



**MONTGOMERY COUNTY FIRE AND RESCUE SERVICE
MONTGOMERY COUNTY, MD.**

Fire Chief's General Order

Rescinded 02/06/12

December 1, 2008

NUMBER: 08- 17

TO: MCFRS Personnel

FROM: Acting Fire Chief Richard R. Bowers 

SUBJECT: Winter Driving and the Use of Vehicle Snow Chains

This General Order provides guidance on winter driving and the use of snow chains during various types of inclement weather. The use of, and criterion for when to apply snow chains, will vary throughout the County because of the disparate local weather conditions at a given time. Improperly applied snow chains have caused significant damage to apparatus and can delay unit response time. Risks to personnel and the apparatus should be calculated before attempting to access areas that have not been cleared of snow. Occasionally, parking apparatus farther from an incident and proceeding to the scene on foot should be considered. Remember that snow banks may contain ice and debris, and often disguise obstructions, e.g., rocks, hydrants, posts, etc.

Station Commanders must ensure that standard removable crosslink chains are in the station for the winter season, including:

- correct quantities and sizes for all apparatus, including a set of chains per axle for all tandem axle vehicles;
- chains/links in proper working order;
- repair materials available on each unit and in station; and
- tools readily available for the application and repair of snow chains.

All-Wheel Steer (AWS) aerials are not equipped with automatic chains and the original equipment assembler (OEA) prohibits the use of standard removable crosslink chains.

Tandem axle vehicles are not purchased with automatic chains. Our current fleet of tandem axle vehicles includes: engine-tankers, tankers, aerials, and rescue squads. The combination of weight, automatic traction control (ATC), inter-axle lock and differential lock features should allow these vehicles to handle the majority of snow events without standard removable crosslink chains.

Note that all new, County-owned Spartan chassis vehicles are equipped with ATC. This is a standard feature and integral to the anti-lock braking system (ABS). ATC operates automatically by reducing drive wheel over-spin and by reducing motor power if drive wheels do spin. If manual activation of the ATC feature is required, it is a momentary switch (also known as the "Deep Snow and Mud switch") and, when active, a flashing or

solid indicator light will appear in the console. The switch will reset' automatically when the 'traction condition' is corrected.

MCFRS apparatus uses two types of snow chains: automatic chains and standard removable crosslink chains.

This General Order complies with OEA guidelines for using automatic chains. Drivers *must raise* automatic chains whenever their use is not absolutely necessary, because driving at higher than recommended speeds for prolonged periods will destroy the drive wheel assembly first, and then will cause damage that may lead to catastrophic tire failure.

Automatic chains are short lengths of snow chain attached to a small drive wheel that, when activated, contacts the inside tire of the rear duals. Centrifugal force throws the lengths of chain under the tire. The chains are controlled (raised or lowered) by the driver/operator. For effective operation, these chains should be engaged while the unit is moving between 3-25 mph. These chains work best when the apparatus can maintain slow, but steady speeds, such as in shallow snow, or on intermittently clear/covered roadways. Automatic chains *do not* work well in accumulations over six inches of snow or when driving conditions do not permit apparatus speed to exceed approximately five mph.

Standard removable crosslink chains are applied manually to the outside tire of the rear duals. The chains must be well distributed around the tire to fit snugly, using bungee-style tensioners. These chains perform better than automatic chains in deep or heavily rutted snow and ice because they do not rely on centrifugal force to be placed under the tire. Standard removable crosslink chains can be used at the same time as automatic chains because they operate on different tires. Using both types of chains at the same time increases the likelihood that a chain will be under the tread at all times, therefore increasing traction. Standard removable crosslink chains can cause severe damage if they work loose or break. Units using these chains should secure all fold-over locking latches with sixteen gauge mechanic's wire, or equal, and carry this item on the vehicle to secure broken sections if a failure occurs. ***If the broken section can not be secured, the entire chain must be removed before a unit can continue its response.***

All personnel must monitor the condition of the roadways in their response area, throughout the shift, and report any change in road conditions to the station officer. Station officers must ensure monitoring occurs throughout the entire shift. All personnel must remember that changes in road conditions may require that chains be applied and removed more than once during a shift. The station officer has the authority to order the application of snow chains. When the station officer determines that chains are needed, he/she will immediately notify the 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 Battalion Chiefs and LFRD Chiefs.

Do not exceed 30 MPH using **ANY** type of snow chain or when the inter-axle lock is engaged. Frequently assess the need for continued chain use while driving. Carry sand, absorbent, or ice melt to improve traction in small work areas, and to help if the vehicle becomes stuck and unable to move. Pay close attention to vehicles moving near you.

1. **Less than six inches of snow on the ground, or predicted:** Use automatic chains. ***Raise the chains on cleared pavement*** or when they are not needed for traction. Monitor weather forecasts for changes that might produce more than six inches of snow, and be ready to apply standard removable crosslink chains if conditions worsen.

2. **Six inches of snow on the ground with expected continued accumulation:** Apply and use standard removable crosslink chains and *raise* the automatic chains. Use automatic chains only as needed, and raise them as soon as you regain traction. AWS functions should be disabled under these conditions.

3. **Blizzard Conditions:** The Operations Division will coordinate with the Apparatus Section to call back maintenance personnel, and provide additional resources or amended response plans for tandem axle vehicles as necessary. Apply and use standard removable crosslink chains. **Do not use automatic chains unless you are stuck and have a tire that is spinning.** Raise the automatic chains as soon as you regain traction. AWS functions should be disabled under these conditions.

4. **Icy Conditions:** Apply and use standard removable crosslink chains. **Do not use automatic chains unless you are stuck and have a tire that is spinning.** AWS functions should be disabled under these conditions.

In ALL situations, if a standard removable crosslink 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 remove the chain. All units ***must*** carry a snow, scoop, or spoon shovel to clear snow from under the unit if a repair is necessary.

Units running with standard removable crosslink chains should not drive on cleared Interstate Highways. Significantly reduced speed on the Interstate Highway will cause one hazard, while driving at higher speeds with the chains applied may cause another. This will impact the patient transport practices of EMS units serving the up-County stations. *Station officers, LFRD Chiefs, 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. Remember to notify ECC of your intended strategy.*

Please address any questions to Battalion Chief Leslie Cook at 240-777-2215.