

SAFETY BRIEF: SAFE SNOW AND ICE REMOVAL

Every year people die of heart attacks while shoveling heavy snow, lose fingers in snowblower accidents, and fall from icy roofs. Snow removal can be especially dangerous for people who smoke or are out of shape, but even nonsmokers in good shape can risk injury when snow is very deep or very wet and heavy. According to the 2009 US Consumer Product Safety Commission:

- *Approximately 13,500 people will be treated in hospital emergency rooms for injuries sustained during manual snow and ice removal this winter.*
- *Approximately 6,000 people will be injured using snowblowers. About 10% of injuries will include finger amputation.*

Don't let this happen to your employees! Train them to follow safety guidelines for manual snow and ice removal and safe operation of snow removal equipment.

Tips for Snow Shoveling

- **Warm-up your muscles.** Shoveling can be a vigorous activity. Before you begin this physical workout, warm-up your muscles for 10 minutes with light exercise.
- **Pace yourself.** Snow shoveling and snow blowing are aerobic activities. Take frequent breaks and prevent dehydration by drinking plenty of fluids. If you experience chest pain, shortness of breath, or other signs of a heart attack, stop the activity and seek emergency care.
- **Proper equipment.** Use a shovel that is comfortable for your height and strength. Do not use a shovel that is too heavy or too long for you. Space your hands on the tool grip to increase your leverage. Use a shovel with a non-stick surface to make shoveling less tiring by causing the snow to slide off easily. Tip: You can do this at home by simply coating the blade of the snow shovel with shortening or vegetable oil!



Try to push the snow instead of lifting it. If you must lift, do it properly. Squat with your legs apart, knees bent, and back straight. Lift with your legs. Do not bend at the waist. Scoop small amounts of snow into the shovel and walk to where you want to dump it. Holding a shovelful of snow with your arms outstretched puts too much weight on your spine. Never remove deep snow all at once. Do it in pieces.

- **Safe technique.** Do not throw the snow over your shoulder or to the side. This requires a twisting motion that stresses your back.

Tips for Snowblowing

- **Never stick your hands in the snowblower!** If snow jams the snowblower, stop the engine and wait more than 5 seconds. Use a solid object to clear wet snow or debris from the chute. Beware of the recoil of the motor and blades after the machine has been turned off.
- **Proper supervision.** Do not leave the snow blower unattended when it is running. Shut off the engine if you must walk away from the machine.
- **Safe fueling.** Add fuel before starting the snow blower. Never add fuel when the engine is running or hot. Do not operate the machine in an enclosed area.

- **Avoid the engine.** Stay away from the engine. It can become very hot and burn unprotected flesh.
- **Inspect the path before clearing.** Move foreign objects out of the way. If you are operating an electric snow blower, be aware of where the power cord is at all times.



- **No tampering.** Do not remove safety devices, shields, or guards on switches, and keep hands and feet away from moving parts.
- **Understand your machine.** Read the instruction manual prior to using a snowblower. Be familiar with the specific safety hazards and unfamiliar features. Do not attempt to repair or maintain the snowblower without reading the instruction manual.

Preventing Slips & Falls During Snow Removal

Falls cause most of the deaths and severe injuries that occur during snow removal operations. OSHA standards require employers to evaluate hazards and protect workers from falls when working at heights of 4 feet or more above a lower level (1910.23). If workers access roofs and other elevated surfaces to clear snow:

- Train workers on fall hazards and the proper use of fall protection equipment, as required by 1910.132(f)(1).
- Provide and ensure that workers use fall protection equipment if they are removing snow in areas that are not adequately guarded (e.g., with a guardrail system or cover).
- Instruct workers who wear personal fall protection equipment to put on their harnesses and buckle them snugly before mounting the roof.
- Have a plan for rescuing a fallen worker caught by a fall protection system.
- Remove or clearly mark rooftop or landscaping features that could become trip hazards.



When performing snow removal, be sure to mark a safe work zone in the area where snow is to be removed (e.g., keep people back 10 feet from the point where snow is expected to be blown or fall).

Using a Powered Blade

When a snow blower or shovel can't do the job, a powered blade mounted on an ATV or truck is often the tool of choice. Make sure you carry the proper safety equipment for emergencies (i.e., fire extinguisher, tool kit, flashlight, flares or reflective triangles, cell phone or two-way radio, etc.), and thoroughly check the vehicle (lights, tire pressure, fuel and fluid levels, etc.) and the plow blade before starting the job. If the vehicle is equipped with a safety belt, wear it at all times. Remember, the ability to produce traction is usually the limiting factor to move snow. To increase traction, use tire chains or add additional weight to the unit.



Basic Plowing Practices

- Before it snows, walk around the area you will be plowing to check for obstacles that will become hidden when snow is on the ground. Look for things such as bumper stops and speed bumps, curbs, sidewalk edges, shrubs, water drains, fire hydrants, fences and pipes sticking up from the ground. To prevent damage to the area being plowed as well as to your snowplow and truck, mark any obstructions that will be hard to see when there's snow on the ground.
- When transporting a snowplow, angle the blade to the right (toward the curb). This will reduce the chance of catching a curb or a snowbank that could pull your vehicle into it.
- Never operate a plow while transporting it to and from a job site. It's a good idea to keep the plow control turned off in order to prevent accidental operation.
- When transporting a plow, position the blade so as not to block the plow headlights or your vision.
- When transporting a plow or while plowing, check the temperature gauge often. Overheating the engine can be costly. If the vehicle overheats, stop and correct the problem. If overheating occurs while transporting, stop and adjust blade position to allow more airflow to the radiator.
- Approach piles of snow at a reasonable speed. The impact of the blade on a pile of snow when approached at a fast speed can severely damage the machine's drive train and possibly injure or throw the operator from the vehicle.
- When moving in reverse, don't rely on the vehicle mirrors. Turn around and look where you're going.
- When plowing in dirt or gravel, lower the plow shoes. This will raise the blade so you don't scrape the surface away. When plowing on asphalt or concrete, raise or remove the plow shoes so that you scrape as close to the surface as possible.
- When you're finished plowing, lower the blade to the ground and turn the plow control off for safety. This will also take stress off the hydraulic components.



