

WARNING STUMP GRINDER

Any piece of equipment can be dangerous if not operated properly. **YOU** are responsible for the safe operation of this equipment. The operator must carefully read and follow any warnings, safety signs and instructions provided with or located on the equipment. Do not remove, defeat, deface or render inoperable any of the safety devices or warnings on this equipment. If any safety devices or warnings have been removed, defeated, defaced or rendered inoperable, **DO NOT USE THIS EQUIPMENT!!!**

DANGER: Use extreme caution: The carbide cutters are very sharp! Keep your hands and feet clear of the cutters at all times. Do not tape down or otherwise by-pass any safety devices! Always operate this equipment from the designated operators position.

TOWING REQUIREMENTS

To safely tow this equipment, A Tool shed requires a vehicle with a rated towing capacity of 3,500 pounds or more. Your hitch must be in good condition and have a rated capacity of 3,500 lbs or more.

<<< Grinder & Trailer weighs 2,170 pounds >>>

CUSTOMER ACKNOWLEDGES THAT THE VEHICLE THEY ARE USING HAS THE REQUIRED TOWING CAPACITY FOR THIS TRAILER AND THE MATERIAL THEY ARE HAULING IN IT.

A TOOL SHED IS NOT RESPONSIBLE FOR BUMPER DAMAGE

<<< Not allowed over 100 miles from our outer most location. >>>

SAFETY MESSAGES

General safety messages are listed in this Safety Messages section. Specific safety messages appear as appropriate in this manual where a potential hazard may occur if procedures or instructions are not followed correctly and completely.

SAFETY SYMBOL

This is the international safety alert symbol. This symbol is used in combination with a signal word and written message to warn you of a potential for bodily injury or death.

A signal word "**DANGER**", "**WARNING**", or "**CAUTION**" is used with the safety alert symbol.

 **DANGER:** Imminent hazards, that if not avoided, will result in serious personal injury or death.

 **WARNING:** Potential hazards or unsafe practices, that if not avoided, could result in serious personal injury or death:

 **CAUTION:** Potential hazards or unsafe practices, that if not avoided, could result in minor personal injury, product damage, or property damage.

Safety decals with a signal word "**DANGER**", "**WARNING**", or "**CAUTION**" are affixed to the stump grinder near specific hazards.

This machine shall always be used in accordance with this manual. Study it and ALL decals on the stump grinder before operating the stump grinder.

ALWAYS make sure the engine is turned off before performing maintenance, cleaning, or transport by means other than under its own power.

Before using, always visually inspect to see that the tools are not worn or damaged. Replace worn or damaged elements and bolts in sets to preserve balance. Use extreme caution when reversing the machine towards you. Do not change the engine governor settings or over speed the engine.

SAFETY INSTRUCTIONS OVERVIEW

READ SAFETY AND OPERATING INSTRUCTIONS BEFORE OPERATING!

USE COMMON SENSE AND PLENTY OF IT!

Call before you cut. If you do not call, you may cause an accident; suffer injuries or death; cause interruption of services; damage the environment; and/or incur project delays. Expect to be held liable for any damages caused, if you fail to call.

 **DANGER:** Buried electric cables or gas lines can cause serious injury or death if struck with cutter wheel. Always determine location of utilities before cutting. **Call 811 Before you dig!**

 **WARNING:** Fiber optic cables convey laser light that can injure your eyesight. **STAY CLEAR** of moving parts on the stump grinder.



 **DANGER:** Cutter wheel and other moving parts can cut off arms, legs, or fingers. Contact with the cutter wheel while in operation will cause serious injury or even death. Stay in the operator's position at the controls when the cutter wheel is operating. Keep all observers and helpers at a safe distance from the machine. Stop the cutter wheel immediately if anyone gets too close to the operating machine. Wear a face safety shield and hard hat while operating or observing!

 **WARNING:** The cutter wheel may throw chips, rocks and debris into the area around the machine. Keep all bystanders at a safe distance from the machine. Always wear eye protection when operating or observing the machine in operation. Wear adequate hearing protection while operating or observing.

