

# ABC School

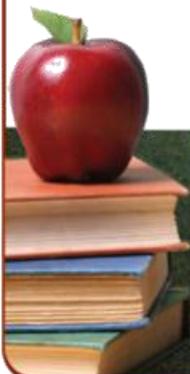
## Official Snow Training Kit

**SIMA**

snow & ice management association

This resource was adapted from SIMA, the Snow & Ice Association, who VSBIT is an affiliate member.

Special thanks to the facilities staff at Barre Town School  
for their professional review and suggestions.



**EVALUATION** **ERGONOMICS** **STRATEGY** **AUDIT** **INSPECTIONS** **TRAININGS** **REMEDICATION** **INSPECTIONS** **GRANTS** **DE-ESCALATION** **DO'S & DON'TS** **ERGONOMIC ASSESSMENTS** **FALL PREVENTION** **COST** **SAFETY** **SECURITY** **RISK** **MANAGEMENT** **LEGAL** **HUMAN FMLA RESOURCES** **VSBIT** **RESOURCES** **PLAYGROUNDS** **METHOD**

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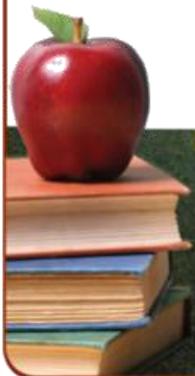
## Introduction

This Snow Safety Training Kit is designed to help you create and implement your own comprehensive safety program for your snow and ice removal. You should look at this as a starting point and realize that your safety and training program should be a work in progress.

## Creating a Culture of Safety: Why is safety important?

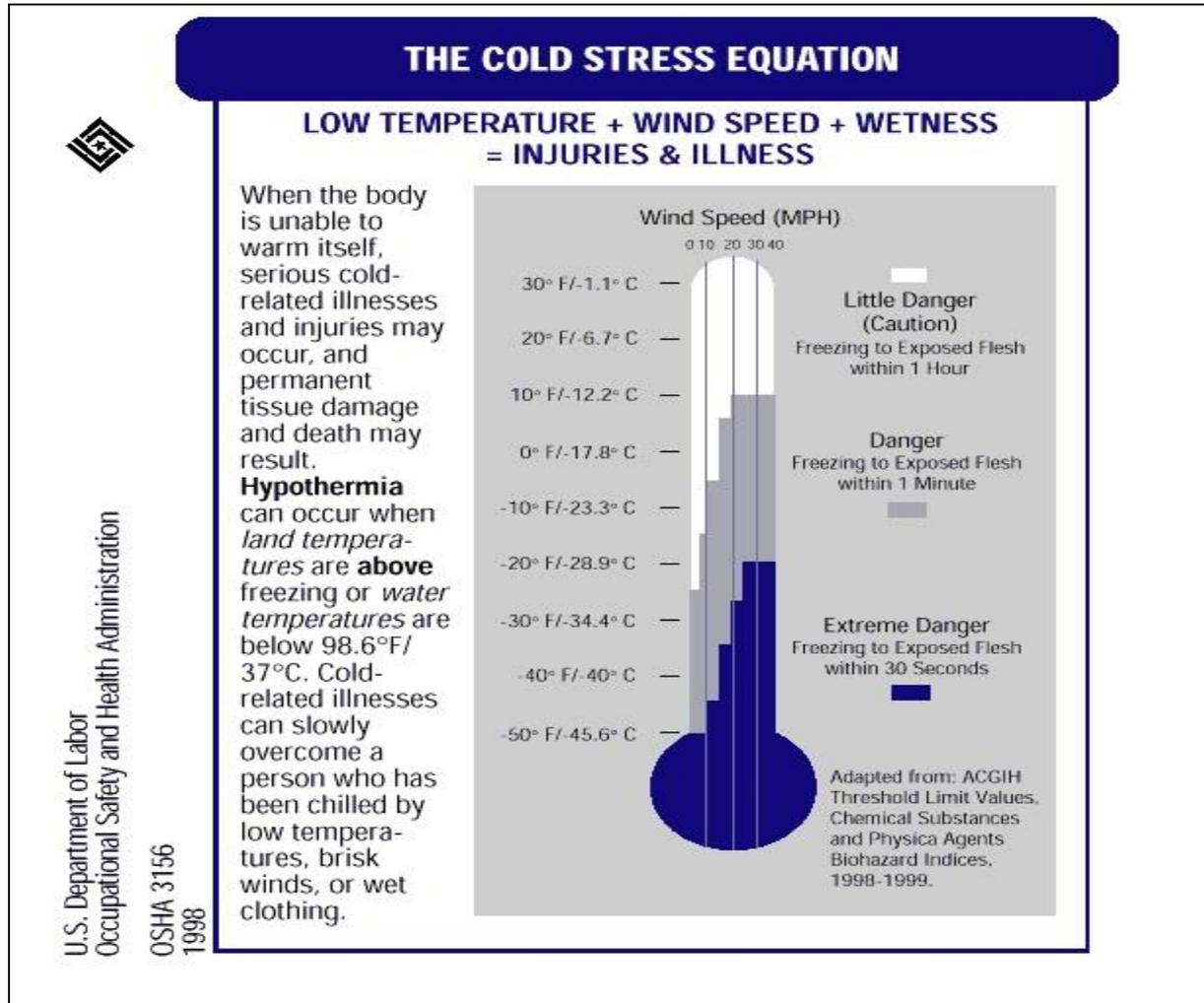
As you start to educate and train your employees and create a culture of safety, use the following items to help drive home the importance of safety in snow:

- Safety is vital to the organization. Without a solid safety program, accidents are much more likely, and can have a huge impact on the viability of a business.
- Their health is at stake; any individual who is not properly trained greatly increases their chances of injuring themselves or others. This can have a dramatic impact on their quality of life and should be taken seriously.
- Each employee and their career can be influenced greatly by their commitment and attention to safety. Structuring a safety program that provides rewards/incentives for employees will help them understand that there are tangible reasons why they should think and act safely at all times.



## Special Note on Working in Cold Conditions

For shovel crews and other individuals who are working in winter conditions, it is important to understand the dangers associated with the cold, and the potential for frost bite.



Indicators of frostbite:

- Skin becomes hard, numb, or may turn pale/waxy in color
- Usually affects the fingers, hands, toes, feet, ears, and nose



## Employee Snow Safety Training Program

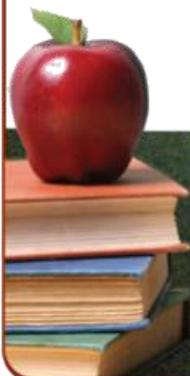
Each employee who will be operating any of the following equipment should go through this training program:

1. Pickup trucks with plows/spreaders
2. Containment plows for skid steers/loaders
3. Sidewalk management crews

Each employee will receive the following training/documentation in this program:

1. Hands-On training as follows:
  - a. Specific checklist (provided in the program) for equipment, demonstrating and describing important safety procedures and skills.
  - b. Documentation signed by the employee indicating they have received the hands-on training portion of the program.
2. Equipment Operation Practice: As a supplement, it is highly recommended that you provide ample time for employees to practice using the equipment before they are asked to apply it on a job site. Times will vary depending on employee skill and type of equipment, but a minimum of 1-2 hours of practice on any piece of equipment is recommended.

**Use the following documents to train and create a record of training for each individual employee who will be operating snow and ice equipment for your school.**



## General Safety Guidelines & Tips

This general information should be communicated to all new employees in their orientation, and should be provided as refresher training once a year. You can add to these safety tips as you move forward and learn more about safety for your organization.

### *Personal Safety Tips*

- When working at night or in low-visibility situations, always wear bright, reflective gear. Never assume someone operating equipment can see you in low-light conditions!
- Be cautious of loose fitting clothing, especially around moving equipment like spreaders, etc.
- Always wear the appropriate gear for the work you are doing. Examples include gloves and hats in winter conditions, solid footwear with good traction, and layers of clothing that allow for better regulation of body heat (take off/put on as needed).

