Maintenance and Safety for High Tensile Fence

MAINTENANCE

High tensile fence must be constructed sturdily and according to design specifications to be effective over long periods. Although a principal advantage of high tensile fences is the relative freedom from maintenance, sturdy construction does not eliminate the need for frequent inspection and maintenance of the fence. Routine inspections need to be made at specific intervals and following severe summer storms and deep snows. Recommended procedures are listed.

—Vegetative growth beneath and around the fence should be controlled. Vegetation in contact with the fence can cause decreased voltage due to grounding and unattended woody plant growth can eventually distort wire spacing and cause structural damage. Vegetative control can be attained with cutting equipment or appropriate herbicides. A 6 to 8-foot wide clear space on the deer side of the fence is especially important for the fence to be effective. This relates to deer behavior and their recognition of the barrier prior to contact with the fence. This clear strip also makes mowing and fence inspection easier.

—Specified line wire tension and spacing must be maintained at all times. Tension adjustments for extreme seasonal temperature changes should be made in early summer and late fall. Adjustments are also necessary after fence repairs.

—Fence voltage should be checked with a fence tester weekly, or more often, and immediately after lightning storms and deep snows, first at the charger and then at a distant location from the charger. This is especially important for battery operated chargers which require a recharged battery every 3 to 10 weeks. Heavy duty wet cell batteries are recommended. Most chargers have easily replaceable electronic modules, which can be damaged in lightning storms especially if the charger is not protected with lightning arrestors.

—If voltage at the charger is adequate, but not at a distant location from charger, it is necessary to check at several locations along the entire fence line to locate the cause. Grounding and “hot” wire connections at the charger should be checked before scouting the entire fence line.

—Electrical charge on the fence must be maintained at all times. Studies have shown that deer frequently inspect fences and quickly learn that the fence is no longer “hot.” During fence construction, the grounding system and charger should be installed first, so that during non-working times, once wires are run out, the fence can be electrified. Never turn charger off except for short-term maintenance.

—The fence should be thoroughly inspected periodically, and repaired as needed. This should include all corners, brace assemblies, wire tension, anchors, gates, electrical connections, line posts and wire spacers. This check should be conducted prior to anticipated high deer pressure.

—Following heavy storms, fences near trees or woods should be inspected for limb and tree fall and related structural damage. Debris should be removed to prevent grounding, and necessary repairs made as needed. Voltage should be checked after repairs.

During periods of snow accumulation, fence voltage should be checked periodically to detect snow-pack grounding. If voltage drops below recommended levels, appropriate wire strands should be disconnected from the electrical system to maintain adequate voltage in the remaining wires. It is important that disconnected wires by reconnected as soon as snow melt occurs.

—Non-electric high tensile fences require similar maintenance. Although vegetation control is not as critical, the clear strip on the deer side of fence should be maintained for more effective control. Woody species growing under or close to the fence should be removed each year.
SAFETY IN HIGH-TENSILE WIRE FENCING

Anyone building wire fences is subject to cuts and scratches from the wire. Such injuries—as well as other accidents—can be prevented by always observing certain safety precautions, such as follow:

—Wear tightly woven, tough clothing that will not catch on the ends of the wire.
—Wear heavy duty, gauntlet-type leather gloves which fit snugly.
—Wear long pants and high work shoes with heavy soles, to protect the feet and legs.
—Have the right tool for each job, keep it in good condition and use it only according to manufacturer's directions.
—Wear safety goggles or eye shields when cutting or tensioning the wire as well as when driving nails or staples.
—Never carry nails or staples in pants pockets—use a nail apron or tool bag.
—Use proper shields on power equipment.
—Wear a hard hat and ear plugs or ear muff when operating a power post driver.
—Use driving caps on posts as recommended by the post driver manufacturer.
—Keep children and livestock away from all fencing operations.
—When handling, driving, drilling, nailing, or stapling chemically-treated wood posts or lumber, wear face shields and rubber gloves, and cover otherwise unprotected areas of your skin. Some persons are allergic to wood-preserving chemicals.
—Never use unsafe short-cuts, or eliminate such items as safety wires on twitch sticks.
—Pick up all cut ends of wire, dropped staples and nails, etc., so that they cannot cause injury to humans, be eaten by grazing livestock, or damage mower blades.
—Suspend all fencing operations during electrical storms.
—Install proper ground wires to wire fences as soon as they are erected.
—Remember, any wire is an excellent conductor. Be careful when stringing the guide wire or line wires so that they do not come in contact with any power lines overhead or at ground level where you are working.

SAFETY IN ELECTRIC FENCING

Anyone constructing electric fences should observe the several safety precautions listed above. In addition, it is essential to observe the following:

—Remember, even before any wire is energized, it is an excellent conductor. Be careful when stringing the guide wire or line wires so that they do not come in contact with any power lines overhead or at ground level where you are working.
—Have all 110 or 120-volt supply lines for plug-in energizers installed according to local electrical code by a competent electrician.
—Install proper ground connections on power poles or buildings to protect them from lightning.
—Do not attempt to install any portion of an electric fence or to make repairs or tension adjustments with the current switched on. Be sure to disconnect the feed wires to the segment of fence on which you are working so the current cannot be accidentally switched on.
—When testing an electric fence with a voltmeter, be sure to wear rubber gloves or rubber-soled shoes to minimize any electric shock. Wearing a non-metallic hard hat is also recommended, since shocks about the head can be uncomfortable for hours. Remember, any electrical shock is intensified if your hands, feet or clothing are wet from rain or perspiration.
—Warn all children that a fence is electrified and instruct several responsible persons on how to switch off or disconnect the current to the fence in case of emergency.
—Suspend fence construction or maintenance and keep away from electric fences during thunderstorms.
—Affix electric fence warning signs at intervals not exceeding 300 feet on any segment of a fence which carries electrified wires.
—In areas with dry grass, reduce the output of your energizer to minimize the risk of fire.
—If necessary to test a fence without a voltmeter or test light to see if the current is on, place the palm of one hand on the soil and slide a blade of green grass gradually forward against live wire. A trickle of current indicates the current is "on."
—Never grasp a wire on an electric fence with the closed hand. Even if you think the current is off, test a "live" wire first with the backs of the fingers. In the event of a shock, your reflex will pull your fingers away from the wire.
—Keep all metallic farm implements away from electric fences and any livestock tethered with chains.
—Do not attempt to repair or modify any electric fence energizer yourself. Return it to your authorized dealer for service.

Agricultural Extension Committee on Deer Damage and Control: Tara A. Baugher, Steven M. Carcaterra, W. Randolph Davidson, William N. Grafton, Thomas R. McConnell, Arthur W. Selders, Charles E. Williams, David J. Workman.

These safety recommendations reprinted with permission from "How to Build Fences With USS MaxTen 200 High-Tensile Fence Wire." 1980. U.S. Steel Corporation, Pittsburgh, PA.