 **WARNING:** The machine and cutter wheel are loud when in operation. Wear ear protection when operating the machine. Exposure to loud noise is cumulative and may permanently damage your hearing. Wear safety boots and gloves. Wear close-fitting clothing. Contain long hair. Do not wear jewelry. Wear reflective clothing if working near traffic. Only operate outdoors and avoid breathing engine exhaust and fumes.

 **WARNING:** Engine exhaust contains carbon monoxide gas that is toxic. Breathing it can cause unconsciousness and death. Adequate lighting is required, daylight or artificial, for safe operation of the stump

 **WARNING:** Contact with the cutter wheel while in operation will cause serious injury or even death. The teeth of the cutter wheel are sharp. Avoid contact even when the wheel is not moving. Avoid inclines if at all possible.

 **WARNING:** Navigating on any incline increases the danger of the machine losing traction or rolling over, especially if the surface is wet. If you lose control, get out of the way immediately to avoid personal injury. Navigation on inclines should be especially slow and turns very gradual. Refer to the incline diagram in the section, "GROUND TRANSPORT".

Avoid operating adjacent to drop-offs or embankments.

Keep away from tracks to avoid being crushed.

 **WARNING:** Being run over by the machine will cause injury. Always leave machine parked on a level surface.

 **WARNING:** Do not park on incline. Move the machine to a level surface and set the parking brake located behind the left hand track motor. Move the handle down to engage the brake. Do not leave machine unattended with the engine running.

Do not operate machine near any source of flammable dust or vapors.

 **WARNING:** Sparks from the engine exhaust can cause an explosion or fire in a flammable or explosive atmosphere. Fuel fumes can catch fire or explode. Do not operate machine near flames or sparks.

 **WARNING:** Fuel fumes can catch fire or explode. If fuel is spilled, do not attempt to start engine but move the machine away from the area of spillage and avoid creating any source of ignition until the vapors have dissipated.

Shut off engine and allow it to cool before refueling.

 **WARNING:** Fuel fumes can catch fire or explode. Refuel outdoors and do not smoke when refueling. Do not refuel near a source flames or sparks. Always store fuel in containers specifically designed for this purpose. Add fuel before starting engine. Never remove the cap on the fuel tank or add fuel while the engine is running or when the engine is hot.

 **WARNING:** Replace all fuel tank and container caps securely. Do not touch the engine, muffler, or any of the hydraulic components until cool.

 **WARNING:** Muffler and engine get hot enough to cause serious burns. For the safety of yourself and others, allow enough time for the engine, muffler, and the hydraulic fluid to cool completely before performing any cleaning or maintenance.

 **WARNING:** Stay clear of the articulation area while the engine is running. Avoid contact with hydraulic fluid.

 **WARNING:** When machine is operating, hydraulic fluid is under extreme pressure and can get under skin and burn or poison.

 **WARNING:** Keep safety guards and shields in place while the engine is running and keep all operator protection systems in place and in operational condition.

 **WARNING:** Never store the equipment with petrol in the tank inside a building where fumes can reach an open flame or spark. Allow the engine to cool before storing in an enclosure. To reduce fire hazard, keep the engine, muffler, battery compartment and fuel storage area free of any vegetative material and excessive grease. Keep others away. If the job site is near a road or pedestrian path, warn and divert both motorized traffic and pedestrians. As appropriate, use traffic flag personnel, signs, cones, and lighting devices to insure safety. Never allow anybody to ride on the machine. Never lift machine over any person at any time.

 **WARNING:** If machine should fall, it would crush anybody under it. We recommend having a fire extinguisher suitable for petrol fires in the operating area.

BATTERY & ELECTRIC STARTER SAFETY INSTRUCTIONS

Shield entire face, especially your eyes, and wear rubber gloves to avoid acid burns whenever doing anything with the battery. Battery caps must be tightly in place if the battery has removable caps.

