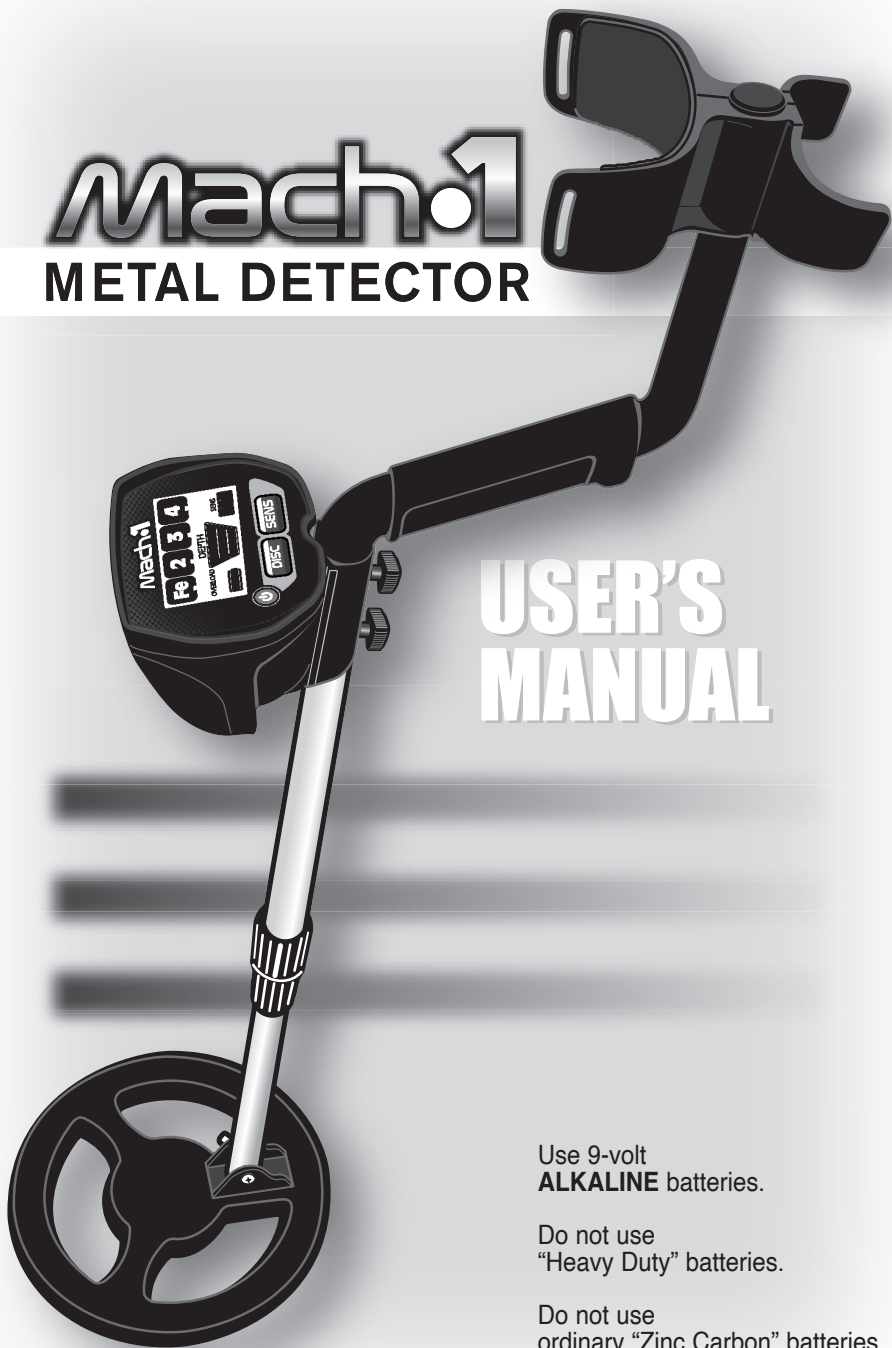# Mach.1

METAL DETECTOR

USER'S MANUAL

Use 9-volt **ALKALINE** batteries.

Do not use "Heavy Duty" batteries.

Do not use ordinary "Zinc Carbon" batteries.

