.....					
5.13 (1/2)	2,030 (4,500)	4,170 (9,200)	5,130 (11,300)	5,400 (12,000)	6,800 (15,000)
.....					
6.16 (5/8)	3,130 (6,900)	5,910 (13,000)	7,170 (15,800)	8,200 (18,100)	10,300 (22,600)
.....					
Chain Mark Examples:					
Example 1	3	4	7	8	10
.....					
Example 2	30	43	70	80	100
Example 3	300	430	700	800	1000

Synthetic Webbing

Width mm (inches)	WLL kg (pounds)
45 (1 3/4)	790 (1,750)
50 (2)	910 (2,000)
75 (3)	1,360 (3,000)
100 (4)	1,810 (4,000)

Wire Rope (6 x 37, Fiber Core)

Diameter mm (inches)	WLL kg (pounds)
7 (1/4)	640 (1,400)
8 (5/16)	950 (2,100)
10 (3/8)	1,360(3,000)
11 (7/16)	1,860(4,100)
13 (1/2)	2,400(5,300)
16 (5/8)	3,770(8,300)
20 (3/4)	4,940(10,900)
22 (7/8)	7,300(16,100)
25 (1)	9,480(20,900)

Manila Rope

Diameter mm (inches)	WLL kg (pounds)
10 (3/8)	90 (205)
11 (7/16)	120 (265)
13 (1/2)	150 (315)
16 (5/8)	210 (465)
20 (3/4)	290 (640)
25 (1)	480 (1,050)

**Polypropylene Fiber Rope WWL (3-Strand and 8-Str:
Constructions)**

Diameter mm (inches)	WLL kg (pounds)
10 (3/8)	180 (400)
11 (7/16)	240 (525)
13 (1/2)	280 (625)
16 (5/8)	420 (925)
20 (3/4)	580 (1,275)
25 (1)	950 (2,100)

**Polyester Fiber Rope WWL (3-Strand and 8-Str:
Constructions)**

10 (3/8)	250 (555)
11 (7/16)	340 (750)
13 (1/2)	440 (960)
16 (5/8)	680 (1,500)
20 (3/4)	850 (1,880)
25 (1)	1,500 (3,300)

Nylon Rope

10 (3/8)	130 (278)
11 (7/16)	190 (410)
13 (1/2)	240 (525)
16 (5/8)	420 (935)
20 (3/4)	640 (1,420)
25 (1)	1,140 (2,520)

Double Braided Nylon Rope

10 (3/8)	150 (336)
11 (7/16)	230 (502)
13 (1/2)	300 (655)
16 (5/8)	510 (1,130)
20 (3/4)	830 (1,840)
25 (1)	1,470 (3,250)

Steel Strapping

31.7 x .74 (1 ¼ x 0.029)	540 (1,190)
31.7 x .79 (1 ¼ x 0.031)	540 (1,190)
31.7 x .89 (1 ¼ x 0.035)	540 (1,190)
31.7 x 1.12 (1 ¼ x 0.044)	770 (1,690)
31.7 x 1.27 (1 ¼ x 0.05)	770 (1,690)
31.7 x 1.5 (1 ¼ x 0.057)	870 (1,925)
31.7 x 1.12 (2 x 0.044)	1,200 (2,650)
31.7 x 1.27 (2 x 0.05)	1,200 (2,650)

38-393.110 What else do I have to do to determine the minimum number of tiedowns?

(a) In addition to the requirements of Regulation 38-393.106, the minimum number of tiedowns required to secure an article or group of articles against movement depends on the length of the article(s) being secured, and the requirements of paragraphs (b) and (c).

(b) When an article is not blocked or positioned to prevent movement in the forward direction by a headerboard, bulkhead, other cargo that is positioned to prevent movement, or other appropriate blocking devices, it must be secured by at least:

(1) One tiedown for articles 5 feet (1.52 meters) or less in length, and 1,100 pounds (500 kg) or less in weight;

(2) Two tiedowns if the article is:

(i) 5 feet (1.52 meters) or less in length and more than 1,100 pounds (500 kg) in weight; or

(ii) Longer than 5 feet (1.52 meters) but less than or equal to 10 feet (3.04 meters) in length, irrespective of the weight.

(3) Two tiedowns if the article is longer than 10 feet (3.04 meters), and one additional tiedown for every 10 feet (3.04 meters) of article length, or fraction thereof, beyond the first 10 feet (3.04 meters) of length.

(c) If an individual article is required to be blocked, braced or immobilized to prevent movement in the forward direction by a headerboard, bulkhead, other articles which are adequately secured or by an appropriate blocking or immobilization method, it must be secured by at least one tiedown for every 10 feet (3.04 meters) of article length, or fraction thereof.

(d) Special rule for special purpose vehicles. The rules do not apply to a vehicle transporting one or more articles of cargo such as, but not limited to, machinery or fabricated structural items (e.g., steel or concrete beams, crane booms, girders, and trusses, etc.) which, because of their design, size, and shape, or weight, must be fastened by special methods. However, any article of cargo carried on that vehicle must be securely and adequately fastened to the vehicle.

Sec 38-393.112 Must a tiedown be adjustable?

Each tiedown, or its associated connectors, or its attachment mechanisms must be designed, constructed, and maintained so the driver of an in-transit commercial motor vehicle can tighten them. However, this requirement does not apply to the use of steel strapping.

38-393.114 What are the requirements for front end structures used as part of a cargo securement system?

(a) Applicability. The rules are applicable to commercial motor vehicles transporting articles of cargo that are in contact with the front end structure of the vehicle. The front end structure on these cargo-carrying vehicles must meet the performance requirements.

(b) Height and width.

(1) The front end structure must extend either to a height of 4 feet above the floor of the vehicle or to a height at which it blocks forward movement of any item of article of cargo being carried on the vehicle, whichever is lower.

(2) The front end structure must have a width which is at least equal to the width of the vehicle or which blocks forward movement of any article of cargo being transported on the vehicle, whichever is narrower.

(c) Strength. The front end structure must be capable of withstanding the following horizontal forward static load:

(1) For a front end structure less than 6 feet in height, a horizontal forward static load equal to one-half (0.5) of the weight of the articles of cargo being transported on the vehicle uniformly distributed over the entire portion of the front end structure that is within 4 feet above the vehicle's floor or that is at or below a height above the vehicle's floor at which it blocks forward movement of any article of the vehicle's cargo, whichever is less; or

(2) For a front end structure 6 feet in height or higher, a horizontal forward static load equal to four-tenths (0.4) of the weight of the articles of cargo being transported on the vehicle uniformly distributed over the entire front end structure.

(d) Penetration resistance. The front end structure must be designed, constructed, and maintained so that it is capable of resisting penetration by any article of cargo that contacts it when the vehicle decelerates at a rate of 20 feet per second, per second. The front end structure must have no aperture large enough to permit any article of cargo in contact with the structure to pass through it.

(e) Substitute devices. The requirements may be met by the use of devices performing the same functions as a front end structure, if the devices are at least as strong as, and provide protection against shifting articles of cargo at least equal to, a front end structure which conforms to those requirements.

Specific Securement Requirements by Commodity Type

38-393.116 What are the rules for securing logs?

(a) Applicability. The rules are applicable to the transportation of logs with the following exceptions:

(1) Logs that are unitized by banding or other comparable means may be transported in accordance with the general cargo securement rules of Regulation 38-393.100 through 38-393.114.

(2) Loads that consist of no more than four processed logs may be transported in accordance with the general cargo securement rules of Regulation 38-393.100 through 38-393.114.

(3) Firewood, stumps, log debris and other such short logs must be transported in a vehicle or container enclosed on both sides, front, and rear and of adequate strength to contain them. Longer logs may also be so loaded.

(b) Components of a securement system.

(1) Logs must be transported on a vehicle designed and built, or adapted, for the transportation of logs. Any such vehicle must be fitted with bunks, bolsters, stakes or standards, or other equivalent means, that cradle the logs and prevent them from rolling.

(2) All vehicle components involved in securement of logs must be designed and built to withstand all anticipated operational forces without failure, accidental release or permanent deformation. Stakes or standards that are not permanently attached to the vehicle must be secured in a manner that prevents unintentional separation from the vehicle in transit.

(3) Tiedowns must be used in combination with the stabilization provided by bunks, stakes and bolsters to secure the load.

(c) Use of securement system.

(1) Logs must be solidly packed, and the outer bottom logs must be in contact with and resting solidly against the bunks, bolsters, stakes or standards.

(2) Each outside log on the side of a stack of logs must touch at least two stakes, bunks, bolsters, or standards. If one end does not actually touch a stake, it must rest on other logs in a stable manner and must extend beyond the stake, bunk, bolster or standard.

(3) The center of the highest outside log on each side or end must be below the top of each stake, bunk or standard.

(4) Each log that is not held in place by contact with other logs or the stakes, bunks, or standards must be held in place by a tiedown. Additional tiedowns or securement devices must be used when the condition of the wood results in such low friction between logs that they are likely to slip upon each other.

(d) Securement of shortwood logs loaded crosswise on frame, rail or flatbed vehicles. In addition to the requirements of paragraphs (b) and (c), each stack of logs loaded crosswise must meet the following rules:

(1) In no case may the end of a log in the lower tier extend more than one-third of the log's total length beyond the nearest supporting structure on the vehicle.

(2) When only one stack of shortwood is loaded crosswise, it must be secured with at least two tiedowns. The tiedowns must attach to the vehicle frame at the front and rear of the load, and must cross the load in this direction.

(3) When two tiedowns are used, they must be positioned at approximately one-third and two-thirds of the length of the logs.

(4) A vehicle that is more than 10 meters (33 feet) long must be equipped with center stakes, or comparable devices, to divide it into sections approximately equal in length. Where a vehicle is so divided, each tiedown must secure the highest log on each side of the center stake, and must be fastened below these logs. It may be fixed at each end and tensioned from the middle, or fixed in the middle and tensioned from each end, or it may pass through a pulley or equivalent device in the middle and be tensioned from one end.

(5) Any structure or stake that is subjected to an upward force when the tiedowns are tensioned must be anchored to resist that force.

(6) If two stacks of shortwood are loaded side-by-side, in addition to meeting the requirements of paragraphs (d)(1) through (d)(5), they must be loaded so that:

(i) There is no space between the two stacks of logs;

(ii) The outside of each stack is raised at least 2.5 cm (1 in) within 10 cm (4 in) of the end of the logs or the side of the vehicle;

(iii) The highest log is no more than 2.44 m (8 ft) above the deck; and

(iv) At least one tiedown is used lengthwise across each stack of logs.

(e) Securement of logs loaded lengthwise on flatbed and frame vehicles. In addition to meeting the requirements of paragraphs (b) and (c), each stack of shortwood loaded lengthwise on a frame vehicle or on a flatbed must be secured to the vehicle by at least two tiedowns.

(f) Securement of logs transported on pole trailers.

(1) The load must be secured by at least one tiedown at each bunk, or alternatively, by at least two tiedowns used as wrappers that encircle the entire load at locations along the load that provide effective securement.

(2) The front and rear wrappers must be at least 3.04 meters (10 feet) apart.

(3) Large diameter single and double log loads must be immobilized with chock blocks or other equivalent means to prevent shifting.

(4) Large diameter logs that rise above bunks must be secured to the underlying load with at least two additional wrappers.

38-393.118 What are the rules for securing dressed lumber or similar building products.

(a) Applicability. The rules apply to the transportation of bundles of dressed lumber, packaged lumber, building products such as plywood, gypsum board or other materials of similar shape. Lumber or building products which are not bundled or packaged must be treated as loose items

and transported in accordance with Regulation 38-393.100 through 38-393.114 of this subpart. For the purpose of section 118, “bundle” refers to packages of lumber, building materials or similar products which are unitized for securement as a single article of cargo.

(b) Positioning of bundles. Bundles must be placed side by side in direct contact with each other, or a means must be provided to prevent bundles from shifting towards each other.

(c) Securement of bundles transported using no more than one tier. Bundles carried on one tier must be secured in accordance with the general provisions of Regulation 38-393.100 through 38-393.114.

