

PUBLIC WORKS SAFETY RULES, POLICIES AND PROCEDURES

The following sections provide general guidelines and requirements based on your job descriptions and nature of work.

Air Compressor

1. Check for air leaks;
2. Check for faulty hoses;
3. Use locking device when connecting hoses;
4. Drain condensation out of air chambers;
5. Check safety valve for proper operation; and,
6. Use wheel blocks when trailer mounted compressors are detached from towing vehicles.



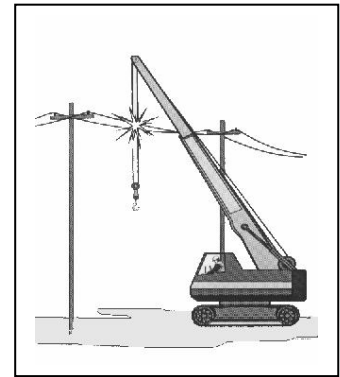
Backhoes

1. Never leave the machine unattended with the engine running;
2. Always lower the attachments to the ground when the equipment is not in use;
3. When in operation, only one person, the operator is permitted on the machine;
4. Keep loading area as level as possible;
5. Do not change relief valve settings;
6. When operating on a slope, use caution when swinging the bucket to the downhill direction. Dump to the uphill side.
7. Be sure outriggers are properly set before operating.
8. Carry the loader bucket low at all times, especially when working on a hillside or backing up an incline;
9. After stopping the engine, turn steering wheel until the hydraulic system accumulator fails to activate the power steering;
10. Travel slowly when moving over rough terrain;
11. Never allow anyone to work under the raised bucket;





12. Never drive to close to the edge of a ditch or excavation;
13. Watch for overhead wires. It is unlawful to operate a boom in close proximity to power lines;
14. Be sure the area is clear of personnel when lowering stabilizers or moving the boom;
15. Use swing and boom locking pins when transporting. Remove before operating;
16. Don't dig close to outriggers. Soft ground or sand soil might cause a cave-in;
17. Do not use loader as battering ram;
18. Shift to low gear when loading downhill;
19. Always discharge accumulator by operating control levers before disconnecting any oil lines and hoses;
20. Escaping fluid under pressure can have sufficient force to penetrate the skin, causing a serious injury. Before disconnecting lines, relieve all pressure. Before applying pressure to the system, make sure connections are tight and that lines, pipes and hoses are not damaged. Fluid escaping from a small hole can be almost invisible. Use a piece of cardboard or wood rather than hands to search for suspected leaks;
21. If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately;
22. Reduce speed when turning or applying brakes. Couple the brake pedals together when traveling at higher speeds. Be sure both wheels are braked simultaneously when making an emergency stop. Drive at speeds slow enough to ensure your safety, especially over rough ground;
23. When driving out of a ditch, gully or up a steep slope, engage the clutch slowly. Be prepared to de-clutch promptly if the front wheels rise off the ground. Use the same care if the rear wheels mire in soft ground or drop into a hole. Back the equipment out of these spots if at all possible;
24. Reduce boom lift speed when raising a loaded bucket to full height;
25. Never attempt to start or operate the machine except from the operator's station;



Boom Truck

1. Pre-op equipment and be familiar with operator's manual;
2. Operators shall be trained and qualified on truck;
3. It is unlawful to operate boom within ten (10) feet of high voltage lines;
4. Check boom for cracks, deformities, oil leaks, loose pins, loose nuts and bolts;
5. Be sure the boom hook isn't spread or cracked, hook pins are secure and safety catch is working properly;
6. Make a daily check of slings, cables and chains for deformities, kinks, or frayed wire before use. They shall be properly labeled with the correct lifting capacity;
7. Before traveling, check the boom for proper storage position. Store boom while not in use;
8. Never travel with PTO (Power Take Off) engaged;
9. Never exceed the maximum lifting capacity of the boom in its different positions. Refer to load chart;
10. Only one person shall operate the boom and only one person shall signal and assist the operator;
11. Operator and signal person shall have agreed on clearly understood visual and audible signals before beginning any work;
12. Crane shall never be worked without first properly setting all outriggers and properly supported with blocks or planks if necessary;
13. All unauthorized persons shall be kept clear of the operation;
14. Workers shall not be allowed under boom operation;
15. Truck shall be made level before beginning work;
16. Don't use outrigger for lifting;
17. Keep outriggers in sight when lowering;
18. When setting outriggers, check clearance of outriggers to adjacent lane or sidewalk;





19. Slack shall not be allowed to get in drop line because to do so may cause the line to become fouled on the drum. Special care taken not to run drop line out when pull weight is off drop line;
20. Crane shall be operated within limits set by manufacturer and rope used for drop line. See load chart;
21. Always use a straight pull when using boom. Don't rock the boom;
22. Position drop line as near to directly over the balance point of piece being removed as possible;
23. When swinging boom, change direction slowly;
24. When operating boom over the roadway, maintain safe clearance from passing vehicles or provide traffic control;
25. Do not pull objects directly toward the operator's position. Maintain a clearance from end of boom at all times;
26. Do not extend or swing load to a position that will overload booms;
27. Don't use chain and grab hooks. Use nut, bolt and washer if necessary—sling with shackle are much better. Don't use swing to push or pull.



Brush Chipper

1. Keep children, bystanders and animals clear of the working area;
2. Eye and ear protection shall be worn by any person operating the chipper;
3. Always wear personal protective equipment when operating the machine such as hard hat, safety glasses, gloves and ear protection. Always keep a fully charged fire extinguisher with the machine while chipping;
4. Gauntlet-type gloves shall not be worn by a chipper operator;
5. Keep loose clothing contained and do not wear jewelry. This includes but is not limited to rings, watches, neck chains and key chains attached to belts;
6. No one shall ride on any part of the chipper;
7. Before any trailer chipper is towed, the hitch safety chain and light connection shall be properly attached;





8. The chipper ignition shall be locked and the key removed when the chipper is left unattended (if so equipped).
9. Low power safety shutdown will be performed daily;
10. Full power safety shutdown will be performed at the time of major service;
11. Safety cover or guard shall be placed on rotor knife before adjustment or blade change;
12. Keep hands away from the spring loaded over center cocking mechanism on brake master cylinder when servicing chipper;
13. Do not work on the machine if the engine is running with the clutch disengaged;
14. Do not go near hydraulic leaks. Do not use fingers or bare hands to check for leaks; use a piece of cardboard;
15. If feed wheels become tangled/clogged, do the following:
 - disengage clutch;
 - turn off engine;
 - wait for drum to come to a complete stop;
 - install drum lock pin;
 - disconnect battery;
16. Never operate equipment that is in need of repair;
17. Do not work on the machine if the engine is running with the clutch disengaged;
18. Do not operate this machine without the hood pin in place. Do not use any type of makeshift hood pin. The hood pin must be padlocked;
19. Do not remove the hood pin until the chipper drum has come to a complete stop. The chipper drum will coast for several minutes after the engine is shutdown;
20. Do not slam the chipper hood to the open position;
21. The chipper hood must never be opened, operated or pushed closed if the chipper drum is turning;
22. A chipper shall never be operated without the proper guards in place;
23. Operators must at all times be located within easy reach of all feed control and shut-off devices when the unit is running;





