



OPERATING BARK/MULCH BLOWERS

➤ KEY POINTS ◀

- ◆ With spring around the corner, you'll likely be freshening customers' properties soon with a new layer of mulch or another garden-bed material. Mulch and bark blowers, either as truck-mounted or tow-behind units, are a labor- and time-saving alternative to wheel barrows and shovels and allow crews to mulch difficult-to-access areas.
- ◆ Accidents can be avoided when managers properly train workers and maintain equipment and when workers understand and adhere to training.

➤ MANAGEMENT ◀

- Read the owner/operator's manual for every bark or mulch blower your company operates, paying special attention to safety instructions and prohibitions so you can develop worker safety training and procedures for potentially hazardous tasks, such as clearing jams.
- Always keep a copy of the operator's manual with each machine. Provide copies of manuals to workers to read in addition to the safety training they receive.
- Develop, implement and enforce written operating procedures, including safety precautions and hazard-mitigation techniques, that are specific to each bark/mulch blower your company operates. Make this writing part of your company's comprehensive safety and health program. Make sure to train and supervise employees in these procedures.
- Establish written lockout/tag-out procedures (in accordance with federal OSHA 29 CFR 1910.147 and any other applicable federal, state or local regulations) for each bark/mulch blower your company operates and train crew members in these procedures. Make these guidelines part of your company's overall lockout/tag-out program.
- Develop, implement and enforce written procedures for safe entry into or work in permit-required confined spaces, including bark/mulch blower hoppers. Make this part of your company's safety and health program as well.
- Create and share with employees a written list of PPE required for crew members operating or working near mulch or bark blowers. This PPE typically includes pants and a long-sleeved shirt; goggles; slip-resistant, steel-toed boots; hearing protection; gloves (without gauntlets); a hard hat; and dust mask or respirator.
- Train workers to remove rings, other jewelry, watches, etc., tie back long hair and avoid loose clothing.
- Teach employees that a mulch/bark blower's hopper interior is a [permit-required confined space](#). Make sure they know entry exposes them to hazards including moving belts, shafts and augers that can crush and kill them or amputate body parts.
- Only allow a crew member to enter a hopper when absolutely necessary and when all safety procedures are followed. Ensure employees know and adhere to permit-required confined space entry procedures that address lockout/tag-out of mechanical and hydraulic stored energy and any possible engulfment hazards from material inside the hopper. Also train workers to select, properly set up and use appropriate pushing tools, ladders, scaffolds and/or fall protection.
- Maintain bark/mulch blower trucks, tow-behind units and related parts/equipment in safe operating condition. Remove malfunctioning machinery and equipment from service and repair or replace it.
- Ensure crews and/or crew leaders conduct a daily jobsite hazard assessment, including machinery inspection, to identify and mitigate potential hazards.
- Attach equipment labels with graphics illustrating hazard warnings and providing safe-operation instructions.



Do

CREW MEMBERS' DOS AND DON'TS

Don't

- ✓ Read the operator's manual for each bark or mulch blower machine you operate or work near, in addition to receiving training from your employer on these machines.
- ✓ Ask for clarification if you do not understand any portion of the training or manual.
- ✓ Know the bark/mulch blower's hopper interior is a [permit-required confined space](#). Entry exposes you to hazards including moving belts, shafts and augers that can crush and kill them or amputate body parts.
- ✓ If the blower can be controlled via remote control, always keep the power switch on the remote receiver in the "off" position when the remote control is not being used.

BEFORE OPERATING:

- ✓ Put on all PPE required by your employer and the bark/mulch blower manufacturer. This typically includes pants and a long-sleeved shirt; goggles; slip-resistant, steel-toed boots; hearing protection; gloves (without gauntlets); a hard hat; and dust mask or respirator. Remove rings, other jewelry, watches, etc., tie back long hair and do not wear loose clothing.
- ✓ Ensure all guards are in place.
- ✓ Using all necessary safety precautions (including lockout/tag-out) and equipment (such as fall protection), carefully look into the blower hopper, inspect for and remove any foreign objects.
- ✓ Inspect all hydraulic hoses and tubes for cracks, bulges or damage. If present, notify a crew leader or supervisor immediately and do not allow the machine to be operated.
- ✓ Because diesel fuel or hydraulic fluid under pressure can penetrate the skin or

eyes, causing injury, blindness or death, check for these leaks using a piece of cardboard or wood instead of your hand.

