

The
Residential & Low-Rise
Commercial Window Cleaner
Safety for All Seasons Handbook

Window Cleaning Resource Association



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Disclaimer

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Key Safety Components

You might call them the Ten Safety Commandments, or you might just call them good sense. But if you remember the following safety procedures, you'll have a better chance of going home injury-free at the end of your workday.

- **Know how to do your job safely:** If you are new to a job or task and don't fully understand all safe work procedures, check it out with your supervisor.
- **Keep the work area clean:** Housekeeping is everybody's responsibility. Working in a disorganized, cluttered environment is bad for crew morale. Poor housekeeping is the cause of many accidents.
- **Use personal protective equipment:** You shouldn't have to be told to use safety gear. Wear any protective gear that you are issued to avoid having an incident and injury on the job.
- **Use the right tools:** Be sure your tools are always in good repair and use them only for the purpose that they were designed for. Defective tools should be tagged and removed from service before they may cause injury to someone.
- **Work safely when using ladders:** Report defective or broken ladders to your supervisor. Always face a ladder when climbing up or down, keep your belt buckle inside the ladder rungs, and don't carry tools or materials in your hands while climbing. Many workers fall from ladders. Don't be one of them!
- **Handle materials safely:** Protect your back from injury by using the right lifting techniques, and get help with heavy loads. Taking shortcuts when handling heavy objects can mean lost time and pain in the long run.
- **Use care around equipment:** Don't operate power driven equipment unless you are qualified and have been authorized to do so.
- **Dress for the job:** Loose or ragged clothing may not fully protect your body and can be caught on tools or equipment.
- **Report unsafe conditions:** Supervisors can't be everywhere at once, so take responsibility for letting them know about any conditions that expose your crew to potential hazards.
- **Follow the rules:** Job safety rules are written for your protection. Strive to be the best at what you do, but strive just as hard to get home safely every night. It's up to you!

Seven Common Accident Causes

- 80 out of 100 accidents are the fault of the person involved in the incident.

- In most industries, people tend to look for things to blame when an accident happens, because it is easier than looking for root causes. Consider the list below and ask yourself if you have been guilty of any of the attitudes or behaviors.

Taking Shortcuts:

Every day we make decisions that we hope will make our job faster and more efficient. But do these time savers ever risk your own safety, or the safety of your crew? Shortcuts that reduce safety on the job are not shortcuts, but an increased chance of injury.

Being Overconfident:

Being confident is a good thing. Overconfidence is too much of a good thing. It'll never happen to me is an attitude that can lead to improper procedures, tools, or methods of the job. Any of these can lead to injury.

Starting a Task with Incomplete Instructions:

To do the job safely and right the first time, you need complete information. Don't be shy about asking for explanations about work procedures and safety precautions. It isn't dumb to ask, it's dumb not to.

Poor Housekeeping:

When customers, managers or safety professionals walk through the work site, good housekeeping is an accurate indicator of everyone's attitude about quality, production and safety. Poor housekeeping creates hazards of all types. A well maintained work area sets the standard for others to follow and involves both pride and safety.

Ignoring Safety Procedures:

Purposely failing to observe safety procedures can endanger you and your co-workers. You are being paid to follow the company's safety policies - not to make your own rules. Being casual about safety can lead to a casualty.

Mental Distractions from Work:

Having a bad day at home and worrying about it at work is a hazardous combination. Dropping your mental guard can pull your focus from safe work procedures. Don't become a statistic because you took your eyes off what you were doing just for a minute.

Failure to Pre-Plan the Work:

There is a lot of talk nowadays about Job Hazard Analysis. JHA is an effective way to work safely and effectively. Being hasty when starting a task, or not thinking the process through, can put you in harm's way. Instead, Plan your Work and then Work your Plan...

It is better to be careful 100 times than to get killed once.

Watch Your Step! Don't Slip & Fall...

Slips and falls are one of the most frequent causes of accidents, both on and off the job. Each year in the United States, more than 300,000 people suffer disabling injuries from falls. Slips and falls can be fatal as well; they rank second only to automobile accidents, causing nearly 12,000 deaths a year. To avoid getting hurt from falls, avoid rushing and remember the following:

Watch Where You Walk:

Be aware of where you are walking. Look down continuously for spilled liquids, materials, equipment, changing surface levels, etc. Make sure the area is well lit or use a flashlight if lighting is poor.

Wear Proper Footwear:

Make sure your shoes are in good shape and correct for the job. Discard worn-out shoes with smooth soles and other defects. If conditions are wet and slippery, wear non-slip shoes or boots. Avoid footwear with leather soles which have poor floor traction, especially on smooth surfaces.

Check Floor Openings:

Avoid unguarded floor openings. On construction sites, when covers are placed over floor openings, avoid walking on the cover unless it is absolutely secure and will not move or collapse. Never jump over pits or other openings.

Be Careful On Stairs:

Do not run when going up or down stairs. Check to see that stair treads are in good shape, with no obstructions on the steps. Always use the hand railings that are provided. Avoid carrying large loads when going up or down stairs and ensure that stairs are well lit.

Use Ladders Correctly:

Never use broken or defective ladders. Set the angle of the ladder at the proper four-to-one ratio (height to width angle). Make sure the ladder is on solid footing and will not move when you climb upon it. Anchorage at the bottom is also a good idea. Never stand on the top two steps of a stepladder.

Don't Jump Out Of Vehicles:

Never jump from equipment or vehicles. Use the handrail and steps provided, remembering the three point rule. Avoid stepping onto loose rocks, slippery surfaces, oil spills, etc.

Ladder Safety

Ladders are the most dangerous tool in a window cleaner's arsenal. More than 160,000 ladder-related accidents occur every year and more than 300 of these accidents are fatal. Fortunately a great majority of these accidents can be avoided by using proper ladder safety techniques. In the following segments, we will discuss the types of ladders and the proper use of these ladders.

The four most commonly used styles of ladders for window cleaners are:

- Step ladders (A-frame)
- Single ladders
- Extension ladders
- Sectional ladders

Basic ladder safety

While the ladders discussed below have their own unique uses and precautions that apply directly to them, there are a few common ground things to remember with all ladders.

- Do not use ladders in high winds or storms.
- Metal conducts electricity. Keep ladders at least 10 feet away from any power lines.
- Wear slip resistant shoes.
- Make sure all rungs of a ladder are clean to lessen the chance of slipping.
- Inspect all ladders for any damage and, if damaged, immediately remove it from the work place, properly labeling it as damaged and not to be used.
- Never leave a ladder set up and unattended. If leaving a ladder unattended, leave it laying flat on the ground and not leaning against a structure or free standing.
- If using a ladder in a high traffic area or in front of a door, have a spotter. If working alone, put up proper barricades or signs to draw passerby attention to you on a ladder.
- Keep in compliance to the duty rating labeled on every ladder.
- Never jump off or slide down a ladder.
- All ladders must be put on firm level ground or proper ladder leveling mechanisms must be used to level the ladder.
- When working from a ladder, the window cleaner should maintain 3 points-of-contact, 2 feet and one hand. While climbing/descending the ladder, 3 points-of-contact should be maintained, 2 hands and one foot.
- When climbing or descending a ladder, the window cleaner should always be facing the ladder and not away.
- When climbing on or working from a ladder, the window cleaner should keep his/her body centered in the ladder and not overreach to the side of the ladder. A good common rule to follow is to not have the belt buckle or belly button go past the side rail of the ladder.
- Never climb a ladder with a tool in your hands. Carry all tools on a belt.
- If footing a ladder, the window cleaner should remain looking up to watch for any tools dropping or the person on the ladder having a hard time.

Step Ladders

Step ladders are self-supporting portable ladders that are non-adjustable in length, with flat steps and a hinged design for ease of storage. It is intended for use by one person. Step ladders come in a range of sizes from 3 feet to 20 feet. They can be made of aluminum, fiberglass, or wood. Work conditions will dictate which type of step ladder should be used.

