

MD 6035 METAL DETECTOR OWNER'S MANUAL

MD6035 metal detector is a fully functional, detection capability, professional equipment for treasure hunter lovers. Through electronic technology, MD6035 gets the most difficult step automatic, the detection results can display on the LCD. It will simplify the operation, and will increase the fun of treasure-hunting.

Read this manual carefully before using. Most importantly, review the **Quick-Star Demo** and **Basic Operation**.

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MD-6035

TERMINOLOGY

The following terms are used throughout the manual, and are the common terminology among metal detector.

- **Motion Mode**

This is one of the operation modes in the metal detector technology. It means you have to move the search coil to find your target. In general, motion mode can reduce the effect of the soil mineralization, and will have better discrimination ability.

- **Non-motion Mode**

This is the other operation mode in the metal detector technology. When searching, you needn't move the search coil continuously, as long as the search coil approaches the metal to a certain distance, you would achieve the detection. In the non-motion mode, the detector can't discriminate the metal types.

- **Elimination**

To eliminate a particular metal is the set of the operator. During searching, when the specified metal passes through the search coil, the detector will not emit a tone, nor light up an indicator.

- **Discrimination**

When the detector emits different tones or gives different indications to 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.

- **Iron**

Iron is a common metal; it's usually not the detection target. Example of undesirable iron

objects are iron nail, bolts, old cans, caps and so on. Valuable relics can also be composed of iron, such as old armaments, old armature and so on.

- Ferrous

Metals which are made of, or contain iron.

- Trash metals

Caps, pull-tabs, s-caps from beverage containers are the most bothersome trash items for treasure hunters; you should eliminate them in searching. But some other valuable objects can have a magnetic signature similar to the above trash metals, and will also be eliminated when discriminating out trash metals.

- Pinpoint

Pinpoint is the process of determining the exact location of a buried metal object. As in the motion mode, you need to move the search coil continuously when searching; it's hard to determine the exact location of the buried metals. Pinpoint mode always works with non-motion technology. Let the search coil center align the location of the buried metal, to help you detect.

- Ground balance

Because the metals bury in the earth, the mineralization in the soil will affect the detection. The ground balance will eliminate or weaken the shielding effect of the mineralized soil.

The ground balance contains internal ground balance and adjustable ground balance.

- Coins depth

The detector referred to the coins depth, generally refers to the depth of the 25¢ silver in the neutral soil or the approximate distance in the air. It's not an exact depth.

Specification

OPERATION

- Operation mode: six kinds
- Motion mode five kinds: ALL-METAL, DISCRIM, JEWELRY, CUSTOM, COINS.
- Non-motion mode: PINPOINT
- Coins depth denote: 2",4",6",8+
- Sensitivity control: five sense segments
- Target metals discriminate: nine kinds
- Sound frequency: four kinds of frequencies indicate different metals.
- Battery indicate: four segments
- Turn off prompt: It sounds a prompt tone every ten minutes.
- Searchcoil:8.5 inches open waterproof search coil
- Earphone jack:1/8 inch earphone jack.(earphone not supplied)
- Power supply: 6 AA batteries. (batteries not supplied)

Assembly

1. Turn clockwise to relax the end of bend-shape tube sleeve, and insert the tube which connect search coil in the sleeve. Adjusting the length, so you can stand comfortably and straighten your arms. Lock the sleeve anti-clockwise when the search coil is from the ground about 1/2 inches.(See fig.1 and fig.2)

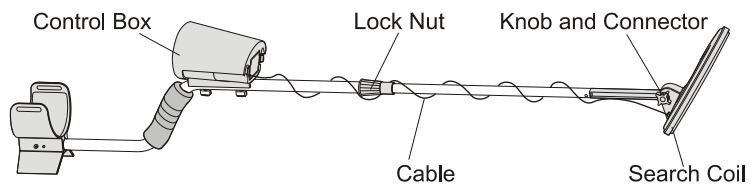


Fig1

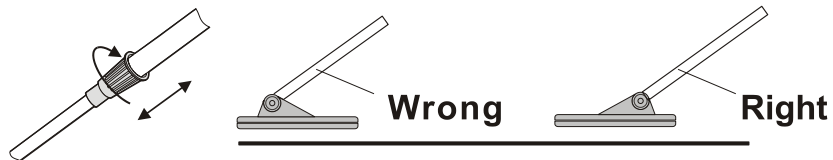


Fig2

2. Let the plastic pillar with two nuts on the bottom of detector control box alignment with two hole of the bend shape tube, and lock with bolts. (See fig.3)

