



MONTGOMERY COUNTY FIRE AND RESCUE SERVICE  
MONTGOMERY COUNTY, MD.

DIVISION OF OPERATIONS  
DIRECTIVE

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TO: MCFRS Personnel

FROM: Division Chief Philip Guercio *Philip G. Guercio*

SUBJECT: Guidelines for the Use of Vehicle Snow Chains

The use of snow chains, and the criteria for when to apply them, varies widely throughout the County. Improperly applied snow chains have caused significant damage to apparatus and can delay unit response. This Division Directive provides guidance on the use of snow chains during various types of inclement weather.

MCFRS apparatus uses two types of chains: **permanently mounted or "automatic" chains**, and **standard removable chains**. *In addition, Bethesda Fire Department has used a cable version of the standard removable chain.*

**Permanently mounted or "automatic" chains**, are short lengths of snow chain attached to a small drive wheel, that when activated, contact the inside tire of the rear duals. Centrifugal force throws the lengths of chain under the tire. When they are needed, the chains are controlled, i.e., raised or lowered, from the apparatus cab. For best operation, these chains should be engaged *while the unit is moving slowly*. These chains work best when the apparatus can maintain slow but steady speeds, such as in shallow snow, or on intermittently clear or covered roadways. Permanently mounted or "automatic" chains *do not* work well in deep snow, or when driving conditions bring the apparatus to a crawl.

Original Equipment Manufacturer (OEM) guidelines must be followed for specific types of permanently mounted or "automatic" chains specifically related to driving speeds. Drivers **must raise** these chains whenever their use is not absolutely necessary, because driving at higher speeds for prolonged periods will destroy the drive wheel assembly first, and will then cause damage that may lead to catastrophic tire failure.

**Standard removable chains** are applied manually to the outside tire of the rear duals. They must be applied so that they are well distributed around the tire and fit snugly, using bungee-style tensioners. These chains perform better than permanently mounted or "automatic" chains in deep or heavily rutted snow and ice because they do not rely on centrifugal force to place them under the tire. Standard removable chains can be used at the same time as permanently mounted or

“automatic” chains because they affect different tires. Using both types at the same time increases the likelihood that a chain will be under the tread at any given time, and, therefore, increases traction. Unfortunately, standard removable chains can cause severe damage if they work loose or break. Units using these chains should secure all fold-over locking latches with lengths of coat hanger wire or mechanic’s wire, and carry these items on the vehicle to secure broken sections if a failure occurs. **Plastic cable ties are not preferred.** Occasionally, if the broken section can not be secured, the entire chain may have to be removed before a unit can continue its response.

**NOTE:** All drivers should be aware of OEM Guidelines concerning the function and use of Driver Controlled Differential Locks and Inter-Axle Differential Locks for tandem axle vehicles.

## Guidelines for Using Snow Chains

**When driving over 25 MPH using ANY type of snow chain, frequently reassess the need for their use.**

- 1. Less than 6 inches of snow on the ground, or predicted.** Use permanently mounted or “automatic” chains. ***Raise the chains on cleared pavement*** or when they are not needed for traction. Monitor weather forecast for changes that might produce more than six inches of snow, and be ready to apply standard removable chains if conditions worsen.
- 2. Six inches of snow on the ground with more falling or forecast.** Apply and use standard removable chains and ***raise*** the permanently mounted or “automatic” chains. Use permanently mounted or automatic chains only as needed, and raise them as soon as you regain traction.
- 3. Blizzard Conditions.** Apply and use standard removable chains. ***Do not use the permanently mounted or “automatic” chains unless you are stuck and have a tire that is spinning.*** Raise the permanently mounted or “automatic” chains as soon as you regain traction.
- 4. Ice.** Apply and use standard removable chains. ***Do not use the permanently-mounted or “automatic” chains unless you are stuck and have a tire that is spinning.*** Allow several times your normal stopping distance, and reduce speeds dramatically before entering turns. Carry sand, absorbent, or ice melt to improve traction in small work areas, and to help if you get stuck. Pay close attention to other vehicles moving near you. The front axle is usually lighter per square inch of tire surface, and will be the first to lose traction on ice.

***In ALL situations, if a removable chain breaks, STOP the unit as quickly as possible in a SAFE place.*** Notify ECC that you are out of service until you can repair or drop the chain. All units should carry a snow, scoop, or spoon shovel to clear snow from under the unit if a repair is necessary.

All personnel must monitor the condition of the roadways in their response area for

changes throughout their shift, and report these changes to the on-duty station officer. Station officers must ensure this monitoring occurs periodically throughout the night. All personnel must remember that changes in road conditions may require the application and removal of chains more than once during a shift. The on-duty station officer has the authority to order the application of snow chains. When the station officer determines that chains are needed, he or she will immediately notify the on-duty Battalion Chief and the LFRD representative. Battalion- or County-wide snow chain use will be ordered by the Duty Operations Chief, and communicated through the on-duty Battalion Chiefs.

***As a general rule, units running with standard removable chains should not drive on the Interstate Highways because of their speed restriction.*** Their significantly reduced speed on the Interstate will cause one hazard, while driving at higher speeds with the chains on will cause another. This will impact the patient transport practices of EMS units serving the northern County stations. *On-duty station officers and Battalion Chiefs should consider using one type of chained vehicle to access patients and remove them to cleared roads where they can be transferred to an unchained unit for transport. Notify ECC of your intended strategy.*

Please address questions concerning this Directive to Assistant Chief Steve Lohr at 240 777 2451.