24. The area around the chipper must be free of objects that can obstruct movement when working with the chipper. The machine should be checked for loose tools or foreign objects, especially in the infeed hopper area. All tools not in use should be secured in a toolbox;
25. Direct the chute only to an area free of obstructions;
26. Never stand in front of the chipper discharge chute;
27. All persons shall be kept clear of the exhaust chute when in operation;
28. No part of the body shall be placed on the feed table;
29. The chipper shall be fed from the side, never from directly behind the feed table;
30. Always stand to the side of the infeed hopper when inserting materials;
31. Always start the larger end of the log or branch into the feed wheels first;
32. Small pieces of brush or wood shall be pushed through the chipper with a stick or branch, never the hands or feet;
33. Never reach into the infeed area of the chipper;
34. Cut vine-like materials into 4 to 5 foot lengths, away from the chipper area. Stop the feed system before sending the vine material into the infeed hopper. Use a wooden pusher paddle when feeding the cut vines into the feedwheels;
35. Do not work inside the mouth of the chipper or around the feedwheels until the yoke lock pin is installed to keep the top feedwheel in the raised position;
36. Never turn the chipper drum by hand; always use a pry bar. Never insert fingers in the sight hole of the chipper belt shield;
37. Never refuel while the chipper is running and always refuel in a well-ventilated area. Do not fill above $\frac{1}{2}$ " from top of tank. DO NOT SMOKE;
38. Block tires and machine tongue whenever the machine is unhooked for operation;
39. When transporting the machine, locate the tongue jack and secure it in the transport position. Always hook safety chains to vehicle by crossing them under the tongue. Make sure that discharge chute is in the transport position.



Chain Saws

1. Do not operate chain saws unless you have been trained and qualified to do so;
2. Trainees will not be permitted to operate chain saws without direct supervision until they have demonstrated the ability to handle saws independently and proficiently;
3. Never start the saw until you are at the location where you intend to use the saw;
4. Do not hold the saw against your thigh or other body parts to start it. Do not drop start the saw;
5. Before starting, make sure the saw chain is not in contact with any object;
6. Use appropriate footwear, snug-fitting clothing, eye, hearing and head protection;
7. Operate chain saws in well-ventilated areas only;
8. The wearing of jewelry is prohibited. This would included but is not limited to rings, watches, neck chains and key chains on belts;
9. Do not allow other persons to be near the chain saw when starting or cutting. Keep bystanders and animals out of the work area;
10. Never start cutting until you have a clear work area, secure footing and a pre-cleared escape path. This is especially important in inclement weather when wind and wet conditions affect the way equipment, trees and personnel react;
11. Avoid working alone, if it cannot be helped, arrange for other personnel to keep in contact with you. They should be prepared to alert emergency personnel if need be;
12. Always hold the saw firmly with both hands when the engine is running. Use a firm grip with the thumb and fingers encircling the handles. Never make a cut one-handed;
13. Keep all parts of your body away from the saw chain when the saw is running;
14. Always shut off the engine before setting down a one-person saw;



15. Avoid cutting over your head. This will guard against kick back and help to prevent the possibility of dropping a running chain saw on yourself as well as guard against back injuries;
16. When cutting limbs under tension, be alert for spring back so you will not be struck when the tension is released;
17. Always begin a cut with the saw under power, release the trigger after the cut is complete;
18. Be careful that you are not directly underneath the limb you intend to cut. Don't over-reach as this will cause you to be off balance.



Chain Saw Maintenance

1. Keep the chain saw sharp and follow the recommended maintenance schedule.
2. All saws shall be equipped with spark arrestors when required;
3. Always use the following precautions when handling fuel and refueling the chain saw:
 - a. Always store gas in an approved container;
 - b. Do not smoke while handling fuel;
 - c. Always stop the engine to refuel the tank;
 - d. Beware of static electricity and sparks between the saws and fuel cans (metal and plastic).
 - e. Avoid spilling fuel or oil. Spilled fuel or oil should always be wiped up;
 - f. Do not remove fuel tank cap when engine is running;
 - g. Move the chain saw away from the fueling point before starting the engine; and,
 - h. Keep the handles dry, clean and free from oil or fuel mixtures.



Chain Saw Kick Back

Kick back is the upward motion of the guide bar, which occurs when the chain saw nose or tip of the guide bar contacts an object. Kick back can lead to dangerous loss of control of the chain saw. It is seldom fatal; common injuries from kick back are severe cuts to the face, arms and shoulder regions. Some ways to avoid kick back are:



1. Hold the saw firmly in both hands, being careful to position yourself in a way that you aren't over-reaching;
2. Do not let the nose of the guide bar contact a log branch, the ground or any other obstruction. Do not cut with the tip;
3. Keep your chain sharp;
4. Position your body to the side of the cut, not over it so should it kick back, the plane of the cut does not include your body;



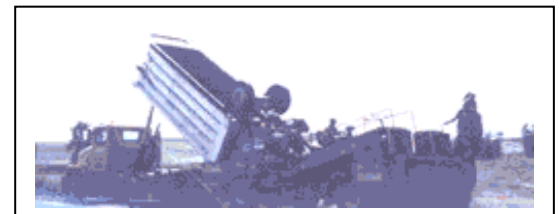
Chemical Spray Truck

1. Check connections for leaks;
2. Check for kinked or frayed hoses;
3. Check packing glands on agitator shafts for leaking;
4. Avoid splashing by not overfilling tank;
5. Check tank mounting for cracks or loose bolts.



Chip Spreader

1. Deadhead spreader with hopper empty or no more than one-quarter full.
2. Four employees shall be used to operate spreader;
3. No more than four employees shall ride on the spreader when deadheading;
4. Check for proper functioning of all electrical switches and hydraulic valves prior to receiving first load of material;
5. Use caution when starting and stopping spreader on grades;
6. Keep ground personnel clear of spreader when in operation;
7. Shut down engine and set parking brake when spreader is not in use;
8. Use steps and handrails when mounting and dismounting. Do not jump off spreader;
9. Do not mount or dismount spreader while in motion;
10. Use caution when installing or removing spreader hopper. Properly secure load. Avoid pinch points.





Drill Truck

The auger drill truck is the pressure type as seen in the pictures above. The operator before drilling will need to observe that there are no overhead utility lines, that the underground utilities are clearly marked on the street. Be sure to follow the safety guidelines described below when you are operating the auger drill truck.

1. Observe if work area is not located below overhead utility lines. It is unlawful to operate a boom in close proximity to power lines;
2. Observe if underground utility lines are properly marked;
3. Be sure outriggers are properly set before digging;
4. Check that auger bit is securely attached to driving shaft;
5. Never allow anyone to work under the raised auger drill;
6. Never drive the truck with the boom in the raised position.

Equipment Lowbed

7. Lock truck and trailer brakes so lowbed cannot move;
8. Check deck to make sure it is clean and in good condition;
9. Check ramps to make sure they are clean and in good condition.
10. Load on a level surface at all times;
11. Be careful while loading implement, especially if conditions are wet or icy;
12. Lower all implements and set parking brake; block wheels if necessary;
13. Tie down with proper chains and binders;
14. Check tires for proper pressure and condition.

Fence Repair

1. Pre-op equipment and review safe practice rules for applicable equipment;
2. Park in an area suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others;
3. Use required personal protective equipment;
4. Employee should select proper tools for the job;
5. Allow ample space for each employee to work safely;
6. Be alert to wire and posts that are under tension;
7. Clear work area of fire hazards before using torch;
8. Be alert for slip, trip and fall hazards;
9. Assure proper ventilation when cutting galvanized materials with torch;
10. Have a fire extinguisher available while cutting or welding.