 **WARNING:** The battery contains sulfuric acid that can cause blindness and severe burns. Avoid contact with eyes, skin, and clothing. If acid contacts eyes, call 911 immediately and flush eyes with water for 15 minutes or until emergency medical help arrives. If acid contacts skin, flush area with plenty of water. If acid is ingested, drink large quantities of water or milk then follow with milk of magnesia, beaten egg, or vegetable oil, and get medical attention immediately. Avoid contact with battery components. Wear rubber gloves and wash hands after handling any battery components.

 **WARNING:** Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to cause cancer and reproductive harm. Acid can cause blindness and severe burns if leaked from the battery. Do not charge or jump-start the battery near flames or sparks, or while smoking.

 **WARNING:** Battery fumes are flammable and explosive. Avoid explosion hazard that could blind and burn. Tools and jumper cable clamps can make sparks, so use them with care. Shield eyes and face, and wear rubber gloves.

STUMP GRINDER OPERATING INSTRUCTIONS

READ SAFETY INSTRUCTIONS BEFORE OPERATING! Both the SAFETY INSTRUCTIONS and OPERATING INSTRUCTIONS are in this manual.

Be sure that the engine oil and fuel, and the machine hydraulic fluid are all at proper levels before starting the engine.

STUDY AND UNDERSTAND CONTROLS BEFORE BEGINNING OPERATION.

CONTROLS

1. KEYED IGNITION SWITCH: Used to start and stop the engine with an electric starter.

KOHLER: The key switch is located with the grinder controls, to the top right of the control panel. ENGINE START UP PROCEDURE.

2. THROTTLE: Controls engine speed. Operate at full throttle when cutting (all the way forward).

3. TRACK CONTROL: Controls the travel direction and speed.

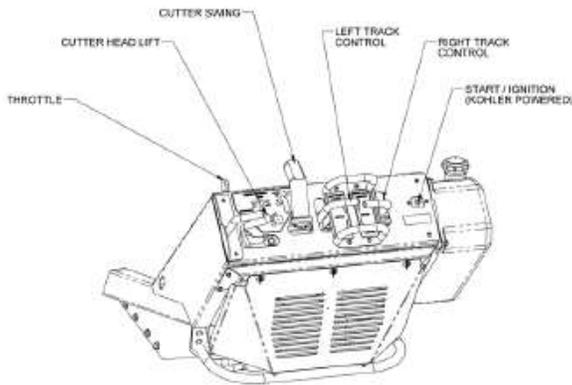
- Track controls are designed to be operated with two hands.

- Pushing the control handles forward from neutral position causes the machine to move forward.

- Pulling the control handles back from neutral position causes the machine to move backward.

- Moving the track control handles farther from the neutral position increases the speed.

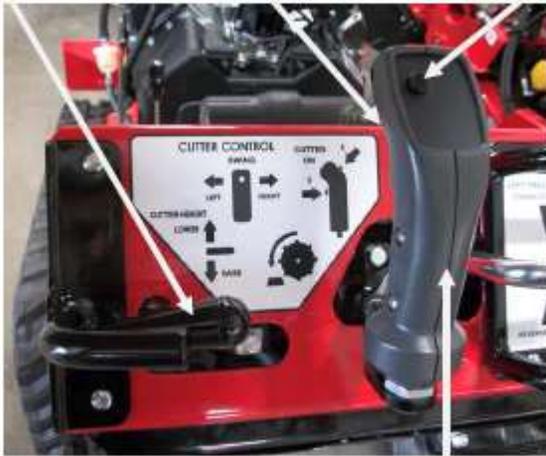
- Steer the machine by moving one track control handle farther than the other handle. This causes the track on one side to rotate at a different speed than the opposite track. Pivot turns can be made by moving one control forward and the other control back.



REQUIRED SAFETY DEVICES

4. **CUTTER WHEEL CONTROL:** To start the cutter wheel, hold down the thumb button on the control handle. Then pull the trigger back. After the wheel is started, **the thumb button can be released**, but the trigger must be held to keep the cutter wheel turned on. To raise the cutter head, pull the cutter height control bar back. To lower the cutter head, push the cutter height control bar forward. The cutter head swings to the left and right by moving the control lever left or right.

