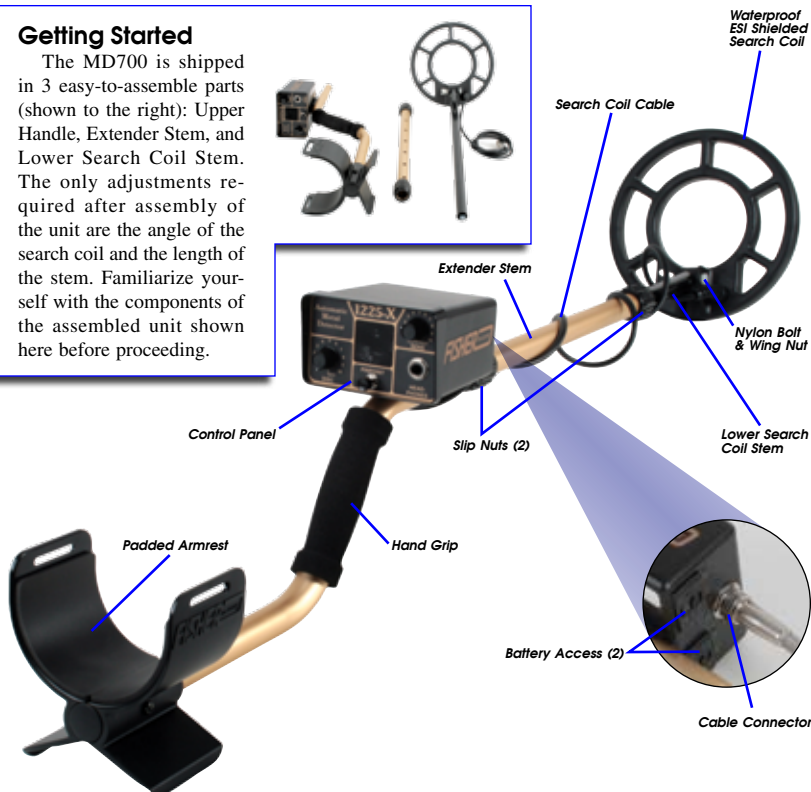


TECHNICAL INFORMATION

Metal Detection Sweeper Catalog No. MD700

Getting Started

The MD700 is shipped in 3 easy-to-assemble parts (shown to the right): Upper Handle, Extender Stem, and Lower Search Coil Stem. The only adjustments required after assembly of the unit are the angle of the search coil and the length of the stem. Familiarize yourself with the components of the assembled unit shown here before proceeding.



Initial Assembly and Setup

1. Carefully unpack the MD700. Save the carton and inserts for future storage or shipment.
2. Note that the search coil cable is permanently attached to the search coil. Be careful not to put any undue strain on it.
3. Insert the upper handle stem into the extender stem while depressing the lock button. Push together until the lock button lines up with the hole on the extender and locks. Twist the slip nut to tighten this connection.
4. Insert the lower search coil stem into the other end of the



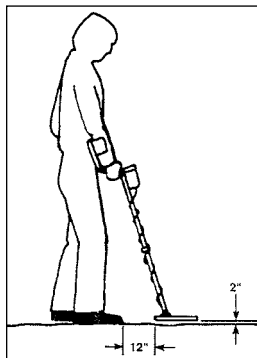
STEP 3

extender stem while depressing the lock button. Push together until the lock button lines up with the appropriate hole on the extender and locks at the desired length of the shaft. Twist the slip nut to tighten this connection. *NOTE: This slip nut can also be used to lock the lower search coil stem at a height other than those afforded by the holes in the extender stem.*

5. If shaft length is properly adjusted, the search coil should be about 12" (30cm) in front of, and slightly to the right of your right foot (to the left of your left foot for left-handers). Your arm should be straight and relaxed, the grip held loosely. *Remember—the longer the shaft, the more you will have to bend your elbow and the sooner your arm will get tired. Adjust coil angle (using the nylon wing nut) so that the search coil rests flat on the ground. The MD700 is balanced for comfortable searching in a tight semicircle around the front of the operator.*
6. With the shaft length properly adjusted, loosen either slip nut and rotate the lower stem to take up the cable slack and retighten. Attach the search coil cable to the back of the control housing. **CAUTION: Never use anything (pliers, etc.) other than your hand to tighten the slip nut. The cable should also never be pulled tight at the control housing or search coil.**
7. With the shaft length and coil angle properly adjusted, you should be able to move into your SEARCH position as illustrated to the right. Lean forward very slightly and raise your arm (still straight) until the search coil is about 2" (5cm) above the ground and 12" (30cm) in front of your foot. The search coil should be parallel to the ground and may have to be slightly readjusted at this point.