Index

Mach·1
METAL DETECTOR

INTRODUCTION

To get the most enjoyment from your Metal Detector, we suggest you do the following:

1. Use 9-volt **ALKALINE** batteries only.
- Do not use Heavy Duty batteries.
- Do not use ordinary Zinc-Carbon Batteries.

2. Use your detector **OUTDOORS** only.
- Large metal objects inside the home may interfere with the detector's operation. Floors and walls of most homes contain metal.

- Electrical appliances inside the home, like microwave ovens, televisions, and some light fixtures, emit electromagnetic energy which can interfere with the detector's operation.

- Do not place coins on the floor of your home and try to detect.
  Try this test outside only.

- If conducting an indoor demonstration, hold searchcoil off ground and wave coins over searchcoil.

TERMINOLOGY

The following terms are used throughout this manual and are standard terminology among detectorists.
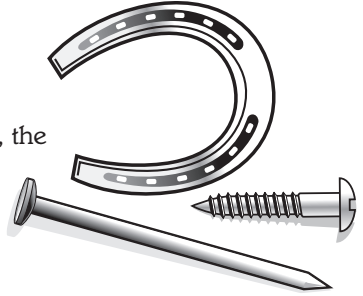
RELIC

A relic is an object of interest by reason of its age or its association with the past. Many relics are made of iron, but can also be made of bronze or precious metals.

IRON (Fe)

Iron is a common low-grade metal that is an undesirable target in certain metal detecting applications. Examples of undesirable iron objects include old cans, pipes, bolts and nails. Sometimes, the desired target is made of iron. Property markers for instance, contain iron. Valuable relics can also be composed of iron; cannon balls, old armaments and parts of old structures and vehicles can also be composed of iron.

"Fe" is the symbol for the chemical element iron and is one of the target identifications on the Mach1 display screen.

FERROUS

Metals which are made of, or contain, iron.

ELIMINATION

Reference to a metal being "eliminated" means that the detector will not emit a tone, nor display a Target-ID icon when a metal object passes through the searchcoil's detection field.

DISCRIMINATION

When the detector emits different tones for different types of metals, and when the detector "eliminates" certain metals, we refer to this as the detector "discriminating" among different types of metals. Discrimination is an important feature of professional metal detectors. Discrimination allows the user to ignore trash and otherwise undesirable objects.

PINPOINTING

Pinpointing is the process of finding the exact location of a buried object. Long-buried metals can appear exactly like the surrounding soil, and can therefore be very hard to isolate from the soil.
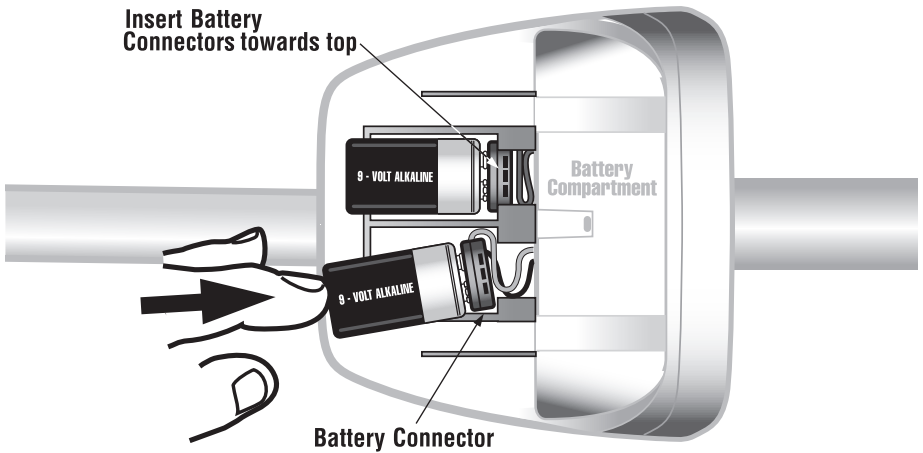
GROUND CANCELATION

Ground Cancelation is the ability of the detector to ignore, or "see through," the earth's naturally occurring minerals, and only sound a tone when a metal object is detected. This detector incorporates proprietary circuitry to eliminate false signals from many mineralized soils.