Flat Mower

1. Make a visual inspection of the area before starting;
 2. Allow no one on the machine other than the operator when the machine is in motion;
 3. When operating the machine on a side hill, allow no one to remain down slope while the machine is in motion.
- 
4. Never allow the machine to coast downhill with the transmission in neutral;
 5. When working with the machine in unfamiliar territory, heavy brush and trees, or areas of poor visibility, operator should enlist the assistance of an observer on the ground. The observer should be especially careful to stay clear of the machine and any falling trees or limbs;
 6. Never back up without first looking to the rear;
 7. When parking, set parking brakes, lock transmission, let blade down, leave in full float position, turn off switch and remove key.

Forklifts

1. Complete formal training before operation;
2. Rated capacity must be stated on forklift;
3. No riders shall be permitted on forklift unless forklift is equipped with adequate facility;
4. All unattended forklifts shall have mast at vertical position, forks in the down position, engine off and parking brake set;



5. Loaded forklift shall not be moved until load is safe and secure;
6. Operators shall look in the direction of travel and shall not move the forklift until it is certain all persons are clear;
7. The forks shall always be carried as low as possible, consistent with safe operation;

8. Forklifts shall not be driven up to anyone standing in front of a bench or other fixed object where such persons could be caught between the forklift and the object;
9. Employees shall not place any part of their body outside the running lines of the forklift or between the mast uprights or other parts of the unit where shear or crushing hazards exist;

10. Employees shall not stand or work under the elevated portion of any forklift;



11. The operator shall slow down and sound the horn at all locations where visibility is obscured or obstructed. If the load being carried obstructs forward view, the operator shall be required to travel with the load trailing unless uphill;
12. Extreme care shall be taken when tilting loads. Tilting forward with forks elevated shall be prohibited except when picking up a load. Tilting elevated loads forward shall be prohibited except where the load is to be deposited on a storage rack or equivalent;
13. Special precautions shall be taken in the securing and handling of loads by forklifts that are equipped with special attachments, and during the operation of these trucks after the loads have been removed.
14. Operator of forklift shall remain in operator's seat when forklift is used with a personnel basket. Only approved personnel basket attachment will be used for elevating employees.

Front Loaders

1. Always park the loader with the bucket down;
 2. Do not leave the cab with the motor running;
 3. Work pressure off of steering before leaving the cab of articulated-type loaders.
- 
4. Engage safety steering lock on loader before working on loader, if so equipped;
 5. Always set the hand brake before leaving the machine;
 6. Allow no one to stand on the steps, ride in the bucket, or on any other part not intended for passenger use;
 7. Carry loaded bucket close to the ground;
 8. Stop loader with the brakes, not with the transmission;
 9. Do not operate the loader controls from any other position other than the operator's seat;
- 
10. Do not lower the loader bucket with the control lever in the float position;
 11. Walk around the loader prior to use to make sure equipment and people are not in a position to be hit. Back up only when you are sure it is safe to do so;
 12. Always lock the loader properly when parking unattended or for the night;
 13. Do not swing the bucket over the ground crew or truck cab;
 14. Use extreme care when working down slope;
 15. Build a berm prior to dumping over banks.

General Lawn Safety

From flower care to lawn care, tree trimming and leaf collection and fertilizing, employees are responsible for safely maintaining grounds. Gardening tools and mechanical lawn care devices such as lawn mowers, power blowers and chain saws, present special safety concerns for grounds maintenance personnel.

Potential landscaping accidents include the following:



- Cuts, lacerations or amputations from whirling mower blades;
- Bruises or broken bones from flying projectiles;
- Burns from hot equipment parts;
- Electrical shock from faulty grounding or defective electrical cords;
- Back strain from improper equipment usage;
- Slips, trips and falls;
- Eye injuries from tree and shrub limbs, flying particles and debris; and,
- Insect bites and injuries from poisonous plants.

Regardless of the type of landscaping equipment you use, follow these basic guidelines to ensure optimum safety:

1. Read the equipment owner's manual;
2. Use the right equipment for the job at hand;
3. Inspect the equipment before each use;
4. Know how to control and stop the equipment quickly;
5. Wear personal protection equipment as necessary, including eye protection, hearing protection, long pants, steel-toe shoes and work gloves;
6. Apply sunscreen to exposed areas of skin;
7. Be careful to avoid fatigue and heat stress;
8. Drink plenty of water;
9. Take breaks;
10. Do not operate powered equipment if you are tired, sick or taking certain medications;
11. Take special precautions when working with electrical equipment. If you are using an extension cord, take care not to accidentally cut it;
12. Do not smoke around gas powered equipment. Allow hot equipment to cool before refueling;
13. Make sure all guards are in place and in good condition.



It is important to keep pedestrian and bystanders at least thirty (30) feet away when using powered equipment.



Gravel Screen

1. Hard hat, ear and eye protection will be worn at all times when screen is in operation;
2. Stop the machine immediately in the event of safety relevant malfunction or change in machine behavior during operation. Report the malfunction to the work supervisor immediately;
3. Make certain all personnel are working in compliance with the operating instructions and are alert to risks and safety factors;
4. Never fill the fuel tank with the engine running, while near an open flame or while smoking. Always wipe up any spilled fuel;
5. Check for warning tags placed on the start switch. Do not operate the gravel screen until repairs have been made and the warning tags have been removed by authorized personnel;
6. Know the location of the stop switch before starting the engine;
7. Take all necessary precautions to ensure that the machine is used only when in a safe and reliable condition;
8. Make sure no one is at danger or risk before starting up or setting the machine in motion;
9. Always use hand rails and steps to get on and off of the gravel screen. Always maintain a three point contact when climbing onto or off of the gravel screen;
10. Before starting the engine, ensure that all clutches are in the neutral position;
11. Avoid, whenever possible, servicing, cleaning or examining the gravel screen with the engine running.



Guardrail Repair

1. Review safe practice rules for applicable equipment, including rental equipment and perform pre-operational checks;
2. Review any traffic control requirements;

3. Park in an areas suitable for safe entering or exiting of vehicle and which does not cause a hazard to yourself or others;
4. Use standard personal protective equipment. Wear gloves where possible;
5. Allow ample space for each employee to work safely and keep work area clear;
6. Inspect area for hidden hazards before beginning work;
7. Be careful when removing damaged rail or cable, it may flex and spring back;
8. Be alert to objects that can fall on you when they come loose;
9. Do not breathe toxic vapors while cutting galvanized rail with a torch. Wear welding goggles when using the torch;
10. Use proper lifting techniques to avoid back injury;
11. Locate utility lines and pipes before digging;
12. Be aware of moving equipment in the work zone;
13. Be aware of sharp wire ends or damaged posts and sharp edges;
14. Dispose of treated posts properly, do not burn them;
15. When working on treated posts, wash hands with soap and water before eating, drinking, smoking or using the restroom;
16. Minimize the exposure to traffic by placing tools and materials on the off-traffic side of the guardrail;
17. Do not needlessly expose yourself to moving traffic to pick up small pieces of debris left over from the impact.



Hand Tools

Although garden hand tools tend to be safer than powered equipment, common gardening tools, such as rakes, shovels and hoes cause thousands of injuries each year. Follow these guidelines for using garden hand tools:



1. Keep hand tools in good condition. Remove and repair split or rotten handles.
2. Never leave a rake, shovel or hoe on the ground facing up. Foot injuries from exposed metal and head injuries from handles that pop up unexpectedly are the main hazards associated with these tools.