### *General Equipment Operation Tips*

- Never place yourself between a moving piece of equipment and any other structure (wall, another piece of equipment, etc.)
- A daily circle check/walk-around should be performed on ANY piece of equipment before it is operated. Items to check for include loose hardware, damaged items, fluid levels checked and all caps tightened appropriately, etc.
- Always provide new employees ample time to get used to equipment and its operation before having them perform work on a site.
- Always wear appropriate ear, head, and eye protection when operating skid steers, loaders, and other heavy equipment.
- All mobile equipment should be outfitted with ample safety/strobe lighting, to alert traffic and pedestrians of equipment in motion. Ensure all safety/strobe lighting is functional before starting any work activity.



# 1) Safety & Training- Pickup Trucks with Plows and Spreaders

Step 1: Have the employee review the following information on Driving in Winter Conditions (adapted from [www.osha.gov](http://www.osha.gov)):

**Maintaining Equipment:** Check battery, tire tread, and windshield wipers, keep your windows clear, put no-freeze fluid in the washer reservoir, and check your antifreeze. Check all regular & hazard lighting to ensure it's working properly.

**Have On Hand:** flashlight, jumper cables, abrasive material (sand, kitty litter, even floor mats), shovel, snow brush and ice scraper, warning devices (like flares) and blankets. For long trips, add food and water, medication and cell phone. Extra gloves/ mittens to swap for wet ones. Tire chains and tow chains/straps. Keep some extra fluids(oil, anti-freeze, hydraulic fluid) and some general tools with you at all times in case it's a quick fix if you are familiar with the vehicle.

**Stopped or Stalled?** Stay with your vehicle, don't over exert, put bright markers on antenna or windows and shine dome light, and, if you run the vehicle, clear exhaust pipe and run it just enough to stay warm.

**Plan Your Route:** Allow plenty of time (check the weather and leave early if necessary), be familiar with the maps/ directions, and let others know your route and arrival time.

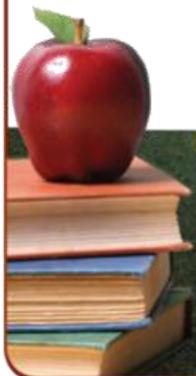
Practice Cold Weather Driving!

- During daylight, rehearse skid maneuver slowly on the ice or snow in an empty lot
- Steer into a skid
- Know what your brakes will do! Never stomp on any type of braking system as it will cause you to lose traction even quicker.
- Stopping distances are longer on water-covered ice and ice
- Don't idle for a long time with the windows up or in an enclosed space
- Always know the positioning of your vehicle while driving on public roads because you will be wider than most vehicles on the road. Ensure that you give vehicles in the other lane plenty of space while maintaining safe distances from curbs & ditches.

General Tips:

- Buckle up and use child safety seats properly
- Driving a pickup with a plow and fully loaded spreader significantly increases the strain and inertia of the vehicle; allow for very long distances for stopping the vehicle, especially when traveling on ice/packed snow

Check when completed, employee initial here \_\_\_\_\_



Step 2: Hands-On Training: Pickup Truck with Plow/Spreader

Qualified individual provides hands-on discussion and demonstration to the employee, checking of the items as they are completed:

- Start with plow detached: Demonstrate attaching plow
  - Point out possible pinch points
  - Demo proper speed/angle to attach plow. Demo proper installation or height adjustment of shoes/skid plates for plow.
  - Demo proper way to park vehicle with plow (plow down on the ground)
- Conduct inspection/walk-around of plow and spreader
  - Describe checking tire pressure and fluid levels on the vehicle
  - Describe the process of checking cutting edges/fasteners to ensure they are aligned/properly fastened on the plow, and check the plow blade for damage
  - Demo examining hopper for damage/foreign objects
    - Describe a potential safety hazard : A tarp covering hopper can get caught in the hopper, inspect to ensure the tarp and bungee/ ties are properly in place
    - Describe inspecting the hopper visually for large stones (for sand/salt mixes) or obstructions/objects that could damage feed auger and/or spreader/spinner.
  - Demo spinners and augers rotating freely as a safety check before using the equipment
  - Discuss fluid checks for auxiliary spreader engines as a good maintenance tip
  - Check for loose/broken hydraulic hoses/fittings.
  - After completing all of the visual checks identified above, fill out the Operator pre-trip logbook.
- Transportation of plow and spreader
  - Demo proper placement of plow when driving on city streets/highways - angled to the right, toward the 'curb', to deflect any debris (rocks etc.) that hit the plow from oncoming traffic
  - Demo positioning of the plow to maintain airflow to engine