- ✓ Inspect the material discharge hose and connections for cracks, damage or excessive wear. If found, notify a crew leader or supervisor immediately and do not allow the machine to be operated.
- ✓ Make sure no one is working in or on the machine.
- ✓ Ensure the area around the machine and the discharge space is clear of animals and bystanders and unauthorized personnel before starting the machine and at all times during operation.
- ✓ Signal "all clear" before starting the engine.

DURING OPERATION:

- ✓ Establish and maintain good footing and hold the hose firmly. High pressure can be exerted at the end of the hose.
- ✓ If needed, ask for extra crew members to help direct and hold the hose, especially when you are working on slopes.

WHEN LEAVING THE BLOWER UNATTENDED:

- ✓ Shut off the conveyor drive, vehicle engine and blower engine.
- ✓ Place vehicle transmission in "park."
- ✓ Firmly set the parking brake.
- ✓ Lock the ignition and take the keys with you.
- ✓ Lock the vehicle cab.
- ✓ If on a steep grade, block the wheels.

BEFORE SERVICING THE MACHINE:

- ✓ Turn off the engine and allow all moving parts to stop. Disconnect battery cables to prevent accidental starting of the machine. Tag the operating area to show the machine is being serviced and use all other lockout/tag-out procedures.

- ✗ Modify the machine or remove any part.

DURING OPERATION:

- ✗ Use hands or any part of your body to clear jams or move materials. Even slow-moving mechanical parts such as rotating shafts and augers have killed or maimed workers.
- ✗ Override or tamper with safety shutdown switches.
- ✗ Operate the machine without all guards in place.
- ✗ Attempt to connect or disconnect the discharge hose while the engine is running.
- ✗ Hold the hose so it is positioned between your legs.
- ✗ Aim the discharge hose at people, animals, etc. The blower discharges material at velocities that can cause severe injury.
- ✗ Place your hand or any part of your body in the discharge stream.
- ✗ Open any doors or access panels while the machine is in operation.
- ✗ Enter or attempt to pull anything out of the blower hopper when the machine is in operation. Shut down the engine, use lockout/tag-out procedures and [permit-required confined space](#) entry procedures for the particular machine, before entering the hopper or removing any objects. Signal "all clear" before restarting the machine.
- ✗ Read, eat, use electronic devices or otherwise lessen attention while operating the machine.

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OPERATING LANDSCAPING EQUIPMENT ON SLOPES

➤ KEY POINTS ◀

- ◆ When on a slope, a machine's stability and load capacity are altered. Some machines should not be operated on slopes, and most others require operators to use extreme caution and adhere to specific guidelines (found in operator's manuals) when performing work on slopes.
- ◆ Routinely and as related situations arise, supervisors and crew members should review general safety procedures regarding operating equipment on slopes as well as portions of manufacturers' manuals that deal with this topic.

➤ EMPLOYERS' AND SUPERVISORS ◀

- Remember, you are responsible for properly training employees to operate each specific machine they use. Since operation varies by manufacturer and model, employees must receive specific training for each particular machine they use. This training should include whether/how to operate the machine on slopes.
- Ensure employees read operating manuals and safety decals attached to machines. If an employee can't read the manual, have someone explain the safety messages to him/her and ensure he/she understands. For employees who speak little or no English, provide training in their native languages. Federal OSHA requires you to ensure employees understand training in safe work practices and hazards.
- Provide workers with and make sure they wear necessary personal protective equipment (PPE).
- Inspect job sites and take progressive disciplinary action when employees break safety rules regarding operating equipment on slopes.
- Make sure machines are maintained properly and safety guards and mechanisms remain in place. This includes systems that shut off ride-on mowers and ride-on trenchers when weight is not detected in the seat and walk-behind mowers when the operator releases the handle.
- Provide machines equipped with TOPS (tip-over protective structure) or ROPS (roll-over protective structure) and seat belts whenever possible.
- Before allowing an employee to use any machine on a slope, determine whether the operation can be performed safely.
- Ensure employees are aware that machine load capacities change when they operate on slopes. Make sure they have access to and can correctly interpret rated-lift-capacity charts for applicable machines.
- Replace any ROPS/TOPS that has been subjected to a rollover or damage. Do not attempt to repair it as welding, drilling, cutting, or adding to the structure could weaken it.