Motor Grader

OPERATION

1. Be careful not to pinch fingers when removing inspection panels;
2. When traveling, make sure blade is in the proper position;
3. Never leave grader unattended without putting the blade down;
4. When operating the grader next to the edge of a bank or slope, be extra sure of footing;
5. Don't extend blade into front or rear tires or transfer case;
6. When operating grader, be aware of protruding or overhanging objects or limbs;
7. Be on the lookout for hazards in or on the traveled way, such as bridge joints, abutments, manhole covers, curbs, etc.
8. Use proper entering and exiting procedures. Do not jump from cab;
9. When backing grader, be extra cautious of personnel, equipment and objects in the area;
10. Don't open the doors when the grader is in motion;
11. When cutting back on supers, lighten up on blade pressure to avoid slipping into the other lane of traffic;
12. Review controls before using an unfamiliar grader.



CHANGING BLADES

1. Use proper cutting edges;
2. Change blade when 10% of blade remains;
3. Park on level ground, set parking brake;
4. Swing blade to the right and roll blade forward;
5. Remove debris between mow board and cutting edge with scraper;
6. Replace worn bolts and nuts.



Mower Safety

As we enter the mowing season, it's time to brush up on your mowing safety procedures to increase your productivity and help keep yourself free of injury. Although many users have years of mowing experience, sometimes safety precautions are overlooked and the results can be dangerous.

Staying aware of sight conditions, knowing your machine and constantly being alert can help you avoid accidents and injury. Of course, every operator should always refer to the operator's manual for routine maintenance schedules and safety tips. Here are some general mower-safety guidelines.

Before Mowing

1. **Dress for the job.** Safety precautions are not limited to reading your operator's manual and performing maintenance on your machine. In fact, safety begins with the clothes you wear to work. Choose close-fitting clothes and long pants, hearing protection, eye protection, work boots with traction and heavy gloves (when handling blades). Do not wear loose-fitting clothes or jewelry which can get caught or hung up on a machine and cause injury.
2. **Know your machine.** All mowers of a given type have some of the same basic equipment parts. For example, front-deck mowers all have features such as panel controls, seat controls, foot controls, fuel tank, fuel filter, engine oil fill and check, hydraulic oil fill and check, mower deck, grass deflector, height adjustments, radiator and air cleaner. However, every machine includes unique features, so read your operator's manual to familiarize yourself with your machine. As any minor and major machine problems arise, report them to your supervisor or mechanic. Reporting problems right away will help you avoid potential hazards.
3. **Read warning labels and check safety features.** There are dangers associated with operating any power equipment so pay attention to all warning labels and safety features on your mower. Also, check the safety guards and devices to ensure that they are in proper working condition. Never operate your mower if your safety guards and devices are not in place.
4. **Conduct daily inspections.** Always conduct your daily mower inspections on a hard, flat surface away from the mowing area. Open the hood and check the mower's oil level. Check the hydraulic system for the appropriate level of fluid. Inspect the cooling system to make sure there is enough coolant in the radiator. Clean any debris off the screen and front of the radiator. Check the condition of your air-restriction indicator or the condition of your air cleaner and empty any debris found. Ensure that all parts such as belts, pulleys, catchers and guards are in proper working order. Also, check the tire pressure. Always refer to your operator's manual for step-by-step start-up procedures and daily machine inspections.





5. **Adjust the cutting height of your deck.** If you are using multiple pieces of mowing equipment on the same landscape area, make sure the height of your mower deck is consistent on all machines so you'll have a uniform cut. Never adjust the mower height when the engine is running. All adjustments should be made while the engine is turned off.
- 
6. **Check your collection/discharge system.** Most commercial mowers will have some combination of material collection system (MCS), side discharge or mulching system. Always check to make sure that your MCS, discharge chute and mulching attachments are properly secured and in good working order. Never start the mower if attachments are not securely fastened.
 7. **Check the fuel level.** Check your mower's fuel level and fill if necessary so that you start your day with a full tank of fuel. If you refuel during the day, move your mower to a flat, concrete surface, turn the engine off and allow the engine to cool. (Refilling after lunch or an afternoon break is convenient). Carefully fill the fuel tank and avoid spilling. (Spilled gasoline will evaporate, releasing hydrocarbon emissions into the atmosphere). Also, never smoke around gasoline.
 8. **Clear your work area.** Before you begin your job, walk the mowing area and clear all hidden hazards such as rocks, stumps and hidden debris like broken glass, bottles and miscellaneous materials. Injuries may occur from debris that is projected into the air by mower impact. Projected debris can cause injuries to operators, pedestrians and property.
 9. **Inspect your work area for nature's hazards.** While inspecting your work area for debris, be on the lookout for bees, fire ants and poison ivy and poison oak. Taking note of potential area hazards will increase your productivity as well as your safety. Also, avoid improper working conditions such as overly saturated grounds, which can cause slippery conditions.

While Mowing

1. **Make a perimeter pass.** Always start your mower from the operator's seat—never while standing beside the mower. Once you are ready to mow, engage the power take off (PTO). When engaging the blades, do so at the lowest recommended engine setting rather than at full throttle. Release the brake and gradually depress the foot pedal to begin forward motion. Start by making a perimeter pass with the discharge chute or grass catcher to the inside—that is, away from the sidewalk, pavement, curb or whatever structure borders the turf. This will keep the mower from hitting curbs, trees, bushes and any other obstacles. The perimeter pass will allow you to make U-turns in the grass, thereby avoiding tire and grass stains on the concrete.





2. **Start mowing.** Always mow in straight lines, alternating directions and changing the pattern every week, if possible. For the best-quality cut, make sure your blades are sharp and mow with the engine running at maximum speed. If you are mowing long grass, use the highest cut setting for the first pass, then make a second pass to cut the grass at a lower setting. Discharge clippings toward previously cut lawn areas. Never position the side-discharge chute toward people or property.
 3. **Know your surroundings.** To avoid injury to yourself or others, pay attention to people around you. If a person or animal approaches you while working, stop your mower and turn off the engine. You may resume mowing once the work area is clear of all people and animals.
 4. **Avoid rubbing objects.** When mowing, keep a safe distance from trees and other landscape features. Avoid hitting or rubbing the mower or its tires on any buildings, cars, signs, trees and other property features. Serious landscaping and property damage can occur, not to mention unnecessary wear to your equipment.
- 
5. **Pick up any missed debris.** If you see any debris that you missed in your initial inspection, stop the machine, turn off the engine and pick up the debris. Do not attempt to clear debris while the machine's engine is still running.
 6. **Unclog the deflection chute.** Sometimes while mowing, the deflection chute can become clogged with grass clippings. To unclog it, turn off the engine and make sure the blades are stopped. To ensure safety, disconnect the spark plug wire and use a tool or stick to clear grass clippings. **NEVER** clear the deck or chute with your hands and **NEVER** place your hands or feet near the cutting blades.
 7. **Be extra careful on slopes.** Always mow up and down slopes—never mow across slopes. Decrease your speed when mowing down slopes or around sharp corners to help prevent tipping. Maintain minimal ground speed and make wide gradual turns. Avoid sudden starts, stops and turns. Remember: if it looks dangerous, it almost certainly is dangerous so use caution accordingly.

After Mowing

1. **Shut down before performing maintenance.** Refer to your operator's manual for proper shutdown procedures. Always shut down your machine from the operator's seat—never dismount from a running mower. Make sure that the mower is completely stopped and the engine is off before you begin your clean-up and maintenance procedures. Your operator's manual will detail specific daily clean-up and maintenance tasks.

2. **Clean your mower.** Your mower should be cleaned after each job by removing clippings and other landscaping debris from the mower deck and deflection chute. Lingering debris can cause unwanted buildup and potential malfunctions or breakdown of parts. Also, accumulation of grass, leaves or excessive grease can be a fire hazard.