Proper use of Step Ladders

A step ladder should only be used on a flat surface that also allows enough room for the ladder to be fully opened where the spreaders are completely opened and locked. All four feet of the ladder should be flattened out on the ground surface. Before climbing the ladder, the window cleaner should be sure all four feet of the ladder are firmly placed on the non slippery surface and the ladder is not leaning in any way. If the ladder is leaning or is tilted in any direction, then the ladder is unsafe to climb and is a fall hazard. A step ladder should never be climbed while it is in a closed state. The step ladder should never be leaned against a structure to climb. Because of the shape of the step ladder feet, they are only properly used when the ladder is

fully opened. When the ladder is closed, the feet are then pointed at the ground and are not making appropriate contact with the surface to ensure safe footing.

Window cleaners should place step ladders on a right angle to the work that is going to be performed. This allows for the window cleaner to be as close to the work area as needed and not need to reach over, through or around the ladder.

When climbing /descending a step ladder, the window cleaner should always be facing the ladder and not using the ladder as a staircase by facing away. The window cleaner should keep his/her body centered in the ladder and not overreach to the side of the ladder. A good rule to follow is to not have the belt buckle or belly button go past the side rail of the ladder.

The window cleaner should not climb any higher than the second step down from the top cap of the ladder. Climbing any higher and standing on the top cap of the ladder or the first step down from the top step greatly increases the window cleaner's chance of losing balance and falling off the ladder, or having the ladder fall out from under them.

Single Ladders

Single ladders are not self supporting ladders. They are non-adjustable in length with rungs and have hinged feet for steadying the ladder when leaned against a structure. They can be made of aluminum, fiberglass, or wood. The ladder is intended for only one person to use at a time. These ladders can come in sizes ranging up to 30 feet. Different heights of these ladders are rated for different duties. Heavy duty ladders reach up to 30 feet. Medium duty ladders only reach to 24 feet and light duty ladders only reach to 16 feet.

Extension Ladders

Extension ladders have two or more sections joined by a sliding mechanism that allows the ladders to be extended to their total length. They are only intended for one person at a time to use. The feet on extension ladders are hinged for steadying the ladder when it's leaned against a structure. They can be made of aluminum, fiberglass, or wood. However, wood is not popular amongst window cleaners because it weighs much more than aluminum or fiberglass. Typically, window cleaners will have three sizes of these ladders: 24 foot, 32 foot and 40 foot.

Proper use of Single Ladders and Extension Ladders

When setting up a single ladder or an extension ladder, first face the structure the ladder is going to be leaning against. The ladder rungs should be parallel to the structure and the window cleaner should be the proper distance away from the structure for the height they want to work at. This is achieved by using the 4 to 1 ratio.

The 4:1 ratio means that the feet of the ladder must be 1 foot away from the building for every 4 feet up the ladder will be resting against the side of the structure. So, if where the ladder will be resting against the structure is 24 feet up, then the feet of the ladder and the window cleaner should be 6 feet away from the structure. By following this method, the ladder will be set up at the best angle of 75 degrees to obtain the optimum safety use of the ladder. The 75 degree angle is for optimum resistance against the bottom of the ladder sliding out, strength of the ladder, and balance of the climber. If the feet of the ladder are too close to the structure, the ladder has an increased risk of tipping over. When the ladder's feet are too far away from the structure, the ladder has an increased risk of slipping out.

The feet of the ladder must be placed on level ground. If level ground is not available, as is the case in most situations, the ladders should have leveling devices installed on the feet of the ladder. A popular brand

amongst window cleaners is LeveLok. LeveLoks allow for extending the feet of the ladder so that the ladder will be level on uneven surfaces. Most window cleaners like to have two LeveLoks on their ladders, but just one can get the job done as well. NEVER use a rock or pieces of wood or other material to level a ladder.

When placing the feet of the ladder on the ground, the window cleaner should make sure the feet are placed in a way that they will not slip out. On slippery surfaces like wet pavement, wet decks, wet walkways, hardwood floors or tiled floors, the window cleaners should have someone foot the ladder. On surfaces like dirt, grass, mulch or small stones, the feet of the ladder should be flipped up so the claws on the feet dig into the surface, gripping it.

Once you're sure the ladder is level, then it is time to adjust the height of the extension ladder by using the rope and pulley mechanism to raise and lower the fly section of the ladder. Once the desired height is achieved, be sure the rung locks are properly locked in place on the rung. Both rung locks must be locked in place. If only one rung lock is in place and the other is floating, the ladder is then considered unsafe and must not be climbed.

When leaning the ladder against the structure, the window cleaner should keep his/her shin pressed up against the bottom rung or one foot on the ladder's feet to keep the bottom of the ladder from flipping up on the window cleaner. The top of the ladder must be resting on the surface of the structure above the window. A window cleaner should never clean a window from a ladder that is resting on the structure below the window.

If setting up the ladder to climb onto a roof or platform, the top of the ladder must be 3-4 feet higher than the roof line. This allows for the window cleaner to climb onto the roof and off with ease. When climbing onto a ladder from a roof, the window cleaner must step on the rung of the ladder BELOW the roof line. If stepping on the rung above the roof line, then the ladder has a great chance of having its feet slipping.

Once the ladder is set up, the window cleaner needs to lightly "bounce the ladder" to check if any fine adjusting needs to be done. "Bouncing the ladder" means to first stand up straight at the feet of the ladder. Next, extend your arms straight out. If the ladder is set up at the proper angle, then the rung in front of you will easily be in your hands. If the ladder is set up too steep, your arms will be bent. If you have to stretch or lean forward to grab the rung, then the ladder's feet are too far away from the structure. To bounce the ladder means to lightly pull back on the ladder so the top just comes a ½ inch off the structure and then let go. If the ladder is set up properly, then the ladder will settle back into place exactly as it was. If you see the top of the ladder shimmy to one side or the other, then it needs to be finely adjusted by raising/lowering the LeveLoks. The window cleaner should do this a couple times to be sure the ladder does not shift in any direction.

Sectional Ladders a.k.a. Stackables

Sectional or stackable ladders are pieces of ladder that are assembled by the window cleaner to reach a desired height. Each section can vary in size from 4 feet to 6 feet and are made of aluminum. These ladders are popular for window cleaners because of their ease of transportation and are light weight. The highest that sectional ladder manufacturers suggest to stack the ladder is 21 feet or four 6 foot sections assembled.

Proper use of Sectional Ladders

The safest way to assemble sectional ladders is to lay the sections on the ground. Starting with the base of the ladder, place the ladder sections together. Top and center sections are not to be used as base sections. Keep in mind not to have the total height of the ladder exceed 21 feet (i.e. 4 x 6 foot sections). Subtract one foot at each joint. This is a recommended safety height by sectional ladder manufacturers.

All safety pins must be put in place to ensure the ladder will not accidentally come apart while it is being set up, carried, or worked from.

To set up the ladder, have the feet of the ladder resting up against the structure or have someone foot the ladder and, starting with the top section of the ladder, walk the ladder up hand over hand until the ladder is standing erect.

To carry the ladder, for right handed, lift it straight up by standing with your left shoulder against the ladder. Bend at the knees and not with your back, use your left hand to grab the 2nd to bottom rung while using your right hand to grab the rung above your head. Use your left hand and legs to lift the ladder and use your right hand to steady or balance it.

This is the same way single ladders and extension ladders should be carried. Carrying the ladder erect allows for the window cleaner to better negotiate obstacles such as steps, bushes, and stairs.

Always remember when carrying a ladder around a structure to go see what is on that side of the structure before going so you can plan your actions. Maybe it's really windy on that side.

Another style of ladder that is growing in popularity with window cleaners is a convertible ladder or articulated ladder such as The Little Giant. The Little Giant Ladder is capable of being converted into several heights and configurations from a single ladder. Configurations include a straight ladder, a step ladder, a staircase ladder (an uneven A-frame for use on stairs), a 90° ladder, and both sides of a scaffolding trestle. These ladders can achieve a multitude of position/height conversions. The ladder folds to a smaller size for storage. This ladder is popular amongst window cleaners because of its vast transformations and ease of transportation and storage. Convertible ladders and other forms of articulated ladders have a series of locking mechanisms and hinges that vary from manufacturer to manufacturer. If a window cleaner is using any of these styles of ladders, they should have a full and complete understanding of the ladders' capabilities and functions in their manuals.