STEP 4



INSTALLING THE BATTERIES

The battery compartments are located on the rear of the control housing. Press the tab on the compartment cover down to remove. Slide a new 9V DC alkaline battery inside while observing the polarity indicated above each compartment and replace the battery cover. Repeat for second battery.



Press tab down to gain access to battery compartment.



Insert 9V battery observing the polarity marked above each compartment.

CONTROL PANEL

1. DISC: This control turns the power ON and automatically tunes the MD700 for instant operation. All types of metal are detected at 0-level, while most pieces of trash are rejected at 10. *NOTE: The DISC control has no effect when the PINPOINT button is engaged.*
2. SENS: This control is normally set at 10. It adjusts the sensitivity to targets and ground minerals. The higher the setting, the deeper it will detect. You will, however, also pick up false signals in highly mineralized or



trashy soil. In the extreme counterclockwise position, the control doubles as a battery test. A loud tone indicates good batteries, faint tone is weak batteries, and no tone indicates the batteries need replacing.

3. **HEADPHONES:** This jack accepts most stereo and mono headphones equipped with a 1/4" diameter plug. If using a stereo headset, set the stereo/mono switch to the "stereo" position. *NOTE: Unit has a fixed volume setting of LOUD. Therefore, always use headphones with individual volume controls to compensate.*
4. **PINPOINT:** When pushed in and held, this button switches the MD700 into the zero-motion mode for pinpointing all metal.

DISCRIMINATION POINTS

By adjusting the DISC control, you will be able to discriminate or reject small pieces of metallic trash and ground minerals while detecting valuable targets. The lowest setting at which an object is rejected is referred to as the objects *discrimination point*. These points are determined by such factors as size, shape, depth, type of metal and ground mineralization.

1. Scatter some targets such as coins or small pieces of foil on the ground 1-2 feet apart (30-60cm).
2. Turn the DISC control ON, set it to 0 (zero) and set the SENS control to 8.
3. Hold the search coil about 2" (5cm) above and parallel to the ground. Move it slowly over the samples. You will hear sharp, loud responses as you pass over each one. *NOTE: The MD700 is a motion-type detector. Therefore, motion of the coil is required to get a response.*
4. Increase the DISC control setting to 3 and pass over the targets again. Continue to repeat this process for the remaining settings 4-10. You will notice that as the trash rejection level increases, the unit will reject some targets and continue to respond to others. You have now determined the discrimination points for the rejected objects. *NOTE: The unit will remain silent when rejecting some objects and snap, crackle and pop as others are rejected. This is a normal response indicating that the discrimination circuitry is operating properly.*
5. Large pieces of trash such as beer cans or jar lids may sound like good targets no matter what you do. With a little practice, however, you will be able to discern between a large target and a small coin-like object.
6. The illustration to the right shows some of responses you may expect at different levels of discrimination. As the DISC level increases, more targets are progressively eliminated, including some good ones such as nickels and gold rings.

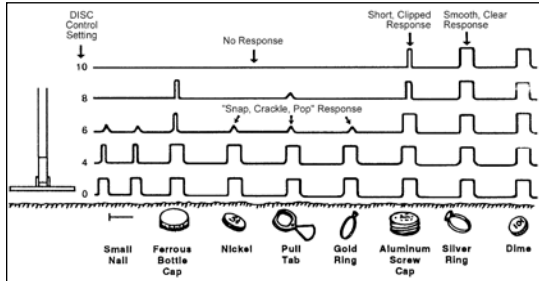
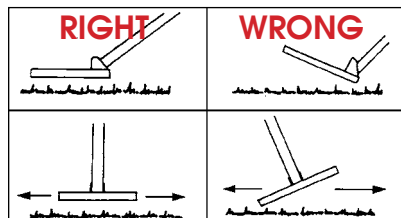


ILLUSTRATION: Responses over 1" (2.5cm) deep targets with the search coil sweeping 2"-3" (5.1-7.6cm) above the ground.