3. **Perform routine maintenance.** Preventive maintenance is key to your machine's longevity. Although your operator's manual will provide specific routine maintenance procedures, certain common maintenance procedures apply to all commercial mowers. After each mowing job, you should check your mower's tire pressure and adjust if necessary. Check all fluid levels, belts, guards and blades. From your inspections, prepare a list of potential maintenance problems for your supervisor or mechanic.



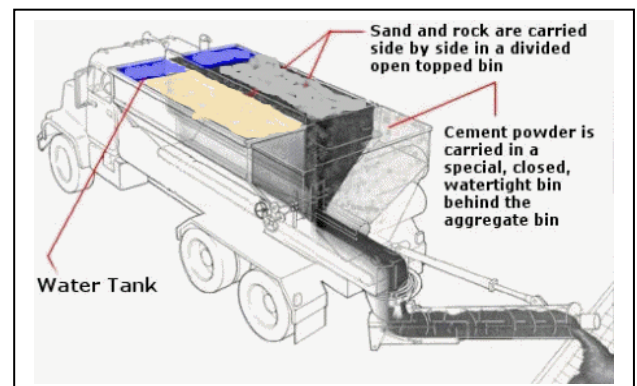
4. **Tend to repairs immediately.** If your machine requires any repairs, tend to them immediately. Delaying machine and parts repairs will delay productivity. If repairs are overlooked and the mower is reused, damage to additional mower parts or operator injury may result.



5. **Maintain recommended maintenance schedule.** Refer to your operator's manual for routine daily, monthly, quarterly and yearly maintenance procedures. Keeping your machine in top condition can help you increase your productivity and decrease any risk of injuries.

Mobile Mixer

1. Do not allow any foreign matter in the cement bin, especially moisture.
2. For 400 series, do not allow any particles larger than 1 ¼" in aggregate bin.
3. Do not run the water pump dry.
4. Do not continue to operate machine if hydraulic oil temperature exceeds 180 degrees F.
5. Wash out auger within 20 minutes of last use.
6. Never attempt to operate while in motion, unless roll and pour model mixer.
7. Keep entire body clear from all moving parts.



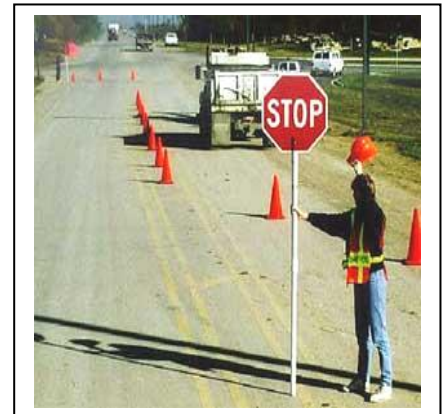
8. Never attempt to walk on top of aggregate bin to cross from the cement bin to the water tank (use the ladders).

9. Never walk or stand under the auger.
10. Never climb inside the aggregate bin while in operation (use a small pole to dislodge any aggregate that has been bridged).
11. Never enter the cement bin while in operation (there are moving parts inside the bin).
12. Follow all preventive and regular maintenance schedules as recommended by the manufacturer.
13. Conveyors shall not be operated unless all covers and/or guards for the conveyor and drive unit are in place. If the conveyor is to be opened for any reason, the electric power to the motor driving the conveyor must be **LOCKED OUT**.
14. Anytime a section of the conveyor must be exposed, then the exposed section must be guarded by a railing or fence and a warning sign shall be posted.

Patching



1. Perform required pre-operation check;
2. Review work area and all traffic control requirements;
3. Use required personal protective equipment;
4. When backing any equipment, make sure area is clear and use observer when available;
5. Make sure of footing when mounting and dismounting equipment;
6. Check emulsion and diesel tank for enough material to last all day;
7. Check that the truck is loaded with mix;
8. Check that all pumps and bed lift are working properly;
9. Check that you have all needed equipment including rakes, shovels, brooms, flagging equipment, warning signs, etc.
10. Make sure advance warning signs are up and facing traffic;
11. When returning at night, check that the truck is cleaned out and ready for the next day. Plug in emulsion tank and make sure it is working; if not, notify a mechanic in the shop.



Pavement Stripping

1. Review safe practice rules for applicable equipment, including rental equipment and perform pre-operational checks;
2. Review any traffic control requirements;
3. Park in an area suitable for safe entering or exiting of vehicle and that does not cause a hazard to yourself or others;
4. Use standard personal protective equipment;
5. Bead tank pressure shall be completely released before the lid is removed;
6. Make sure paint pressure is completely released before pulling paint filters;
7. Do not use pressure relief valves to bleed pressure on any pressurized tanks;
8. All air and paint pressure lines should be checked periodically for softness and wear;
9. Do not use a pressurized air hose to clean yourself;
10. Use extreme caution when working around high pressure paint guns. Paint could be injected into your skin.



Pesticides/Chemical Products

Information on the safe use of pesticides (insecticides, herbicides, etc.) is given in this manual. When using pesticides, follow these safety guidelines:

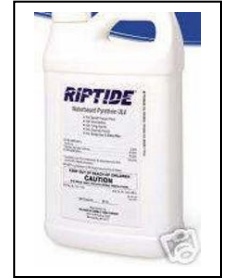
1. Use rubber gloves, suits and goggles or face shield when working with pesticides.
2. Read labels carefully for proper use, mixing and disposal.
3. Empty containers must be triple rinsed, then placed in a dumpster.
4. When applying pesticides, mix only the amount necessary for the particular job.



Pesticide Use

Pesticides may not be used without the supervision or direction of the Grounds Superintendent (licensed applicator).

1. The licensed applicator will:
 - a. Choose the pesticide;
 - b. Monitor the checkout log;
 - c. Specify protective equipment and clothing (or as indicated on the label);
 - d. Coordinate mixing;
 - e. Specify where and how the pesticide can be applied; and,
 - f. Coordinate rinsing and disposal of the containers.



2. Low Pressure Sprayers (Pump-Up, Bean Sprayer or Solo Sprayer)
 - a. Rubber gloves (canvas or cloth gloves are not acceptable) are required when filling, cleaning and spraying and any other protective apparel as required on the label.
 - b. Chemical goggles only (safety glasses or dust goggles are not acceptable) are to be worn when filling, cleaning equipment and spraying.
 - c. The exteriors of the rubber gloves are to be cleaned after each use.
 - d. Appropriate warning signs are to be posted in the area of applications and left until re-entry can occur if exposure is a concern.



3. High Pressure Spraying
 - a. This task will be performed only under the supervision of persons holding a valid pesticide applicator's license.
 - b. Respirators and protective clothing will be worn if there is a possibility that airborne concentrations of pesticides will exceed safe limits or if required by label (applicator and auxiliary helper).
 - c. The applicator will be responsible for any auxiliary help he/she has and will make sure the helper observes all safety precautions and wears the proper safety apparel.



- d. The applicator will follow manufacturer's safety recommendations which are printed on the container labels.
- e. Appropriate warning signs are to be posted in areas of application and left until safe re-entry can occur if exposure is a concern.

Pickup Brooms

1. Remove elevators and rear broom whenever repairing.
2. While driving, always scan the entire area for possible accident situations.
3. When backing, use your mirrors or step out to look behind you if you are in doubt.
4. Keep cab clean.