Note: All machine models are different, and this information is not a substitute for reading operating manuals for the particular machines your company uses. This information is meant to supplement specific information contained in those manuals. Additional precautions may be necessary, and some instructions might not apply, depending on the equipment and attachments.

EMPLOYEE DOS AND DON'TS

MOWERS:

- If the mower is equipped with a seat belt, wear it.
- Reduce speed and use caution on slopes.
- Drive up and down (not across) slopes when operating ride-on mowers. Do the opposite when using a walk-behind mower.
- When using industrial/agricultural mowers attached to tractors, increase stability on slopes by adding wheel weights and increasing wheel spacing (refer to the tractor operator's manual for recommendations).
- Don't operate the machine if guards are missing or if safety systems are not functioning.
- Don't stop, start, or turn on a slope while driving a ride-on mower.
- Don't suddenly change direction or speed.
- Don't operate a riding mower on slopes greater than 15 degrees.
- Don't use any type of mower on wet grass. You or the mower could slip, causing the mower to tip and/or the blades to come in contact with your body.
- Don't raise rear-mount or side-mount industrial/agricultural mowers or mower wings from the ground while operating on a slope.

COMPACT EXCAVATORS:

- Make sure the machine's folding TOPS/ROPS, if equipped, is raised and locked in place.
- Wear the seat belt.
- Avoid slopes when possible.
- If you must travel on a slope, use extreme caution and keep the boom centered and the attachment as low and close to the machine as you can.
- Extend the retractable track frame, if equipped, when operating on slopes.
- Know that slopes will affect the load capacity and operating characteristics of the compact excavator. Make sure you have and know how to use a rated-lift-capacity chart for the machine.
- Level the working area and machine as much as possible.

- Make slow, smooth machine movements.
- Swing the boom to the uphill side to dump loads.
- If the machine starts to roll, tip, or slide, stay in the machine with the seat belt fastened. Lower the attachment immediately, hold on firmly, brace your feet on the floor and lean away from the point of impact.
- Don't drive across slopes. Drive straight up and down them instead.
- Don't turn on a slope if you can avoid it. If you can't, make a very wide, slow turn with the boom centered and the attachment as low and close to the machine as possible.
- Don't operate on slopes with slippery ground conditions.
- Don't move the boom while traveling.
- Don't work with the tracks across a slope as this will reduce stability and increase the tendency of the machine to slide. Position the machine with the tracks running up and down the slope and the blade on the downhill side and lowered.

TRENCHERS:

- Avoid steep slopes and use extreme caution on others.
- Drive the machine up and down slopes, not across them.
- Keep the heavy end of the machine pointed uphill.
- Maintain minimum ground speed and make wide turns.
- To increase stability, add front and rear counterweights, and set wheel spacing at the maximum width (see operator's manual).
- Know that vibration can make the trencher to slip sideways down a slope.
- Enter and exit ground slowly with digging components. Fast movements can cause the machine to overturn on slopes.
- Don't operate the machine if the operator presence/seat interlock system, if equipped, is not functioning.
- Don't start, stop, or turn suddenly on a slope.

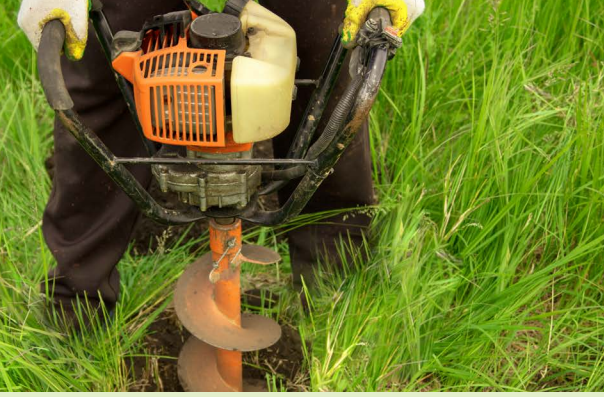
COMPACT UTILITY LOADERS (AKA COMPACT TOOL CARRIERS):