4

Installing Batteries

Use 9-volt **ALKALINE** batteries only!

1. Remove the Battery Compartment Cover from the top of the control housing.

2. Pull out the two battery connectors.

3. Snap on one or two 9-volt **ALKALINE** batteries.
   Do not use Heavy Duty or ordinary Zinc Carbon batteries.
   > **NOTE:** Detector will operate with one or two batteries.
   > A battery installed in either left or right position is OK.
   > Run time will be double with two batteries versus one.

4. Slide batteries into position as illustrated below.

5. Replace the Battery Compartment Cover.
   Slide cover in until it shuts securely in place.

Insert Battery Connectors towards top

9 - VOLT ALKALINE

Battery Compartment

9 - VOLT ALKALINE

Battery Connector

BATTERY LIFE
Expect 40 to 45 hours of life from a set of two 9-volt alkaline batteries.
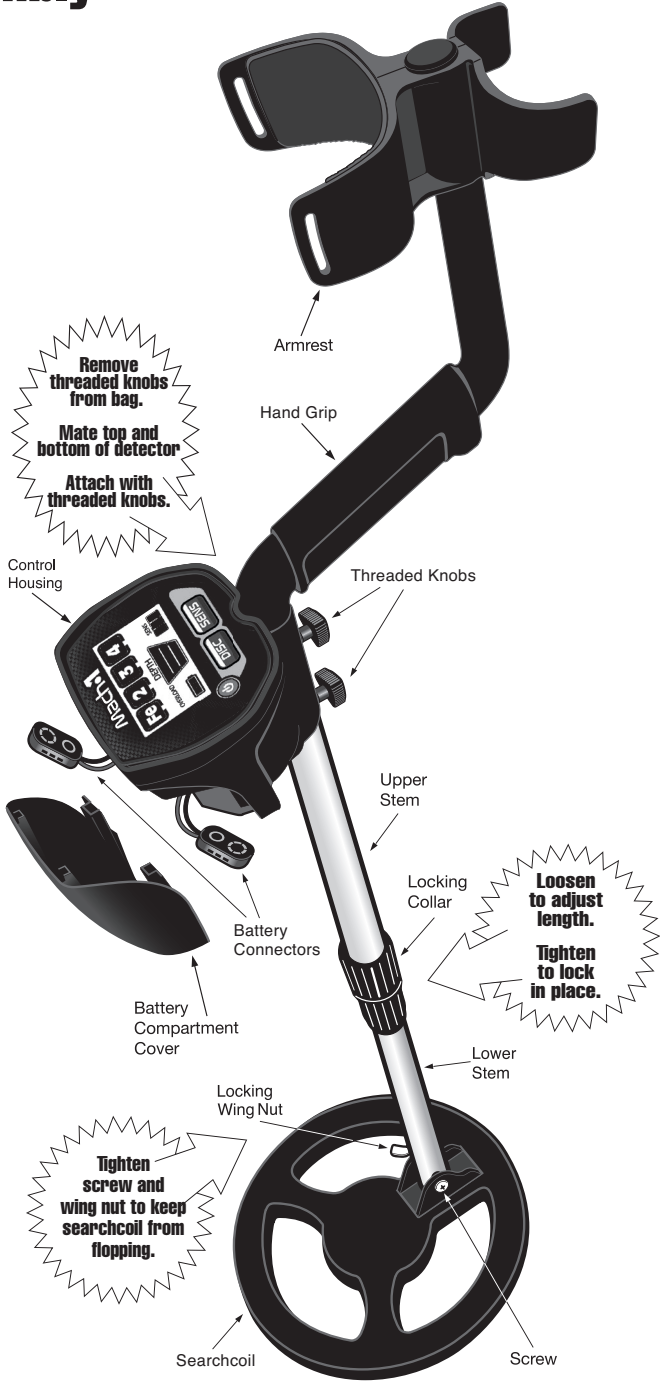A set of rechargeable batteries will provide about 16 hours of usage per charge.

WARNING
- Never mix old and new batteries.
- Never mix alkaline, standard (carbon-zinc) and/or rechargeable (nickel-cadmium) batteries.
- Never dispose of batteries in fire, as they may explode.
- Never attempt to charge non-chargeable batteries.
- Always remove exhausted batteries from metal detector.
- Do not store detector for long periods with batteries installed.