5. Use safety stand when working under raised hopper.
6. Drive carefully when deadheading, especially when loaded.
7. Take extra caution when changing or adjusting gutter brooms to avoid an injury from the steel bristle.
8. Be cautious of hand and footholds when climbing onto and off of sweeper or hopper.
9. Don't attempt to sweep an unidentified substance.
10. All repairs and adjustments should be made away from the traveled way.
11. Do not load hopper beyond marked capacity.



Portable Emulsion Tank

Start Up

1. Fill bituminous oil tank to a level above the heat tube;
2. Fill diesel tank to level at bottom of fill neck;
3. Open valve at lpg-tank and adjust regulator to 8 psi;
4. Crack valve at lpg-burner, depress red button at safety valve, light lpg-burner through side port, open valve to full flow, hold button depressed until flame stabilizes and readjust regulator to 8 psi if necessary;





5. Adjust flame to length of approximately 12" into heat tube; if flame is red or yellow, open air disc with socket wrench until flame is blue; if flame pops back or goes out, close air disc slightly (repeat step 4 above if flame goes out).
6. Heat the oil between 130 degrees to 150 degrees before spraying;
7. Start engine to preheat the pump;
8. Open suction and return valves to circulate oil through the pump and back to the tank;
9. Check pressure at gauge; pressure relieve valve is preset at factory to relieve at 50 PSI;



Operation

1. Push lever on spray wand to hand spray;
2. Open return valve when not spraying to reduce wear on pressure relief valve (do not stop engine).

Shutdown

1. Close suction valve, open return valve and open drain valve to clear bituminous oil from pump and plumbing;
2. Close drain and return valves; open diesel valve;
3. Push lever on spray wand until diesel sprays from nozzle; pull lever closed when diesel spray appears clear;
4. Close diesel valve and stop engine (leaving diesel in system until next startup).

Power Blowers

Because power leaf blowers produce air gusts up to 200 mph, you must follow all manufacturers' safety precautions. Always walk towards your work when using a power leaf blower. Do not back away from your work. Be aware of pedestrians or others in the area. Wear safety goggles.



Riding Lawn Mowers

In addition to the general guidelines for mower safety, follow these guidelines for riding lawn mower safety:

1. Before starting the engine, make sure the transmission is out of gear and the mower blade clutch is disengaged.



2. Never allow extra riders on the lawn mower.
3. Slow down when turning and when working on slopes. Mow up and down slopes rather than across them.
4. Always look behind you before backing.
5. If you hit a large rock or stump, stop the mower and inspect the blades and shaft. Report damaged blades.
6. Never leave a running lawn mower unattended. Before leaving the seat, park the mower on a flat area, disengage the mower blades and remove the ignition key.



Rollers

1. Use caution when operating rollers on steep grades;
2. Keep area clear when operating roller;
3. Shut off motor, use brakes and blocks when working on rollers;
4. Always completely stop roller before changing direction;
5. When rolling patches or edges, don't get too close to the edge of banks as the roller can easily tip over;
6. Don't roll over raised pavement markers;
7. Remain in the seat when operating;
8. Don't start the motor from the ground;

Sand Blaster

Main Tank

1. Check all fittings for leaks and alignment;
2. Be careful not to overfill sand reservoir;
3. Make sure all valves are properly opened or closed before activating;
4. Drain water from separator;
5. Stand clear and avoid looking toward the sand reservoir after filling;
6. Keep unauthorized personnel out of the immediate sandblast area;

7. Check blasting hoses for rips, tears, soft spots and connections;
8. Check nozzle for too much wear;
9. A shut-off valve must be on the hose near the operator for full control by the operator;
10. Caution must be exercised to keep from running over the hose with the tires of the truck.

Positive Pressure Air Hood

1. Adjust helmet headband and chin strap to proper size;
2. Make sure hood skirting is fitted down over the shoulders and the snaps are fastened.
3. The waist belt for the helmet air hose should be worn on the outside of the skirting so the adjustment knob can be reached;
4. Hearing and eye protection are required.

Shop Equipment

1. When using hand power tools, eye and ear protection will be used at all times;
2. All work areas will be kept clean and free of debris;
3. All liquid spills will be cleaned up immediately;
4. Work benches shall be kept clean and organized;
5. Tool boxes will be kept clean, organized and in the proper location.

Drill Press

1. Use clamps to hold objects to the table;
2. Only use sharp drill bits.

Bench Grinder

1. Adjust the guard for proper alignment;
2. Clear the work area;
3. Organize work to be done.

Lathe

1. Clear are of shavings and debris;
2. Only use sharp tools for cutting;
3. Use proper tool stance for hold tools.

Hydraulic Press

1. Clear are of debris;
2. Use proper stance during pressing operation;
3. Watch objects for movement being pressed.

Stump Grinder

Before starting the machine, make sure the area is free of all objects that can obstruct movement when working with the grinder. Check for loose tools or foreign objects, especially in the grinding area. All tools not in use should be secured in a toolbox.

1. Operators must at all times be located within easy reach of the feed control and shut-off devices when the unit is running.
2. Keep loose clothing, long hair, shirttails and sleeves contained. Neckties shall never be worn when operating the machinery. Jewelry should not be worn.
3. Make sure all guards are tight and secure.
4. Wear all personal protective equipment such as hard hat, face shield, safety glasses, gloves and ear protection. A fully-charged fire extinguisher must be with the machine while it is in operation.
5. Never sit, stand, climb or ride anywhere on this machine while it is running, operating or in transit.
6. Do not go near hydraulic leaks. Do not use fingers to check for leaks; use a piece of cardboard.
7. Do not go near or in-line with the debris field of the stump grinder while in operation.
8. Never refuel while the grinder is running. Always refuel in a well-ventilated area. Do not smoke while refueling. Do not fill above ½" from top of tank.



9. Always install the lock pin into the cutter lock tube before working on the grinder.
10. Never grind any materials that might contain wires, stones, nails or other metal objects. Remove all rocks and stones from stump grinding area.
11. Do not start to grind a stump unless completely sure there are no power, water, sewer, or phone lines in the area above or below ground level where you are grinding.
12. Never go near cutter wheel or teeth while engine is running or cutter wheel is coasting to a stop.
13. Use extreme caution when traveling over non-level surface.
14. Use caution when transporting to avoid a roll over due to narrow wheel base.

Tilt-Bed Equipment Trailer

1. Back up the trailer with the assistance of another person when possible.
2. After the trailer is secured to the truck and air lines, electrical lines and safety chains are secured, switch air lever in the cab of the truck. When the proper air pressure is obtained, check the air lines for leaks. Raise the trailer stand and lock in the up position.
3. Check for wear and damage to the following while securing the trailer to the truck:
 - a. Hitch connection;
 - b. Safety chains;
 - c. Electrical lines; and,
 - d. Air lines.
4. After the trailer is secured to the truck, check the air lines to the brakes, if so equipped.
5. Check signal lights, brake lights.
6. Check the trailer brakes, release brakes in the cab and move the truck and trailer and apply trailer brakes.
7. Never load or unload the trailer unless hooked to the truck.
8. Check winch cables for wear and tear, if so equipped.
9. Drive equipment onto trailer slowly to avoid damage when trailer tilts to down position.



10. After loading equipment, lock bed into the down position.
11. Use loading ramps when applicable.
12. Be sure load is secured tightly with chains, cables, ropes, etc.
13. Pull trailer with truck suitable to handle the weight of the load.
14. The weight of the load should be centered according to the manufacturer's recommendation; 10% to 20% is the maximum weight allowed over the hitch.
15. After parking the trailer, drain the air tanks, if so equipped.
16. When towing the trailer, observe the trailer and adjust speed to weight of load and road conditions.