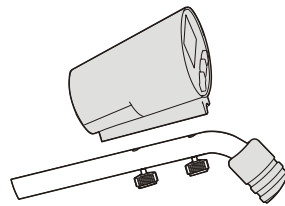


Fig3

3. Coil the cable of the search coil onto the tube pole, keep the elastic moderate. So that the cable won't sway, and then insert the cable plug into the lower right plug of the control box.(See fig.4)

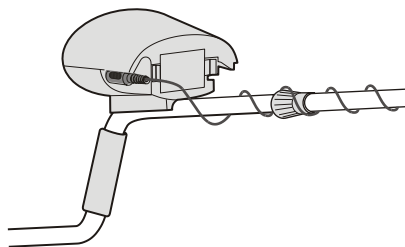


Fig4

4. The corbel has two positions. The initial corbel locates longer position. If your arms are shorter, such as women, children, you can adjust the corbel position. Please release a screw the left and right under of the corbel when regulation. So that the left and right corbels are loosen. Adjust the corbel forward to another position. And then tightened the two screws.(See fig.5)

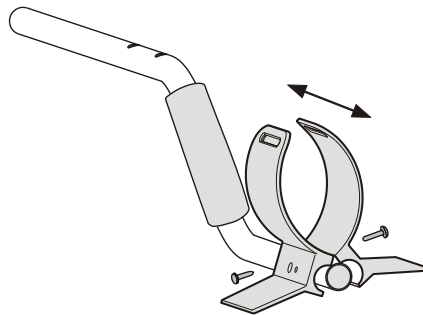


Fig5

Battery

Please use 6 alkaline AA batteries.

1. Press the “key” on the battery cover in the direction of the arrow, pull out the battery cover.(See fig 6)

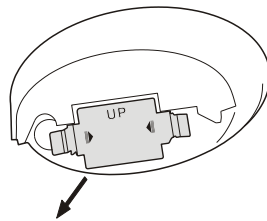


Fig6

2. Insert the 6 AA batteries into the compartment as indicated by the polarity symbols marked inside the compartment. (See fig.7)

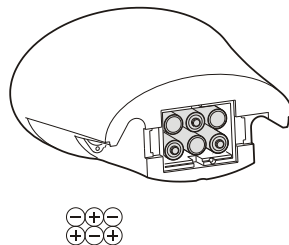


Fig7

- 3 The battery cover align the battery depot (the UP-side is upon), then push horizontally into the cover.

6 alkaline batteries are available for about 40 hours. If you don't use detector for a week or more, please remove the batteries from the battery box.

Panel and LCD

For MD6035 metal detector, all the controller adjustment display on the LCD, and all the detection result also be shown on the LCD. (See fig.8)

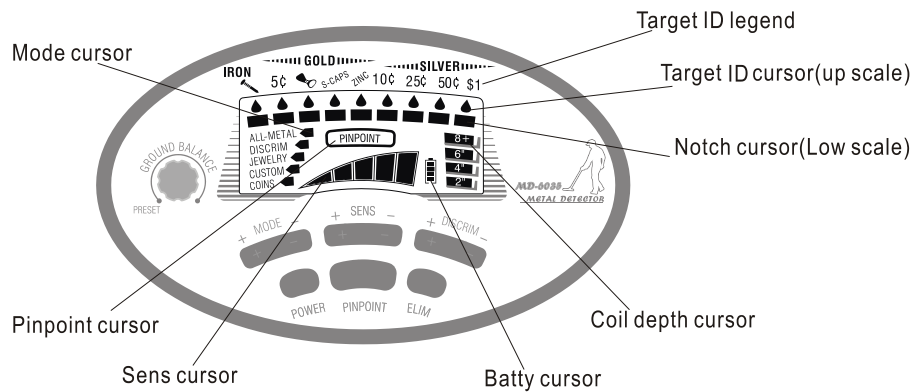






Fig8

- Mode indication cursor: indicate five operation modes; you can make a switch through the MODE “+” or “-” button.
- Target ID pattern: It’s located directly above the LCD screen. It indicates the commonly found target metals. When detecting a metal target, the target ID cursor (upper scale) will appear on the search metal patterns or below the words.
- Target ID cursor (upper scale): it’s in the shape of . The upper scale consists of nine graphical segments. When the target ID cursor is lighted, it indicates the probable type of the detected metal.

