Commercial Motor Vehicle Enforcement Quarterly

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Captain's Corner

Captain Robert R. Powers, Jr.

Operation Safe Diver Debuts

A new Commercial Motor Vehicle Safety Initiative took place the week of October 22, 2007. Operation Safe Driver was a week-long enforcement initiative that focused on driver behaviors that have been shown to increase the likelihood of a crash.

Violations that officers focused on included: speed, lane usage, following too closely and other hazardous violations. Officers also paid close attention to ensure drivers of large trucks had the proper credentials and were in compliance with the hours of service regulations.

Operation Safe Driver is a new international enforcement initiative co-sponsored by the Commercial Vehicle Safety Alliance (CVSA) and the Federal Motor Carrier Safety Administration (FMCSA).

Busiest Border Crossing Gets Inspection Facility

On August 1, 2007, Michigan State Police Motor Carrier Officers began using a newly leased inspection facility near the Ambassador Bridge in Detroit. The new facility enables officers to conduct a comprehensive North American Level I Inspection in a safe environment away from traffic and the often inclement weather.

This facility is very important to an effective safety and security inspection program, given the extreme congestion at this international border crossing, the busiest such crossing in North America. On average, 7,000 – 8,000 trucks cross the Ambassador Bridge daily.

The 5,000 square foot inspection building, complete with an inspection pit, is made possible by a grant from the Federal Motor Carrier Safety Administration.

During the first month of operation (August 2007), Motor Carrier Officers conducted 606 Level I Inspections.

MACP Award Reminders

I have two reminders to pass along concerning the 2007 Michigan Association of Chiefs of Police (MACP) Awards for Excellence in Commercial Vehicle Safety. First, the deadline for applications is November 15, 2007. Second, due to budget constraints there will be no equipment prizes awarded this year.

Captain's Corner Continued

Award winners will be honored at the MACP mid-winter conference banquet on Thursday, February 7, 2008 in Grand Rapids. Award recipients will receive a handsome plaque to commemorate the agency's accomplishments.

For more information about this award and to download a nomination form please go to the following website: www.michiganpolicechiefs.org/page.cfm/431.

Inspections

Load Securement

With commercial motor vehicle (CMV) traffic increasing annually and our roads becoming more congested, load securement becomes more important every day. It is our responsibility to ensure CMV loads are safe and secure to prevent injury and undue delay on our roadways.

Section 257.720 of Act 300 establishes the load securement requirements for intrastate movement of vehicles loaded with logs and tubular products. The load securement requirements outlined in Sections 393.100 to 393.136 of the FMCSRs pertain to all other intrastate and interstate movements except logs and tubular products.

General Application

Realizing every specific type of cargo can not be addressed in the FMCSRs therefore, an officer must be familiar with the general cargo securement rules established in FMCSR Section 393.106.

Note: Cargo securement requirements by commodity type is found in Sections 393.116 thru 393.136 and shall be applied before the general cargo securement rules established in Section 393.106.

FMCSR Cargo Securement Explained

FMCSR Section 393.106 outlines the general cargo securement requirements and is supported by Sections 393.100 thru 393.112 to ensure proper load securement, tie down manufacturing, tie down placement, tie down working load limit (WLL), and requirements regarding cargo placement.

FMCSR Section 393.100 states all CMVs are subject to the general load securement requirement. It also establishes the necessity to prevent loss or shifting of cargo while transporting it upon public roadways.

FMCSR Section 393.102 establishes the minimum performance criteria for cargo securement devices and systems. It provides explanation of equivalent means of securement (e.g. transporting cargo in sided vehicles). It addresses the breaking strength of tie down assemblies and fastening devices. It also defines (WLL) of tie downs and the criteria used to determine the proper rating for securement devices.

FMCSR Section 393.104 defines the minimum standards for all securement devices including: vehicle structures, anchor points, and dunnage. It outlines manufacturing standards for all tie downs.

FMCSR Section 393.108 provides the WLL chart for all tie downs. FMCSR Sections 393.110 through 393.112 provide for cargo placement and additional tie down requirements for Section 393.106.