Tractors

1. Never leave the machine unattended with the engine running.
2. Do not leave attachments in the raised position when the machine is not in use.
3. Travel slowly when moving over rough terrain.
4. Never allow anyone to work under raised attachments without proper safeguards in place and secured.
5. Never drive too close to the edge of a ditch or excavation.
6. Watch for overhead wires.
7. Reduce speed before turning or applying brakes. Couple the brake pedals together when traveling at higher speeds. Drive at speeds slow enough to ensure the safety of yourself and others around you.
8. When driving out of a ditch, gully, or up a steep slope, engage the clutch slowly. Be prepared to de-clutch promptly should the front wheels rise from the ground. Use the same care should the rear wheels mire in soft ground or drop into a hole. Back out of these situations if at all possible.
9. Never attempt to start or operate this equipment from any other place than the operator's station.

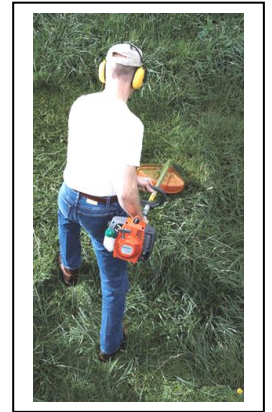


10. Protect PTO drive with master guard and shield.
11. Do not oil, grease or adjust the unit while it is in motion.

Trimming Equipment

Follow these safety guidelines for trimming equipment such as hedge trimmers, string trimmers, grass shears and edgers:

1. Wear safety goggles.
2. Avoid touching rocks, debris and gravel with trimming equipment. These items could cause a serious injury if a kickback occurs.
3. Make sure all screws and chains are tight. Vibrating equipment can cause screws to loosen.
4. Walk towards your work. Do not back away from your work when using a trimmer.
5. If using electric trimmers, keep extension cords clear of blades.



Trucks

The truck's height and weight classification shall be displayed prominently at all time on the dash board. Most of the trucks used by the Public Works Department have a SU3 classification, and one with a SU4 classification. See page 5 of the Appendix section, for more information on the different classifications. The following are safety guidelines to follow pertaining to truck(s) safety:

1. Keep windshield, side windows and mirrors clean.
2. Make sure slack adjusters on air brakes are properly adjusted, if applicable.
3. Keep the tires properly inflated.
4. Clean windshield before wiper is used.
5. Check brake connections, penile hook and safety chain before towing trailer.
6. When entering and exiting, face equipment, use handholds, steps and ladders.
7. Allow engine to reach operating temperature before using full capacity operation.
8. When operating truck, keep engine below governed speed.



9. Check that the headlights, brake lights and turn signals are working properly.
10. Check instruments for overheating, loss of oil pressure, proper RPM and road speed.
11. Do not overload truck.
12. Make sure cargo is properly loaded and secured.
13. Always use proper engine speed and gear ratio.
14. Do not coast downhill; use lower gears.
15. When parking, set hand brake; put truck into gear and park. Use blocks when the potential for roll away exists.
16. Air tanks should be drained at the end of the shift, if so equipped.
17. Remove accessories that will not be used for an extended period of time.
18. Maintain a daily pre-op record and service according to schedule.



Walk Behind Mowers

In addition to the general guidelines for mower safety, follow these guidelines for walk-behind mower safety:

1. Wear steel-toe shoes with good traction. Never wear sandals around walk-behind mowers.
2. Do not bypass the safety device that stops the blade when the operator releases the grip on the handle.
3. Mow across slopes rather than up and down slopes.
4. Work slowly and patiently when mowing tall grass or tough weeds. Forcing the mower may cause repeated clogs and engine stalls.
5. Never leave a running mower unattended. If you stop momentarily, cut the throttle to idle and make sure the mower will not roll away.
6. Employees are to wear canvas gloves when removing, sharpening or installing lawn mower blades.
7. Before removing a mower blade, first disconnect the spark plug wire. During blade removal, the wire should not touch the spark plug.
8. Side discharge chutes will be left down.



9. Moving longer than four hours a day requires hearing protectors.

Whacker Compactor

1. Do not smoke while operating or refueling the machine.
2. Always operate the machine with all the safety devices in place and in working order.
3. Always guide the machine so that hands do not get caught on obstacles. Keep both hands firmly in contact with the guide handle while operating the machine.
4. Stop the engine when leaving the machine or when refueling.
5. Do not refuel when hot or running the engine. Do not spill fuel over hot engine parts.
6. Do not refuel near open flame. Do not operate with fuel tank cap loose or missing.
7. Always keep hands, feet and clothing away from moving parts.
8. Always wear shoe guards when operating this equipment. Wear snug-fitting clothing, leather gloves and no jewelry.
9. Always operate in well-ventilated area. The engine emits poisonous fumes.
10. Be aware of surface condition and use special care when working on uneven ground or when compacting coarse material.
11. Never allow bystanders to stand close to the machine while it is being started or while it is running.
12. Transport the machine upright only. Fuel will leak out of the tank causing a fire hazard if not transported correctly.



Water Trucks

1. Keep windshield, side windows and mirrors clean.
2. Make sure slack adjusters on air brakes are properly adjusted, if applicable.
3. Keep the tires properly inflated.
4. Clean the windshield before the wiper is used.
5. When entering and exiting, face equipment, use handholds, steps and ladders.





6. Allow engine to reach operating temperature before using full capacity operation.
7. When operating truck, keep engine below governed speed.
8. Check instruments for overheating, loss of oil pressure, proper RPM and road speed.
9. Always use proper engine speed and gear ratio.
10. Do not coast downhill, use lower gears.
11. When parking, set hand brake; put truck into gear and park. Use blocks when the potential for roll-away exists.
12. Air tanks should be drained at the end of the shift, if so equipped.
13. Remove accessories that will not be used for an extended period of time.
14. Maintain a daily pre-op record and service according to schedule.
15. Be aware of possible load surge when turning or backing.
16. When using self-loader, do not run engine over 1500 RPM.

Vac-Truck

When using the equipment you must be alert and cautious at all times. An injury caused by high pressure water jets can be serious. In the event of any water jet injury do the following:

- Seek medical attention immediately, do not delay.
- Tell the physician/rescue personnel what type of water jet project was being performed and the source of the water.

The following are safety guidelines to follow. Only trained personnel should operate, perform maintenance or repair the unit.

1. All operators must wear the following personal protective equipment: safety goggles, ear muff protection, waterproof gloves, rain suit, safety shoes with non-skid soles, hard hat;
2. Watch for overhead wires;
3. Never drive truck with boom in raised position;
4. Stay at least 1 foot away from vertical suction boom;
5. Always keep an eye to waste tank liquid level;

6. When inserting jet rod pipe in drainage structure make sure that water pump is off;
7. Keep track of jet rod foot meter counter;
8. When retracting jet rod, shut off water pump if nozzle is within 10 feet of pipe entrance;
9. Make sure that hand jet hose is free of crack or leak;
10. Wear back brace belt and bend at the knees when lifting grate or manhole cover;
11. When dumping, allow tank to drain first before opening back hatch and raising tank;
12. Do not alter system components.
13. If a malfunction occurs, immediately stop and follow repair instructions; report all malfunctions to supervisor.
14. Work area must be clear and clean for good visibility and footing.
15. The unit must be thoroughly cleaned between jobs to prevent cross contamination.
16. Do not use this unit in any type of rescue operation where the vacuum is used for the rescue or to vacuum any type of hydrocarbon material.
17. Operating the unit inside a building or confined area can create additional risks to the unit, operators and building occupants. Engine exhaust gas can reach deadly levels.
18. All operations must be performed with at least two operators.
19. Employees will not go under a raised loaded body.
20. Employees will not go under a raised body without securely propping it. Body must be empty.
21. All personnel operating in the vicinity of the equipment need to be trained on the hazards and precautions of vacuum, high pressure water and compressed air.
22. Operators will not let any person ride on any part of the vehicle other than in the cab when the vehicle or hoist is in motion.
23. All individuals and obstructions must be clear to the hoist and body before operating the controls.