The four alarming tones are corresponding with the target ID cursor. See the below table:

Low tone	Low Medium tone	Medium tone	High tone
	5 ¢, 	s-CAPS ,ZINC	10 ¢ ,25 ¢ ,50 ¢ ,1 \$

Note: affected by the soil composition, as the same material metal in different soil, the position of the target ID cursor will have a change.

- Target discrimination cursor (lower scale): It’s in the shape of  , nine segments make up the lower scale, and it indicates the material types of the target objects. In ALL-METAL mode, the nine segments are all lighted. While in other modes, when a certain target discrimination cursor is extinguished, that indicates this metal type isn’t in the detection range, and it means this metal type is eliminated. In the PINPOINT mode, the Target discrimination cursor turns into the signal strength cursor; it denotes the signal strength that the detector receives.
- Coin depth indication cursor: it contains 2”, 4”, 6” and 8+ inches four segments. It indicates the approximate depth of the 25 ¢ silver in the neutral soil. It’s only the approximate depth. The size and composition of the target, the composition of the soil will affect the indication value.
- Sensitivity indication cursor: It’s divided into five segments, when the sensitivity indicator is all lighted, the sensitivity is the highest. You can adjust the sensitivity by the SENS “+” or SENS “-” button.
- PINPOINT cursor: Press and hold down the pinpoint button, the PINPOINT cursor is lighted, and the detector comes into NON-MOTION mode, it’s apply to locate the detected object accurately.
- Battery power cursor: Four segments indicate the battery power. When all the cursor is

lighted indicates the power is enough. While the entire battery indicator is extinct and the battery pattern is glimmered, it's time for you to replace the battery right away.

Controller

All the controllers are on the panel. See figure.9.

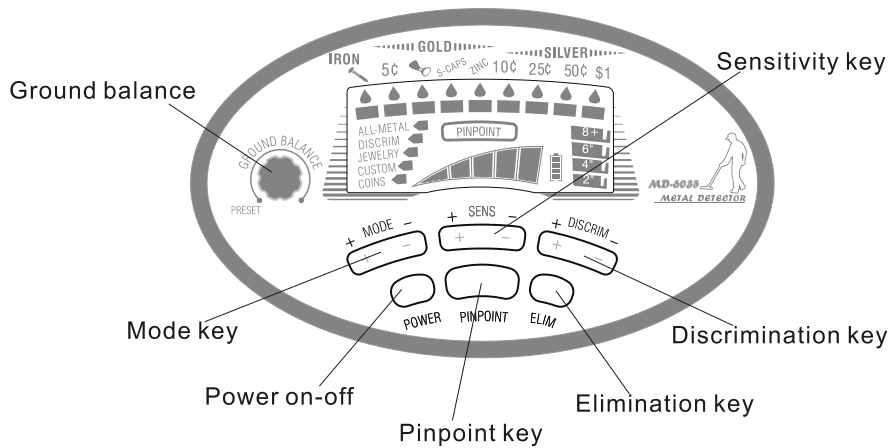


Fig9

- Power button: press the buttons, the power is on, and press it once more, the power is off.
- Mode button: Press the MODE “+” or “-” button, you can choose the five operation modes circularly.
 1. ALL METAL mode

The detector will respond to all kinds of metals, and the DISCRIM button is useless in this mode.
 2. DISCRIM mode

Cooperate with the DISCRIM “+” or “-” button; you can eliminate the metals you don’t want from left to right orderly. But the four materials 10¢ , 25¢ , 50¢ and 1 \$ in the right can’t be eliminated.
 3. JEWELRY mode

It can eliminate the iron metal automatically, and will respond to other metals. In this mode, the DISCRIM button is useless.
 4. CUSTOM mode

The operator chooses the eliminated metals arbitrarily. Press DISCRIM “+” or “-” button, let the upper scale target indication cursor move to the below of the metal pattern that you want to eliminate. Then press the ELIM button, the corresponding DISCRIM cursor is extinguished on the lower scale, it means this kind of metal is eliminated. Press the ELIM button once again, the DISCRIM cursor will be lighted again,
 5. COINS mode

It’s used to detect coins. It can eliminate the caps (iron), pull-tabs and s-caps are the three kinds of the trash metals.