Safe Driving Tips

Do you drive a company vehicle? Your worst nightmare could be right around the corner. Recent studies have revealed that, each year, more than one in three company vehicles are involved in an accident. According to the National Safety Council, two-thirds of these accidents were at least partially caused by a driver error while traveling on highways.

Let's avoid being the driver contributing to negative statistics. As a driver, it is your responsibility to continuously evaluate and recognize accident-producing situations. Safe driving practices are the key to preventing or minimizing accidents. Here are some safe driving tips to exercise while operating your personal or company vehicle:

- Whenever possible, pre-plan your travel route by studying a map or getting directions. If you are traveling along an unfamiliar route, schedule a little extra time into the trip. Consider such things as: weather conditions; known traffic hazards; congested areas; and the type of roadway.
- Buckle up. Always use your seat belt.
- Obey all traffic laws and don't exceed the speed limit. Your performance as an employee counts behind the wheel too! Evaluate the traffic conditions all around you. Be prepared to adjust your speed accordingly.
- Keep your eyes on the road and be attentive. Always be prepared for possible obstructions, slowing or stopping vehicles, or pedestrians who may run or step into traffic.

- Use two-way radios and cell phones minimally. If a lengthy or detailed conversation begins, pull over to the side of the road and stop the vehicle, or offer to return the call once you get to your destination. Remember that driving safely is the priority.
- Adjust mirrors before your trip and use them often to monitor traffic around you. Know your vehicle's blind spots, and take them into consideration when making any move.
- Don't tailgate. Allow adequate maneuvering space. Try using the four-second rule. This method of staying a safe distance behind the next vehicle works at any speed. The four-second rule leaves you enough room to react to the unexpected.
- Do not create a situation that allows yourself and other drivers to be trapped. Be considerate and signal your turning or braking intentions early.

The Professional Driver

- Knows and obeys the company rules for the operation of his/her vehicle.
- Knows and obeys the traffic rules and regulations applicable to the area in which he/she is driving.
- Is aware of the traffic situations far ahead on both sides and to the rear of his/her vehicle.
- Is constantly alert to illegal acts and errors of other drivers.
- Is willing to yield the right-of-way to prevent accidents and does not tailgate.
- Is particularly cautious approaching intersections. Lessens the odds of an accident by taking his/her foot off the gas and putting it on the brake to shorten reaction time for stopping.
- Knows and adjusts his/her driving to the special hazards of: pedestrians, the road, weather, traffic, degree of light, and the added dangers brought on by his/her own emotions such as anger or worry.
- Requires an attitude of confidence that he/she can drive without ever having an accident. He/she is positive about accident prevention.
- Drives as though every child in the street is his/her own and every motorist is a dear relative or friend.
- Knows the secret of safe driving.

Safe Lifting to Prevent Back Injuries

Being a window cleaner is a physically demanding occupation. Window cleaners naturally are fast workers and are constantly in motion. Window cleaners are carrying ladders, buckets of water, and tools. They are also moving furniture and other obstacles out of the way to gain access to windows. If they are not using proper lifting techniques, these actions can eventually lead to back injuries. Back injuries are one of the leading causes of job related disabilities every year, which translates into pain and suffering for the employee and tremendous cost and losses in production for the employer.

Major Causes of Back Injury include:

- Repetitive load handling.
- Handling loads which require awkward body posture, such as having to bend and reach out to an object that cannot be held close to the body in an upright position.
- Handling excessively heavy or bulky, difficult to handle and hold, materials.
- Twisting the torso to one side while lifting.
- Repetitive or sustained bending over.
- Handling demands beyond the capabilities of people assigned the job, including strength as well as metabolic energy requirements.

Basic Design Principles to Prevent Back Injuries

- Minimize the weight, range of motion and frequency of the activity.
- Keep heavy objects at a height above the knee and below the shoulder to minimize awkward postures.
- Carry in a horizontal posture when possible.
- Use rollers when possible.
- Avoid reaching into bins with entire upper body.
- Push rather than pull objects.
- Do not use carts on slippery or heavily sloped surfaces.
- Avoid repetitive or sustained stretching, or twisting, or leaning to one side.
- Avoid bending over to lift.
- Move material once.
- Use the force of gravity wherever possible. Eliminating the need to manually lift material also eliminates the possibility of injuring your back while doing so.

Proper Lifting Technique

- Inspect the load you are going to be lifting. Don't attempt to lift the load if it appears to be too heavy or awkward in shape. Be aware of your surroundings so that you have enough room to work in and will be able to have good footing. Clear all obstacles in the way.
- Make sure you have good balance. Your feet should be shoulder width apart.
- Bend with the knees and not with the back. Keep the back straight by tucking in your chin.
- Grip the load with your palms and fingers to ensure a strong grip.
- Use your body weight to start the load moving, then lift by pushing up with your legs. Keep your chin tucked in.
- Keep your arms and elbows close to your body while lifting
- While carrying the load, keep it close to your body and don't twist your body. If you need to change direction, shift your foot position and turn your entire body.
- Watch where you are going. If you cannot see and are not sure of your footing, put the load down and inspect again.
- To put the load down, bend the knees, keeping your back straight. Make sure your hands and feet are clear. If you're putting the load on a raised surface, place it on the edge and push it into position.

Cuts and Electrocutation

Cuts, Lacerations, and Punctures

To treat any cuts, first stop the bleeding and then treat to prevent infection. Place sterile gauze (or a clean cloth if gauze is not available) over the wound and hold it until the bleeding stops. Apply pressure continuously. If the gauze or cloth soaks through, simply place another cloth over the first and resume the pressure. When the bleeding has stopped, wash the cut with soap and water, followed by a disinfectant. If the bleeding does not stop, get professional treatment. After the cut is clean, look for any foreign object(s) in the cut and remove them. If you do not, a threatening infection may set in. To aid in keeping the wound clean while it heals, you can cover it with a bandage. However, if you use a bandage, remember it will need attention too. Change it twice daily and use an antibiotic cream to prevent further infection. Keep in mind that wounds exposed to air heal faster. But it is also very important to keep a wound clean and dry to prevent infection. Treatment for a scrape is the same, except you do not have to worry about stopping blood flow as there is very little.

Cuts require immediate professional attention if:

- There is severe bleeding, especially arterial wounds, which literally pump blood from the body.
- Puncture wounds, such as those caused by a rusty nail or animal bite. These will require a tetanus booster shot and careful cleaning.
- Cuts more than one half inch long and one quarter inch deep, which will require stitches.

Electrocution

- In the U.S., hundreds of workers are killed by electrocution each year.
- It can be very dangerous to work around overhead power lines when you are using metal ladders.
- Most overhead high voltage lines are not insulated, if there is any doubt ASSUME that they are not insulated.
- NEVER move a ladder any closer than 3 feet from any insulated power lines that carry less than 3,000 volts, or within 10 feet of insulated lines that carry 30,000 to 50,000 volts.
- Always stay a minimum of 10 feet from any overhead power line.
- If you are moving a ladder through overhead wires, a competent person should be assigned to monitor and warn others.
- Anyone working around power lines needs to be aware of what's happening around them, particularly what's above them.

Electrical shock or electrocution can affect the body in many ways:

- Contraction of the chest muscles, which can constrict breathing.
- Paralysis of the nerve centers.
- Interference of the heart's rhythm fibrillation.
- Suspension of heart actions from muscular contraction.
- Hemorrhage caused by destruction of tissues.
- Burns caused by excessive heat.

Razor Blade Scraper Safety

Depending on how covered with dirt the windows are determines how often you should change your Razor Scraper Blade. Here are the steps in changing the blade:

1. Remove the razor cover, pushing it away from you.
2. Holding the scraper in your right hand, use the cover to push the locking tab. (The scraper should be held like this so the razor blade does not have a chance to fall out.)
3. After pushing the locking tab, the scraper's slide is exposed to the right side of the scraper.
4. Putting the scraper in your left hand, use your right hand to remove the scraper slide by grasping the slide firmly between your thumb and your index finger, and pulling slide out.
5. Carefully remove the razor from the slide by holding the sides.
6. On the back of the fresh razor box is a disposal slot for old razors. Carefully slide the disposed razor through this slot, using your fingernail to push the last part of the razor in.