- Discuss never changing the position of the blade when the truck is in transport on roads or highways.
- Discuss additional weight of plow and spreader and the effect it has on stopping, and discuss never traveling at speeds greater than 45 mph while transporting plow and spreaders.
- Illustrate appropriate methods of securing spreader
  - Discuss proper methods to fasten spreader to vehicle using ratchet straps or chain tighteners/binders.
    - Make sure the hook that you are attaching spreader to has the capacity to secure it, for example factory hook at 800 lbs capacity won't work – manufacturers have a written standard procedure – opportunity to include equipment provider recommended hook weight requirement.
    - Working with a professional outfitter or referring to the user's manual for the equipment guidelines for hook weight.

#### Site check, General Plowing Guidelines

- Describe arriving at the site
  - Discuss visual scan of area for any hazards/undocumented conditions
- Proper uses of plow/general safety concerns
  - Describe the general application/purpose of plow 'shoes'
    - Always leave shoes attached, even if they are in the 'up' position.
    - Shoes should be used to plow areas of loose gravel/dirt. They can be put in the 'up' position or removed for plowing concrete and asphalt.
  - Demonstrate the proper motion for stacking snow
  - Demonstrate and describe the process of back-blading (back dragging) and its application
  - Describe the following transmission-specific tips:
    - Come to a complete stop before shifting in reverse
    - Wait for transmission to engage before accelerating
    - Don't spin wheels
    - Plow forward whenever possible

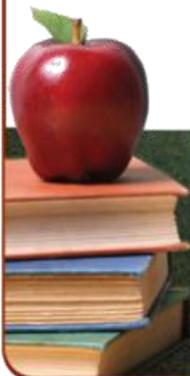


Spreader Training: Backing up, appropriate speed, driving patterns

- Demonstrate appropriate use of all mirrors when backing up (continuous monitoring of mirrors while backing up)
- Discuss maximum speed of 5-10 mph in parking lots while plowing/spreading

Detaching, Final Inspection, Maintenance

- Detaching the plow
  - Demonstrate proper parking of vehicle with blade resting on the ground
  - Demonstrate safe detachment of plow, including:
    - Adjusting the plow to sit flush on level ground
    - Using the manufacturers guidelines for safely unhooking/decoupling either from the cab or the outside of the truck
    - Pulling back slowly from the plow
- Final inspection
  - Discuss inspection of cutting edges, hydraulic hoses, and electrical connections for wear/damage
  - Recommend that operators should not allow a load of salt to sit over night in a hopper in freezing temperatures, as this could cause salt to freeze together into chunks that can damage the spreader and create an unsafe condition.
- Post-season maintenance & repair/storage
  - Discuss storing plow for the season in a level, secure, and dry area
  - Discuss using dielectric grease on all electrical connections outside the vehicle.

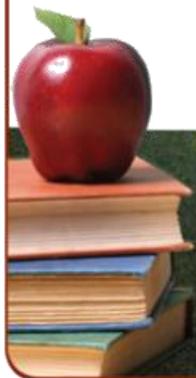


- Spreader Training: Loading, Clearing, Cleaning & Storing
  - Discuss proper use of shovel for loading spreader manually.
  - Discuss proper loading technique for v-box spreader with both a loader and for bagged products, including:
    - Consulting the owner's manual for proper capacity and stress never overloading the capacity of the spreader
    - Discuss proper lifting of deicing bags and stress the safety hazards related to back injuries, slipping, etc.
  - Discuss turning off engine and spreader controls completely, then visually inspecting hopper, before using an implement to remove any jams/blockage. Reinforce that hands/arms should never be used to remove materials if at all possible.
- Cleaning/storage/maintenance
  - Discuss proper cleaning of hopper after the season, including:
    - Cleaning it immediately after use to avoid build up and cementation of product on the equipment
    - Caution that cleaning a spreader using a liquid in the back of a piece of equipment can create a slippery condition, and stress assigning more than one employee to clean a spreader together (to hand hoses, etc.)
  - Discuss storage of equipment post-season
    - Storing in a secure, relatively dry, level area