- SENS Button: choose in five levels with SENS “+”or “-” button. Boot setting is in the middle value (the third level).The highest sensitivity is the fifth level, when there is interference existent; you can adjust the sensitivity lower properly.
- DISCRIM Button: in the two modes of CUSTOM and DISCRIM, the operator can choose the type of “eliminate” metals according to DISCRIM “+”or “-”button.
- ELIM Button: in the CUSTOM mode, cooperate with DISCRIM button to eliminate the type of metals.
- PINPOINT Button: press and hold down the “PINPOINT” button, the detector converts into the non-motion mode, and it no longer has discrimination ability. At this time, the PINPOINT cursor is lighted, the upper Target ID cursor is useless, and the lower cursor Target Discrimination cursor turns into signal strength cursor. The more close to the metal target, the lower strength cursor is lighted more scale, and the sound is louder, you can locate the target location accurately.
- GROUND BALANCE Button: it’s used in the PINPOINT mode. In general, set it RESET. In the serious soil salinity environment, adjusting the ground balance, when the search coil of the detector approaches the ground, it will not sound a tone.

QUICK START

1. Prepare with the four metal samples

- an iron nail
- a 5 ¢ nickel coin
- a 1 ¢ zinc coin(after 82 version)
- a 25 ¢ silver coin

2. Lay the detector

Place the detector on a wooden or plastic table, let the search coil exceeds the table edge about more than 30cm.Keep the detector away from the wall, ceiling and floor, turn off all the equipment which can cause electro-magnetic interference. Please take off the watch, ring or other metal objects on your hand or arm. (See Figure.10).

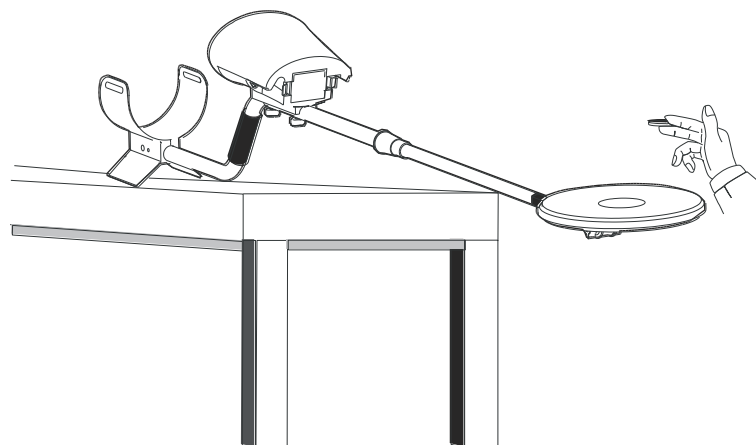


Fig10

3. Turn on

Press the POWER button, the detector will sound high, medium, medium low and low four tones in turn, all the LCD patterns are lighted flash, the default setting is ALL METAL and the sensitivity is in the third level. (See Figure.11)

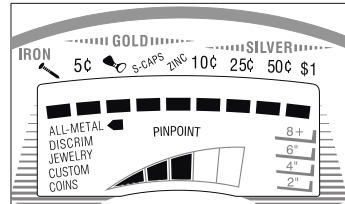



Fig11

4. ALL METAL mode test

Sweep the four metal samples 10cm above the search coil.

- a) The detector sounds four different tones in turn.
- b) The depth cursor shows 4”.
- c) The Target ID cursor points to four materials.

As below table

Sample	Iron nail	5 ¢ nickel coin	1 ¢ zinc coin	25 ¢ silver coin
Tone	Low tone	Medium low tone	Medium tone	High tone
Target ID denote		5 ¢	ZINC	25 ¢

(See Figure.12, for example as iron nail)