7. Turn the razor box over to push a fresh razor out of the box, using the thumb to push through the front window, in the direction that the arrow is pointing on the box.
8. While grasping tightly with your thumb and index finger, pull the rest of the razor out of the box.
9. The razor blade has three holes in it, and the scraper slide has three tabs sticking up from it. Carefully place the three holes over the three tabs.
10. With the thumb and index finger of your right hand, push and then slide together.
11. While holding the scraper handle in your left hand, slide the blade back into the slot with the locking tab going in first.
12. Be sure the blade slides all the way to the end and that the locking tab is fully exposed on the left side of the scraper.
13. Push the scraper cover back on and you're all done.

When using razor blade scrapers:

- Always keep a cover on them when not in use.
- Always try to keep your hands dry and clean of soapy water.
- If working from a ladder and you drop the cover, wrap the scraper in a few towels, then drop the scraper to the ground before climbing down. Make sure no one is around when dropping the scraper to the ground.
- Never shake the scraper to get excess water off.
- Be sure to maintain a firm grip on the scraper. Palm it in your hand making a fist. Never hold it lightly or just with your fingertips.
- Do not stop and talk with an uncovered scraper in your hand.
- Do not walk or climb a ladder with an uncovered scraper.
- Do not hand an uncovered scraper to someone.
- Do not leave an uncovered scraper unattended.

Waterfed Pole Safety

*(This information was contributed by RHG Products Co. www.rhgproducts.com
They are the leading authority in the waterfed pole field)*

Great care should be taken while using a waterfed pole. The following are a number of topics to be aware of while using a waterfed pole.

Trip Hazards (trailing hoses): Due to the nature of waterfed poles, there is constantly a hose running across the jobsite. It is important to mark these areas with signage to let others in the area know about the presence of trailing hoses.

Trip hazards (while using the poles): Due to the fact that you will often be looking up while operating a waterfed pole, it is important to know your surroundings. Tripping while moving equipment can and will occur if you are not careful.

Slip hazards (water left on ground): Oftentimes there will be standing water left behind from using a waterfed pole system, either from runoff from cleaning the window or from RO systems' concentrated water streams. It is important to mark these areas with signage to let others know of the standing water.

Slip hazards (freezing water in colder temperatures): In the winter, it is especially important to be aware of standing water due to its ability to freeze on the ground. It is a good idea to pack ice melt in your vehicles in the winter months so that you can apply it to these areas. It is important to use proper signage to let passerbys know about the presence of water on ground surfaces.

Electrocution (overhead power lines): Be sure to take care while working near overhead power lines. All waterfed poles can and will conduct electricity.

Electrocution (lightning storms): It is best to go indoors during power storms. All waterfed poles can and will conduct electricity.

Possible electrocution from shorts or faulty wiring in solar panels: Great caution should be taken when cleaning solar panels due to the presence of electricity. Consult with an expert regarding solar panels before cleaning them with a waterfed pole.

Daily equipment checks: It is important to visually inspect your waterfed pole for any visual problems with the equipment. Any problems should be repaired before continuing use.

Injury from falling objects: Watch your surroundings, and check your equipment regularly for loose parts.

Injury from falling poles: Be aware of your surrounding and know that if your pole comes down it will come into contact with something or someone that is not aware of where you are working.

Injury to self from incorrect handling of equipment

Reducing fatigue (techniques): It is important to use proper technique to reduce the risk of fatigue and/or injury. When working at lower heights (25' or so), it is possible to rely mainly on your arms to do the work; however, as you begin to work at greater heights, it becomes more and more important to use your legs to help reduce fatigue. This is done by stepping towards and away from the building, using your body to move the pole/brush up and down the window and less of your hands.

Proper handling (lifting, lowering, repositioning): The proper way to extend a waterfed pole is by placing the brush head up against the building and extending it upwards. While doing so, it is important to have the brush head on the building to support the pole and weight. Larger poles may need to be lifted differently with the assistance of a 2nd person. This method is called footing. To properly lift a larger pole, simply extend a number of sections and have one person put their foot at the base of the pole. Then have the 2nd person begin to walk the pole up into the air towards the person footing the pole. Once the pole is upright, the person footing the pole should lift the pole and lean it onto the building. To lower the pole, simply collapse it via the clamping mechanism or have a person foot the pole and slowly walk it down. While using the 'footing' method, as with any other circumstances, it is important to be aware of your surroundings. Be especially aware of any power lines in the area, as contact with power lines will cause electrocution and possibly death.

Recovering a pole that has started to fall: Occasionally, a pole will begin to fall in use if the operator is distracted or even if the wind happens to flare up without notice. To recover a pole that has begun to fall while in use, it is best to step in the direction of the fall to attempt to recover the pole and bring it back to a vertical position.

MSDS

The most popular chemical to use for window cleaning is just regular old dish soap. However, there are some substances that can only be removed from windows by using chemicals specifically designed for that substance and some window cleaners like to use chemicals for these substances and for making work easier. Whenever using any chemical, window cleaners should be as familiar as possible with the Material Safety Data Sheet (MSDS) for that chemical.

MSDS is a form with data regarding the properties of a particular substance. An important component of workplace safety, it is intended to provide workers and emergency personnel with procedures for handling or working with that substance in a safe manner, and includes information such as:

- physical data –melting point, boiling point, flash point
- spill-handling procedures
- protective equipment
- health effects
- reactivity
- disposal
- first aid
- toxicity
- storage

MSDS formats can vary from source to source within a country depending on national requirements. In the U.S., the Occupational Safety and Health Administration requires that MSDS be available to employees for potentially harmful substances handled in the workplace under the Hazard Communication regulation. The MSDS is also required to be made available to local fire departments and local and state emergency planning officials under Section 311 of the Emergency Planning and Community Right-to-Know Act.

Chemical Safety

Since there are a multitude of chemicals that can be used for cleaning the different stains off of windows, we cannot go over all the safety procedures for each one of them, but we can give you some general safety guidelines to follow when using any chemical.

- Be familiar with the MSDS for any chemical being used or stored.
- If a chemical is unknown, always assume it is hazardous.
- Use whatever personal protective equipment the manufacturer of the chemical suggests.
- Never use a chemical that is not properly labeled.
- Limit exposure to a chemical to as little as possible regardless of the “safeness” of a chemical.
- Never leave a chemical unattended.
- Always store chemicals in proper containers and labeled as such.
- Never underestimate how hazardous a chemical can be.
- Always assume a chemical is as dangerous as the most hazardous ingredient in the chemical at full strength.
- Follow the directions for using any chemical EXACTLY.
- Regularly check that stored chemicals are in containers that are not deteriorating or are broken.
- Never store chemicals near heat or sunlight.
- Do not sniff or taste chemicals.
- Do not smoke, eat, or drink near chemicals.
- Use chemicals in well ventilated areas.
- Store chemicals below eye level and not in traffic areas like a hallway or by a door.

How hazardous chemicals enter your body:

Toxic chemicals used in the workplace can enter the body in three primary ways: inhalation, absorption and ingestion. All are to be avoided!

- **Breathing:** The easiest, most common way for toxic chemicals to enter your body is through inhalation. Once inhaled, poisonous chemicals can be absorbed into your lungs and then into your bloodstream. Once in your blood, these chemicals may be deposited or stored in your vital organs. At that point, serious damage may already be done! Carbon monoxide is a good example of an odorless gas that enters the body through the bloodstream and, at high levels, can kill a person within minutes.
- **Skin contact:** Chemicals can also be absorbed into the bloodstream through the skin. This is more likely to happen if your skin has been cut. The bloodstream carries these chemicals throughout your body and they may end up in your internal organs, often causing serious damage. Substances that are readily absorbed through the skin include common solvents, fuels, and thinners. In general, the absorption rate, or how quickly a chemical is absorbed through the skin, increases with warmer temperatures and increased sweating.
- **Swallowed:** Workers often unknowingly eat or drink toxic chemicals. Harmful dust, fumes or mists in the air may settle on food, drinks, or cigarettes. Chemicals on your hands may also be transferred to your mouth. Once swallowed, these substances are absorbed by the stomach or intestines and enter into the bloodstream, finally coming to rest in vital organs.