CUTTER HEIGHT TRIGGER THUMB BUTTON



CONTROL LEVER



5. **PARKING BRAKE:** It is located behind the left hand track motor. Move the handle down to engage the brake, and up to disengage it.

KOHLER START UP PROCEDURE

1. Check the engine oil. Add oil if low. Do not overfill.
2. Check the fuel level. Add fuel if low. Check the fuel system components and lines for leaks.
3. Check and clean the cooling areas, air intake areas and external surfaces of the engine (particularly after storage).
4. Check that the air cleaner components and all shrouds, equipment covers, and guards are in place and securely fastened.
5. Check the spark arrestor (if equipped).
6. Place the throttle control midway between slow and fast positions.

7. Turn the key switch to the START position. Release the switch as soon as engine starts. If the starter does not turn the engine over, shut off the key switch immediately. Do not make further attempts to start engine until condition is corrected. Do not jump start. See your Kohler authorized dealer for trouble analysis.

NOTE: To prime a dry fuel system, turn the key switch to ON position for one minute. Allow fuel pump to cycle and prime system. Turn the key switch OFF.
NOTE: Do not crank the engine continuously for more than 10 seconds. Allow a 60 second cool down period between starting attempts. Failure to follow these guidelines can burn out the starter motor.

NOTE: Upon start-up, a metallic ticking may occur. Run the engine for 5 minutes. If noise continues, run the engine at mid throttle for 20 minutes. If noise persists, take the engine to your local Kohler authorized dealer.

Only operate the stump grinder outdoors and avoid breathing engine exhaust and fumes.

⚠ WARNING: Engine exhaust contains carbon monoxide gas that is toxic. Breathing it can cause unconsciousness and death. Avoid any areas or actions that expose you to carbon monoxide.

OPERATOR PREPARATION

Each operator must:

- Become familiar with the controls and operation of the stump grinder, preferably under the supervision of an experienced operator.
- Be at least 18 yrs. of age and be mentally and physically capable of operating the stump grinder safely.
- Have studied the SAFETY AND OPERATING INSTRUCTIONS

PERSONAL PROTECTION: For safety, stump grinder operator should wear personal protection equipment. Keep observers at a safe distance and do not operate if people are near, especially children and pets.

Wear a face safety shield and hard hat while operating or observing!

⚠ WARNING: The cutter wheel may throw wood chips, stones and debris.

Wear safety boots and gloves. Wear close-fitting clothing. Contain long hair. Do not wear jewelry. Wear reflective clothing if working near traffic. Wearing adequate hearing (ear) protection while operating or observing is recommended.

 **WARNING:** Exposure to loud noise is cumulative

Hearing protection devices do not all provide the same level of protection. Those that completely surround each ear are better than earplugs. It is important to select a device that is adequate and appropriate for your specific work environment since the peak noise level varies. A local environmental noise specialist may help you to determine the level of hearing protection required.

UNDERGROUND UTILITIES

OSHA CFR 29 1926.651 requires that the estimated location of underground utilities be determined before beginning excavation or an underground drilling operation. When the actual excavation or bore approaches an estimated utility location, the exact location of the underground installation must be determined by a safe, acceptable and dependable method. If any utility cannot be precisely located, the appropriate utility company must shut it off.

Call before you cut. If you do not call, you may cause an accident; suffer injuries or death; cause interruption of services; damage the environment; and/or incur project delays. Expect to be held liable for any damages caused, if you fail to call.

 **DANGER:** Buried electric cables or gas lines can cause serious injury or death if struck with cutter wheel. Always determine location of utilities before operating the machine.