(d) Securement of bundles transported using more than one tier. Bundles carried in more than one tier must be either:

(1) Blocked against lateral movement by stakes on the sides of the vehicle and secured by tiedowns laid out over the top tier, as outlined in the general provisions of Regulation 38-393.100 through 38-393.114; or

(2) Restrained from lateral movement by blocking or high friction devices between tiers and secured by tiedowns laid out over the top tier, as outlined in the general provisions of Regulation 38-393.100 through 38-393.114; or

(3) Placed directly on top of other bundles or on spacers and secured in accordance with the following:

(i) The length of spacers between bundles must provide support to all pieces in the bottom row of the bundle.

(ii) The width of individual spacers must be equal to or greater than the height.

(iii) If spacers are comprised of layers of material, the layers must be unitized or fastened together in a manner which ensures that the spacer performs as a single piece of material.

(iv) The arrangement of the tiedowns for the bundles must be:

(A) Secured by tiedowns over the top tier of bundles, in accordance with the general provisions of Regulation 38-393.100 through 38-393.114 with a minimum of two tiedowns for bundles longer than 1.52 meters (5 ft); and

(B) Secured by tiedowns in accordance with the general provisions of Regulation 38-393.100 through 38-393.114 over the second tier or over a middle tier of a maximum height of 1.85 meters (6 ft) above the trailer deck, whichever is greater, for each stack of bundles composed of more than two tiers; or

(4) Secured by tiedowns over each tier of bundles, in accordance with Regulation 38-393.100 through 38-393.114 using a minimum of two tiedowns over each of the top bundles longer than 1.52 meters (5 ft), in all circumstances.

38-393.128 What are the rules for securing automobiles, light trucks and vans?

(a) Applicability. The rules apply to the transportation of automobiles, light trucks, and vans which individually weigh 4,536 kg. (10,000 lb) or less. Vehicles which individually are heavier than 4,536 kg (10,000 lb) must be secured in accordance with the provisions of Regulation 38-393.130 of 38-382.

(b) Securement of automobiles, light trucks, and vans.

(1) Automobiles, light trucks, and vans must be restrained at both the front and rear to prevent lateral, forward, rear-ward, and vertical movement using a minimum of two tiedowns.

(2) Tiedowns that are designed to be affixed to the structure of the automobile, light truck, or van must use the mounting points on those vehicles that have been specifically designed for that purpose.

(3) Tiedowns that are designed to fit over or around the wheels of an automobile, light truck, or van must provide restraint in the lateral, longitudinal and vertical directions.

(4) Edge protectors are not required for synthetic webbing at points where the webbing comes in contact with the tires.

38-393.130 What are the rules for securing heavy vehicles, equipment and machinery?

(a) Applicability. The rules apply to the transportation of heavy vehicles, equipment and machinery which operate on wheels or tracks, such as front end loaders, bulldozers, tractors, and power shovels and which individuals weigh 4,536 kg (10,000 lb.) or more. Vehicles, equipment and machinery which are lighter than 4,536 kg (10,000 lb.) may also be secured in accordance with the provisions, with Regulation 38-393.128, or in accordance with the provisions of Regulations 38-393.100 through 38-393.114.

(b) Preparation of equipment being transported.

(1) Accessory equipment, such as hydraulic shovels, must be completely lowered and secured to the vehicle.

(2) Articulated vehicles shall be restrained in a manner that prevents articulation while in transit.

(c) Securement of heavy vehicles, equipment, or machinery with crawler tracks or wheels.

(1) In addition to the requirements of paragraph (b), heavy equipment or machinery with crawler tracks or wheels must be restrained against movement in the lateral, forward, rearward, and vertical direction using a minimum of four tiedowns.

(2) Each of the tiedowns must be affixed as close as practicable to the front and rear of the vehicle, or mounting points on the vehicle that have been specifically designed for that purpose.

Subpart J Frames, Cab and Body Components, Wheels, Steering, and Suspension Systems

38-393.201 Frames.

(a) The frame of every truck and truck tractor shall not be cracked, loose, sagging or broken.

(b) Bolts or brackets securing the cab or the body of the vehicle to the frame must not be loose, broken, or missing.

(c) The frame rail flanges between the axles shall not be bent, cut or notched, except as specified by the manufacturer.

(d) All accessories mounted to the truck tractor frame must be bolted or riveted.

(e) No holes shall be drilled in the top or bottom rail flanges, except as specified by the manufacturer.

(f) Field repairs are allowed.

38-393.203 Cab and body components.

(a) The cab compartment doors or door parts used as an entrance or exit shall not be missing or broken. Doors shall not sag so that they cannot be properly opened or closed. No door shall be wired shut or otherwise secured in the closed position so that it cannot be readily opened. EXCEPTION: When the vehicle is loaded with pipe or bar stock that blocks the door and the cab has a roof exit.

(b) Bolts or brackets securing the cab or the body of the vehicle to the frame shall not be loose, broken, or missing.

(c) The hood must be securely fastened.

(d) All seats must be securely mounted.

(e) The front bumper must not be missing, loosely attached, or protruding beyond the confines of the vehicle so as to create a hazard.

38-393.205 Wheels.

(a) Wheels and rims shall not be cracked or broken.

(b) Stud or bolt holes on the wheels shall not be elongated (out of round).

(c) Nuts or bolts shall not be missing or loose.

38-393.207 Suspension systems.

(a) Axles. No axle positioning part shall be cracked, broken, loose or missing. All axles must be in proper alignment.

(b) Adjustable axles. Adjustable axle assemblies shall not have locking pins missing or disengaged.

(c) Leaf springs. No leaf spring shall be cracked, broken, or missing nor shifted out of position.

(d) Coil springs. No coil spring shall be cracked or broken.

(e) Torsion bar. No torsion bar or torsion bar suspension shall be cracked or broken.

(f) Air suspensions. The air pressure regulator valve shall not allow air into the suspension system until at least 55 psi is in the braking system. The vehicle shall be level (not tilting to the left or right). Air leakage shall not be greater than 3 psi in a 5 minute time period when the vehicle's air pressure gauge shows normal operating pressure.

38-393.209 Steering wheel systems.

(a) The steering wheel shall be secured and must not have any spokes cracked through or missing.

(b) The steering wheel lash shall not exceed the following parameters:

Steering wheel diameter	Manual steering system	Power steering system
16" or less	2"+	4 1/2"+
18"	2 1/4"+	4 3/4"+
20"	2 1/2"+	5 1/4"+
22"	2 3/4"+	5 3/4"+

- (c) Steering column. The steering column must be securely fastened.
- (d) Steering system. Universal joints shall not be worn, faulty or repaired by welding. The steering gear box shall not have loose or missing mounting bolts or cracks in the gear box or mounting brackets. The pitman arm on the steering gear output shaft shall not be loose. Steering wheels shall turn freely through the limit of travel in both directions.
- (e) Power steering systems. All components of the power system must be in operating condition. No parts shall be loose or broken. Belts shall not be frayed, cracked or slipping. The system shall not leak. The power steering system shall have sufficient fluid in the reservoir.

PART 38-396 INSPECTION, REPAIR, AND MAINTENANCE

Sec.

38-396.1 Scope.

38-396.3 Inspection, repair, and maintenance.

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38-396.9 Inspection of motor vehicles in operation.

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38-396.21 Periodic inspection recordkeeping requirements.

38-396.23 Equivalent to periodic inspection.

38-396.25 [Reserved]

38-396.1 Scope.

General Every motor carrier, its officers, drivers, agents, representatives, and employees directly concerned with the inspection or maintenance of motor vehicles shall comply and be conversant with the rules of 38-382.

38-396.3 Inspection, repair, and maintenance.

(a) General. Every motor carrier shall systematically inspect, repair, and maintain, or cause to be systematically inspected, repaired, and maintained, all motor vehicles subject to its control.

(1) Parts and accessories shall be in safe and proper operating condition at all times. These include those specified in part 38-393 of this regulation and any additional parts and accessories which may affect safety of operation, including but not limited to, frame and frame assemblies, suspension systems, axles and attaching parts, wheels and rims, and steering systems.

38-396.5 Lubrication.

Every motor carrier shall ensure that each motor vehicle subject to its control is

(a) Properly lubricated; and

(b) Free of oil and grease leaks.

38-396.7 Unsafe operations forbidden.

(a) General. A motor vehicle shall not be operated in such a condition as to likely cause an accident or a breakdown of the vehicle.

(b) Exemption. Any motor vehicle discovered to be in an unsafe condition while being operated on the highway may be continued in operation only to the nearest place where repairs can safely be effected. Such operation shall be conducted only if it is less hazardous to the public than to permit the vehicle to remain on the highway.

38-396.9 Inspection of motor vehicles in operation.

(a) Personnel authorized to perform inspections. Every special agent of the FHWA (as defined in appendix B to this regulation) is authorized to enter upon and perform inspections of motor carrier's vehicles in operation.

(b) Prescribed inspection report. The Driver Vehicle Examination Report shall be used to record results of motor vehicle inspections conducted by authorized FHWA personnel.

(c) Motor vehicles declared "out of service".

(1) Authorized personnel shall declare and mark "out of service" any motor vehicle which by reason of its mechanical condition or loading would likely cause an accident or a breakdown. An "Out of Service Vehicle" sticker shall be used to mark vehicles "out of service."

(2) No motor carrier shall require or permit any person to operate nor shall any person operate any motor vehicle declared and marked "out of service" until all repairs required by the "out of service notice" have been satisfactorily completed. The term "operate" as used in section 9 shall include towing the vehicle, except that vehicles marked "out of service" may be towed away by means of a vehicle using a crane or hoist. A vehicle combination consisting of an emergency towing vehicle and an "out of service" vehicle shall not be operated unless such combination meets the performance requirements of this regulation except for those conditions noted on the Driver Vehicle Examination Report.

(3) No person shall remove the "Out of Service Vehicle" sticker from any motor vehicle prior to completion of all repairs required by the "out of service notice".

(d) Motor carrier disposition.

(1) The driver of any motor vehicle receiving an inspection report shall deliver it to the motor carrier operating the vehicle upon his/her arrival at the next terminal or facility. If the driver is not scheduled to arrive at a terminal or facility of the motor carrier operating the vehicle within 24 hours, the driver shall immediately mail the report to the motor carrier.

(2) Motor carriers shall examine the report. Violations or defects noted thereon shall be corrected.

(3) Within 15 days following the date of the inspection, the motor carrier shall

(i) Certify that all violations noted have been corrected by completing the "Signature of Carrier Official, Title, and Date Signed" portions of the form; and

(ii) Return the completed roadside inspection form to the issuing agency at the address indicated on the form and retain a copy at the motor carrier's principal place of business or where the vehicle is housed for 12 months from the date of the inspection.

38-396.11 Reserved.

38-393.13 Reserved.

38-396.17 Periodic inspection.

(a) Every commercial motor vehicle shall be inspected as required. The inspection shall include, at a minimum, the parts and accessories set forth in appendix G of this regulation.

Note: The term commercial motor vehicle includes each vehicle in a combination vehicle. For example, for a tractor semitrailer, fulltrailer combination, the tractor, semitrailer, and the fulltrailer (including the converter dolly if so equipped) shall each be inspected.

(b) Except as provided in Regulation 38-396.23, a motor carrier shall inspect or cause to be inspected all motor vehicles subject to its control.

(c) A motor carrier shall not use a commercial motor vehicle unless each component identified in appendix G has passed an inspection in accordance with the terms of section 17 at least once during the preceding 12 months and documentation of such inspection is on the vehicle. The documentation may be:

- (1) The inspection report prepared in accordance with paragraph 38-396.21(a), or
- (2) Other forms of documentation, based on the inspection report (e.g., sticker or decal), which contains the following information:
 - (i) The date of inspection;
 - (ii) Name and address of the motor carrier or other entity where the inspection report is maintained;
 - (iii) Information uniquely identifying the vehicle inspected if not clearly marked on the motor vehicle; and
 - (iv) A certification that the vehicle has passed an inspection in accordance with Regulation 38-396.17.

(d) A motor carrier may perform the required annual inspection for vehicles under the carrier's control which are not subject to an inspection under Regulation 38-396.23(b)(1).

(e) In lieu of the self inspection provided for in paragraph (d), a motor carrier may choose to have a commercial garage, fleet leasing company, truck stop, or other similar commercial business perform the inspection as its agent, provided that business operates and maintains facilities appropriate for commercial vehicle inspections and it employs qualified inspectors, as required by Regulation 38-396.19.