BATTERY DISPOSAL & RECYCLING
Alkaline batteries may be disposed of in a normal waste receptacle or recycled. Non-Alkaline batteries should be recycled. In the state of California all battery types must be recycled. Please refer to local municipalities for detailed disposal and recycling requirements.
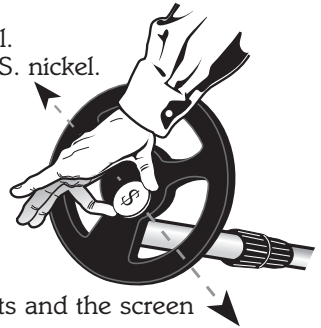
Assembly

Armrest

Hand Grip

Remove threaded knobs from bag.

Mate top and bottom of detector

Attach with threaded knobs.

Control
Housing

Threaded Knobs

Upper
Stem

Locking
Collar

Loosen to adjust length.

Tighten to lock in place.

Battery
Connectors

Battery
Compartment
Cover

Lower
Stem

Locking
Wing Nut

Tighten screw and wing nut to keep searchcoil from flopping.

Searchcoil

Screw

Quick-Start Demo

Try this quick way to demonstrate the basic features of your metal detector:
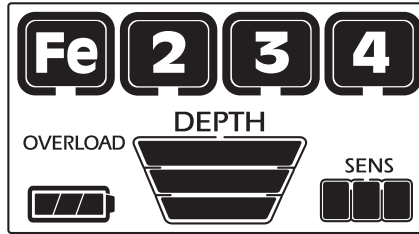
    I. Supplies Needed
        a. a nail.   **b**. a pull-tab or small piece of foil.
        c. a zinc penny (dated after 1982). **d**. a U.S. nickel.
        e. a gold ring.   **f**. a U.S. quarter.

    II. Keep the searchcoil away from floors, walls, and metal objects. One person holds the detector still, so that another can sweep coins under the searchcoil.

    III. To turn detector on, press-and-hold ⏻ .
        LCD will momentarily illuminate all segments and the screen appears as:

    IV. Detecting All Types of Metals:
        Wave each object under the searchcoil. Wave coins flat, parallel to the searchcoil.
        Notice different tones for different objects
        Notice different Target I.D.s (Fe, 2, 3 or 4) for each object.
        Pass each object at varying distances from the searchcoil:
            1.) Watch the DEPTH INDICATOR as the object moves closer or farther away from the searchcoil.
            2.) If the object is too close to the searchcoil, hear the OVERLOAD ALARM and see flashing "OVERLOAD" message.
            3.) Beyond a certain distance, the object is no longer detected.
            4.) For some objects, the Target I.D. may change if it's far away from the searchcoil.

  V. Discriminating out Targets:
      a. Press `DISC` once. The **Fe** icon is disabled.
      b. Wave the nail under the searchcoil and notice it is no longer detected.
      c. Press `DISC` again. The **2** icon is disabled.
      d. Wave the pull-tab, foil and gold ring under the searchcoil.
         NOTE: Rings can be composed of a variety of metals. If the ring is made of gold it will fall into category 2 or 3 (2 for smaller gold rings; 3 for larger gold rings).
      e. Press `DISC` again and pass all objects. The **3** icon is disabled. Only high-conductivity metals like a quarter or silver will be detected. Nails, aluminum, gold rings and pull-tabs will not be detected.