To apply the general cargo securement rules properly, an officer must understand tie down working load limit (WLL), aggregate WLL, tie down construction, tie down condition and tie down placement applications.

INSPECTIONS CONTINUED

Definition of Working Load Limit (WLL)

WLL can be defined as the maximum allowable weight given to a securement device based on its securement configuration and application. Using the following information for establishing tie down WLL and computing aggregate WLL will further enhance your understanding of why WLL application is critical to load securement.

Establishing Tie down WLL

An officer can use the manufacturer's label or the WLL table found in Section 393.108 to establish the WLL of all securement devices. **The cargo securement system is afforded the lowest WLL of any of its components** (including the hooks, tensioners and anchor points which are attached) whichever is less. An example of a properly marked chain:

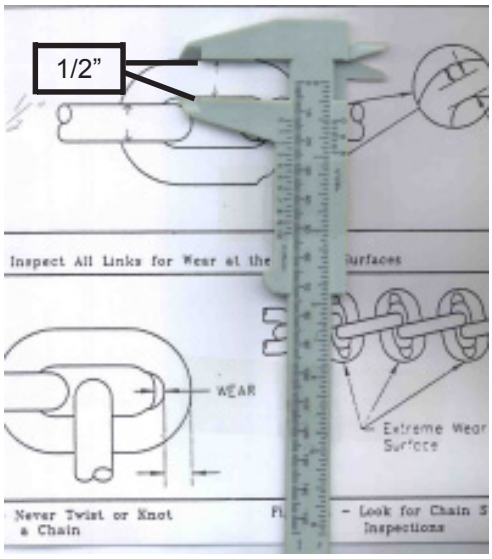
Chain Rating G-70

Chain/Hook Size 3/8"

Hook Rating G-70

The WLL on tensioners or binders can be established by manufacturer markings. If no manufacturing markings are present, measure the link on either end of the binder between the shank and hook and apply the lowest (proof coil) WLL.

Additionally, tie downs without clear markings will be granted the lowest rated value for a given type. (e.g. if the markings on a G-70 1/2" chain are not legible and unidentifiable the chain given the lowest (proof coil) WLL value of a G-30 1/2" chain (provided no damage was evident on the chain links or hooks).



To establish chain size and WLL you have to measure one side of an individual link as shown in this illustration.

Calibers are not required and a metal rule will work by placing the line on top of the rule to get the measurement.

Computing Aggregate WLL of Securement Systems

The Aggregate WLL (all tie downs added together) for tie downs used to secure an article or group of articles against movement **must total one-half of the weight of the article or group of articles** (e.g. If an article weighs 15,000 pounds the tie downs and securement devices must have an aggregate WLL of no less than 7,500 pounds.)

The aggregate working load limit is the sum of all tie downs used. The sum of each tie down is computed according to the anchoring method used. See the illustration below:

1. One-half the WLL of each tie down that goes from an anchor point on the vehicle to an anchor point on an article of cargo.

   Example: A chain rated G70 3/8" with an equally rated tensioner or binder is granted 6,600 pounds according to the table of WLL in Section 393.108. However, having the tie down anchored from the vehicle to the article would grant each tie down 3,300 pounds.

The aggregate WLL for the tie downs is 6,600 pounds.

2. One-half the WLL of each tie down that is attached to an anchor point on the vehicle, passes through, over or around the article of cargo, and is attached to an anchor point on the same side of the vehicle.

Example: A chain rated G30 1/2" is granted 4,500 pounds according to the table of WLL in Section 393.108. However, having the tie down anchored from the vehicle looped around the article and anchored to the vehicle on the same side of the object would reduce the tie down to 2,750 pounds.