(f) Vehicles passing roadside or periodic inspections performed under the auspices of any State government or equivalent jurisdiction or the FHWA, meeting the minimum standards contained in appendix G of this regulation, will be considered to have met the requirements of an annual inspection for a period of 12 months commencing from the last day of the month in which the inspection was performed, except as provided in Regulation 38-396.23(b)(1).

(g) It shall be the responsibility of the motor carrier to ensure that all parts and accessories not meeting the minimum standards set forth in appendix G to this regulation are repaired promptly.

(h) Failure to perform properly the annual inspection shall cause the motor carrier to be subject to the penalty provisions provided by 49 U.S.C. 521(b).

38-396.19 Inspector qualifications.

(a) It shall be the motor carrier's responsibility to ensure that the individual(s) performing an annual inspection under Regulation 38-396.17 (d) or (e) is qualified as follows:

(1) Understands the inspection criteria set forth in 49 CFR part 38-393 and appendix G of this regulation and can identify defective components;

(2) Is knowledgeable of and has mastered the methods, procedures, tools and equipment used when performing an inspection; and

(3) Is capable of performing an inspection by reason of experience, training, or both as follows:

(i) Successfully completed a State or Federal sponsored training program or has a certificate from a State or Canadian Province which qualifies the person to perform commercial motor vehicle safety inspections, or

(ii) Have a combination of training and/or experience totaling at least 1 year. Such training and/or experience may consist of:

(A) Participation in a truck manufacturer sponsored training program or similar commercial training program designed to train students in truck operation and maintenance;

(B) Experience as a mechanic or inspector in a motor carrier maintenance program;

(C) Experience as a mechanic or inspector in truck maintenance at a commercial garage, fleet leasing company, or similar facility; or

(D) Experience as a commercial vehicle inspector for a State, Provincial or Federal Government.

(b) Evidence of that individual's qualifications shall be retained by the motor carrier for the period during which that individual is performing annual motor vehicle inspections for the motor carrier, and for one year thereafter. However, motor carriers do not have to maintain documentation of inspector qualifications for those inspections performed either as part of a State periodic inspection program or at the roadside as part of a random roadside inspection program.

38-396.21 Periodic inspection recordkeeping requirements.

(a) The qualified inspector performing the inspection shall prepare a report which:

(1) Identifies the individual performing the inspection;

(2) Identifies the motor carrier operating the vehicle;

(3) Identifies the date of the inspection;

(4) Identifies the vehicle inspected;

(5) Identifies the vehicle components inspected and describes the results of the inspection, including the identification of those components not meeting the minimum standards set forth in appendix G to this regulation; and

(6) Certifies the accuracy and completeness of the inspection as complying with all the requirements.

(b)(1) The original or a copy of the inspection report shall be retained by the motor carrier or other entity who is responsible for the inspection for a period of fourteen months from the date of the inspection report. The original or a copy of the inspection report shall be retained where the vehicle is either housed or maintained.

(2) The original or a copy of the inspection report shall be available for inspection upon demand of an authorized Federal, State or local official.

(3) Exception. Where the motor carrier operating the commercial motor vehicles did not perform the commercial motor vehicle's last annual inspection, the motor carrier shall be responsible for obtaining the original or a copy of the last annual inspection report upon demand of an authorized Federal, State, or local official.

38-396.23 Equivalent to periodic inspection.

(a) The motor carrier may meet the requirements of Regulation 38-396.17 through a State or other jurisdiction's roadside inspection program. The inspection must have been performed during the preceding 12 months. In using the roadside inspection, the motor carrier would need to retain a copy of an annual inspection report showing that the inspection was performed in accordance with the minimum periodic inspection standards set forth in appendix G to this regulation. When accepting such an inspection report, the motor carrier must ensure that the report complies with the requirements of Regulation 38-396.21(a).

(b)(1) If a commercial motor vehicle is subject to a mandatory State inspection program which is determined by the Administrator to be as effective as Regulation 38-396.17, the motor carrier shall meet the requirement of Regulation 38-396.17 through that State's inspection program. Commercial motor vehicle inspections may be conducted by State personnel, at State authorized commercial facilities, or by the motor carrier under the auspices of a State authorized self inspection program.

(2) Should the FHWA determine that a State inspection program, in whole or in part, is not as effective as Regulation 38-396.17, the motor carrier must ensure that the periodic inspection required by Regulation 38-396.17 is performed on all commercial motor vehicles under its control in a manner specified in Regulation 38-396.17.

Regulation 38-396.25 Reserved

Subchapter B — Minimum Periodic Inspection Standards

A vehicle does not pass an inspection if it has one of the following defects or deficiencies:

1. *Brake System.*

a. *Service Brakes*

(1) Absence of braking action on any axle required to have brakes upon application of the service brakes (such as missing brakes or brake shoe(s) failing to move upon application of a wedge. S-cam, cam, or disc brake).

(2) Missing or broken mechanical components including: shoes, lining pads, springs, anchor pins, spiders, cam rollers, push rods, and air chamber mounting bolts.

(3) Loose brake components including air chambers, spiders, and cam shaft support brackets.

(4) Audible air leak at brake chamber (Example ruptured diaphragm, loose chamber clamp, etc.).

(5) Readjustment limits. The maximum stroke at which brakes should be readjusted is given below. Any brake 1/4 or more past the readjustment limit or any two brakes less than 1/4 beyond the readjustment limit shall be cause for rejection. Stroke shall be measured with engine off and reservoir pressure of 80 to 90 psi with brakes fully applied.

BOLT TYPE BRAKE CHAMBER DATA

Type	Effective area (sq. in.)	Outside dia. (in.)	Maximum stroke at which brakes should be readjusted
A	12	6 15/16	1 3/8
B	24	9 3/16	1 3/4
C	16	8 1/16	1 3/4
D	6	5 1/4	1 1/4
E	9	6 3/16	1 3/8
F	35	11	2 1/4
G	30	9 7/8	2

ROTOCHAMBER DATA

Type	Effective area (sq. in.)	Outside dia. (in.)	Maximum stroke at which brakes should be readjusted
9	9	4 9/32	1 1/2
12	12	4 13/16	1 1/2
16	16	5 13/32	2
20	20	5 15/16	2
24	24	6 13/32	2
30	30	7 1/16	2 1/4
36	36	7 5/8	2 3/4
50	50	8 7/8	3

CLAMP TYPE BRAKE CHAMBER DATA

Type	Effective area (sq. in.)	Outside dia. (in.)	Maximum stroke at which brakes should be readjusted
6	6	4 1/2	1 1/4
9	9	5 1/4	1 3/8
12	12	5 11/16	1 3/8
16	16	6 3/8	1 3/4
20	20	6 25/32	1 3/4
24	24	7 7/32	1 3/4 ¹
30	30	8 3/32	2
36	36	9	2 1/4

¹ (2" for long stroke design).

WEDGE BRAKE DATA. —Movement of the scribe mark on the lining shall not exceed 1/16 inch.

(6) Brake linings or pads.

(a) Lining or pad is not firmly attached to the shoe;

(b) Saturated with oil, grease, or brake fluid; or

(c) Non steering axles: Lining with a thickness less than 1/4 inch at the shoe center for air drum brakes, 1/16 inch or less at the shoe center for hydraulic and electric drum brakes, and less than 1/8 inch for air disc brakes.

(d) Steering axles: Lining with a thickness less than $\frac{1}{4}$ inch at the shoe center for drum brakes, less than $\frac{1}{8}$ inch for air disc brakes and $\frac{1}{16}$ inch or less for hydraulic disc and electric brakes.

(7) Missing brake on any axle required to have brakes.

(8) Mismatch across any power unit steering axle of:

(a) Air chamber sizes.

(b) Slack adjuster length.

b. *Parking Brake System.* No brakes on the vehicle or combination are applied upon actuation of the parking brake control, including driveline hand controlled parking brakes.

c. *Brake Drum or Rotors.*

(1) With any external crack or cracks that open upon brake application (do not confuse short hairline heat check cracks with flexural cracks).

(2) Any portion of the drum or rotor missing or in danger of falling away.

d. *Brake Hose.*

(1) Hose with any damage extending through the outer reinforcement ply. (Rubber impregnated fabric cover is not a reinforcement ply). (Thermoplastic nylon may have braid reinforcement or color difference between cover and inner tube. Exposure of second color is cause for rejection).

(2) Bulge or swelling when air pressure is applied.

(3) Any audible leaks.

(4) Two hoses improperly joined (such as a splice made by sliding the hose ends over a piece of tubing and clamping the hose to the tube).

(5) Air hose cracked, broken or crimped.

e. *Brake Tubing*

(1) Any audible leak.

(2) Tubing cracked, damaged by heat, broken or crimped

f. *Low Pressure Warning Device* missing, inoperative, or does not operate at 55 psi and below, or $\frac{1}{2}$ the governor cut out pressure, whichever is less.

g. *Tractor Protection Valve.* Inoperable or missing tractor protection valve(s) on power unit.

h. *Air Compressor.*

(1) Compressor drive belts in condition of impending or probable failure.

(2) Loose compressor mounting bolts.

(3) Cracked, broken or loose pulley.

(4) Cracked or broken mounting brackets, braces or adapters.

i. *Electric Brakes.*

(1) Absence of braking action on any wheel required to have brakes.

(2) Missing or inoperable breakaway braking device.

j. *Hydraulic Brakes. (Including Power Assist Over Hydraulic and Engine Drive Hydraulic Booster).*

(1) Master cylinder less than $\frac{1}{4}$ full.

(2) No pedal reserve with engine running except by pumping pedal.

- (3) Power assist unit fails to operate.
- (4) Seeping or swelling brake hose(s) under application of pressure.
- (5) Missing or inoperative check valve.
- (6) Has any visually observed leaking hydraulic fluid in the brake system.
- (7) Has hydraulic hose(s) abraded (chafed) through outer cover-to-fabric layer.
- (8) Fluid lines or connections leaking restricted, crimped, cracked or broken.
- (9) Brake failure or low fluid warning light on and/or inoperative.

k. *Vacuum Systems.* Any vacuum system which:

- (1) Has insufficient vacuum reserve to permit one full brake application after engine is shut off.
- (2) Has vacuum hose(s) or line(s) restricted, abraded (chafed) through outer cover to cord ply, crimped, cracked, broken or has collapse of vacuum hose(s) when vacuum is applied.
- (3) Lacks an operative low vacuum warning device as required.

2. *Coupling Devices.*

a. *Fifth Wheels.*

- (1) Mounting to frame.
 - (a) Any fasteners missing or ineffective.
 - (b) Any movement between mounting components.
 - (c) Any mounting angle iron cracked or broken.
- (2) Mounting plates and pivot brackets.
 - (a) Any fasteners missing or ineffective.
 - (b) Any welds or parent metal cracked.
 - (c) More than 3/8 inch horizontal movement between pivot bracket pin and bracket.
 - (d) Pivot bracket pin missing or not secured.
- (3) Sliders.
 - (a) Any latching fasteners missing or ineffective.
 - (b) Any fore or aft stop missing or not securely attached.
 - (c) Movement more than 3/8 inch between slider bracket and slider base.
 - (d) Any slider component cracked in parent metal or weld.
- (4) Lower coupler.
 - (a) Horizontal movement between the upper and lower fifth wheel halves exceeds 1/2 inch.
 - (b) Operating handle not in closed or locked position.
 - (c) Kingpin not properly engaged.
 - (d) Separation between upper and lower coupler allowing light to show through from side to side.
 - (e) Cracks in the fifth wheel plate.

Exceptions: Cracks in fifth wheel approach ramps and casting shrinkage cracks in the ribs of the body of a cast fifth wheel.

- (f) Locking mechanism parts missing, broken, or deformed to the extent the kingpin is not securely held.

b. *Pintle Hooks.*

- (1) Mounting to frame.
 - (a) Any missing or ineffective fasteners (a fastener is not considered missing if there is an empty hole in the device but no corresponding hole in the frame or vice versa).
 - (b) Mounting surface cracks extending from point of attachment (e.g., cracks in the frame at mounting bolt holes).
 - (c) Loose mounting.