24. Do not leave a raised or partly raised body while vehicle is unattended or while performing maintenance or service under the body unless the body is propped to prevent accidental lowering. Shut off chassis engine and remove ignition keys under the above conditions.
25. Jewelry should not be worn during operation and maintenance of the vehicle.
26. Make sure the in-line vacuum relief safety is properly installed.

Work Zone / Traffic Control

The following sections provide general guidelines and requirements for work zone and traffic control safety. These consist of signals, flagging and work in the street, and they have been prepared to assist you based on your job descriptions and nature of work.



Hand Signals

Voice communications are sometimes impossible in certain working situations due to distance and noise. Hand signals can prevent accidents and save time. By using this hand signals it will give you an easy and effective way to communicate. (See Appendix, page 4 for illustrations).

1. **COME TO ME** – Raise the right arm vertically overhead, palm to the front, and rotate in large horizontal circles.
2. **MOVE TOWARD ME** – Look and point toward the person(s), vehicle(s) you want moved. Hold one hand in front of you, palm facing you, and move your forearm back and forth.
3. **THIS FAR TO GO** – Place hands in front of face, palms facing each other. Move hands together or further apart to indicate how far to go.
4. **MOVE OUT** – Face desired direction of movement. Extend arm straight out behind you, then swing it overhead and forward until it's straight out in front of you with palm down.
5. **LOWER EQUIPMENT** – Point toward the ground with forefinger of one hand while moving the hand in circular motion.
6. **RAISE EQUIPMENT** – Point upward with forefinger, making a circle at head level with your hand.
7. **SLOW DOWN** – Extend the right arm horizontally sideward, palm down, and wave arm downward 45 degree minimum several times, keeping the arm straight. Do not move arm above horizontal.

8. **START ENGINE** – Move arm in a circle at waist level as though you were cranking an engine.
9. **STOP** – Raise the right hand upward, arm fully extended, palm to the front. Hold that position until the signal is understood.
10. **SPEED UP** – Raise the right hand to the shoulder, fist closed. Thrust fist upward to full extent of the arm and back to the shoulder rapidly several times.
11. **STOP ENGINE** – Move your right arm across your neck from left to right in a “throat-cutting” motion.

The following are a few more signal descriptions for which illustrations are not provided.

1. **MOVE TO THE RIGHT** – Raise the right hand above the shoulder and with the thumb pointing to the right, make repeated motions to the right with the hand.
2. **MOVE TO THE LEFT** – Raise right hand above the shoulder and with the index finger pointing to the left, make repeated motions to the left with the hand.
3. **BACK** – With the right hand raised above the head and the palm of the hand turned inward, roll the arm and hand in a circular motion toward the body.
4. **GO FORWARD** – Raise right hand above the shoulder and with the index finger pointing ahead, repeatedly move the hand in a forward motion.
5. **LOW HANGING OBJECTS** – Whenever the helper may be endangered by low hanging or other projections being passed by the moving truck, the driver will warn the helper by **two short signals of the truck horn**.

Flagging

Rules of Conduct

1. Stand so you are clearly visible to approaching traffic at all times. Motorists should be able to see you from at least 500 feet away.
2. Stand in a conspicuous place; be visible to approaching traffic; stay visible to other vehicles approaching after first vehicle has stopped.
3. Choose a flagging position that will provide the greatest color contrast between you and the background.
4. Never flag from inside a vehicle.



5. Stand alone. Do not permit a group of workers to congregate around you.
6. Familiarize yourself with the nature of the work being performed. Be able to answer motorists' questions.
7. Establish a warning signal for the crew in the work area in case of an emergency.
8. Plan an escape route in case of an emergency.
9. Stay alert! Be ready to respond to any emergency.
10. Record the license number and description of any vehicle whose driver disobeys your instructions and threatens the safety of the work area.
11. Be courteous and professional.
12. Keep your mind on the job. Do not watch the work in progress or try to do any work other than flagging.
13. Do not involve yourself in unnecessary conversation with workers, pedestrians or motorists.
14. Do not lean, sit or lie on a vehicle.
15. Do not step into or turn your back to traffic.
16. Do not leave your position until you are relieved by a qualified flagger.
17. Cover, turn or remove the "Flagger Ahead" and "Prepare to stop" signs when a flagger is no longer on duty.



Safety

Anticipate every possible hazard that could happen at the work site. It is very important to remember that an approaching driver may not see you, may be unable to stop or may lose control of their vehicle. Practice the following safety guidelines:

1. Stand in a conspicuous position where you will be easy to see;
2. Always have an escape route in mind;
3. Devise an audible signal (such as a whistle or horn, or yell the word "traffic"), which can be heard above the work machinery to warn workers in the event a motorist loses control or fails to respond to your directions;



4. If a car overshoots the flagging station before coming to a stop, never walk behind the car because the driver may back up. Instead, walk to the front of the vehicle before crossing to the driver's side of the lane;
5. If a motorist fails to stop or slow down as directed, note the license number, the description of the vehicle and whether the driver was male or female. Report the information to your supervisor;
6. Keep your mind on your job at all times. Daydreaming could endanger your life and the lives of motorists and fellow workers;
7. Rotate flaggers as needed to maintain alertness;
8. Familiarize yourself with the job site;
9. Ask your supervisor for any special instructions;
10. Review the procedure for the safe passage of emergency vehicles through the work zone with your supervisor.
11. Allow for sufficient reaction time for vehicles to brake or slow down, based on weather, road conditions and sight distance.

Work on the Street

All employees who work on or along the side of a street **MUST WEAR ORANGE VESTS**. Vests worn **at night** shall be **reflective**.



A safe work zone must be designated and set up using flagmen, **warning signs and orange cones on all projects which require blocking off traffic lanes**. See the Safety Officer for details. Refer to page 5 of the Appendix section of this handbook for a graphic illustration on how to proceed when a lane closure on a minor street is required.



As per FDOT requirements, “personnel involved in the planning design, supervising, implementation, and maintenance of work zone safety” are required to achieve the Maintenance of Traffic Training certification. Persons possessing current valid and verifiable wallet cards issued by an approved Provider in accordance with the Maintenance of Traffic Training procedure or identification issued or approved by a certified Utility Agency Owner in accordance with the UAM shall be the only personnel approved to work on the maintenance of traffic activities for which they have been trained. The authority for this certification can be found in the following:

- Sections 20.23(3)(a), 334.048(3), 337.401 and 316.0745, Florida Statutes (F.S.)
- Florida Administrative Code Rule 14-15.010 and 14-46.001 (F.A.C.)
- Federal-Aid Policy Guide 23 CFR Parts 630J and 655F (Federal Regulations)

More detailed requirements of this certification can be found in the Maintenance of Traffic Training procedure (Topic No: 625-010-010-g) which is registered with the FDOT (Florida Department of Transportation). This procedure can be found at

<http://www2.dot.state.fl.us/proceduraldocuments/procedures/bin/625010010.pdf>