SAFETY GUIDELINES FOR HEAVY EQUIPMENT OPERATORS

Before the First Snow

EQUIPMENT:

- Establish an effective preventive maintenance program to avoid equipment breakdown. Perform inspections to identify problem areas and correct problems immediately. Document the inspection and any repairs.
 - Check vehicles and equipment before use to ensure properly working lights, brakes, horn, turn signals, back up alarm and flashers, windshield wipers, defrosters, plow bolts and chains, spreaders and augers, flares and other safety equipment.
- Make sure that each vehicle is equipped with radio, flashlight, flares or other portable flashers or warning equipment, fire extinguisher, first aid kit, ice scraper, shovel, extra gloves and hat,



drinking water and food, blanket or sleeping bag, and change of clothes depending on severity of the weather.

- Ensure that each vehicle has a full gas tank and that fluid levels are full, including engine oil, brake fluid, transmission fluid and windshield washer fluid.

PERSONNEL TRAINING AND REQUIREMENTS:

- Ensure that all equipment operators receive detailed training and are closely monitored. Don't let employees learn on the job. Even experienced drivers should receive refresher training each year before the winter snowplow season begins. Snow removal takes place during a limited period each year, and skills may be rusty. Training should include hands-on operation of the actual equipment that employees will operate and classroom instruction in all aspects of your entity's snow removal policy and procedures.



- Assign snow removal operators to specific equipment and routes. Use more experienced operators on heavy equipment and in high-traffic areas. Use less experienced drivers on other equipment and on less-traveled roads.
- Adopt a zero tolerance policy for any employee on a call list to ensure they are physically and mentally able to perform the job.
- Make all drivers aware of the causes and symptoms of driver fatigue and how to prevent it.
- Help employees avoid injuries by providing proper training for lifting techniques.
- Require drivers to travel the planned snow route in good weather to become familiar with hazards and conditions that can cause an accident or property damage, such as:
 - Low hanging limbs, wires or signs.
 - Narrow roads, guardrails, blind spots and drop offs.
 - Uneven road surfaces such as raised manhole covers, medians, curbs, concrete hazards, railroad tracks, road surface defects and soft shoulders.
 - Fences, fire hydrants, parked cars, landscaping and mail boxes.
 - Limited visibility and blind corners at intersections.
- Remove, repair or flag problem areas if needed and when possible.

DURING SNOW REMOVAL ACTIVITIES

Ensure that all operators:

- Start work physically and mentally rested. Have zero tolerance for sick, sleepy operators who are under the influence of medication or alcohol, or suffer from any other condition which could affect their ability to safely operate snow removal equipment.
- Wear appropriate clothing, including non-skid footwear, a safety vest and other personal protective equipment. Consider lighted safety vests and wearable safety lights when working during darker times of the day.
- Check all equipment before each use, including inspecting the tires, fluid levels, lights, brakes, windshield wipers, defroster, plow bolts and chains, spreader and auger, flares and other safety equipment. Document the inspection. Never take out equipment that poses a hazard to the operator or to others.
- Walk around the vehicle to adjust side mirrors and lights as needed.

- Use the 3-point contact method for entering and exiting the vehicle. Climbing into the vehicle cab can be difficult especially when truck steps are slippery with snow and ice.
- Observe all traffic laws and wear seatbelts.
- Drive at speed appropriate for the conditions, using extra caution when driving near pedestrians, other vehicles or on narrow streets.
- Stay on the proper side of the road.
- Avoid unnecessary backing maneuvers whenever possible.
- Stop periodically to clear ice and snow completely from windows and from headlights, backlights and warning lights if needed.
- Remain aware of traffic around you so as not to affect another driver's ability to see.
- Follow defensive driving practices. Ensure safe following distances behind other vehicles. Allow tailgaters to safely pass. Allow for extra stopping distances on ice and snow, especially when entering intersections.
- Keep supervisors informed of changing street and weather conditions.
- Report accidents and stranded motorists.
- Watch for signs of fatigue. Staring for hours at the driving snow can have a hypnotizing effect on drivers. The long hours and stress can take their toll as well. When feeling the onset of fatigue, take a short break by getting out and walking around the vehicle and taking some deep breaths.
- Safely exit vehicles by setting the brakes and disengaging the power to the spreader and snowplow before exiting the vehicle.



AFTER SNOW REMOVAL:

- Require equipment operators to record their activities. Records can help track vehicle movements and they can help in the investigation of an accident or general liability claim. Some sample information may include the operator's name and vehicle ID, the date and duration of each shift, and the route covered, including approximate times in each general location.
- Wash trucks and clean equipment.
- Check all blades.
- Examine all equipment and check for cracks in welds, or any missing parts.
- Repair broken or damaged equipment as soon as possible. Document the inspections and repairs.

Snow and ice removal is an important service. Operating snow removal equipment is hard work. It requires operators to drive for long hours in the worst kinds of driving conditions. Even though you cannot control the weather or other drivers, you can control the condition of the snow removal equipment and your own driving habits. Abiding by the tips provided above will help you accomplish your entity's goal of clearing roadways of ice and snow without causing accidents.

Additional training is available through the AMLJIA Online University at www.amljia.org. Log on to the Online University for courses related on this topic such as "Snow Plow Safety," and "Winter Driving Safety." For more information about the Online University, contact the AMLJIA at 800-337-3682.