(d) Frame crossmember providing pintle hook attachment cracked.

(2) Integrity.

(a) Cracks anywhere in pintle hook assembly.

(b) Any welded repairs to the pintle hook.

(c) Any part of the horn section reduced by more than 20%.

(d) Latch insecure.

c. *Drawbar/Towbar Eye.*

(1) Mounting.

(a) Any cracks in attachment welds.

(b) Any missing or ineffective fasteners.

(2) Integrity.

(a) Any cracks.

(b) Any part of the eye reduced by more than 20%.

d. *Drawbar/Towbar Tongue.*

(1) Slider (power or manual).

(a) Ineffective latching mechanism.

(b) Missing or ineffective stop.

(c) Movement of more than ¼ inch between slider and housing.

(d) Any leaking, air or hydraulic cylinders, hoses, or chambers (other than slight oil weeping normal with hydraulic seals).

(2) Integrity.

(a) Any cracks.

(b) Movement of ¼ inch between subframe and drawbar at point of attachment.

e. *Safety Devices.*

(1) Safety devices missing.

(2) Unattached or incapable of secure attachment.

(3) Chains and hooks.

(a) Worn to the extent of a measurable reduction in link cross section.

(b) Improper repairs including welding, wire, small bolts, rope and tape.

(4) Cable.

(a) Kinked or broken cable strands.

(b) Improper clamps or clamping.

f. *Saddle Mounts.*

(1) Method of attachment.

(a) Any missing or ineffective fasteners.

(b) Loose mountings.

(c) Any cracks or breaks in a stress or load bearing member.

(d) Horizontal movement between upper and lower saddle mount halves exceeds ¼ inch.

3. *Exhaust System.*

a. Any exhaust system determined to be leaking at a point forward of or directly below the driver/sleeper compartment.

b. A bus exhaust system leaking or discharging to the atmosphere:

(1) Gasoline powered — excess of 6 inches forward of the rearmost part of the bus.

(2) Other than gasoline powered — in excess of 15 inches forward of the rearmost part of the bus.

(3) Other than gasoline powered — forward of a door or window designed to be opened.
(Exception: emergency exits).

c. No part of the exhaust system of any motor vehicle shall be so located as would be likely to result in burning, charring, or damaging the electrical wiring, the fuel supply, or any combustible part of the motor vehicle.

4. *Fuel System.*

a. A fuel system with a visible leak at any point.

b. A fuel tank filler cap missing.

c. A fuel tank not securely attached to the motor vehicle by reason of loose, broken or missing mounting bolts or brackets (some fuel tanks use springs or rubber bushings to permit movement).

5. *Lighting Devices.*

All lighting devices and reflectors required by Section 393 shall be operable.

6. *Safe Loading.*

a. Part(s) of vehicle or condition of loading such that the spare tire or any part of the load or dunnage can fall onto the roadway.

b. Protection Against Shifting Cargo —Any vehicle without a front end structure or equivalent device as required.

7. *Steering Mechanism.*

a. *Steering Wheel Free Play* (on vehicles equipped with power steering the engine must be running)

STEERING WHEEL FREE PLAY

Steering wheel diameter	Manual steering system	Power steering system
16"	2"	4 ½"
18"	2 ¼"	4 ¾"
20"	2 ½"	5 ¼"
22"	2 ¾"	5 ¾"

b. *Steering Column,*

(1) Any absence or looseness of U-bolt(s) or positioning part(s),

(2) Worn, faulty or obviously repair welded universal joint(s).

(3) Steering wheel not properly secured,

c. *Front Axle Beam and All Steering Components Other Than Steering Column.*

(1) Any crack(s).

(2) Any obvious welded repair(s).

d. *Steering Gear Box.*

(1) Any mounting bolt(s) loose or missing.

(2) Any crack(s) in gear box or mounting brackets.

- e. *Pitman Arm*. Any looseness of the pitman arm on the steering gear output shaft.
- f. *Power Steering*. Auxiliary power assist cylinder loose.
- g. *Ball and Socket Joints*.
 - (1) Any movement under steering load of a stud nut.
 - (2) Any motion, other than rotational, between any linkage member and its attachment point of more than 1/4 Inch.
- h. *Tie Rods and Drag Links*.
 - (1) Loose clamp(s) or clamp bolt(s) on tie rods or drag links.
 - (2) Any looseness in any threaded joint.
- i. *Nuts*. Nut(s) loose or missing on tie rods pitman arm, drag link, steering arm or tie rod arm.
- j. *Steering System*. Any modification or other condition that interferes with free movement of any steering component.

8. *Suspension*.

- a. Any U-bolt(s), spring hanger(s), or other axle positioning part(s) cracked, broken, loose or missing resulting in shifting of an axle from its normal position. (After a turn, lateral axle displacement is normal with some suspensions. Forward or rearward operation in a straight line will cause the axle to return to alignment).
- b. *Spring Assembly*.
 - (1) Any leaves in a leaf spring assembly broken or missing.
 - (2) Any broken main leaf in a leaf spring assembly. (Includes assembly with more than one main spring).
 - (3) Coil spring broken.
 - (4) Rubber spring missing.
 - (5) One or more leaves displaced in a manner that could result in contact with a tire, rim, brake drum or frame.
 - (6) Broken torsion bar spring in a torsion bar suspension.
 - (7) Deflated air suspension, i.e., system failure, leak, etc.
- c. *Torque, Radius or Tracking Components*.

Any part of a torque, radius or tracking component assembly or any part used for attaching the same to the vehicle frame or axle that is cracked, loose, broken or missing. (Does not apply to loose bushings in torque or track rods.)

9. *Frame*

- a. *Frame Members*.
 - (1) Any cracked, broken, loose, or sagging frame member,
 - (2) Any loose or missing fasteners including fasteners attaching functional component such as engine, transmission, steering gear, suspension, body parts, and fifth wheel.
- b. *Tire and Wheel Clearance*. Any condition, including loading, that causes the body or frame to be in contact with a tire or any part of the wheel assemblies.
- c. (1) *Adjustable Axle Assemblies (Sliding Subframes)*. Adjustable axle assembly with locking pins missing or not engaged.

10. *Tires*.

- a. Any tire on any steering axle of a power unit.
 - (1) With less than $\frac{4}{32}$ inch tread when measured at any point on a major tread groove.
 - (2) Has body ply or belt material exposed through the tread or sidewall.
 - (3) Has any tread or sidewall separation.
 - (4) Has a cut where the ply or belt material is exposed.

- (5) Labeled "Not for Highway Use" or displaying other marking which would exclude use on steering axle.
- (6) A tube-type radial tire without radial tube stem markings. These markings include a red band around the tube stem, the word "radial" embossed in metal stems, or the word "radial" molded in rubber stems.
- (7) Mixing bias and radial tires on the same axle.
- (8) Tire flap protrudes through valve slot in rim and touches stem.
- (9) Regrooved tire except motor vehicles used solely in urban or suburban service (see exception in 393.75 (e)).

- (10) Boot, blowout patch or other ply repair.
- (11) Weight carried exceeds tire load limit. This includes overloaded tire resulting from low air pressure.
- (12) Tire is flat or has noticeable (e.g., can be heard or felt) leak.
- (13) Any bus equipped with recapped or retreaded tire(s).
- (14) So mounted or inflated that it comes in contact with any part of the vehicle.

b. All tires other than those found on the steering axle of a power unit:

- (1) Weight carried exceeds tire load limit. This includes overloaded tire resulting from low air pressure.
- (2) Tire is flat or has noticeable (e.g., can be heard or felt) leak.
- (3) Has body ply or belt material exposed through the tread or sidewall.
- (4) Has any tread or sidewall separation.
- (5) Has a cut where ply or belt material is exposed.
- (6) So mounted or inflated that it comes in contact with any part of the vehicle. (This includes a tire that contacts its mate.)
- (7) Is marked "Not for highway use" or otherwise marked and having like meaning.
- (8) With less than $\frac{2}{32}$ inch tread when measured at any point on a major tread groove.

11. *Wheels and Rims.*

- a. *Lock or Side Ring.* Bent, broken, cracked, improperly seated, sprung or mismatched ring(s).
- b. *Wheels and Rims.* Cracked or broken or has elongated bolt holes.
- c. *Fasteners (both spoke and disc wheels).* Any loose, missing, broken, cracked, stripped or otherwise ineffective fasteners.
- d. *Welds.*
 - (1) Any cracks in welds attaching disc wheel disc to rim.
 - (2) Any crack in welds attaching tubeless demountable rim to adapter.
 - (3) Any welded repair on aluminum wheel(s) on a steering axle.
 - (4) Any welded repair other than disc to rim attachment on steel disc wheel(s) mounted on the steering axle.

12. *Windshield Glazing.*

(Not including a 2 inch border at the top, a 1 inch border at each side and the area below the topmost portion of the steering wheel.) Any crack, discoloration or vision reducing matter except: (1) coloring or tinting applied at time of manufacture; (2) any crack not over 1/4 inch wide, if not intersected by any other crack; (3) any damaged area not more than $\frac{3}{4}$ inch in diameter, if not closer than 3 inches to any other such damaged area; (4) labels, stickers, decalomania, etc. (see 393.60 for exceptions).

13. *Windshield Wipers.*

Any power unit that has an inoperative wiper, or missing or damaged parts that render it ineffective.

Comparison of Appendix G, and the new North American Uniform Driver Vehicle Inspection Procedure (North American Commercial Vehicle Critical Safety Inspection Items and Out Of Service Criteria)

The vehicle portion of the FMCSA's North American Uniform Driver-Vehicle Inspection Procedure (NAUD-VIP) requirements, CVSA's North American Commercial Vehicle Critical Safety Inspection Items and Out-Of-Service Criteria and Appendix G of subchapter B are similar documents and follow the same inspection procedures. The same items are required to be inspected by each document. FMCSA's and CVSA's out-of-service criteria are intended to be used in random roadside inspections to identify critical vehicle inspection items and provide criteria for placing a vehicle(s) out-of-service. A vehicle(s) is placed out-of-service only when by reason of its mechanical condition or loading it is determined to be so imminently hazardous as to likely cause an accident or breakdown, or when such condition(s) would likely contribute to loss of control of the vehicle(s) by the driver. A certain amount of flexibility is given to the inspecting official whether to place the vehicle out-of-service at the inspection site or if it would be less hazardous to allow the vehicle to proceed to a repair facility for repair. The distance to the repair facility must not exceed 25 miles. The roadside type of inspection, however, does not necessarily mean that a vehicle has to be defect free in order to continue in service.

In contrast, the Appendix G inspection procedure requires that all items required to be inspected are in proper adjustment, are not defective and function properly prior to the vehicle being placed in service.

Differences Between the Out Of Service Criteria & FMCSA's Annual Inspection

1. Brake System.

The Appendix G criteria rejects vehicles with any defective brakes, any air leaks, etc. The out-of-service criteria allows 20% defective brakes on non steering axles and a certain latitude on air leaks before placing a vehicle out-of-service.

2. Coupling Devices.

Appendix G rejects vehicles with any fifth wheel mounting fastener missing or ineffective. The out of service criteria allows up to 20% missing or ineffective fasteners on frame mountings and pivot bracket mountings and 25% on sliderlatching fasteners. The out of service criteria also allows some latitude on cracked welds.

3. Exhaust System.

Appendix G follows Section 393.83 verbatim. The CVSA out of service criteria allows vehicles to exhaust forward of the dimensions given in Section §393.83 as long as the exhaust does not leak or exhaust under the chassis.

4. Fuel System.

Same for Appendix G and the out-of-service criteria.

5. *Lighting Devices.*

Appendix G requires all lighting devices required by section 393 to be operative at all times. The out-of-service criteria only requires one stop light and functioning turn signals on the rear most vehicle of a combination vehicle to be operative at all times. In addition one operative head lamp and tail lamp are required during the hours of darkness.

6. *Safe Loading.*

Same for both Appendix G and the out-of-service criteria.

7. *Steering Mechanism.*

Steering lash requirements of Appendix G follows the new requirements of §393.209.

8. *Suspension.*

Appendix G follows the new requirements of §393.207 which does not allow any broken leaves in a leaf spring assembly. The out-of-service criteria allows up to 25% broken or missing leaves before being placed out-of-service.