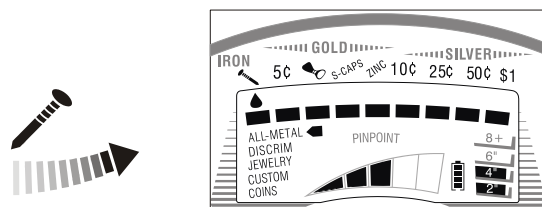


Fig12

5. DISCRIM mode test

- a) Press the MODE “+” button, the operation mode cursor points to “DISCRIM”, while press the DISCRIM “+” button, the first segment of the target discrimination cursor in the lower cursor is extinguished.
- b) Sweep the four metal samples 10cm above the search coil in turn.
- c) When sweep the iron nail, the detector will not respond, it means the “iron” is eliminated.
- d) When sweep the other three samples, the response of the detector is the same with the ALL METAL mode.(See Figure.13,for example as 5 ¢ coin)

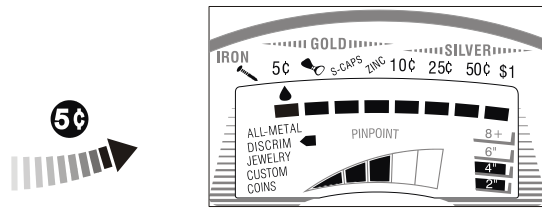


Fig13

- e) Press DISCRIM “+” or “-” button, the operator should eliminate the unwanted metals from left to right in order (from iron to ZINC).
6. JEWELRY mode test
 - a) Press the MODE “+” button again, the operation mode cursor points to JEWELRY, and the first segment of the target discrimination cursor in the lower cursor are extinguished.
 - b) Sweep the four metal samples 10cm above the search coil in turn.
 - c) When sweep the iron nail, the detector will not respond, it means the “iron” is eliminated.
 - d) When sweep the other three samples, the response of the detector is the same with the ALL METAL mode.(See Figure.14,for example as 1 ¢ zinc coin)

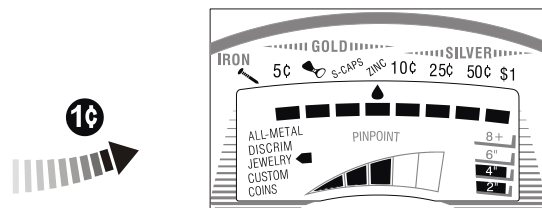


Fig14

7. CUSTOM mode test
 - a) Press the MODE “+” button again, the operation mode cursor points to CUSTOM.
 - b) The operator envisages to eliminate 1 ¢ zinc coin, while retaining the ability to detect the other metals, should do as follow:

Continue press the “DISCRIM” “+” button, let the target ID cursor in the upper cruor move to the below of the “ZINC” pattern. Press the ELIM button again, the target discrimination cursor in the below of the ZINC pattern is extinguished.
 - c) Sweep the four metal samples 10cm above the search coil in turn.
 - d) When sweep the 1 ¢ zinc coin, the detector will not respond, it means the “ZINC” is eliminated.
 - e) When sweep the other three samples, the response of the detector is the same with the ALL METAL mode.(See Figure.15,for example as 25 ¢)

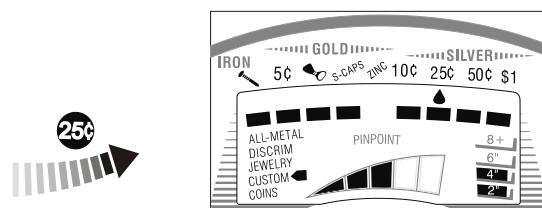


Fig15

- f) You can operate combination with DISCRIM “+” or “-” button, the ELIM button can be programmed arbitrarily.
8. COINS mode test
- a) Press the MODE “+” button again, the operation mode cursor points to COINS. The three patterns of iron nail, pull-tabs and S-caps in the lower cursor corresponding to the target discrimination cursor are extinguished; it means the three trash metals are eliminated.
- b) Sweep the four metal samples 10cm above the search coil in turn.
- c) When sweep the iron nail, the detector will not respond, it means the “iron” is eliminated.
- d) While sweep the other three samples, the response of the detector is the same with the ALL METAL mode.(See Figure.16,for example as 1¢)

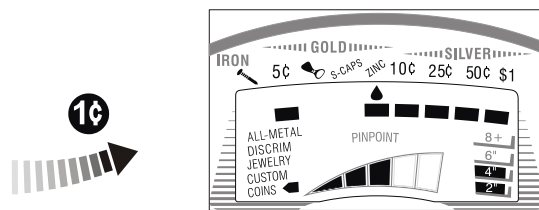


Fig16

9. PINPOINT mode test
- a) Press and hold down the PINPOINT button, the PINPOINT cursor is lighted, and the depth cursor points to 8+.The target ID cursor in the upper cursor is useless, the target discrimination cursor in the lower cursor is extinguished, and the detector sound a low single-frequency medium tone. (If the lower cursor doesn't extinguish, you can release the PINPOINT button for several seconds, then press it again.). (See Figure 17)