- Travel up and down slopes, never across them.
- Travel and turn slowly and smoothly and with the lift arms down. Traveling with the arms raised could cause the machine to tip over.
- Carry the load as low as possible.
- Keep the heavy end of the machine on the uphill side. Generally, when not carrying a load, the rear of the compact utility loader is the heavy end. When carrying a load, the front of the machine becomes the heavy end.
- Know that slopes will affect the machine's load capacity. Make sure you have and know how to use a rated-lift-capacity chart for the machine.
- Don't operate on steep slopes.
- Don't accelerate or decelerate suddenly or turn on slopes.

SKID-STEER LOADERS:

- Avoid steep slopes.
- If you must travel on a slope, first check ground conditions for adequate traction. Loss of traction can cause the loader to slide and tip.
- Drive straight up and down slopes, not across them.
- Operate with the heavy end of the loader on the uphill side. When the bucket is loaded, the bucket should be pointed uphill. When the bucket is empty, it should be on the downhill side.
- Keep the load as low as possible and use extreme caution. Never travel on a slope with a raised load.
- Ensure a loaded bucket is level as the machine moves up or down slopes.
- Operate controls smoothly.
- Plan your operation so you load, unload, and make turns on level ground.
- Do not start, stop, or turn suddenly.
- Do not modify the loader's ROPS in any way.

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OPERATING POWERED AUGERS

➤ KEY POINTS ◀

- ◆ Powered augers are labor-saving tools that can help landscape workers accomplish a variety of common tasks, such as digging holes for trees, other plantings, and fence posts. They range in size from large machines mounted on vehicles or equipment to small, handheld augers operated by one person.
- ◆ Typical safety hazards to consider when operating augers include possible entanglement in the auger's rotating parts and contact with underground utility installations (gas, fuel, or electric lines) or overhead utility lines.

➤ EMPLOYERS AND SUPERVISORS ◀

- Conduct daily pre-task meetings to ensure employees are aware of the hazards associated with the job and the correct procedures to prevent accidents.
- Explain to the workers who will be operating augers the importance of inspecting the work area for hidden or exposed fabric and underground or overhead utilities.
- Permit only employees who are qualified by training and experience to operate equipment and machinery, including augers. Operators must receive adequate instruction regarding proper operation of the particular auger model he/she will be using before being allowed to operate it.
- Read each machine's operator manual and develop a comprehensive program for its safe operation. Such a program will include instructional requirements for operation, applicable OSHA requirements, local laws and regulations, job site safety, and an equipment maintenance program. Ensure each operator is fully instructed regarding the specifics of this safety program.
- Know-and ensure employees know-that if an auger contacts landscape or other synthetic fabric as it is drilling, the material could be drawn into the point of operation, causing any person standing on the fabric to be drawn in as well. Entanglements can happen so quickly there is no time for the operator to react.
- Explain to employees that if an auger engages a buried electric line, a high-voltage shock can be transmitted to the operator(s). Depending on the conductivity of the equipment and how well the operator(s) is(are) grounded, this shock can range from mild to fatal.
- If your company uses handheld augers, purchase models with handles fabricated from nonconductive, composite material. This material improves absorption of shock loads from the digging process and better insulates the operator(s) from electrical shocks.
- Be aware-and make sure employees are aware-that underground utility lines often run in close proximity to property lines, where your company might be asked to install plantings or fences for privacy. As with any other digging operation, ensure utility companies are notified and lines are marked before employees break ground in these areas.
- Ensure employees know that if an auger contacts a buried fuel or gas line, a deadly explosion could result.
- Remember that even if an underground utility strike doesn't result in injury-for instance, hitting a communication line, especially fiber optics-it will be an expensive mistake for your company.
- Tell employees they should never modify an auger machine in any way. Modifications can result in dangerous configurations leading to injury and/or property damage.
- Make sure operators are in proper physical and mental condition and are not under the influence of any substance (drugs, alcohol, etc.) that might impair vision, dexterity, or judgment.
- Do not allow an employee to operate a handheld, powered auger unless he/she is tall enough that the operator handles remain below his/her shoulder sockets.
- Be aware that prolonged use of handheld, powered augers and similar machines used in our industry exposes operators to vibrations that could produce White Finger disease (Raynaud's phenomenon). This phenomenon reduces the hand's ability to feel and regulate temperature, produces numbness and burning sensations, and may cause nerve and circulation damage. To reduce workers' risk for this condition, rotate them among tasks and regularly monitor users' hands and fingers. If symptoms appear, encourage them to seek medical advice.
- Ensure workers wear appropriate clothing and personal protective equipment (see Employee Dos and Don'ts below).