9. *Frame.*

The out of service criteria allows a certain latitude in frame cracks before placing a vehicle out-of-service. Appendix G follows the new requirements of §393.201 which does not allow any frame cracks.

10. *Tires.*

Appendix G follows the requirements of §393.75 which requires a tire tread depth of $\frac{4}{32}$ inch on power unit steering axles and $\frac{2}{32}$ inch on all other axles. The out-of-service criteria only requires $\frac{2}{32}$ inch tire tread depth on power unit steering axles and $\frac{1}{32}$ inch on all other axles.

11. *Wheel and Rims.*

The out-of-service criteria allows a certain amount latitude for wheel and rim cracks and missing or defective fasteners. Appendix G meets the requirements of the new §393.205 which does not allow defective wheels and rims non effective nuts and bolts.

12. *Windshield Glazing.*

The out-of-service criteria places in a restricted service condition any vehicle that has a crack or discoloration in the windshield area lying within the sweep of the wiper on the drivers side and does not address the remaining area of the windshield. Appendix G addresses requirements for the whole windshield as specified in 393.60.

13. *Windshield Wipers.*

Appendix G requires windshield wipers to be operative at ail times. The out-of-service criteria only requires that the windshield wiper on the driver's side to be inspected during inclement weather.

[66 FR 49875, Oct. 1, 2001]

APPENDIX A
NORTH AMERICAN STANDARD
OUT-OF-SERVICE CRITERIA

JANUARY 1, 2004

COMMERCIAL VEHICLE SAFETY ALLIANCE

Part I - North American Standard Driver Out-of-Service Criteria

Part II – North American Standard Vehicle Out-of-Service Criteria

THIS DOCUMENT REPLACES AND SUPERSEDES ALL
PREVIOUS OUT-OF-SERVICE CRITERIA

**APPENDIX A
PART I**

**SOUTH CAROLINA DRIVER
OUT-OF-SERVICE CRITERIA
FOR
UNMANUFACTURED FOREST PRODUCTS**

POLICY STATEMENT

The purpose of 38-382 is to identify driver violations that render the commercial motor vehicle operator unqualified to drive or out-of-service. The necessity for all enforcement personnel to implement and adhere to these standards is: (1) a matter of law; (2) perceived as necessary by the society we are charged with protecting; and (3) a professional obligation if substantial enhancement in the safety of commercial motor vehicle operators is to be achieved.

Except where state, provincial, or federal laws preclude enforcement of a named item, motor carrier safety enforcement personnel and their jurisdictions shall comply with these driver out-of-service violation standards.

OUT-OF-SERVICE VIOLATION: Violation under this category preclude further operation of a commercial motor vehicle by its driver for a specified period of time or for some violations until a required condition is met.

1. Driver Age

Is not at least 18 years of age (38-391.11(b)(1). Place driver Out-of-Service

2. Operator's/Chauffeur's License or Permit (Non-CDL)

a. Vehicle 26,000 lbs. Or less GVWR not designed to transport 16 or more passengers or placarded loads of hazardous materials.

Is not licensed for the type of vehicle being operated. (Out-of-Service action to be initiated only upon home jurisdiction verification.) (38-391.11(b)(5)) Place driver Out-of-Service

3. CDL

a. License

Does not possess a valid CDL issued by his/her state or jurisdiction of domicile. (Out-of-Service action to be initiated only upon home jurisdiction license verification.). (38-383.23(a)(2)) Place driver Out-of-Service

b. Learner's Permit

Is not accompanied by the holder of a valid CDL (38-383.23(c)) Place driver Out-of-Service

c. Endorsements and Restrictions

Operating a commercial vehicle without proper endorsement or in violation of restrictions. (38-383.23(a)(2)), (38-391.11(b)(5)) Place driver Out-of-Service

d. Classification

Does not possess proper class of license for vehicle being operated. (38-383.91(a)) Place driver Out-of-Service

4. Sickness or Fatigue

When so impaired that the driver should not continue the trip. (38-392.3) Place driver Out-of-Service until no longer impaired

5. Driver Disqualification

Driver disqualification under the provisions of (38-383.51(a) or (38-391.15(a)) Place driver Out-of-Service until re-qualification is established

6. Drugs and Other Substances; As Identified Under Regulation 38-392.4(a)

a. Shall not be in possession

Is in possession. (38-392.4(a)) Place driver Out-of-Service for twenty-four (24) consecutive hours

b. Shall not be under the influence

Is under the influence, with probable cause. (38-392.4(a)) Place driver Out-of-Service for twenty-four (24) consecutive hours.

7. Intoxicating Beverages

Under the influence of intoxicating beverages, consumes an intoxicating beverage regardless of its alcohol content, or have any measured alcohol concentration or any detected presence of alcohol while on duty, or operating, or in physical control of a motor vehicle. (38-392.5(a)) Place driver Out-of-Service for twenty-four (24) consecutive hours.

APPENDIX A

PART II

**SOUTH CAROLINA VEHICLE
OUT-OF-SERVICE CRITERIA
FOR
UNMANUFACTURED FOREST PRODUCTS**

POLICY STATEMENT

The purpose of 38-382 is to identify critical vehicle inspection items and provide criteria for placing vehicle(s) out-of-service subsequent to a safety inspection.

Except where state, provincial, or federal laws preclude enforcement of a named item, motor carrier safety enforcement personnel and their jurisdictions shall comply with these vehicle Out-of-Service violation standards.

NOTE: Decal Qualification: Each vehicle (truck, truck tractor, semitrailer, trailer, etc.) must "pass" inspection to qualify for a decal. "Pass Inspection" means that no violations/defects are found of the vehicle inspection items contained in the definitions of Level I and Level V inspections. For the purpose of decal issuance, if no violation is detected during a Level I or Level V inspection due to a hidden part, which includes the vehicle inspection items listed in the definitions, a decal shall be applied.

The decal criteria apply only to the condition of the vehicle, not the driver. It is possible for a driver to be Out-of-Service and still have vehicle(s) qualify for a decal. If each vehicle, whether used singly or in a combination, passes inspection, a current CVSA decal shall be affixed and no other CVSA decals shall be visible.

OUT-OF-SERVICE: Authorized personnel shall declare and mark "out of service" any motor vehicle which by reason of its mechanical condition or loading would likely cause an accident or

breakdown. An "Out of Service Vehicle" sticker shall be used to mark vehicles "out of service". No motor carrier shall require nor shall any person operate any commercial motor vehicle declared and marked "out of service" until all repairs by the "out of service notice" have been satisfactorily completed.

No person shall remove the "Out of Service Vehicle" sticker from any motor vehicle prior to completion of all repairs required by the "out of service notice".

Violations other than out of service conditions detected during the inspection process will not preclude the completion of the current trip or dispatch. However, such violations must be corrected or repaired prior to re-dispatch.

These criteria are neither suited nor intended to serve as vehicle maintenance or performance standards.

1. Brake System.

a. Defective Brakes.

The number of defective brakes is equal to or greater than 20 percent of brakes on the vehicle or combination. A defective brake includes any brake that meets one of the following criteria: (NOTE: Steering axle brakes under 1.b are to be included in 20 percent criterion.)

(1) Absence of effective braking action upon application of the service brakes (such as brake linings failing to move or contact braking surface upon application). (38-393.48(a))

(2) Missing or broken mechanical components including: shoes, linings, pads, springs, anchor pins, spiders, cam rollers, push-rods, and air chamber mounting bolts. (38-393.48(a))

(3) Loose brake components including air chambers, spiders, and cam shaft support brackets. (38-393.48(a))

(4) Audible air leak at brake chamber, (Example - ruptured diaphragm, loose chamber clamp, etc.) NOTE: Also check under 1.h. -Air Loss Rate. (38-396.3(a)(1))

(5) Brake adjustment limits. Bring reservoir pressure between 90 to 100 psi, turn engine off and then fully apply the brakes.

(a) One brake at ¼ inch or more beyond the readjustment limit. (Example: Type 30 clamp type brake chamber pushrod measured at 2-1/4 inches would be one defective brake.)(38-396.3(a)(1))

(b) Two brakes less than 1/4 inch beyond the readjustment limit also equal one defective brake. (Examples: Clamp type 30 pushrods measure - Two at 2-1/8 inches. This example would equal one defective brake. (38-396.3(a)(1))

(c) Any wedge brake where the combined brake lining movement of both top and bottom shoes exceeds 1/8 inch. (38-396.3(a)(1))

Brake Adjustment. Shall not meet or exceed those specifications contained hereunder relating to "Maximum stroke at which Brakes Must Be Readjusted." (Dimensions are in inches.)

COMMERCIAL VEHICLE SAFETY ALLIANCE OUT-OF-SERVICE CRITERIA REFERENCE CHARTS

CLAMP TYPE BRAKE CHAMBER DATA

<u>TYPE</u>	<u>OUTSIDE DIAMETER</u>	<u>BRAKE ADJUSTMENT LIMIT</u>
6	4-1/2	1-1/4
9	5-1/4	1-3/8
12	5-11/16	1-3/8
16	6-3/8	1-3/4
20	6-25/32	1-3/4
24	7-7/32	1-3/4
30	8-3/32	2
36	9	2-1/4

'LONG STROKE' CLAMP TYPE BRAKE CHAMBER DATA

<u>TYPE</u>	<u>OUTSIDE DIAMETER</u>	<u>BRAKE ADJUSTMENT LIMIT</u>
12	5-11/16	1-3/4
16	6-3/8	2.0
20	6-25/32	2.0
24	7-7/32	2.0
24*	7-7/32	2.5
30	8-3/32	2.5

* For 3" maximum stroke type 24 chambers

BOLT TYPE BRAKE CHAMBER DATA

<u>TYPE</u>	<u>OUTSIDE DIAMETER</u>	<u>BRAKE ADJUSTMENT LIMIT</u>
A	6-15/16	1-3/8
B	9-3/16	1-3/4
C	8-1/16	1-3/4
D	5-1/4	1-1/4
E	6-3/16	1-3/8
F	11	2-1/4
G	9-7/8	2

ROTOCHAMBER DATA

<u>TYPE</u>	<u>OUTSIDE DIAMETER</u>	<u>BRAKE ADJUSTMENT LIMIT</u>
9	4-9/32	1-1/2
12	4-13/16	1-1/2
16	5-13/32	2
20	5-15/16	2
24	6-13/32	2
30	7-1/16	2-1/4
36	7-5/8	2-3/4
50	8-7/8	3

DD-3 BRAKE CHAMBER DATA

<u>TYPE</u>	<u>OUTSIDE DIAMETER</u>	<u>BRAKE ADJUSTMENT LIMIT</u>
30	8-1/8	2-1/4

NOTE: This chamber has three air lines and is found on motor coaches.

WEDGE BRAKE DATA

The combined movement of both brake shoe lining scribe marks shall not exceed 1/8 inch (3.18mm)

- a. Defective Brakes (cont'd)
 - (6) Brake linings or pads. (Except on power unit steering axles)
 - (a) Cracked, loose, or missing lining.
 - i. Lining cracks or voids of 1/16" in width observable on the edge of the lining.
 - ii. Portions of a lining segment missing such that a fastening device (rivet or bolt) is exposed when viewing the lining from the edge.
 - iii. Cracks that exceed 1-1/2" in length.
 - iv. Loose lining segments. (Approximately 1/16" or more movement.)
 - v. Complete lining segment missing. (38-393.47)
 - (b) Evidence of oil seepage into or out of the brake lining/drum interface area. This must include wet contamination of the lining edge accompanied by evidence that further contamination will occur - such as oil running from the drum or a bearing seal.