Without precautions, toxic chemicals have an easy time getting into your body. Once inside, your body's defenses against these invaders are weak. You usually cannot completely rid yourself of harmful chemicals that get past body surfaces. As a result, long-term exposures and chemical buildup in the body often result in serious health consequences. Don't take chances! Protect yourself by taking appropriate safety measures on the job:

- Be aware of the chemicals being used in your workplace.
- Always wash your hands before eating.
- Wear gloves and other protective equipment and clothing.
- Always use respirators when appropriate.

Methanol Safety

In the cold winter months, methanol is the most widely common choice for window cleaners to use as an antifreeze additive in their water/soap solution.

Methanol Storage

- Methanol must be kept in a proper container. The blue gas tanks/containers used for kerosene work fine for most situations. Do NOT use RED gas tanks/containers. Be familiar with your local laws for the proper storage of methanol.
- Make sure the local fire department is aware of your intent to store methanol. You must provide them with a MSDS, its exact location, and how much you intend to store.
- It must be stored completely away from any source of heat or flame.
- Have "No Smoking" signs displayed and enforce a strict no smoking policy for your property.
- It must be stored in a cool, dry, and well-ventilated place.

Transporting Methanol

- Only take with you what you need for the day. There is no need to carry 5 gallons of methanol when throughout the day you will likely only use a 10th of it.
- The containers should be tightly sealed and kept securely in the back of the truck bed.
- No smoking while driving.
- If stopping in a public place, someone should remain with the methanol so it's not unattended.

Using Methanol

- When adding methanol to your solution, only use a couple drops at a time and test the solution. If it still freezes, then add a couple more drops to the solution. Be careful not to add too much right from the start. The less you use the better.
- Use of gloves is strongly recommended because prolonged exposure will cause irritation to the skin.
- When you're done using methanol, thoroughly wash up.

Methanol Emergencies

- If methanol gets in the eyes: Flush with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical attention immediately.
- If you get methanol on your skin: Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.
- If methanol was ingested: If the victim is conscious and alert, give 24 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately. Induce vomiting by giving one teaspoon of Syrup of Ipecac.
- If methanol was inhaled: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
- If methanol was spilled or leaked: Absorb the spill with inert material, (e.g., dry sand or earth), then place into a chemical waste container. Remove all sources of ignition. Provide ventilation. Water spray may reduce vapor but may not prevent ignition in closed spaces.

Working in the Cold

- Wear multiple layers of light, loose fitting clothing.
- Wear a warm hat to prevent heat loss from your head.
- 40% of your body heat is lost through your head.
- Wear slip resistant, insulated footwear.
- When carrying ladders, take smaller steps to improve traction.
- Use a co-worker to foot your ladder in the snow.
- Beware of icicles, do not walk beneath them.
- When driving, be prepared to stop, allowing safe distance between you and other cars and obstacles.
- Keep your windshield and mirrors clean.
- Watch out for pedestrians. In their winter clothes, they may not see or hear your vehicle.
- Drive at a lower rate of speed in bad weather.
- Use turn signals well in advance of making stops or turns.

Working in the Heat

The human body maintains a fairly constant internal temperature. When we become overheated, several reactions take place. First, the body rids itself of excess heat by increasing circulation in blood vessels close to the surface of your skin. This is why your face and your hands turn red when you begin to overheat. Your brain may also signal your sweat glands to work harder. As the sweat evaporates, it cools the skin and removes large quantities of heat from your body. Problems begin when outside temperatures are near your body temperature (98 degrees F). If the air temperature around you is warmer than your skin, blood that has been brought to the body surface cannot lose its heat.

Also, if the humidity is high, your body will continue to sweat liquids containing electrolytes, but will not easily evaporate. Therefore, you can't rid yourself of the excess heat that is building up. With so much blood being sent to the outer surface of your body, less is available for active muscles, your brain, and other internal organs.

The following reactions take place:

- Your strength declines.
- Fatigue occurs sooner than it would otherwise.
- Alertness and mental capacity may also be affected. Workers who must perform detailed work may find they are less accurate. Others may find they have less ability to understand and retain information. The problem is, you may not realize this is happening.

Heat stress may also produce heat cramps (the internal organs are not getting enough electrolytes due to profuse sweating). It may bring on heat exhaustion (caused by insufficient water intake and not being able to evaporate the sweat). Or, you may suffer heat stroke, which is when your body shuts down in an attempt to keep its internal organs from burning up. Without emergency treatment, the heat stroke victim lapses into shock, then a coma, and death may follow.

To control heat stress, remember these tips:

- Use ventilation or local cooling fans to increase air movement over your body and promote skin evaporation.
- Take frequent rest breaks between strenuous work activities.
- Wear protective clothing, such as loose cotton or heat reflective clothes.
- Drink plenty of liquids to replenish your fluid loss.
- Avoid alcohol and caffeine, which also cause an expansion of blood vessels and may bring on flushing, dizziness or fainting.

Heat Exhaustion

Heat exhaustion is the body's response to an excessive loss of water and salt due to exposure to heat. Approximately 400 people die each year from heat exhaustion. Mild symptoms include: thirst, fatigue, and cramping of the legs and abdomen. If it is left untreated, this illness can develop into heat stroke. Here, the symptoms become: dizziness, headache, nausea, rapid heartbeat, vomiting and decreased alertness.

The four contributing factors of heat exhaustion are:

- Respiration: Breathe hard, drink more water.
- Urination: Frequent urination, drink more water.
- Perspiration: Work hard, drink more water.
- Diarrhea: Drink more water.

How to Treat Heat Exhaustion:

- Have person get out of the sun.
- Have person lie down.
- Give person a beverage with electrolytes or small sips of water.

How to Prevent Heat Exhaustion:

- Wear light, loose fitting clothing.
- Avoid direct sunlight.
- Wear a hat in the sun.
- Drink a lot of water.
- Consider cool electrolyte beverages to support, not replace, water consumption. (These beverages, are excellent for restoring moisture, but water is still the best.)
- Don't eat a lot of high fat, high protein foods before work, eat something light and easily digestible.
- Drink fluids with Vitamin C to protect skin and muscles.

Before Cleaning a Window Safety

Before cleaning a window, look at it for any hazards. These include:

- Is the window safely accessible? Can all of the windows be reached by one hand? This can be tested by touching all 4 corners of the glass.
- Broken or cracked glass. Window cleaners should not even touch a window with any damage to the glass.
- Broken window frames or sills. Window cleaners should not even touch a damaged window.
- Air conditioners in the window. Again, window cleaners should not even touch a window with an air conditioner in it because you never know how that air conditioner may be placed in the window. If it is not secured properly, it can fall out.
- Make sure the window is locked in place. Some windows that are made for tilt washing, if they are not locked into place properly when the window cleaner scrubs the window, will fall.
- Obstacles in the way of the window preventing the window cleaner from reaching the window without having both feet firmly planted on the ground or ladder.

Cleaning a Window Safely

- Keep hands clean and dry of soapy water so your tools don't slip out.
- Do not lean out a window to clean the outside of it.
- Screens on upper levels should be taken off from the inside and NOT dropped to the ground.
- Window cleaners should not do the inside and outside of a window at the same time. This will increase stress on the glass, causing it to break.
- If the temperature is below freezing outside, do not use hot water on the glass.

- If a stain is stubborn, do not use more pressure to try to get it off. Try using a chemical instead.
- Do not shake your tools to get excess water off.
- Take your time. Speed for a window cleaner is a necessity, but it can cause reckless behavior. Remember to make your actions deliberate and not rushed.
- Keep all tools and buckets of water out of the way of public traffic.
- If because of the cleaning there is an excess amount of water, it's the window cleaner's responsibility to clean it up.

