Winter Weather Vehicle Operations

This material is intended for a rapid review of winter storm activities related to apparatus and may not be comprehensive.

Additional resources are available through Fleet Services and Driver Training.
Preparation

• Know your apparatus before the storm
  • Climate controls and mirror heaters
  • Refresh apparatus systems
    • all-wheel drive
    • automatic chains
    • inter-axle locks
    • differential locks
    • automatic traction control.
  • Typical handling characteristics – talk to experienced people about the vehicle

• Clean the windows, clear the defroster, top off the washer fluid

• Put a snow shovel, ice melt, and ice scraper on the unit
  • The shovel will be handy on responses to clear walkways too

• Personal
  • Stay hydrated and nourished
  • Keep spare clothes, spare gloves, good footwear
Preparation – Snow Chains

- Know the various options for snow chains and their installation methods
  - Automatic (On-Spot) – flip a switch
  - Standard – install by hand
- Assemble a field repair kit to manage broken chains while on the road and put it on the apparatus
- Educational videos:
  - On-spot chain operation: https://www.youtube.com/watch?v=3YcDrsYJfug
  - Preparing to install chains: https://www.youtube.com/watch?v=YfDmNCkzbpg&ab_channel=Camas-WashougalFireDepartment
  - Installing chains: https://www.youtube.com/watch?v=jGOVHrwTjD0
  - Repairing chains: https://www.youtube.com/watch?v=aZX7bG2B7hY&ab_channel=adsc2006
- Listen for loose chains during travel – stop in a safe spot as soon as a loose chain is detected
Road Conditions

• Ice usually follows snow in the DC region
  • Chains only marginally assist in ice
  • Ice may not be readily visible – “black ice”
  • Wet roads in the daytime may be icy roads at night

• Apparatus will slide after parking
  • Use wheel chocks on the downhill side
  • Turn tires into or against a curb
  • If the street is all ice, do the road shoulders offer any traction?

• Avoid snow plow rows or piles
  • Snow below the undercarriage can lift up on the vehicle and reduce traction
  • Frozen piles are like icebergs – they will do damage
Getting Stuck

• Assess your situation and provide a Conditions-Actions-Needs report to PSCC or Incident Command via radio; do other units need to find another route?
• Back out or alternate forward and backward movement to try and “rock” the vehicle to better traction
• Use integral vehicle systems to assist with traction, i.e. differential locks, disable traction control, inter-axle locks
• Stop, get out, and shovel under and around the apparatus
• If the vehicle is equipped with standard tire chains avoid repeatedly and rapidly spinning the tires; this will destroy the chains
• If the vehicle is equipped with automatic tire chains spinning the tires is required to put the chains below the tires
• Remain patient and assess the need for assistance based upon the situation; frustration leads to poor decisions
Personnel Safety

• Improve visibility of personnel using high-visibility attire

• Oncoming vehicles may see personnel, however may not be able to stop
  • Even skilled and attentive drivers may not be able to avoid you!

• Operate in the shadow of apparatus or use other natural barriers to separate personnel from traffic

• Maintain three points of contact mounting and dismounting apparatus – move methodically
Cold Weather Precautions

Pumps

• Leave the pump wet unless all of the water can be removed (blown out)
• If the pump is dry, close drains and valves prior to leaving the station to avoid freezing in the open position
• Place the pump in gear while sitting on the scene of every incident.
• Place the pump in gear every time the engine returns to the station to confirm that the pump is operational.
• Keep charged hose lines cracked open to keep water moving.
• Check for ice build-up on all discharges between the valve and the cap.

Frozen discharges on a Crimson Engine
Cold Weather Precautions

• Leave all apparatus parked inside as much as possible.
• Ensure all aerial waterways are fully drained and leave drains and valves open.
• Drain all air tanks to release moisture.
• Consider not washing apparatus during extreme cold to avoid freezing cab doors, compartment doors, hose loads, and other components.
Additional Resources

- **FCGO #12-01** – Winter Driving and the Use of Vehicle Snow Chains
- **Winter Weather Driving** – MCFRS Engine Driver Training Supplement
- Did You Know bulletins
  - **Winter Weather Driving**
  - **Traction Assistance Systems**
  - **Snow Chains**