**END HANDS-ON TRAINING – PICKUP TRUCK WITH PLOW AND SPREADER**

**Employee signature and date after all items are checked above for the hands-on training:**

Signature \_\_\_\_\_ Date \_\_\_\_\_



## 2) Safety & Training- Containment/Box Plow

### Hands-On Training: Containment/Box Plow

Qualified individual provides hands-on discussion and demonstration to the employee, checking of the items as they are completed:

- Safety inspection/walk-around
  - ❑ Discuss checking the containment plow for wear/ damage, including the cutting edges, hardware, wear shoes, sideboards, and the moldboard, hydraulic hoses/fittings.
- Attaching/General Operation/Detaching
  - ❑ Demo attaching equipment properly using skid steer forks, bucket etc., as designated by the piece(s) of equipment to be operated by the employee.
  - ❑ Discuss attaching equipment to shovel of backhoe or loader, including positioning the bucket parallel to the ground, centering the bucket/equipment behind the blade, resting the cutting edge of the bucket against the snow pusher, shutting machine off to attach chains to pusher. Describe the process of attaching chains to hooks on the buckets, and indicate that chains should be parallel to the ground when attached.
  - ❑ Discuss chains, and that the tension should be tight enough to keep the plow on the machine properly. Describe to the employee that tightening the chains too much can result in a decrease in performance of the plow, and encourage them to check the owners' manual of the equipment with any questions.
  - ❑ Discuss these safety tips related to attaching/working on containment plows:
    - Never get under the unit during maintenance procedures unless properly supported with blocks/jack-stands.
    - Do not rely solely upon the hydraulics of your machine to secure the snow pusher during maintenance, use blocks/jack-stands.
    - Never get between the bucket of the machine and the snow pusher while attaching the unit



- Always be sure to keep hands and feet away from designated pinch points
- Do not place hands or feet under the unit or your bucket
- Never stand in front of the snow pusher while the machine is in operation
- Demo proper motions for stacking snow, discussing the fact that shaking the blade in the air and dumping the bucket is not necessary and can cause unsafe conditions
- Demonstrate and discuss safe detachment of plow
  - Skid steer/stud: Demonstrate with equipment provider
  - Bucket/Loader: Describe the process of loosening chains and backing away slowly
  - Discuss the fact that some containment plows do not sit flat without support, and may need to be blocked before plow is detached.
- Maintenance, Repair & Storage
  - Discuss tightening hardware and replacing cutting edges/plow sections as a general maintenance issue.
  - Discuss storing in a secure, level area during the off-season or between winter storms if skid-steer/loader is to be used for other work activities.

**END HANDS-ON TRAINING – CONTAINMENT/BOX PLOW**

Employee signature and date after all items are checked above for the hands-on training:

Signature \_\_\_\_\_ Date \_\_\_\_\_



### 3) Safety & Training- Sidewalk Management Crew

Step 1: Employee reviews clothing recommendations/suggestions for working in cold/severe weather conditions:

- Appropriate warm, flexible, waterproof (neoprene for example) gloves/mittens, with grips for traction on handles.
- Head covering providing general warmth, covering the ears, composed of a 'breathable' material (for example, wool caps are denser and less 'breathable' than cotton).
- Goggles or other eyewear to protect eyes and allow them to remain fully open (no decrease of sight due to squinting. Tinted goggles may be appropriate during daylight hours, as sun reflects off of snow.
- Appropriate waterproof footwear with adequate grip/traction. Winter boots are the recommendation. Select good insulated/waterproof boots with a fairly soft rubber sole. Ice grippers may be needed as well in very icy conditions to prevent slipping/falling injuries.
- Wear several layers of clothing. Remove/add clothing as needed to manage body temperature, and wear 'breathable' materials. Hard labor can induce perspiration, and significant perspiration can lead to dehydration and other potentially unhealthy states. Managing temperature means will mean some perspiration, but excessive perspiration should not occur.
- Visibility: Clothing should contain at least 6-10 square inches of reflective tape or other material on each side (front and back) of the torso, to increase visibility in low-light conditions and at night.