  VI. To turn the detector off, briefly press-and-hold ⏻ .
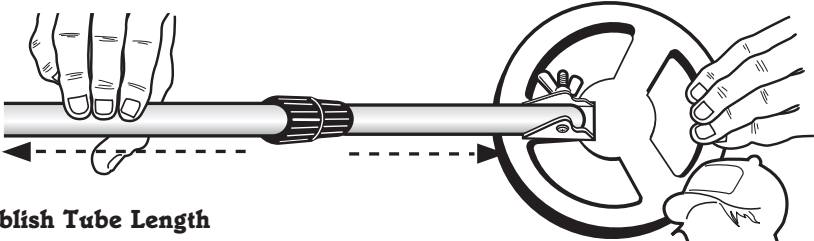
7

Adjusting Length

Loosen the locking collar nut 1/4 turn
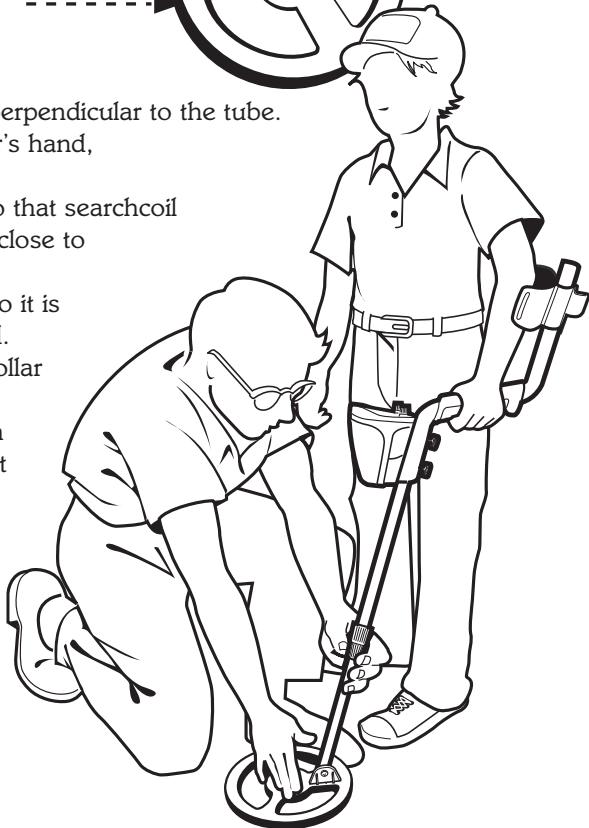
Extend the bottom tube assembly

1. Grasp the top tube with one hand.
2. Grasp the searchcoil with the other hand.
3. Pull the two sections apart to slide the lower stem out of the upper stem.
** Try not to pull lower tube all the way out.

Establish Tube Length

1. Pivot the searchcoil perpendicular to the tube.
2. Place detector in user's hand, with arm extended.
3. Adjust stem length so that searchcoil rests on the ground, close to the user's feet.
4. Align the searchcoil so it is parallel to the ground.
5. Tighten the locking collar while holding the searchcoil in place on the ground to prevent twisting of the stem assembly while tightening. **Do not over-tighten.**
6. Leave approximately 2" of the lower stem inside the upper stem to help maintain rigidity.
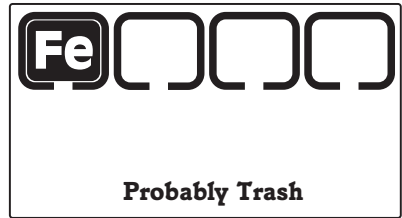
Target Identification and Discrimination

The Bounty Hunter Mach1 metal detector can both identify buried metals by category, and eliminate unwanted metals from detection.

"Discrimination" refers to the detector's ability to both identify targets and eliminate them from detection. When a Target ID category has been eliminated from detection, we say it has been "discriminated out."

Target Identification
The Mach1 can distinguish between four categories of metal targets:

1. **Ferrous:** This includes many iron targets such as nails, screws, bolts and some large iron objects like horseshoes. The Mach1 will respond with a bass audio tone and display the **Fe** icon.

Probably Trash

2. **Non-ferrous low conductor:** This includes many small rings and small jewelry but also includes many trash items such as foil and newer pull-tabs. The Mach1 will respond with a low-pitch audio tone and display the **2** icon.

Trash or small valuables

3. **Non-ferrous medium conductor:** This category includes U.S. nickels, larger rings and large jewelry but also includes many trash items such as older pull-tabs. The Mach1 will respond with a medium-pitch audio tone and display the **3** icon.

Could be something good?

4. **Non-ferrous high conductor:** This includes most copper and silver coins, as well as modern clad coins. The Mach1 will respond with a high-pitch audio tone and display the **4** icon.