Do

EMPLOYEE DOS AND DON'TS

Don't

- ✓ Visually inspect the auger machine, auger, auger extension, and accessories for damaged, worn, or loose parts prior to operation.
- ✓ Determine that operator controls work freely, and all safety devices are in place.
- ✓ Know how the controls operate and how to stop the engine quickly in an emergency. If you have not received detailed training in the operation of the specific auger machine you are asked to use, do not operate it.
- ✓ Inspect the area where you will use the auger machine for landscape fabric and other obstacles and note the location of overhead utility lines.
- ✓ If landscape fabric is present, cut a hole in it sufficiently larger than the diameter of the auger to prevent contact or entanglement with the fabric.
- ✓ Ensure all utility companies have been notified and underground lines have been marked.
- ✓ Start the engine according to the operator's manual to minimize the possibility of unexpected or uncontrolled auger rotation.
- ✓ Keep all body parts, clothing, and foreign objects clear of the rotating auger and/or auger extensions.
- ✓ Monitor the condition of your hands and fingers if you use handheld, powered augers and/or other handheld power tools frequently. After each use, exercise to restore normal blood circulation. If any White Finger disease (Raynaud's phenomenon) symptoms appear (reduced ability to feel and regulate temperature, numbness, burning sensations), seek medical advice immediately.
- ✓ When operating an auger mounted to equipment or a vehicle, sit or stand at the operator's station while operating the auger.
- ✓ Make sure your clothing is sturdy and snug fitting but allows complete freedom of movement.
- ✓ Wear pants; heavy-duty, nonslip gloves; a hard hat; and sturdy, steel-toed boots with nonslip soles.
- ✓ Wear hearing and eye protection while operating or when near operating auger machines.
- ✓ Keep shoes properly laced.
- ✓ Always hold the machine firmly with both hands when using a handheld, powered auger. Ensure the operator handles and gripping areas are in good condition and free of moisture, pitch, oil, or grease.
- ✓ Exercise special care in slippery conditions and on uneven surfaces. Watch for cracks, high spots, and other surface irregularities, and maintain proper footing and balance at all times.

- ✗ Modify the operator's station or disable safety controls (hold-to-run or seat switch controls, for example).
- ✗ Allow bystanders, co-workers or animals in the area where the auger is in use, and, when possible, remove property that could be damaged. Flying particles can be emitted at high velocity, leading to injury and property damage. Except for the operator, crew members should not be near the auger when it is operating.
- ✗ Wear loose-fitting jackets, scarves, neckties, jewelry, flared or cuffed pants, or anything that could become caught on controls or moving parts.
- ✗ Operate a handheld, powered auger machine if you have any condition that might be aggravated by strenuous work.
- ✗ Operate a handheld, powered auger if the operator handles are higher than your shoulder sockets.
- ✗ Move or remove spoil-pile while the auger is operating. Remain a safe distance (a minimum of 10 feet) from the auger when helping the operator.
- ✗ Operate an auger machine in a location where kickback forces generated during the hole digging process can allow body parts to come in contact with a vertical wall, foundation, or other support-type structure.
- ✗ Operate an auger machine when/where visibility and light are not adequate for the job.
- ✗ Leave an auger machine running unattended.
- ✗ Neglect to stop the engine between each hole. Allowing the engine to remain operating between each hole substantially increases the potential for injury and property damage.
- ✗ Fail to take breaks as required to maintain physical and mental alertness when operating handheld augers. Use of these machines is strenuous and causes fatigue.

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