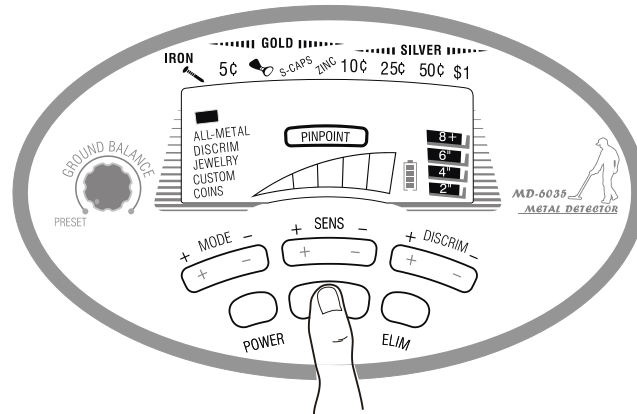


Fig17

- b) Let the 25¢ silver coin approach the search coil slowly, when it is in the position of about 8” , the lower cursor begins to appear, and the sound turns louder. Continue let the 25¢ silver coin is closer to the search coil, until the lower cursor is full-scale lighted, and the sound is louder, the depth cursor denotes the depth dropping.(See Figure.18)

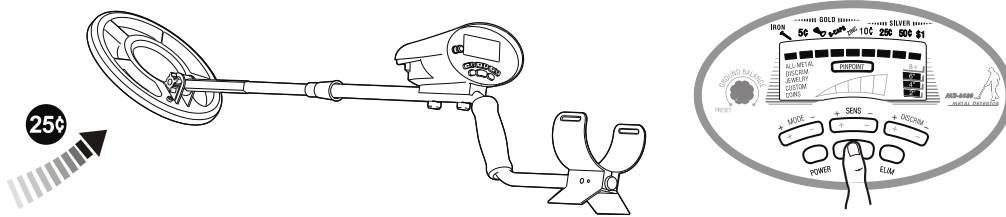


Fig18

- c) Maintain the position of the silver coin and release the PINPOINT button. Press the PINPOINT button again after several seconds, the lower cursor is extinguished, and the sound comes back to the initial state, the depth denotes is unchanged.
- d) Let the silver coin slowly move to the center of the search coil again, the lower cursor appear again and increase, the sound turns louder, and the depth cursor goes lower, it means the metal target is closer to the center of the search coil.
- e) Repeat the above procedures, when it's near the position of 2", the cursor and the sound are not changed.
- f) To the samples that with different materials, the detector will give the similar respond.

Done this step, the operator has an initial familiarity to the MD6035, and can begin the next step of basic operation.

Basic Operation

Metal detector is used in outdoors. There are too many metals indoors, and all kinds of electrical equipment that will bring interference signals. So you generally can't use the detector indoors.

Field detection is more complicated, the composition of the regional soil, the component, size, shape and the oxidation degree of the underground metals will all affect the detection results. This chapter is only the general steps of the field detection. The operator should operate again and accumulate experience to achieve good results.

1. Turn On

Press the Power button, the detector will sound four frequency tones, and all the LCD patterns are lighted flash. The default setting of the operation mode is ALL METAL mode and the sensitivity is set in the third level.

2. Set the operation mode

In generally, the operator should choose the ALL METAL mode. At this time, the detector will make a discrimination response to all kinds of metals.

IF the operator has a clear detection target, you can also use other operation modes: If you choose JEWELRY mode, you could eliminate iron. If you choose COINS mode, you could

eliminate iron, pull-tab and S-caps three kinds of trash metals. To the experienced detector, you can also choose CUSTOM mode, and you can choose the eliminated metal types freely.

Since the soil will deviate from the detection indication, we suggest you take some samples with you, such as 25 ¢ silver coins, 5 ¢ nickel coins and so on. Bury these samples in the soil of the detection region respectively, try to detect and observe the position of the discrimination cursor appearing, and be note the extent of the deviation from the target pattern. It will help you judge the type of the target, in case you omit the treasures that you want to find.

