

### What about the UL rating?

Buy an energizer with a UL rating. There are many energizers that are not UL approved. The UL rating will ensure that the device complies with the National Electric Code.

### Where should I put the energizer?

An energizer should be placed on the outside perimeter of a building and near a 120 volt outlet. This location should be a minimum of 50 feet from the main electrical service panel grounds.

### What type of wire should I use?

Always use wire with 20,000 volt insulation for the 'hot' lead-out from the energizer. Common wire with 600-volt insulation used for the building wiring must never be used on the hot side of an energizer circuits. Do not connect the high voltage output terminal to anything not associated with the energizer.

The wire for the grounding circuit should be the same high voltage wire (20,000 volt insulation) if the ground wire passes through the wall of a building, as it almost always does with a trainer.

### Proper Grounding is Essential!

One of the most important parts of an energizer circuit is the grounding system. An improper ground can result in unintentional shocks to livestock at grounded equipment such as waterers,

feeding equipment, or even in a milking barn or parlor.

If an energizer does not control livestock, the solution is not necessarily a more powerful energizer. Improving the grounding may be the lowest cost, most effective means of improving the operation of the trainer. The proper installation of the earth-return rods for a cow trainer is shown in the Figure.

### Remember these important points:

- Each energizer (fencer, trainer, crowd gate) must have its own dedicated earth-return system. DO NOT combine the earth-return systems from two different devices.
- NEVER connect the trainer's grounding system to the farm's electrical grounding system (including utility system grounds, equipotential planes, and metal objects in a building, such as milklines, waterlines or stalls).
- Keep the ground rods 50 feet away from building ground rods, cattle waterers, underground metal water pipes, telephone lines, or lightning rods.
- Use a minimum of two eight-foot ground rods spaced at least 12 feet apart. If using shorter ground rods, space them 1½ times the length of the rod. More ground rods may be needed in sandy and rocky soils. Try to locate the rods in areas that are likely to receive moisture on a regular basis but do not locate them under overhangs or in buildings.

- Use wire with insulation rated at 20,000 volts to connect the energizer to the earth return rods if the wire passes through a building wall.
- Use an acorn-style ground rod type connector for connecting the ground wire to the ground rod.



### How should I adjust the trainer?

A cow trainer is designed to train cows not to arch their back while defecating or urinating so that waste falls in the gutter. Cow trainers must be carefully adjusted for each individual cow in order to be effective. Agitation and stress can result if cows cannot easily avoid the trainer.

With most cow trainer circuits, the barn floor is part of the earth-return path. The trainer pulses will appear at all locations in the barn whenever any cow touches a trainer bar. This makes it especially important that trainers be adjusted properly so that cows contact the trainers infrequently.

Adjust the trainer bars so they are approximately 3 inches above the cow's shoulders, or until they are effective in training the cows to drop their manure in the gutter. It is essential that the trainer be fastened securely to eliminate the possibility of the unit sliding down onto the cow's back. It is also important to make sure

cows get back into their own stall which has had the trainer bar adjusted for them. If this cannot be done then the bars must be adjusted every time cows return to the barn.

### What about maintenance?

Trainer wires and insulators can become covered with whitewash, dust and dirt that can provide a path for trainer shocks to appear at unwanted locations. Check the coil wires, condition of the insulation, presence of pinch points, condition and operation of hangers, for fouling or deterioration.

*This publication is brought to you by the Midwest Rural Energy Council.*

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#### What is the MREC?

The MREC is a membership organization of energy suppliers, energy service professionals and Land Grant Universities whose mission is to support outreach, education and research on rural energy issues for the benefit of:

- Farms and other rural energy consumers
- Rural energy suppliers
- Farm organizations and agricultural trade associations
- Electrical equipment and allied industries
- Government and regulatory agencies

# COW TRAINER INSTALLATION AND MAINTENANCE



## MAINTENANCE

A SELF-HELP GUIDE FROM...



Cow trainers are often installed incorrectly. This publication will help you to find the right equipment and get your trainer installed right the first time.

### What size energizer should I use?

Never use an energizer designed for powering long runs of fence for a cow trainer. Do not exceed a 2500-volt energizer for a cow trainer. Too much power can cause excessively nervous behavior in animals. Higher voltage also increases the likelihood of the energizer pulses traveling to undesired locations.

