

How to Maintain Locators

Electromagnetic locator equipment is the primary tool utilities and contractors use to locate buried utilities to mark them to avoid damage during contracting involving excavation or other soil engaging work. To make accurate buried utility locating equipment must be in good condition and must be operated correctly.

Today's equipment locators are precision instruments and while they are in rugged cases to protect from damage, it can still occur. The focus of this article is how to maintain locators to keep them in optimum operating condition.

Preventing Damage

Careful handling helps prevent damage. No responsible technician carelessly tosses a locator in the back of a truck, but accidental bumps and drops do happen. Any time possible damage is suspected, a quick and easy but informal test is to locate a known buried utility line.

Never make locates with equipment if there is a doubt that it is not operating properly. A faulty locate can result in a utility strike that at the least interrupts vital services, shuts down construction, and can result in costly damages and serious injuries. A rupture gas line can cause a major disaster. If there is any doubt, equipment should be removed from service and taken to an authorized service center.

Some products may require periodic checks and certification they are working properly. A consideration when evaluating equipment to purchase is availability and timeliness of service.

Getting Wet

Most locating equipment is water resistant and designed to work in all weather conditions. After working in rain, never pack equipment wet as moisture can be sucked into the instrument due to temperature changes. If water condenses on sensitive electronic components, it can cause damage.

Always wipe down wet equipment with a cloth and allow it to naturally air dry with any covers or compartments open and ideally put in a warm and dry environment overnight before the next use.

Damaged Batteries

Damaged or sub-quality batteries can leak inside equipment and their chemicals result in permanent and costly damage to the instrument. Never leave damaged or leaking batteries in the instrument, remove them immediately and dispose of them in accordance with specified requirements. Carefully clean off any chemical residue.

Shared Equipment

Some organizations have equipment pools from which different users check out needed equipment. In such cases, users must be aware of potential damage caused by other users that was not reported or repaired. Any user that identifies equipment damage should report it to a supervisor, manager, other co-worker or arrange to get it repaired. Never give damaged equipment for others to use.

It makes sense when using unfamiliar equipment to have a simple checklist before using it on a job site.

- Check the battery condition visually and with the electronic battery status indication. If batteries don't test good, or their condition can't be verified, replace the batteries.
- Visually inspect the equipment for any obvious damage or other sign that it might be faulty. If possible carry out a quick check on a known buried utility line before using the equipment.

Self-Test Tips

Transmitters of most utility locator system have an induction or broadcast mode that is a simple and effective operational check.

Turn on the transmitter and select induction or broadcast mode or frequency. Set the locator receiver to the same frequency mode and from a distance about 10 feet, point it toward the transmitter. Adjust the locator sensitivity as required to get a strong indication. The locator should respond strongly to the transmitter signal. Move closer toward the transmitter, and the indication should increase. Move away, and it should decrease.

An additional test is to connect the transmitter connection leads and join their clips to create a direct short circuit connection. Set the transmitter to one of its out-signal modes and at the lowest output signal level or power setting. Set the locator receiver to the same operating mode frequency. Place the bottom of the locator in one of the transmitter leads and adjust sensitivity as required to get a strong indication.

The locator should respond strongly to the transmitter signal. Move the locator away from the lead and the indication will reduce. If there is any doubt about results of either of these tests, it is possible that either the transmitter or receiver could be damaged and should be sent to a registered service center for full testing and repair if needed.

Always remember that locating equipment is an essential tool for the safe and effective locating of underground utility lines. Failure of the equipment or failure to use the equipment correctly poses the risk that buried lines will not be located and properly marked and that this can result in damages that cost the contractor and owner time and money and risk the safety of construction personnel and the public.

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