 **WARNING:** Fiber optic cables convey laser light that can injure your eyesight.

To locate utilities before beginning your grinding project, call 811 or 1-888-258-0808 (US. or Canada). This free service will provide a “One-Call” number for the geographic area that you select. Before you start any cutting project, be sure to call the local One-Call system in your area and any utility company that does not subscribe to the One-Call system. The One-Call representative will notify participating utility companies of your proposed cutting activities. Utilities will then mark their underground facilities by using the following international marking codes:

Red Electric, Yellow Gas, oil, or petroleum, Orange Communication, telephone, television, Blue Potable water, Green/brown Sewer

White Proposed excavation, Pink Surveying

For areas not represented by One-Call Systems International, contact the appropriate utility companies to locate and mark the underground installations. Do not rely

 **WORK SITE ASSESSMENT**

Examine the work area for any conditions or obstructions that may inhibit cutting or create a safety hazard for the operator or others. Use the information in this manual combined with good judgment to identify any hazards to avoid.

In addition to calling to DETERMINE LOCATION OF UNDERGROUND UTILITIES (see previous section for details) the operator and/or job foreman should visually inspect the work site. Look for electrical drop boxes; notices of underground placements; manhole covers; recent cutting activity; any evidence of possible underground placements; banks; overhangs; drop-offs; rocks; tree limbs; wire; uneven terrain; any existing trenches or holes; and toxic ground conditions.

Only operate stump grinder outdoors and avoid breathing engine exhaust and fumes.

 **WARNING:** Engine exhaust contains carbon monoxide gas that is toxic. Breathing it can cause unconsciousness and death. Do not operate stump grinder near any source of flammable dust or vapors.

 **WARNING:** Sparks from the engine exhaust can cause an explosion or fire in a flammable or explosive atmosphere. Fuel fumes can catch fire or explode. Allow adequate side and overhead clearances between stump grinder and any objects such as buildings, fences, and trees.

Adequate lighting is required, daylight or artificial, for safe operation of the stump grinder.

Keep others away. If the job site is near a road or pedestrian path, warn and divert both motorized traffic and pedestrians. As appropriate, erect barriers, use traffic flag personnel, signs, cones, and lighting devices to insure safety.

CONTACT WITH UNDERGROUND UTILITIES

After LOCATING UNDERGROUND UTILITIES and performing the WORK SITE ASSESSMENT, accidental contact with a buried utility might still occur. If it does, stop and call 911 for help.

If you cut a wire or cable, assume that you do not know what kind it is. It may be electrical or any one of several communication lines: telephone, television, or fiber optic. In any case, do not touch it or even look at the ends of it. Stop cutting and call 911 for help. Do not cut any more until the appropriate utility company has assessed the situation, taken appropriate action, and informed you that it is safe to proceed.

If you strike a pipe, it could be gas, oil, petroleum, water, or sewer. In any case, stop cutting, shut off the engine, and evacuate the area immediately. Call 911 for help.

Electrical wires or cables: If you think that you may have severed electrical wires, stop cutting and call 911 for help. Keep yourself and other people away from the area.

 **DANGER:** An electric shock could kill you. Assume that any severed wire or cable is HOT with voltage and do not touch it! Gas lines: If you think that you may have struck a gas line, shut off the engine and evacuate the area immediately. Call 911 for help.

 **DANGER:** A gas explosion could kill you. Sparks will likely occur from the cutter head scraping the metal pipe. If gas leaks out an explosion could easily occur. Fiber optic cables: If you think that you may have severed a fiber optic cable, do not touch or even look at the ends of it.

 **WARNING:** Fiber optic cables convey laser light that can injure your eyesight. Call 911 for help.

STUMP GRINDING PROCEDURE

1. Raise the cutter head and move the machine into position to cut. Position the machine so the cut head can swing across near the edge of the stump.
2. Have engine at full throttle (throttle lever forward).
3. Start cutter wheel.
4. Using the cutter head control lever, slowly swing the cutter wheel across the edge of the stump. Adjust cut depth and swing speed to prevent the engine from bogging and to prevent cutter wheel stall.
5. After the swing is complete, move the cutter wheel down a few inches, and repeat the cutter wheel swing.
6. Continue making a series of cuts down the edge of the stump until the edge is cut to below ground level or the teeth are cutting at a depth below half the wheel radius.
7. Depending on the diameter of the stump it may be necessary to move the stump grinder. After cutting the first edge move the machine forward and repeat the grinding procedure until the stump is completely cut to below ground level.