SEARCH METHOD

Decide how much trash rejection you want to use. In relatively non-trashy soil, you may want to search at DISC level 0 (the most sensitive setting to detect all metal targets within range). Once an object is detected, increase the level for further identification. For trashy areas, search at a higher DISC level.

1. Search slowly and systematically, sweeping in a tight semicircle illustrated to the right. Always overlap your sweeps at least 50%.
2. Keep the coil parallel and as close to the ground as practical. If you're searching a lawn, the coil can be set right on the grass.
3. Search in a methodical manner. Pay close attention to where you're going and where you've been.

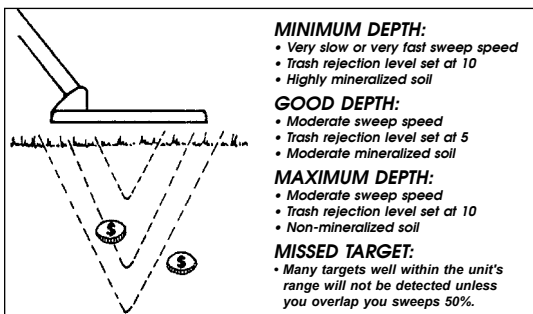


4. Keep the search coil moving at a comfortable rate. *NOTE: The MD700 is a motion-type detector. Therefore, motion of the coil is required to get a response.*

PINPOINTING TARGETS

Pinpointing takes practice! The more experience you have using the unit, the better, faster and more accurate you will become.

- Once a buried object is indicated with the unit by a *beep* response, simply place the coil lightly on the ground away from the target area. Push and hold the PINPOINT button (at maximum sensitivity, you may hear a faint tone that will disappear as soon as the coil is raised).
- Raise the coil about 1/2" (1.3cm) and move it from side-to-side over the target area a few times. Stop the search coil over the area where you received the loudest response.
- Move the coil slowly forward and then straight back towards you a few times. Stop the coil over the area where you received the loudest response.
- Move the coil slowly side-to-side once more, zeroing-in on the loudest response area.
- Stop the coil over this area and rest it on the ground.
- Your target should be below the *hot spot* of the search coil, slightly below the center of the coil.
- Slowly move the coil aside, keeping your eyes on the *hot spot*. Quickly mark the location with your finger or digging tool.
- For very strong signals, you may be able to improve your pinpointing accuracy by adding one or more of the following steps:
 - Lift the coil until the signal is just barely heard.
 - Increase the discrimination level.
 - Rest the coil on the ground and move it back and forth very slowly.
- For very weak signals, try the following suggestions:
 - Move the coil closer to the ground.
 - Decrease the discrimination level.
 - Speed up the sweep rate slightly.



MD700 LEADING PARTICULARS:

- Automatic, turn-on-and-go operation
- Silent, no-threshold operation
- VLF slow motion discrimination
- No-Motion Pinpointing
- Full-range discrimination control
- Stereo/mono headphone jack
- Patented double-derivative circuitry
- Shielded, electrostatic insulated search coil 8" (20.3cm)
- Only 3.1 lbs. (1.4kg)
- Cushioned arm rest and flexon grip
- Two 9V alkaline batteries

MD700 SPECIFICATIONS:

Frequency: VLF Search...5.5kHz; Audio Target Response...495Hz

Operating Modes:

Search...VLF Slow Motion Discrimination;
Pinpoint...VLF All Metal No-Motion

Search Coil: Concentric, co-planar type w/100% electrostatic insulation, submersible and interchangeable

Batteries: two 9V alkaline w/approx. 40-50 hours of operation (more if used w/headphones)

Length: 52" (132.1cm) extended; 46" (116.8cm) collapsed

Weight: 3.1 lbs. (1.4kg)

MD650A OPTIONAL CARRYING CASE:

Dimensions: 48" x 11" x 5"

(121.9cm x 27.9cm x 12.7cm);

Weight: 11.5 lbs. (5.2kg)