NOTE: Grease on the lining edge, back of shoe, or drum edge and oil stains with no evidence of fresh oil leakage are not conditions for out-of-service. (38-393.47)

(c) Lining with a thickness less than 3/16 inch for a shoe with a continuous strip of lining or 1/4 inch for a shoe with two pads for drum brakes or to wear indicator if lining is so marked, or less than 1/8 inch for air disc brakes, and 1/16 inch or less for hydraulic, disc, drum and electric brakes. (38-393.47)

(7) Missing brake on any axle required to have brakes. (38-393.42)

b. Steering Axle Brakes

In addition to being included in the 20 percent criterion, the following criteria places a vehicle in an out-of-service condition:

- (1) Absence of effective braking action on any steering axle of any vehicle required to have steering axle brakes, including the dolly and front axle of a full trailer. (38-393.48(a))
- (2) Mismatch across any power unit steering axles of:
 - (a) Air chamber sizes. (38-396.3(a)(1))
 - (b) Slack adjuster length. (38-396.3(a)(1))
- (3) Brake linings or pads on the steering axle of any power unit:
 - (a) Cracked, loose, or missing lining.
 - i. Lining cracks or voids of 1/16" in width observable on the edge of the lining.

ii. Portions of a lining segment missing such that a fastening device (rivet or bolt) is exposed when viewing the lining from the edge.

iii. Cracks that exceed 1-1/2" in length.

iv. Loose lining segments. (Approximately 1/16" or more movement.)

v. Complete lining segment missing. (38-393.47)

(b) Evidence of oil seepage into or out of the brake lining/drum interface area. This must include wet contamination of that lining edge accompanied by evidence further contamination will occur -- such as oil running from the drum or bearing seal.

NOTE: Grease on the lining edge, back of shoe, or drum edge and oil stains with no evidence of fresh oil leakage are not conditions for out-of-service. (38-393.47)

(c) Lining with a thickness less than 3/16 inch for a shoe with a continuous strip of lining or 1/4 inch for a shoe with two pads for drum brakes or to wear indicator if lining is so marked, or less than 1/8 inch for air disc brakes, and 1/16 inch or less for hydraulic disc, drum and electric brakes. (38-393.47)

c. Parking Brakes

(1) Inoperable breakaway braking system on trailer(s).

(NOTE: No trailer brake application upon actuation of the parking brake control indicates an inoperable breakaway braking system.) (See item (i), page 17) (38-393.43(d))

(2) Any non-manufactured holes or cracks in the spring brake housing section of a parking brake. (38-396.3(A)(1))

d. Brake Drums or Rotors

(1) Drums with any external crack or cracks that open upon brake application.

(NOTE: Do not confuse short hairline heat check cracks with flexural cracks.) (38-396.3(a)(1))

(2) Any portion of the drum or rotor (discs) missing or in danger of failing away. (38-396.3(A)(1))

e. Brake Hose

(1) Hose with any damage extending through the outer reinforcement ply. (Rubber impregnated fabric cover is not a reinforcement ply.) (Thermoplastic nylon may have braid reinforcement or color difference between cover and inner tube. Exposure of second color is out-of-service.) (38-396.3(a)(1))

(2) Bulge/swelling when air pressure is applied. (38-396.3(a)(1))

(3) Hose with audible leak at other than a proper connection. (38-396.3(a)(1))

(4) Two hoses improperly joined such as a splice made by sliding the hose ends over a piece of tubing and clamping the hose to the tube. (38-393.46)

(5) Air hose cracked, broken, or crimped in such a manner as to restrict air flow. (38-393.45(a)(4))

f. Brake Tubing

(1) Tubing with an audible leak at other than a proper connection. (38-396.3(a)(1))

(2) Tubing cracked, damaged by heat, broken, or crimped. (38-396.46(f))

g. Low Pressure Warning Device

Low pressure warning device missing, inoperative, or does not operate at 55 psi and below, or 1/2 the governor cut-out pressure, whichever is less.

NOTE: If either an audible or visual warning device is working, vehicle should not be placed out-of-service. (38-393.51)

h. Air Loss Rate

If an air leak is discovered and the reservoir pressure is not maintained when:

- (1) Governor is cut-in;
- (2) Reservoir pressure is between 80 & 90 psi;
- (3) Engine is at idle; and
- (4) Service brakes are fully applied. (38-396.3(a)(1))

i. Tractor-Protection System

Inoperable or missing tractor protection valves on power unit. (38-393.43) (See item (c)(1), page 15.

j. Air Reservoir

Air reservoir security; separated from its original attachment points. (38-393.50)

k. Air Compressor

(Normally to be inspected when readily visible or when conditions indicate compressor problems)

- (1) Loose compressor mounting bolts. (38-396.3(a)(1))
- (2) Cracked, broken, or loose pulley. (38-396.3(a)(1))
- (3) Cracked or broken mounting brackets, braces, or adapters. (38-396.3(a)(1))

l. Electric Brakes

(1) Absence of braking action on 20 percent or more of the braked wheels of a vehicle or combination of vehicles. (38-393.48(a))

(2) Missing or inoperable breakaway braking device. (38-393.48(d))

m. Hydraulic Brakes

Including: Power Assist over Hydraulic and Engine Driven Hydraulic Booster)

- (1) No pedal reserve with engine. (38-396.3(a)(1))
- (2) Master cylinder less than 1/4 full.

(NOTE: Normally to be inspected when readily visible or problems are apparent.) (38-396.3(a)(1))

- (3) Power assist unit fails to operate. (38-396.3(a)(1))
- (4) Seeping or swelling brake hose(s) under application of pressure. (38-396.3(a)(1))
- (5) Missing or inoperable breakaway braking device. (38-393.43)
- (6) Hydraulic hose(s) abraded (chafed) through outer cover-to-fabric layer. (38-393.45)
- (7) Fluid lines or connections restricted, crimped, cracked, or broken. (38-396.3(a)(1))
- (8) Any visually observed leaking hydraulic fluid in the brake system upon full application. (38-396.3(a)(1))
- (9) Hydraulic System: Brake failure light/low fluid warning light on and/or inoperative. (38-393.51)

n. Vacuum System

(1) Insufficient vacuum reserve to permit one full brake application after engine is shut off. (38-393.50)

(2) Vacuum hose(s) or line(s) restricted, abraded (chafed) through outer cover-to-ply, crimped, cracked, broken, or has collapse of vacuum hose(s) when vacuum is applied. (38-396.3(a)(1))

2. Coupling Devices (When in use.)

a. Fifth Wheels (Lower Coupler Assembly)

(1) Mounting to frame.

(a) More than 20 percent of fasteners on either side missing or ineffective. (38-393.70)

(b) Any movement between mounting components. (38-393.70)

(c) Any mounting angle iron cracked or broken.

SPECIAL NOTE: Any repair cracking, well defined (especially open) cracks in stress or load-bearing areas, cracks through 20 percent or more original welds or parent metal. (38-393.70)

(2) Mounting plates & pivot brackets.

(a) More than 20 percent of fasteners on either side missing or ineffective. (38-393.70)

(b) Any welds or parent metal cracked.

SPECIAL NOTE: Any repair weld cracking, well defined (especially open) cracks in stress or load-bearing areas, cracks through 20 percent or more original welds or parent metal. (38-393.70)

(c) More than 3/8 inch horizontal movement between pivot bracket pin and bracket. (38-393.70)

(d) Pivot bracket pin missing or not secured. (38-393.70)

(3) Sliders

(a) More than 25 percent of latching fasteners, per side, ineffective. (38-393.70)

(b) Any fore or aft stop missing or not securely attached. (38-393.70)

(c) Movement of more than 3/8 inch between slider bracket and slider base. (38-393.70)

(4) Operating handle.

Operating handle not in closed or locked position. (38-393.70)

(5) Fifth wheel plate.

Cracks in fifth wheel plate. (38-393.70)

(SPECIAL NOTE:) Any repair weld cracking, well defined (especially open) cracks in stress or load-bearing areas, cracks through 20 percent or more original welds or parent metal.

EXCEPTIONS: (1) Cracks in fifth wheel approach ramps, and (2) casting shrinkage cracks in the ribs of the body of a cast fifth wheel.

(6) Locking mechanism

Locking mechanism parts missing, broken, or deformed to the extent the kingpin is not securely held. (38-393.70)

b. Upper Coupler Assembly (Including kingpin)

(1) Horizontal movement between the upper and lower fifth wheel halves exceeds 1/2 inch. (38-393.70)

(2) Kingpin can be moved by hand in any direction.

NOTE: This item is to be used when uncoupled semitrailers are encountered, such as at a terminal inspection, and it is impossible to check item (1) above. Kingpins in coupled vehicles are to be inspected using items (1) above and items (3) and (4) below. Vehicles are not to be uncoupled. (38-393.70)

(3) Kingpin not properly engaged. (38-393.70)

(4) Any semitrailer with a bolted upper coupler having fewer effective bolts than shown in the following table: MINIMUM TOTAL QUANTITY OF BOLTS (Total minimum quantity of bolts must be equally divided with 1/2 on each side of the coupler.)

BOLT SIZE	
1/2 inch	5/8 inch or larger
10 - (5 each side)	8 - (4 each side)

Note: This bolt size table applies to trailers having a 68,000 lbs. maximum gross vehicle weight rating (GVWR). Such trailers are typically used in tractor-semitrailer combinations with a maximum gross combination weight rating (GCWR) of 80,000 lbs. It is based on Truck Trailer Manufacturers Association Technical Bulletin No. 110 (TB 110) "Upper Coupler Attachment Bolts for Trailers with Repositionable Upper Couplers (4/1/98)". Table 1 in TB 110 also has specifications covering trailers with an 85,000 lbs. and 105,000 lbs. GVWR.

(5) Any welds or parent metal cracked.

SPECIAL NOTE: Any repair weld cracking, well defined (especially open) cracks in stress or load-bearing areas, cracks through 20 percent or more original welds or parent metal. (38-393.70)

c. Pintle Hooks

Mounting and integrity

(1) Loose mounting, missing or ineffective fasteners, or insecure latch. (Trailer - 38-393.70(c), Driveaway -38-393.71)

NOTE: A fastener is not considered missing if there is an empty hole in the device but no corresponding hole in the frame and vice versa.

(2) Cracks anywhere in the pintle hook assembly including mounting surface and frame cross member. (Trailer - 38-393.70(c), Driveaway - 38-393.71)

(3) Any welded repairs to the pintle hook assembly. (Trailer - 38-393.70(c), Driveaway - 38-393.71)

(4) Section reduction visible when coupled.

NOTE: No part of the horn should have any section reduced by more than 20 percent. If wear can be seen when the hook and eye are coupled it is probable that either this condition or that described below in "d.(4)" exists. (Trailer - 38-393.70(c), Driveaway - 38-393.71)

d. Drawbar Eye

Mounting and integrity.

(1) Any cracks in attachment welds or drawbar eye. (trailer - 38-393.70(c), Driveaway - 38-393.71)

(2) Any missing or ineffective fasteners. (Trailer - 38-393.70(c), Driveaway - 38-393.71)

(3) Any welded repairs to the drawbar eye. (Trailer - 38-393.70(c), Driveaway - 38-393.71)

(4) Section reduction visible when coupled.

NOTE: No part of the eye should have any section reduced by more than 20 percent. If wear can be seen when the hook and eye are coupled, it is probable that either this condition or that described above in "c.(4)" exists. (Trailer - 38-393.70(c), Driveaway - 38-393.71)

e. Drawbar/Tongue

(1) Slider (power/manual).

(a) Ineffective latching mechanism. (Trailer - 38-393.70(c), Driveaway - 38-393.71)

(b) Missing or ineffective stop. (Trailer-38-393.70(c), Driveaway - 38-393.71)

(c) Movement of more than 1/4 inch between slider and housing. (Trailer 38-393.70(c), Driveaway - 38-393.71)

(d) Any leaking air or hydraulic cylinders, hoses, or chambers (other than slight oil weeping normal with hydraulic seals). (Trailer - 38-393.70(c), Driveaway - 38-393.71)

(2) Integrity.

(a) Any cracks. (Trailer - 38-393.70(c), Driveaway - 38-393.71)

(b) Movement of 1/4 inch between sub frame and drawbar at point of attachment. (Trailer - 38-393.70(c), Driveaway - 38-393.71)

f. Safety Devices

(1) Missing (38-393.70(c))

(2) Unattached or incapable of secure attachment. (38-393.70(c))

(3) Improper repairs to chains and hooks including welding, wire, small bolts, rope & tape. (38-393.70(c))

g. Saddle mounts

(1) Any missing or ineffective fasteners. (38-393.71)

(2) Loose mountings. (38-393.71)

(3) Any cracks or breaks in a stress or load-bearing member. (38-393.71)

(4) Horizontal movement between upper & lower saddle mount halves exceeds 1/4 inch (6mm). (38-393.71)

h. Full Trailer (Double Ring, Ball-Bearing Turntable)

(1) Mounting Top and Bottom

(a) Top flange has less than 7 effective bolts. (38-393.70(c))

(b) Bottom flange has less than 7 effective bolts. (38-393.70(c))

(c) Twenty percent or more of original welds (or repaired original welds), or parent metal cracked. (38-393.70(c))

(2) Wear (See illustration below).