Usually high value

9

Target Identification and Discrimination - *Continued*

Discrimination Settings
When the Mach1 is turned on, all four categories are enabled, meaning it will detect all metal targets. By pressing DISC you can eliminate target categories.

Press DISC once to eliminate ferrous (iron) targets.

Pressing DISC again will also eliminate low-conductor non-ferrous targets.

Pressing DISC again will then eliminate medium-conductor non-ferrous targets.
Only highly conductive targets, like dimes or quarters, will be detected.

Pressing DISC a 4th time will return the Mach1 to the default state and detect all metals.

Display Indicators

Depth

The 3-segment display is calibrated to coin-sized objects.

Note that larger targets will also register on the depth scale. The Depth Indicator will show the relative depth of larger objects, i.e. the deeper a larger object is buried, the more likely the display will show 3 segments.

The depth of buried coins (and coin-sized objects) will be indicated as follows:

Shallow Target
Coins on surface or up to 2 inches deep.

Medium Depth
Coins buried between 2 and 4 inches deep.

Deep Target
Coins buried over 4 inches deep.

Overload

When a metal object is too close to the searchcoil, the "OVERLOAD" indicator will flash and you will hear an siren-alarm sound.

If this happens, simply raise the searchcoil up off the ground and pass over the target again. OVERLOAD operation will not harm the detector but the detector will not operate properly under these conditions.

Sensitivity

The Mach1 has 3 levels of sensitivity.

At power-up, the detector is set to maximum sensitivity, 3 bars.

If your detector beeps or chatters when no metal is present, the cause is probably electromagnetic interference (EMI). EMI can be caused by power lines, appliances, cell phones or electrical storms. If you get abnormal noise while holding the searchcoil motionless in the air, the cause is electrical interference.

Use the SENS control button to reduce sensitivity if the detector beeps when metal is not present. Sensitivity levels are 1, 2 or three bars.

Battery Condition

Expect 40 to 45 hours of usage from a set of two 9-volt alkaline batteries. The 3-segment indicator measures the battery with the highest voltage of the two, or of the single battery if only one is installed.

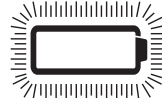Battery voltage at each level is as follows:

over 8 volts

7 to 8 volts

6.5 to 6.9 volts

6.0 to 6.4 volts

less than 6 volts

If the outline starts blinking, expect the detector to automatically power down after a short time.
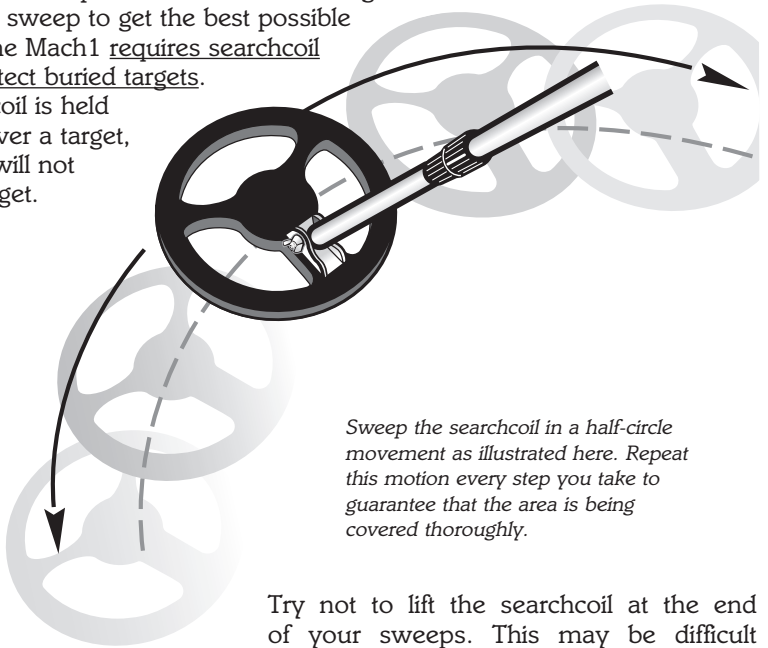
In the field...

Make sure the detector tube is adjusted to a comfortable length.