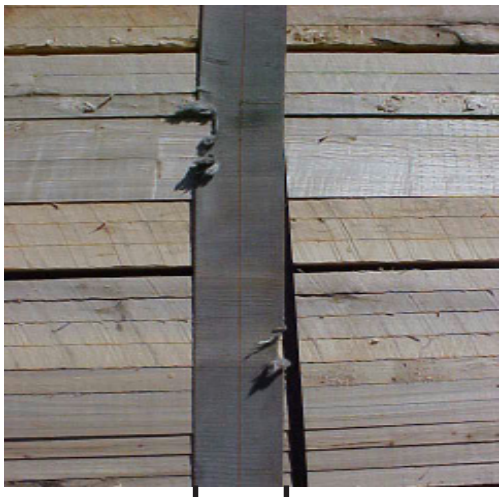
Pictured is one chain secured to the trailer wrapped around the stump back to the same side of the trailer.

3. The WLL for each tie down that goes from an anchor point on the vehicle, through, over or around the article of cargo, and then attaches to another anchor point on the other side of the vehicle.

Example: A synthetic strap 3" wide would be granted 3,000 pounds WLL. The aggregate WLL for the tie downs is 6,000 pounds.

4. The *tie down must be placed Out-Of-Service* when damage to the tie down exceeds the maximum allowed by the North American Standard Out-Of-Service (OOS) Criteria. The officer must refer to the OOS Criteria Defect Classification Table referenced in 393.104(b).

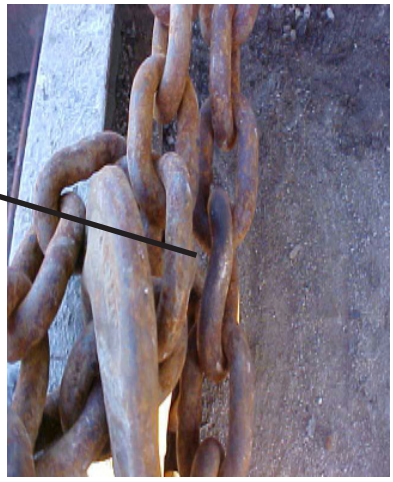
Examples: Using the North American Standard (NAS) OOS Criteria the following straps may result in a violation or the strap may be placed OOS and prohibited for load securement purposes.



The 3" strap above has two defects. The left defect measures 3/8" and the right defect 1/4" total defect value of 5/8". According to NAS OOS criteria this strap would be a violation, but not OOS.

The 3" strap above has one defect. The defect measures 1 1/2". The total defective value exceeds the maximum allowable of 3/4". According to the NAS OOS Criteria, this strap is OOS and would be removed from the aggregate WLL for the vehicle load tie downs.

Chain damage is easily identified when chain links close up and elongate or become twisted. The damage illustrated in these photos would result in an OOS condition.



Chains with broken, cracked, twisted, bent or stretched links are OOS. The NAS OOS Criteria references FMCSR Section 393.104(b).

Load securement is a vital part of highway safety, as it keeps cargo from spilling and provides vehicle and load stability during adverse driving conditions. We as officers have to approach load securement as a "Prepare for the worst; hope for the best" scenario. When faced with an opportunity to check load securement devices, we must all take the time necessary to check the aggregate WLL of tie downs and the condition of the tie downs. Your life and the life of your loved ones may depend on it!

Size and Weight

Determining Maximum Allowable Weight under Section 257.722(6)

Officers should not at any time physically measure the tread width of a tire. Section 257.722(6) of Act 300 states the normal size of tires shall be the rated size as published by the manufacturer and the maximum wheel load permissible for any wheel shall not exceed 700 pounds per inch of width of tire.

Example of the Manufacturer's Published Rating = 295/75R22.5

Tire Manufacturer's Table

If a tire is not listed in the manufacturers table that was provided to you, then use the code on the tire. The first three numbers always represent the manufacturer's rated width in millimeters. There are 25.4 millimeters in 1 inch. So for a tire rated at 295, the calculation would be done by dividing 295 by 25.4 = 11.61", for enforcement purposes 11". The officer can then use the 11" to calculate the maximum weight for that tire and axle, depending on the number of tires per axle. Tires found to be over the .50" above the whole number will be rounded down as shown above for enforcement purposes.

If you find a tire without any markings or legible manufacturer ratings please forward a photo to the Training Unit at TSD HQ.