(a) Upper flange half touching lower flange half. (38-393.70(c))

(b) Cracked flanges. (38-393.70(c))

3. Exhaust System

(a) Any exhaust system leaking at a point forward of or directly below the driver/sleeper compartment and when the floor pan is in such condition as to permit entry of exhaust fumes. (38-393.83(e))

(b) Any bus exhaust system leaking or discharging under the chassis more than 6 inches forward of the rear most part of the bus when powered by a gasoline engine, or more than 15 inches forward of the rear most part of the bus when powered by other than a gasoline engine. (38-393.83(d))

(c) No part of the exhaust system of any motor vehicle shall be so located as to be likely to result in burning, charring, or damaging the electrical wiring, the fuel supply, or any combustible part of the motor vehicle. (38-393.83(a))

4. Frame

a. Frame Members

(1) Any cracked, loose, sagging, or broken frame member permitting shifting of the body onto moving parts or other condition indicating an imminent collapse of the frame. (Bus, truck, truck tractor - 38-393.201(a), Trailers - 38-396.3(a)(1))

(2) Any cracked, loose, or broken frame member adversely affecting support of functional components such as steering gear, fifth wheel, engine, transmission, body parts, and suspension. (Bus, truck, truck tractor - 38-393.201(a), Trailers - 38-396.3(a)(1))

(3) One and one-half inches or longer crack in frame web which is directed toward bottom flange. (Bus, truck, truck tractor - 38-393.201(a), Trailers - 38-396.3(a)(1))

(4) Any crack extending from the frame web around the radius and into the bottom flange. (Bus, truck, truck tractor - 38-393.201(a), Trailers - 38-396.3(a)(1))

(5) One inch or longer crack in bottom flange. (Bus, truck, truck tractor - 38-393.201(a), Trailers - 38-396.3(a)(1))

NOTE: Items (1) and (2) above, apply to all buses including those having unitized (Monocoque) construction. Items (3), (4), and (5) apply only to buses having a body-on-chassis design, such as most school buses.

b. Tire and Wheel Clearance

Any condition, including loading that causes the body or frame to be in contact with a tire or any part of the wheel assemblies, at the time of inspection. (38-396.3(a)(1))

c. Adjustable Axle

(1) Adjustable axle assembly (sliding sub frame) with more than one-fourth of the locking pins missing or not engaged. (38-393.207(b))

(2) Locking bar not closed or not in the locked position. (38-393.207(b))

5. Fuel System

a. Liquid Fuels

(1) A fuel system with a dripping leak at any point (including refrigeration or heater fuel systems). (38-393.67)

(2) A fuel tank not securely attached to the vehicle

NOTE: Some fuel tanks use spring or rubber bushings to permit movement. (38-393.65)

6. Headlamps, Tail Lamps, Lamps on Projecting Loads, Stop Lamps and Turn Signals

a. When lights are required

(1) Headlamps - The single vehicle or towing vehicle does not have at least one head lamp operative on low beam. (38-393.24(b)), (38-393.17), (38-393.9-inoperable)

(2) Lamps on Rear - Bus, truck, truck tractor, and towed vehicle (including driveaway/towaway operation) not having at least one steady burning tail lamp on the rear of the rear most vehicle visible from 500 feet. (38-393.25(b)), (38-393.9-inoperable)

(3) Lamps on Projecting Loads - There is not at least one operative steady burning lamp on the rear of loads projecting more than four feet beyond the vehicle body, visible from 500 feet. (38-393.11), (38-393.17), (38-393.9-inoperable)

b. At Anytime – Day or Night

(1) Does not have at least one operative stop lamp on the rear of a single unit vehicle or the rear of the rear most vehicle of a combination of vehicles visible at 500 feet. (38-393.25(f)), (38-393.17), (38-393.9 – inoperable)

(2) Does not have operative turn signal visible on each side of the rear of a single unit vehicle or the rear of the rear most vehicle of a combination of vehicles. (Truck tractors unless the turn signals on the front are so constructed (double faced) and located as to be visible to passing drivers, two turn signals on the rear of the cab, one at each side.). (38-393.9-inoperable), (38-393.11-missing)

7. Safe Loading/Tie Downs

a. Part(s) of a vehicle or condition of loading such that the spare tire or any part of the load, cargo or dunnage can fall onto the roadway. (38-392.9)

b. When the aggregate working load limit of the securement devices being used is less than half the weight of the cargo being secured. (38-393.106(d))

NOTE: Equivalent means of securement (e.g., vehicle structures, dunnage, dunnage bags, shoring bars, etc.) may be used to comply; not all cargo must be “tied down” with chains, webbing, wire rope, cordage, etc. (38-393.106(b))

c. No edge protection. (38-393.104(f)(5))

NOTE: Out-of-Service only when the required tie down has evidence of damage resulting from an unprotected contact with an article of cargo.

NOTE: See sections 7(h)(1) through 7(h)(5) for tie down defect classification.

d. Articles of cargo that are likely to roll are not restrained by chocks, wedges, a cradle or other equivalent means to prevent rolling. (38-393.106(c)(1)) for all types of cargo including light-weight vehicles, 38-393.130(a) for heavy vehicles, equipment and machinery.)

e. Articles or cargo placed beside each other and secured by transverse tie-downs are not in direct contact with each other and are not prevented from shifting towards each other while in transit. (38-393.106(c)(2))

f. Articles or cargo not blocked or positioned to prevent movement in the forward direction by a headerboard, bulkhead, other cargo that is positioned to prevent movement, or other appropriate blocking devices, is not secured by at least:

(1) One tie-down for articles 5 feet (1.5m) or less in length, and 1,100 pounds (500kg) in weight (38-393.110(b)(1));

(2) Two tie-downs if the article is:

(a) 5 feet (1.5m) or less in length and more than 1,100 pounds in weight (38-393.110(b)(2)(i)); or

(b) Longer than 5 feet (1.5m) but less than or equal to 10 feet (3m) in length, irrespective of the weight. (38-393.110(b)(2)(ii))

(3) Two tie-downs if the article is longer than 10 feet (3) and one additional tie-down for every 10 feet (3m) of article length, or fraction thereof, beyond the first 10 feet (3m) of length. (38-393.110(b)(3))

g. Article(s) or cargo that is blocked, braced, or immobilized to prevent movement in the forward position by a headerboard, bulkhead, other articles which are adequately secured or by an appropriate blocking or immobilization method, is not secured by at least one tie-down for every 10 feet (3) of article length, or fraction thereof. (38-393.110)

h. When any of the required type and number of tie-downs are defective or loose. (38-393.104(b) – Defective, 38-393.104(f) – Loose)

(1) Chain Defects

(a) Broken, cracked, twisted, bent, or stretched links. (38-393.104(b))

(b) Containing nicks, gouges, abrasions, excessive wear, or knots. (38-393.104)

(c) Any weld(s) on chain, except the original chain weld in each link. (38-393.104(f)(2))

NOTE: Repairs. Links of the clevis variety, having a strength equal to or greater than the nominal chain are acceptable (See also Tie-Down Guidelines.)

(2) Wire Rope Defects.

(a) Kinks, bird caging, or popped core or knots in the working section of the wire rope. (38-393.104(b), 38-393.104(f)(1))

(b) Discoloration from excessive heat or electric arc in the eye or main body of the wire rope. (38-393.104(b))

(c) Corrosion with pitting of the external or internal wires. (38-393.104(b))

(d) More than 11 broken wires in 6 diameters of length. For example, with 1/2 inch (13mm) wire rope, over 11 broken wires in (6x1/2) 3 inches of length (6x13=78mm). (38-393.104(b))

(e) More than three broken wires in any one strand. (38-393.104(b))

(f) More than two broken wires at the end connection or fitting. (38-393.104(b))

NOTE: Repairs. Wire rope used in tie-down assemblies shall not be repaired or spliced. (Back splices and eye splices are acceptable.)

(3) Cordage (fiber rope) Defects

(a) Burned or melted fibers except on heat-sealed ends. (38-393.104(b))

(b) Evidence of excessive wear in exterior or interior fibers. (38-393.104(b))

(c) Any evidence of loss of strength, such as a marked reduction in diameter. (38-393.104(b))

(d) Ineffective knots formed for the purpose of connecting or repairing binders. (38-393.104(f)(1))

* NOTE: Effective diameter of the cordage reduced by 20 percent is excessive. Repairs: Cordage used in tie-down assemblies shall not be repaired. (Separate lengths of cordage properly spliced together are not considered repairs.)

(4) Synthetic Webbing Defects.

(a) The tie-down contains cut(s), burn(s), and/or hole(s) through the webbing which total more than that shown in the defect classification table. (38-393.104(b))

(b) The tie-down contains separation its load carrying stitch pattern(s) in excess of 1/4 of the total stitch area. (38-393.104(b))

(c) The tie-down contains any fitting, tensioning device, or hardware which is broken, obviously sprung, bent, twisted, or contains visible cracks or significant nicks or gouges. (38-393.104(b))

(d) The tie-down contains knotted webbing splices, repairs, or any other apparent defects (i.e., crushed areas, damaged loop ends, severe abrasion, etc.) (38-393.104(f)(2))

DEFECT CLASSIFICATION TABLE

Total Defect Size

<u>Web Size</u>	<u>Out-of-Service Range</u>
Inches (mm)	Inches (mm)
4(100)	Larger than 3/4(19)
3(75)	Larger than 5/8(16)
2(50)	Larger than 3/8(10)
1.75(45)	Larger than 3/8(10)

All cuts, burns, and/or holes through the webbing are additive across the width of the strap face for its entire effective length. But only one defect is additive for any specific width.

NOTE: Repairs: Webbing used in tiedown assemblies shall not be repaired or spliced.

(5) Fittings or Attachment Defects.

(a) Obvious reduction of section through wear or corrosion. (38-393.104(b))

(b) Obviously distorted or stretched load binders and fittings. (38-393.104(b))

(c) Hooks opened in the throat beyond the original parallel throat opening. (38-393.104(b))

(d) Obvious twisting out of the plane of the fitting. (38-393.104(b))

(e) Welding or discoloration from excessive heat. (38-393.104(b))

NOTE: Some winches are designed to be welded to the truck bed.

(f) Any visible cracks. (38-393.104(b))

(g) Any slippage detectable at a wire rope "cable clamp". (38-393.104(f)(2))

NOTE: End fittings may be replaced with clevis type.

(6) Anchor Point Defects

(a) Broken or cracked side or pocket rails, supports, or welds. (38-393.104(c))

(b) Rails bent or distorted where hooks or fittings attach. (38-393.104(c))

(c) Floor rings nicked, gouged, worn, twisted, bent, stretched, or with broken welds. (38-393.104(c))

(d) Logs not secured per the specific securement requirements for this commodity type. (38-393.116)

(e) Dressed lumber or similar building products not secured per the specific securement of requirements for this commodity type. (38-393.118)

(f) Automobiles, light trucks and vans not secured per the specific securement requirements for this commodity type. (38-393.128)

(g) Heavy vehicles, equipment and machinery not secured per the specific securement requirements for this commodity type. (38-393.130)

8. Steering Mechanism

a. Steering Wheel Free Play.

(See Chart: When any of these values - inch movement or degrees – are met or exceeded, vehicle shall be placed out- of-service.) (38-393.209(b)) (For power steering systems, engine must be running.)