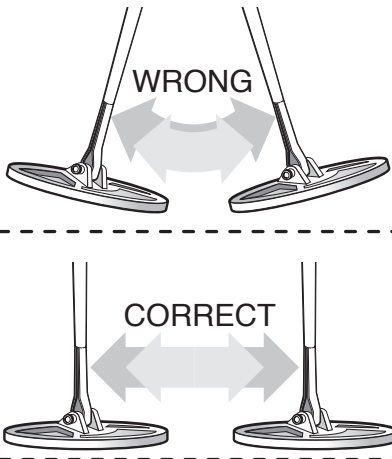Sweep the searchcoil from side to side in slow, overlapping motions. Keep the searchcoil parallel and close to the ground. Overlap each sweep to get the best possible coverage. The Mach1 requires searchcoil motion to detect buried targets. If the searchcoil is held motionless over a target, the detector will not detect the target.

Sweep the searchcoil in a half-circle movement as illustrated here. Repeat this motion every step you take to guarantee that the area is being covered thoroughly.

WRONG

CORRECT

Try not to lift the searchcoil at the end of your sweeps. This may be difficult for younger children, but the closer the searchcoil is to the ground throughout the sweep, the more likely you are to find buried metal objects.

You may want to adjust your discrimination during your search, depending on what you are finding. For instance, if you are searching with all four target categories active, you will detect all types of metal objects. If you find that you are in a trashy area with a lot of iron objects, press the DISC button to eliminate the iron category. If you are in a trashy area with a lot of pull tabs and bottle caps, press the DISC button again to eliminate the 2nd, and possibly the 3rd, target category.

Be aware that some desirable objects, like nickels and gold, fall into the middle target categories range and will be eliminated from detection along with less valuable metals. Gold rings have a metallic signature similar to pull-tabs; nickels have a metallic signature similar to some newer pull-tabs. It requires practice and patience to understand which types of objects are eliminated at each setting.
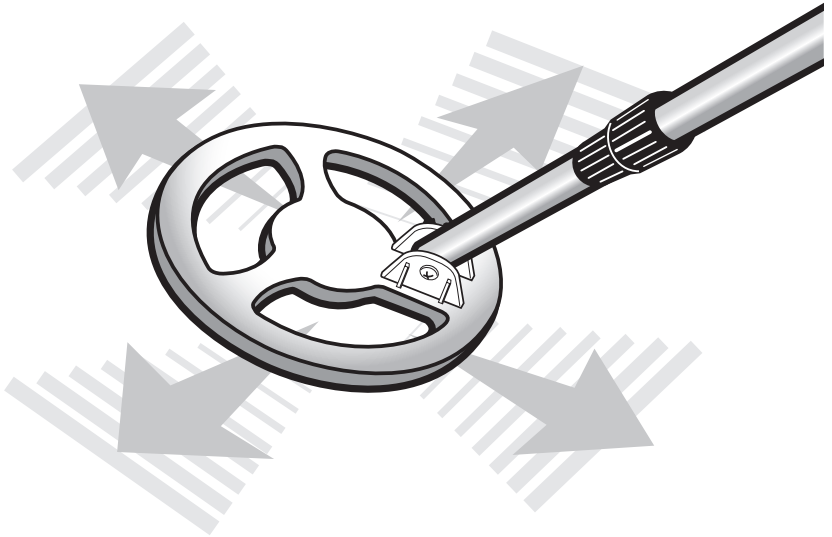
Pinpointing

Accurate pinpointing takes practice and is best accomplished by "X-ing" the suspected target area. A good way to practice this to lay a coin on the ground (make sure there are no other metal targets nearby) and practice "X-ing" it while listening to the audio. Note, the loudest signal response occurs when the center of the searchcoil is directly over the coin.

1. Once a buried target is identified by a good tone response, continue sweeping the searchcoil over the target in a narrowing side to side pattern.
2. Take visual note of the place on the ground where the "beep" occurs as you move the searchcoil slowly from side to side.
3. Stop the searchcoil directly over this spot on the ground.
4. Now move the searchcoil straight forward and straight back towards you in a similar fashion.
5. Again make visual note of the spot on the ground at which the "beep" occurs.
6. This allows you to "zero in" on the exact spot on the ground at which the "beep" occurs.