Chandelier/ Light Fixture Cleaning Safety

- If the fixture is in an entryway, lock the front door to avoid someone walking in and hitting your ladder.
- Always turn off the power at the switch.
- Wait for the glass to cool.
- Dust the outside of the chandelier before spraying any cleaner.
- If you offered to change the bulbs, be sure not to exceed the recommended bulb wattage.
- Cover the sockets for the bulbs with a plastic bag to avoid getting water inside.
- If the fixture has little access doors that swing open, be careful. The welds have a tendency to get brittle with age and it may come apart on you. Support the door as much as possible and avoid letting it swing freely back and forth.
- Don't over reach. Use a pole if you have to or reposition the ladder.
- After the cleaning is done, leave the fixture off for 24 hours to make sure it is dried out completely.

Extension Pole Work Safety

- Most extension poles are made of metal. Stay at least 10 feet from a power line.
- Be aware of your surroundings so that no one is walking behind you as you work. The pole can extend further back than your body.
- Keep your hands clean and dry of soapy water so the pole does not slip.
- Be aware of the weight at the end of the pole. You do not want to drop or bang the scrubber/squeegee onto the glass.
- Make sure the tools are firmly attached to the end of the pole. A locking cone is the method of choice by window cleaners to ensure the tool is properly attached.

Accident Reporting

Every accident, no matter how small, should be reported and documented. Accident reporting allows for workman's comp claims to be made quickly and effectively. Proper documentation of an accident can also protect an employer from legal actions when they were not at fault. Accident reports can also be used by employers for the purpose of safety meetings to discuss the accident and develop new means so that the accident will never happen again.

On the following page is a common accident report that should be filled out entirely as soon as possible after an accident occurred.

Report Of Accident

Employee's Name:		Age:	Sex:
Job Position/Title:		Social Security #:	
Date and time of incident:		Location:	
Task being performed when Accident Occurred:			
Accident resulted in:	Injury <input type="checkbox"/>	Fatality <input type="checkbox"/>	Property Damage?
Medical Treatment Required?	Ambulance Called?		First Aid Given?
Date and time the Accident Reported to you:			
Name(s) of witnesses:			

Describe how the Accident Occurred:

What part of the body was injured:

Describe the injuries in detail:

Name of Doctor and/or Hospital:

Could anything have been done to prevent this Accident? If so, what?

Safety Meetings

On the next few pages are safety meeting topics that can be given throughout the year. Each sheet will have the topic that was previously covered in this book and some key points that can be gone over during the meeting. Each meeting takes no longer than 15 minutes to present and discuss each topic. Whenever conducting these meetings, it's good to have everyone sign off that they were in attendance, Save these signoff sheets for future reference. Before getting into each meeting topic...

Why Do We Have Safety Meetings?

Why do we have safety meetings? Safety meetings are an opportunity for management to communicate to employees how they can do their jobs safer and better. Topics discussed in safety meetings may be topics that you are familiar with or topics that you have limited knowledge about. If the topic is something that you are familiar with, it may be easy to tune-out and not listen to the safety information presented. Do yourself a big favor and listen to the information as if you have never heard it before. You may just learn something new about the newest protective equipment or a smarter way to do your job. Information passed on in a safety meeting has a purpose: to stop you or your co-worker from being injured. Safety meetings also allow employees an opportunity to relay safety/health concerns or improvement ideas to their supervisors.

Accidents result from unsafe acts or unsafe conditions. For a variety of reasons, unsafe acts typically account for 90% of all accidents according to some experts. Safety meetings serve as a preventative measure against unsafe acts by educating employees on how they can do their job safely. Consider how accidents can directly affect you:

DEATH: The ultimate unwanted result. Where does this leave your loved ones?

FINANCIAL COST: Lost pay or reduction in pay. Who pays the bills? Are you the sole income producer in your household?

PAIN & SUFFERING: An obvious detriment that no one desires.

DISABILITY: A life changing experience. Now you're not able to do what you used to do. Maybe now you can't cast that fishing rod? Ride that bike, hug your wife, lift your child, or simply see? Or perhaps you're confined to a wheelchair. Good-bye career.

COMPETITIVENESS ON BIDDING JOBS: Other than payroll and benefits, worker's compensation insurance and accident costs may represent the bulk of a company's operating expense. When a company's operating expense increases, they are then less competitive to bid jobs. If your company is not awarded jobs, where does that leave you?

YOUR CO-WORKERS' SAFETY: Perhaps you and your co-worker have been working together for some time now. Chances are you may spend as much time with your co-workers as possibly your own family. Thus, you do not want something bad to happen to them. Watch out for their safety too.

Safety meetings are a perfect opportunity for you to communicate any safety ideas or concerns that you may have. Participate in your safety meetings. If you don't participate, then your ideas will not be heard. Who knows, the idea you have may very well save your co-worker's life, or even your own.

Since there are four seasons: Spring, Summer, Fall, and Winter, we broke down the safety meetings into three topics for each season starting with spring, this will give you a safety meeting topic for every month of the year. We suggest you do these safety meetings within the first week of the month so that it is never forgotten about. "It's a new month. We need a safety meeting."

Ladder Safety

- There were 164,000 hospital visits last year due to ladder accidents.
- Statistics show that more accidents occur using a ladder than any other piece of window cleaning equipment.
- The reason for safety on the job is two fold: to protect the public and to protect the employee.
- Always set the ladder up at an angle, which allows the base to be at a horizontal distance from the work. A good rule of thumb is when you're standing toe to toe with the ladder, the ladder should be at arms' length.
- The 4 to 1 rule: for every four vertical feet, move the ladder one foot away from the structure.
- The best way to move a ladder is perpendicular.
- When moving a ladder, lift it with your weaker arm, using your strong arm to guide the ladder and keep it straight.
- Always be aware of your work environment.
- Stay at least 10 feet away from electrical sources (electricity jumps).
- When ladders are used on a slick surface, be sure they are secured or footed.
- Ladder work should be discontinued if wind speeds or other weather conditions affect the employee or the public.
- Ladders should not be used for heights greater than 45 feet.
- Stackable ladders should not be used above 21 feet or 4 six foot sections.
- Stackable ladders should be assembled from the top to the middle and then downward.
- When using stackables, never use the middle or the top as a base.
- The responsibility for safety out in the field falls to the employee and the supervisor.
- DO NOT get too comfortable on the ladder, you start to take unnecessary risks in the interest of saving time – DO NOT DO THIS.
- ALWAYS maintain 3 points-of-contact when working on a ladder. Keep your body between the rails when working on a ladder.

Back Injury Prevention

Major Causes of Back Injury include:

- Repetitive load handling.
- Handling loads which require awkward body posture, such as having to bend and reach out to an object that cannot be held close to the body in an upright position.
- Handling excessively heavy or bulky, difficult to handle and hold, materials.
- Twisting the torso to one side while lifting.
- Repetitive or sustained bending over.

Basic Design Principles to Prevent Back Injuries

- Minimize the weight, range of motion and frequency of the activity.
- Keep heavy objects at a height above the knee and below the shoulder to minimize awkward postures.
- Carry in a horizontal posture when possible.
- Avoid reaching into bins with entire upper body.
- Push rather than pull objects.
- Use material handling equipment.
- Avoid repetitive or sustained stretching, or twisting, or leaning to one side.
- Avoid bending over to lift.
- Use the force of gravity wherever possible.

Proper Lifting Technique

- Inspect the load you are going to be lifting. Don't attempt to lift the load if it appears to be too heavy or awkward in shape. Be aware of your surroundings so that you have enough room to work in and will be able to have good footing. Clear all obstacles out of the way that you can trip over.
- Make sure you have good balance. Your feet should be shoulder width apart.
- Bend with the knees and not with the back. Keep the back straight by tucking in your chin.
- Grip the load with your palms and fingers to ensure a strong grip.
- Use your body weight to start the load moving, then lift by pushing up with your legs. Keep your chin tucked in.
- Keep your arms and elbows close to your body while lifting.
- While carrying the load, keep it close to your body and don't twist your body. If you need to change direction, shift your foot position and turn your entire body.

Key Safety Components

You might call them the Ten Safety Commandments, or you might just call them good sense. But if you remember the following safety procedures, you'll have a better chance of going home injury-free at the end of your workday.