GRINDING TIPS

Clear the work area of debris, branches and rocks.

Operate the cutter with engine at full throttle.

Listen to engine speed and watch cutter wheel speed. Adjust swing speed and cut depth to maintain high engine and cutter speed. Avoid bogging the engine and stalling cutter wheel.

It is more efficient to cut the edge of the stump, rather than cutting a wide area. Once the teeth are cutting at a depth below half the wheel radius, lift the cutter and move the machine forward to begin cutting a new edge

SHUT DOWN PROCEDURE



1. Always leave machine parked on a level surface.

 **WARNING:** Do not park on incline. Move the machine to a level surface and set the parking brake located behind the left hand track motor, near decal shown. Move the handle down to engage the brake.

2. Unless loaded on a trailer, lower the cutter head to the ground.

3. Reduce the ENGINE THROTTLE to idle.

4. Move the IGNITION KEYED SWITCH to the OFF position to stop the engine, and remove the key.

5. Close the FUEL SHUTOFF VALVE.

Shut off engine and allow it to cool before refueling.

 **WARNING:** Fuel fumes can catch fire or explode. Do not smoke or allow flames or sparks in the area.

 Do not touch the engine, muffler, or any of the hydraulic components until cool.

WARNING: Muffler and engine get hot enough to cause serious burns. For the safety of yourself and others, allow enough time for the engine, muffler, and the hydraulic fluid to cool completely before performing any cleaning or maintenance.

GROUND TRANSPORT OF THE STUMP GRINDER

Raise the cutter head.

 **WARNING:** Contact with the cutter wheel while in operation will cause serious injury or even death. The teeth of the cutter are sharp. Avoid contact even when the cutter is not moving.

TRACK CONTROL: Controls the travel direction and speed.

- Track controls are designed to be operated with two hands.
 - Pushing the control handles forward from neutral position causes the machine to move forward.
 - Pulling the control handles back from neutral position causes the machine to move backward.
 - Moving the track control handles farther from the neutral position increases the speed.
 - Steer the machine by moving one track control handle farther than the other handle. This causes the track on one side to rotate at a different speed than the opposite track. Pivot turns can be made by moving one control forward and the other control back.
- Keep away from tracks to avoid being crushed.

 **WARNING:** Being run over by the stump grinder will cause injury.

Never allow anybody to ride on the machine.

Never make sudden changes in speed or direction.

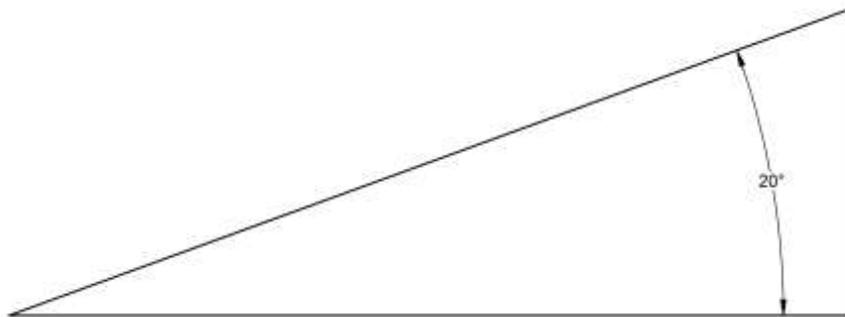
Use extra caution on soft or uneven ground.

Avoid operating adjacent to drop-offs or embankments.

Avoid inclines if at all possible. Never use on any incline exceeding the angles shown below.

 **WARNING:** Navigating on any incline increases the danger of the machine losing traction or rolling over, especially if the surface is wet. If you lose control get out of the way immediately to avoid personal injury. Navigation on inclines should be especially slow and turns very gradual.

A 20° maximum incline is allowed.



If the person receiving this handout will not be the user of the equipment, forward these instructions to the operator. If there is any doubt as to the operation or safety of the equipment, **DO NOT USE!!! CALL A TOOL SHED IMMEDIATELY!!! FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN INJURY OR DEATH**