Check when completed, employee initial here \_\_\_\_\_

#### Step 2: Hands-On Training: Sidewalk Crews

Qualified individual provides hands-on discussion and demonstration to the employee, checking of the items as they are completed:

- Snowblower Training
  - Pre-checks/safety check
    - Discuss pre-start checks as follows:
      - Check for fluid leaks
      - Ensure hardware is tightened appropriately



- Make sure all guards and shields are fastened and in good working condition
- Check that auger shear pins are present/locked properly/undamaged
- Look for damage parts including auger, fans, tires, cables
- Changing shear pin/clearing jams
  - Demo disconnecting spark plug (do this first before the next two steps!)
  - Discuss process of changing shear pin, including removing sheared bolt, check for debris, install new pins/bolt
  - Discuss/ demonstrate the process of clearing a jam, including using a manufacturer-provided implement when available. Discuss never placing hand or arm in the machine.
- Loading
  - Describe the importance of never lifting a heavy snow blower, instead using rails, to turn the motor on and roll the equipment up the ramp safely, at a low speed setting. Discuss never stopping the snow blower on the ramps if at all possible.
  - Discuss securing the snow blower with ties/straps to the bed of the truck/trailer.
- Chute positioning
  - Discuss the hazardous condition created when the chute is positioned to blow snow onto a road, at parked cars, pedestrians, building windows, etc.
- Hand-Shovel Training
  - Proper shoveling technique to minimize injury/maximize clearing efficiency
    - Demo motions for pushing snow vs. lifting snow
      - Discuss pushing whenever possible

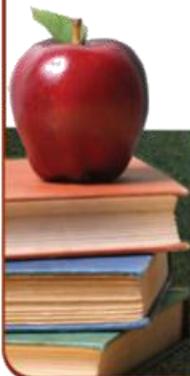


- Lift only when necessary, clearing large quantities, and caution employees on potential back and knee injuries from twisting/lifting too much at one time.
  - Demo keeping back straight and knees slightly bent
  - Demo avoiding placing body behind full weight of 'push back' from uneven surfaces/cracks/obstructions
- Walk-behind Spreader Training
  - Loading
    - Discuss loading with bagged products, including:
      - Loading a full 50 lb bag may cause it to be overloaded, operators should refer to the owner's manual
      - Describe using proper lifting technique when lifting bags/product
  - Safe usage/patterns/application
    - Discuss not over applying or applying to non-concrete/asphalt surfaces (avoid vegetation)
  - Cleaning and maintenance
    - Discuss checking to ensure that spreader is clear of obstructions
    - Reinforce never sticking hands/fingers into the mechanism/hopper
    - Discuss cleaning hopper immediately after use to avoid build-up.
    - Discuss greasing fittings for certain spreaders

**END HANDS-ON TRAINING – SIDEWALK MANAGEMENT CREWS**

**Employee signature and date after all items are checked above for the hands-on training:**

Signature \_\_\_\_\_ Date \_\_\_\_\_



## Employer/Employee Agreement

I, \_\_\_\_\_ (print name) , as an employee of SCHOOOL NAME, agree to the standards set forth in this safety and training program and commit to working in a safe, efficient manner. I will alert my immediate supervisor(s) immediately if I see any working condition, equipment, material, or behavior that could result in an unsafe condition. I also commit to reporting to my supervisor all near misses and all injuries.

I, \_\_\_\_\_ (print name), as the supervisor or designated trainer of the above employee, agree that this employee has exhibited the needed knowledge/skills to work and operate specified equipment safely.

Signature, Employee: \_\_\_\_\_ Date: \_\_\_\_\_

Signature, Employer: \_\_\_\_\_ Date: \_\_\_\_\_

Training Completed:

- Pickup trucks with plows/spreaders
- Containment plows for skid steers/loaders
- Sidewalk management crews

Date Training Completed: \_\_\_\_\_