- **Know how to do your job safely:** If you are new to a job or task and don't fully understand all safe work procedures, check it out with your supervisor.
- **Keep the work area clean:** Housekeeping is everybody's responsibility. Working in a disorganized, cluttered environment is bad for crew morale. Poor housekeeping is the cause of many accidents.
- **Use personal protective equipment:** You shouldn't have to be told to use safety gear. Wear any protective gear that you are issued to avoid having an incident and injury on the job.
- **Use the right tools:** Be sure your tools are always in good repair and use them only for the purpose that they were designed for. Defective tools should be tagged and removed from service before they may cause injury to someone.
- **Work safely when using ladders:** Report defective or broken ladders to your supervisor. Always face a ladder when climbing up or down, keep your belt buckle inside the ladder rungs, and don't carry tools or materials in your hands while climbing. Many workers fall from ladders. Don't be one of them!
- **Handle materials safely:** Protect your back from injury by using the right lifting techniques, and get help with heavy loads. Taking shortcuts when handling heavy objects can mean lost time and pain in the long run.
- **Use care around equipment:** Don't operate power driven equipment unless you are qualified and have been authorized to do so.
- **Dress for the job:** Loose or ragged clothing may not fully protect your body and can be caught on tools or equipment.
- **Report unsafe conditions:** Supervisors can't be everywhere at once, so take responsibility for letting them know about any conditions that expose your crew to potential hazards.
- **Follow the rules:** Job safety rules are written for your protection. Strive to be the best at what you do, but strive just as hard to get home safely every night. It's up to you!

Cuts, Lacerations, and Punctures

- To treat any cuts, first stop the bleeding and then treat to prevent infection.
- Place sterile gauze (or a clean cloth if gauze is not available) over the wound and hold it until the bleeding stops.
- Apply pressure continuously. If the gauze or cloth soaks through, simply place another cloth over the first and resume the pressure.
- When the bleeding has stopped, wash the cut with soap and water, followed by a disinfectant. If the bleeding does not stop, get professional treatment.
- After the cut is clean, look for any foreign object(s) in the cut and remove them. If you do not, a threatening infection may set in. To aid in keeping the wound clean while it heals, you can cover it with a bandage.

Cuts require immediate professional attention if:

- There is severe bleeding, especially arterial wounds, which literally pump blood from the body.
- Puncture wounds, such as those caused by a rusty nail or animal bite. These will require a tetanus booster shot and careful cleaning.
- Cuts more than one half inch long and one quarter inch deep, which will require stitches.

Electrocution

- In the U.S., hundreds of workers are killed by electrocution each year.
- It can be very dangerous to work around overhead power lines when you are using metal ladders.
- Most overhead high voltage lines are not insulated.
- Always stay a minimum of 10 feet from any overhead power line.
- If you are moving a ladder through overhead wires, a competent person should be assigned to monitor and warn others.

Electrical shock or electrocution can affect the body in many ways:

- Contraction of the chest muscles, which can constrict breathing.
- Paralysis of the nerve centers.
- Interference of the heart's rhythm fibrillation.
- Suspension of heart actions from muscular contraction.
- Hemorrhage caused by destruction of tissues.
- Burns caused by excessive heat.

Working in the Heat

The human body maintains a fairly constant internal temperature.

When we become overheated

- The body rids itself of excess heat by increasing circulation in blood vessels close to the surface of your skin. Your face and your hands turn red when you begin to overheat.
- As the sweat evaporates, it cools the skin and removes large quantities of heat from your body.

Problems begin if the air temperature around you is warmer than your skin, blood that has been brought to the body surface cannot lose its heat. If the humidity is high, your body will continue to sweat liquids containing electrolytes, but will not easily evaporate.

The following reactions take place:

- Your strength declines.
- Fatigue occurs sooner than it would otherwise.
- Alertness and mental capacity may also be affected.
- Heat stress may also produce heat cramps.

To control heat stress, remember these tips:

- Use ventilation.
- Take frequent rest breaks.
- Wear protective clothing.
- Avoid alcohol and caffeine.
- Drink plenty of liquids.

Heat Exhaustion

- Heat exhaustion is the body's response to an excessive loss of water and salt due to exposure to heat.
- Approximately 400 people die each year from heat exhaustion.

- Mild symptoms include: thirst, fatigue, and cramping of the legs and abdomen. If left untreated, this illness can develop into heat stroke. Here, the symptoms become:
 - Dizziness
 - Headache
 - Nausea
 - Rapid heartbeat
 - Vomiting
 - Decreased alertness

The four contributing factors of heat exhaustion are:

- Respiration: Breathe hard, drink more water.
- Perspiration: Work hard, drink more water.
- Urination: Frequent urination, drink more water.
- Diarrhea: Drink more water.

How to Treat Heat Exhaustion:

- Have person get out of the sun.
- Have person lie down.
- Loosen or remove clothing.
- Give person a beverage with electrolytes or small sips of water.

How to Prevent Heat Exhaustion:

- Wear light, loose fitting clothing.
- Wear a hat in the sun.
- Drink a lot of water.
- Avoid direct sunlight.
- Consider cool electrolyte beverages to support, not replace, water consumption. (These beverages are excellent for restoring moisture, but water is still the best.)
- Don't eat a lot of high fat, high protein foods before work, eat something light and easily digestible.
- Drink fluids with Vitamin C to protect skin and muscles.

Chemical Safety

- Be familiar with the MSDS for any chemical being used or stored.
- If a chemical is unknown, always assume it is hazardous.
- Use whatever personal protective equipment the manufacturer of the chemical suggests.
- Never use a chemical that is not properly labeled.
- Limit exposure to a chemical to as little as possible regardless of the “safeness” of a chemical.
- Never leave a chemical unattended.
- Always store chemicals in proper containers and labeled as such.
- Never underestimate how hazardous a chemical can be.
- Always assume a chemical is as dangerous as the most hazardous ingredient in that chemical at full strength.
- Follow the directions for using any chemical EXACTLY.
- Regularly check that stored chemicals are in containers that are not deteriorating or are broken.
- Never store chemicals near heat or sunlight.
- Do not sniff or taste chemicals.
- Do not smoke, eat, or drink near chemicals.
- Use chemicals in well ventilated areas.
- Store chemicals below eye level and not in traffic areas like a hallway or by a door.

How hazardous chemicals enter your body:

- **Breathing:** The easiest, most common way for toxic chemicals to enter your body is through inhalation. Once inhaled, poisonous chemicals can be absorbed into your lungs and then into your bloodstream.
- **Skin contact:** Chemicals can also be absorbed into the bloodstream through the skin. This is more likely to happen if your skin has been cut. The bloodstream carries these chemicals throughout your body and they may end up in your internal organs, often causing serious damage.
- **Swallowed:** Workers often unknowingly eat or drink toxic chemicals. Harmful dust, fumes or mists in the air may settle on food, drinks, or cigarettes. Chemicals on your hands may also be transferred to your mouth.

Without precautions, toxic chemicals have an easy time getting into your body. Once inside, your body’s defenses against these invaders are weak. You usually cannot completely rid yourself of harmful chemicals that get past body surfaces.

Safe Driving Tips

Recent studies have revealed that, each year, more than one in three company vehicles are involved in an accident. According to the National Safety Council, two-thirds of these accidents were at least partially caused by a driver error while traveling on highways. As a driver, it is your responsibility to continuously evaluate and recognize accident-producing situations.

- Whenever possible, pre-plan your travel route by studying a map or getting directions. Consider such things as: weather conditions; known traffic hazards; congested areas; and the type of roadway.
- Buckle up. Always use your seat belt.
- Obey all traffic laws and don't exceed the speed limit. Your performance as an employee counts behind the wheel too!
- Keep your eyes on the road and be attentive.
- Use cell phones minimally. If a lengthy or detailed conversation begins, pull over to the side of the road and stop the vehicle, or offer to return the call once you get to your destination. Remember that driving safely is the priority.
- Adjust mirrors before your trip and use them often to monitor traffic around you.
- Don't tailgate. Allow adequate maneuvering space. Try using the four-second rule.
- Do not create a situation that allows yourself and other drivers to be trapped.
- Be considerate and signal your turning or braking intentions early.