REMEMBER: The detector will beep just as the searchcoil passes over the buried object.

If you have difficulty pinpointing very strong signals, try lifting the searchcoil higher off the ground until a weaker, but more concise, signal is heard. For very weak signals, try moving the searchcoil in short quick sweeps, closer to the ground.

When pinpointing a target, try drawing an imaginary "X", as illustrated, over where the tone is induced.

MACH-1 Compliance

Class B Devices

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Consult the dealer or an experienced radio/ TV technician for help.

According to FCC part 15.21 Changes or Modifications made to this device not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
This device complies with FCC Part 15 Subpart B Section 15.109 Class B.

EU DECLARATION OF CONFORMITY

Hereby, Bounty Hunter Metal Detectors declares that the radio equipment type MACH-1 is in compliance with Radio Equipment Directive (RED) 2014/53/EU.

This product can be purchased and used in the European market without restriction; it meets the requirements of article 10(10).

C E The manufacturer declares that the minimum ESD performance criteria is 1) the unit shall not be permanently damaged and 2) operator intervention is allowed. This product is RoHS compliant. This product meets the requirements of Industry Canada: CAN ICES-3 B/NMB-3 B.

TREASURE HUNTER'S CODE OF ETHICS:

- Always check Federal, State, County and local laws before searching.
- Respect private property and do not enter private property without the owner's permission.
- Take care to refill all holes and leave no damage.
- Remove and dispose of any and all trash and litter found.
- Appreciate and protect our inheritance of natural resources, wildlife and private property.
- Act as an ambassador for the hobby; use thoughtfulness, consideration and courtesy at all times.
- Never destroy historical or archaeological treasures.
- All treasure hunters may be judged by the example you set; always conduct yourself with courtesy and consideration of others.

FIRST TEXAS PRODUCTS, LLC
1-YEAR LIMITED WARRANTY

Bounty Hunter Metal Detectors are warranted against defects in workmanship or materials under normal use for one year from date of purchase to the original user. Liability in all events is limited to the purchase price paid. Liability under this Warranty is limited to replacing or repairing, at our option, any Bounty Hunter Detector returned, shipping cost prepaid, to First Texas Products, LLC. Damage due to neglect, accidental damage or misuse of this product is not covered by this warranty.

Proof of purchase is required to make a claim under this warranty.

NOTE TO CUSTOMERS OUTSIDE THE U.S.A.

This warranty may vary in other countries, check with your distributor for details. Warranty does not cover shipping costs

www.detecting.com

BOUNTY HUNTER®
METAL DETECTORS

First Texas Products, L.L.C.
1120 Alza Drive, El Paso, TX 79907
(915) 633-8354 • Fax: (915) 633-8529

Designed and engineered in the U.S.A.
Made in CHINA

ACCESSORIES

Bounty Hunter® Padded Carry Bag
Rugged double stitched construction. Includes handy exterior pocket for extra batteries or small accessories.
CBAG-W

Bounty Hunter®
Pouch & Digger Combo –
Pouch with 2 large pockets & 9" heavy duty digging tool.
TP-KIT-W

Pin Pointer
Pinpoints the exact location of buried metal objects. Audio signal indicator and vibrator. Runs on 1 – 9-Volt Battery.
PIN POINTER-W

Bounty Hunter® Sand Scoop
Large scoop with filtering holes. Made of strong plastic.
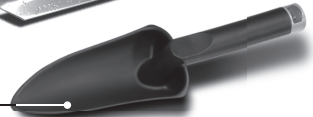*SAND SCOOPBH*

9" Heavy-Duty Digging Tool
Metal blade with comfortable plastic handle and depth gauge. *TROWEL-2*

Digging Tool –
Light and practical plastic, wide blade digging tool.
TROWEL-W

Bounty Hunter® Baseball Cap –
One size fits all, with Bounty Hunter® logo. *BHCAP*

Bounty Hunter® T-Shirt –
100% cotton with Bounty Hunter® Logo.
Sizes – S, M, LG, XL & XXL. *BHTSHIRT*

FOR COMPLETE DETAILS VISIT WWW.DETECTING.COM • 1-800-413-4131