Steering Wheel Diameter Movement 45°	Manual System Movement 30°	Power System
16"(41cm) more)	4-1/2"(11.5cm)(or more)	6-3/4"(17cm)(or
18"(46cm) more)	4-3/4"(12cm)(or more)	7-1/8"(18cm)(or
19"(48cm) more)	5" (13cm)(or more)	7-1/2"(19cm)(or
20"(51cm) more)	5-1/4"(13cm)(or more)	7-7/8"(20cm)(or
21"(53cm) more)	5-1/2"(14cm)(or more)	8-1/4"(21cm)(or
22"(56cm) more)	5-3/4"(15cm)(or more)	8-5/8"(22cm)(or

For power systems, if steering wheel movement exceeds 45 degrees before steering axle tires move, proceed as follows: rock steering wheel left to right between points of power steering valve resistance. If that motion exceeds 30 degrees (or the inch movement values shown for manual steering) vehicle shall be placed out-of-service.

b. Steering Column

- (1) Any absence or looseness of U-bolt(s) or positioning part(s). (38-393.209(c))
- (2) Worn, faulty, or obviously repair-welded universal joint(s). (38-393.209(d))
- (3) Steering wheel not properly secured. (38-393.209(a))

c. Front Axle Beam and All Steering Components other than Steering Column (Including Hub)

- (1) Any crack(s). (38-396.3(a)(1))
- (2) Any obvious welded repair(s). (38-396.3(a)(1))

d. Steering Gear Box

- (1) Any mounting bolt(s) loose or missing. (38-393.209(d))
- (2) Any crack(s) in gear box or mounting brackets. (38-393.209(d))
- (3) Any obvious welded repair(s). (38-393.209(d))
- (4) Any looseness of the pitman arm on the steering gear output shaft. (38-393.209(d))

e. Pitman Arm

- (1) Any looseness of pitman arm on the steering gear output shaft. (38-393.209(d))
- (2) Any obvious welded repair(s). (38-396.3(a)(1))

f. Power Steering

Auxiliary power assist cylinder loose. (38-393.209(e))

g. Ball and Socket

- (1) Any movement under steering load of a stud nut. (38-396.3(a)(1))
- (2) Any motion, other than rotational, between any linkage member and its attachment point of more than 1/8 inch (3mm) measured with hand pressure only. (38-396.3(a)(1))
- (3) Any obvious welded repair(s). (38-396.3(a)(1))

h. Tie Rods and Drag

- (1) Loose clamp(s) or clamp bolt(s) on tie rods or drag links. (38-396.3(a)(1))
- (2) Any looseness in any threaded joint. (38-396.3(a)(1))

i. Nuts

Loose or missing on tie rods, pitman arm, drag link, steering arm, or tie rod arm. (38-396.3(a)(1))

j. Steering System

Any modification or other condition that interferes with free movement of any steering component. (38-393.209(d))

k. C-Dolly

- (1) Missing or inoperable steering locks. (38-396.3(a))
- (2) Steering not centered in the "zero" locked position. (38-396.3(a))

9. Suspension

a. Axle Parts/Members

(1) Any U-bolt(s) or other spring to axle clamp bolt(s) cracked, broken, loose, or missing. (38-393.207(a))

(2) Any spring hanger(s), or other axle positioning part(s) cracked, broken, loose, or missing resulting in shifting of an axle from its normal position. (38-393.207(a))

NOTE: After a turn, lateral axle displacement is normal with some suspensions. Forward or rearward operation in a straight line will cause the axle to return to alignment.

b. Spring Assembly

(1) One-fourth or more of the leaves in any spring assembly broken. (38-393.207(c))

(2) Any leaf or portion of any leaf in any spring assembly is missing or separated. (38-393.207(c))

(3) Any broken main leaf in a leaf spring. (38-393.207(c))

NOTES:

1. Any leaf of a leaf spring assembly is a main leaf if it extends, at both ends, to or beyond:

- a. The load bearing surface of a spring hanger or equalizer.
- b. The spring end cap or insulator box mounted on the axle.
- c. A spring eye, further: Any leaf of a helper spring assembly is a helper main leaf if it extends, at both ends, to or beyond the load bearing surface of its contact pad, hanger, or equalizer.

2. The radius rod leaf, in springs having such a leaf, has the same function as the torque or radius components referenced in item 9.d "Torque, Radius, or Tracking Components" and should be treated as such a component for purposes of out-of-service. (38-393.207(c))

(4) Coil spring broken. (38-393.207(d))

(5) Rubber spring missing. (38-393.207(a))

(6) One or more leaves displaced in a manner that could result in contact with a tire, rim, brake drum, or frame. (38-393.207(c))

- (7) Broken torsion bar spring in torsion bar suspension. (38-393.207(e))
- (8) Deflated air suspension, (i.e., system failure, leak, etc), (38-393.207(f))

c. Composite Trailer

- (1) If a crack extends beyond $\frac{3}{4}$ the length of the spring, or if cracks, regardless of length, are visible on either side, and the top or bottom of the spring. (38-393.207(c))

NOTE: A crack is a separation in any axis which passes completely through the spring.

d. Torque, Radius, or Tracking Components

Any part of a torque, radius, or tracking or Tracking Components. component assembly or any part used for attaching same to the vehicle frame or axle that is cracked, loose, broken, or missing (including spring leaves used as a radius or torque rods, missing bushings but not loose bushings in torque or track rods).(38-393.207(a))

10. Tires

a. Any Tire On Any Steering Axle of a Power Unit

- (1) With less than $\frac{2}{32}$ inch tread when measured in any two adjacent major tread grooves at any location on the tire. (38-393.75(b))
- (2) When any part of the breaker strip or casing ply is showing in the tread. (38-393.75(a))
- (3) When sidewall is cut, worn, or damaged to the extent the ply cord is exposed. (38-393.75(a))
- (4) Labeled "Not For Highway Use" or carrying other markings which would exclude use on steering axles. (38-396.3(a)(1))

NOTE: Tires on implements of husbandry and special off-road equipment may be marked "Not For Highway Use" or "Farm Use Only". Out-of-service is not applicable if used on highway for short distances at restricted speeds.

- (5) Visually observable bump, bulge, or knot apparently related to tread or sidewall separation. (38-393.3(a)(1))

EXCEPTION: A bulge due to a section repair is allowed not to exceed $\frac{3}{8}$ " (1cm) in height. This bulge may sometimes be identified by a blue triangular label in the immediate vicinity.

- (6) Tire is flat or has noticeable (e.g., can be heard or felt) leak. (38-393.75(a)(3))
- (7) So mounted or inflated that it comes in contact with any part of the vehicle. (38-396.3(a)(1))
- (8) Steering Axle: Weight carried exceeds tire load limit. This includes overloaded tire resulting from low air pressure. (38-393.75(f))

b. All tires other than those found on the steering axle of a powered vehicle

- (1) Tire is flat or has noticeable (e.g., can be heard or felt) leak. 38-393.75(a)(3))
- (2) Bias Ply Tire: When more than one ply is exposed in the tread area or sidewall or when the exposed area of the top ply exceeds 2 square inches. NOTE: For single tire, one tire must meet this condition. On dual wheels, both tires must meet this condition. (38-393.75(a)(1))
- (3) Radial Ply Tire: When two or more plies are exposed in the tread area or damaged cords are evident in the sidewall or when the exposed area exceeds 2 square inches (13 sq. cm) in the sidewall. NOTE: For single tire, one tire must meet this condition. On dual wheels, each tire must meet this condition. (38-393.75(a)(1))

(4) Any tire with visually observable bump or than those found knot apparently related to tread or sidewall on the steering separation. (38-396.3(a)(1))

EXCEPTION: A bulge due to a section repair vehicle. is allowed not to exceed 3/8" (1cm) in height. The bulge may sometimes be identified by a blue triangular label in the immediate vicinity.

(5) So mounted or inflated that it comes in contact with any part of the vehicle. (This includes any tire contacting its mate in a dual set). (38-396.3(a)(1))

(6) Weight carried exceeds tire load limit. This includes overloaded tire resulting from low air pressure. (38-393.75(f)(1) and (2))

(7) So worn that less than 1/32 inch tread remains when measured in any two adjacent major tread grooves at 3 separate locations on the tire. EXCEPTION: On dual tires, both tires must have less than 1/32 inch tread. (38-393.75(c))

(8) 75 percent or more of the tread width loose or missing in excess of 12 inches (30 cm) in circumference. (38-396.3(a)(1))

11. Van and Open-Top Trailer Bodies

a. Upper Rail

(1) Broken with complete separation of the flange. (38-396.3(a)(1))

(2) Buckled or cracked when accompanied by missing, working (movement under stress) or loose fasteners at adjacent roof bows and/or side posts. (38-396.3(a)(1))

(3) Buckled or cracked when accompanied by broken, ineffective, or missing adjacent roof bows. (38-396.3(a)(1))

b. Lower Rail

(1) Broken with complete separation in the bay area accompanied by sagging floor, rail, or crossmember; or broken with loose, working (movement under stress) or missing fasteners at side posts adjacent to the crack. (38-396.3(a)(1))

NOTE: The lower rail of a van or open-top trailer can become gouged, chunked, or bent during operation. These are superficial damages only and do little to degrade the rail's strength or integrity.

(2) Drop frame trailers showing twists, bends, or fatigue cracking at the drop frame's elevation changes. (38-396.3(a)(1))

c. Floor Crossmembers

(1) Three or more adjacent broken, and/or completely detached from and sagging below the lower rail in the bay area. (38-396.3(a)(1))

(2) Broken floor accompanied by protruding freight and sagging crossmembers. (38-396.3(a)(1))

d. Side panels on fiberglass reinforced plywood (FRP) trailers

Damage in the bay area that penetrates completely through the fiberglass and plywood resulting in a sagging lower rail. (38-396.3(a)(1))

GENERAL NOTES: These notes apply to every portion (a, b, c, and d) of item 11.

(a) These conditions are only considered out-of-service if the failure is in the bay area (aft of kingpin coupler plate and forward of the axle sub frame rails)

(b) Trailers 30 feet or less in length have a short bay area and are not as susceptible to catastrophic failures; therefore, only rail breaks accompanied by a sagging floor, rail, or cross-member are out-of-service for them.

(c) Rail, post, bow, crossmember, and side/front panel damage in areas outside the bay area are not imminently hazardous and should not be considered out-of-service unless they lead to conditions described in other sections of the out-of-service criteria, (i.e., "10.a(7) Tires.")

12. Wheels and Rims

a. Lock or Side Ring

Bent, broken, cracked, improperly seated, sprung, or mismatched ring(s) (38-393.205(a))

b. Rim Cracks

Any circumferential crack except an intentional manufactured crack at a valve stem hole. (38-393.205(a))

c. Disc Wheel Cracks

(1) Any single crack 3" or more in length.

(2) A crack extending between any two holes including hand holes, stud holes, and center hole.

(3) Two or more cracks any place on the wheel. (38-393.205(a))

(4) Stud holes (disc wheels). 50 percent or more longated stud holes (fasteners tight). (38-393.205(b))

d. Stud Holes (Disc Wheels)

Fifty percent or more elongated stud holes (fasteners tight). (38-393.205(b))

e. Spoke Wheel Cracks

(1) Two or more cracks more than 1 inch long across a spoke or hub section. (38-393.205(a))

(2) Two or more web areas with cracks. 38-393.205(a))

f. Tubeless Demountable Adapter Cracks

Cracks at three or more spokes. (38-393.205(a))

g. Fasteners

Loose, missing, broken, cracked, or stripped (both spoke and disc wheels) ineffective as follows: for 10 fastener positions - 3 anywhere, 2 adjacent; for 8 fastener positions or less (including spoke wheels and hub bolts) - 2 anywhere. (38-393.205(c))

h. Welds

(1) Any cracks in welds attaching disc heel disc to rim. (38-393.205(a))

(2) Any crack in welds attaching tubeless demountable rim to adapter. (38-393.205(a))

(3) Any welded repair on aluminum wheel(s) on a steering axle. (38-396.3(a)(1))

(4) Any welded repair other than disc to rim attachment on steel disc wheel(s) mounted on the steering axle. (38-396.3(a)(1))

13. Windshield Wipers

Any power unit that has an inoperative wiper or missing or damaged parts that render it ineffective on the driver's side. (Applicable only in inclement weather requiring use of windshield wipers. (38-393.78)

Fiscal Impact: The Department anticipates no fiscal impact as a result of these regulations.

Statement of Rationale:

No reports or studies were relied upon in the drafting of this regulation. These regulations were based upon federal regulations and were drafted with input from industry members.