THE PROFESSIONAL DRIVER:

- Knows and obeys the company rules for the operation of his/her vehicle.
- Knows and obeys the traffic rules and regulations applicable to the area in which he/she is driving.
- Is aware of the traffic situations far ahead on both sides and to the rear of his/her vehicle.
- Is constantly alert to illegal acts and errors of other drivers.
- Is willing to yield the right-of-way to prevent accidents and does not tailgate.
- Is particularly cautious approaching intersections. Lessens the odds of an accident by taking his/her foot off the gas and putting it on the brake to shorten reaction time for stopping.
- Knows and adjusts his/her driving to the special hazards of: pedestrians, the road, weather, traffic, degree of light, and the added dangers brought on by his/her own emotions such as anger or worry.
- Requires an attitude of confidence that he/she can drive without ever having an accident. He/she is positive about accident prevention.

Seven Common Accident Causes

- 80 out of 100 accidents are the fault of the person involved in the incident.

- In most industries, people tend to look for things to blame when an accident happens, because it is easier than looking for root causes. Consider the list below and ask yourself if you have been guilty of any of the attitudes or behaviors.

- **Taking Shortcuts:**

Every day we make decisions that we hope will make our job faster and more efficient. But do these time savers ever risk your own safety, or the safety of your crew? Shortcuts that reduce safety on the job are not shortcuts, but an increased chance of injury.

- **Being Overconfident:**

Being confident is a good thing. Overconfidence is too much of a good thing. It'll never happen to me is an attitude that can lead to improper procedures, tools, or methods of the job. Any of these can lead to injury.

- **Starting a Task with Incomplete Instructions:**

To do the job safely and right the first time, you need complete information. Don't be shy about asking for explanations about work procedures and safety precautions. It isn't dumb to ask, it's dumb not to.

- **Poor Housekeeping:**

When customers, managers or safety professionals walk through the work site, good housekeeping is an accurate indicator of everyone's attitude about quality, production and safety. Poor housekeeping creates hazards of all types. A well maintained work area sets the standard for others to follow and involves both pride and safety.

- **Ignoring Safety Procedures:**

Purposely failing to observe safety procedures can endanger you and your co-workers. You are being paid to follow the company's safety policies - not to make your own rules. Being casual about safety can lead to a casualty.

- **Mental Distractions from Work:**

Having a bad day at home and worrying about it at work is a hazardous combination. Dropping your mental guard can pull your focus from safe work procedures. Don't become a statistic because you took your eyes off what you were doing just for a minute.

- **Failure to Pre-Plan the Work:**

There is a lot of talk nowadays about Job Hazard Analysis. JHA is an effective way to work safely and effectively. Being hasty when starting a task, or not thinking the process through, can put you in harm's way. Instead, Plan your Work and then Work your Plan...

Methanol

- Methanol has a wide industrial use as a solvent.
- Used in the window cleaning business as an antifreeze.
- Methanol is clear, colorless, flammable and poisonous.
- You should never smoke or use any matches or lighters near it.
- Routes of entry for methanol are primary absorption through the skin, eye contact, inhalation or ingestion.
- Toxic effects of methanol from repeated exposure have an effect on the central nervous system.
- Methanol can seriously impair vision or cause blindness.
- Skin contact, over time, can cause irritation.
- Should be stored in a well-ventilated area.
- Ingesting 2-8 ounces has been reported to cause death.

First Aid Measures

Eyes:

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid immediately.

Skin:

Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion:

If victim is conscious and alert, give 24 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation:

Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Spills/Leaks:

Absorb spill with inert material, (e.g., dry sand or earth), then place into a chemical waste container. Remove all sources of ignition. Provide ventilation. Water spray may reduce vapor but may not prevent ignition in closed spaces.

Handling:

Wash thoroughly after handling. Use only in a well-ventilated area. Empty containers retain product residue (liquid and/or vapor) and can be dangerous. Keep container tightly closed. Avoid contact with heat, sparks and flame. Avoid ingestion and inhalation. Do not ingest or inhale.

Storage:

Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Winter Ladder Safety

- There were 164,000 hospital visits last year due to ladder accidents.
- Statistics show that more accidents occur using a ladder than any other piece of window cleaning equipment.
- The reason for safety on the job is two fold: to protect the public and to protect the employee.
- Always set the ladder up at an angle, which allows the base to be at a horizontal distance from the work. A good rule of thumb is when you're standing toe to toe with the ladder, the ladder should be at arm's length.
- The 4 to 1 rule: for every four vertical feet, move the ladder one foot away from the structure.
- The best way to move a ladder is perpendicular.
- When moving a ladder, lift it with your weaker arm, using your strong arm to guide the ladder and keep it straight.
- Always be aware of your work environment.
- Stay at least 10 feet away from electrical sources (electricity jumps).
- When ladders are used on a slick surface, be sure they are secured or footed.
- Ladder work should be discontinued if wind speeds or other weather conditions affect the employee or the public.
- Ladders should not be used for heights greater than 45 feet.
- Stackable ladders should not be used above 21 feet or four 6 foot sections.
- Stackable ladders should be assembled from the top to the middle and then downward.
- When using stackables, never use the middle or the top as a base.
- The responsibility for safety out in the field falls to the employee and the supervisor.
- DO NOT get too comfortable on the ladder, you start to take unnecessary risks in the interest of saving time – DO NOT DO THIS.
- ALWAYS maintain 3 points-of-contact when working on a ladder.
- Keep your body between the rails when working on a ladder.

Working in the Cold

- Wear multiple layers of light, loose fitting clothing.
- Wear a warm hat to prevent heat loss from your head.
- 40% of your body heat is lost through your head.
- Wear slip resistant, insulated footwear.
- When carrying ladders, take smaller steps to improve traction.
- Use a co-worker to foot your ladder in the snow.
- Beware of icicles, do not walk beneath them.
- When driving, be prepared to stop, allowing safe distance between you and other cars and obstacles.
- Keep your windshield and mirrors clean.
- Watch out for pedestrians. In their winter clothes, they may not see or hear your vehicle.
- Drive at a lower rate of speed in bad weather.
- Use turn signals well in advance of making stops or turns.

Watch Your Step! Don't Slip & Fall

Slips and falls are one of the most frequent causes of accidents, both on and off the job. Each year in the United States, more than 300,000 people suffer disabling injuries from falls. Slips and falls can be fatal as well; they rank second only to automobile accidents, causing nearly 12,000 deaths a year.

To avoid getting hurt from falls, avoid rushing and remember the following:

Watch Where You Walk:

Be aware of where you are walking. Look down continuously for spilled liquids, materials, equipment, changing surface levels, etc. Make sure the area is well lit or use a flashlight if lighting is poor.

Wear Proper Footwear:

Make sure your shoes are in good shape and correct for the job. Discard worn-out shoes with smooth soles and other defects. If conditions are wet and slippery, wear non-slip shoes or boots. Avoid footwear with leather soles which have poor floor traction, especially on smooth surfaces.

Check Floor Openings:

Avoid unguarded floor openings. On construction sites, when covers are placed over floor openings, avoid walking on the cover unless it is absolutely secure and will not move or collapse. Never jump over pits or other openings.

Be Careful On Stairs:

Do not run when going up or down stairs. Check to see that stair treads are in good shape, with no obstructions on the steps. Always use the hand railings that are provided. Avoid carrying large loads when going up or down stairs and ensure that stairs are well lit.

Use Ladders Correctly:

Never use broken or defective ladders. Set the angle of the ladder at the proper four-to-one ratio (height to width angle). Make sure the ladder is on solid footing and will not move when you climb upon it. Whenever possible, tie your ladder to the structure to improve stability. Anchorage at the bottom is also a good idea. Never stand on the top two steps of a stepladder.

Don't Jump Out Of Vehicles:

Never jump from equipment or vehicles. Use the handrail and steps provided, remembering the three point rule. Avoid stepping onto loose rocks, slippery surfaces, oil spills, etc.

Window Cleaning Resource Association