3. Choose the sensitivity

The detector always expects to set the sensitivity higher. However, in the higher sensitivity range, the detector will be sensitive to the electromagnetic interference that comes from the power lines or cables around, and it will be abnormal to the mineralization soil or electrical conductivity soil. If you move the search coil in the detection area, and the detector sends a false unstable signal, please decrease the sensitivity.

If you operate the detector with your partner at the same time, please pay attention to keep 10 meters or more away from each other, and decrease the sensitivity appropriately.

4. Move the search coil

When searching, you should move the search coil at a constant speed, not unsteadily. Let the search coil be parallel with and about 1/2 inches' from the surface, not to swing it like a pendulum high and low above the ground. (See Figure 19)

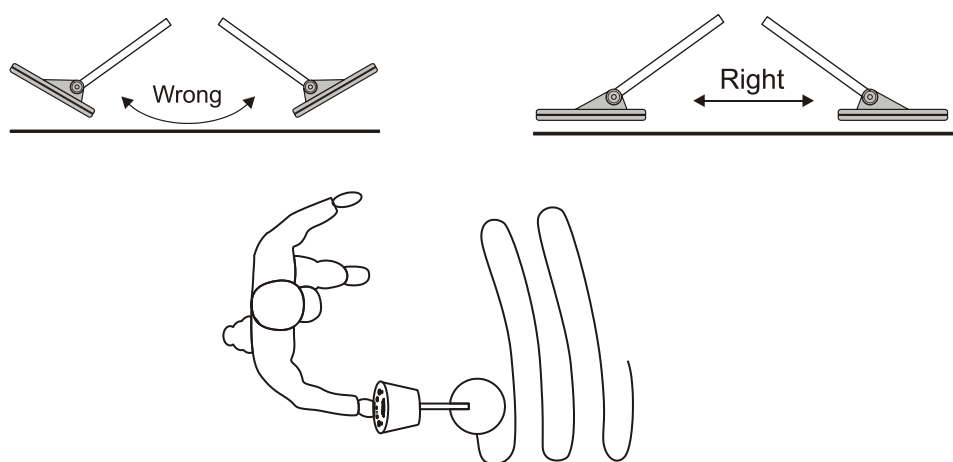


Fig19

Most valuable metal objects will send repeatable signals. If the signal can't be repeated, it's mostly false. When there is a clear sound instructing the buried targets, you could read out the approximate target type and depth in the LCD screen. And you could also move the search coil above the target objects fast, in order to get a more stable signal.

5. Make use of the sound, help to discriminate

In the process of detection, you don't always watch the screen. And the sound identification system will sound four frequency tones to help you discriminate the targets.

Low tone——ferrous metals, such as iron nail, caps and so on.

Medium low tone——pull tabs, 5 ¢ nickel coins.

Medium tone——S-caps, 1 ¢ zinc coin (after 82 version).

High tone——copper, aluminum, such as 10 ¢ zinc coin, 25 ¢ silver coin and so on.

6. PINPOINT

When searching in the motion mode, as you should persistently move the search coil, so although you find the region that burring metals, it's not easy for you to determine the exact location, it gets the digging difficult. At this time, you should recur to the PINPOINT mode.

- a) press and hold down the PINPOINT button, the upper cursor on the LCD is disappear, and the lower cursor is also disappear temporarily, the detector sound a low single frequency tone, the sensitivity is the highest. If the lower cursor isn't all disappear, and the single frequency tone is louder, please repeat operate (release the button and press the pinpoint).
- b) Let the search coil approach the ground, when you find the target, move the search coil slowly in the region. In the position that the single frequency tone turns louder and the signal strength cursor in the lower cursor begins to appear. Continue moving the search coil slowly until the sound turns louder, and the signal strength cursor is all lighted.
- c) Maintain the position of the detector, release the PINPOINT button. Press the PINPOINT button again, the detector is self-balanced, and sounds a low single frequency tone, the signal strength cursor is extinguished. When move the search coil slowly again, the single frequency tone turns louder, and more of the signal frequency cursor is lighted.
- d) Repeat the operation and approach the target several times, until you find the location of the metal target. You could make notes on the ground by the center of the open search coil, to facilitate your detection.
- e) In the process of the PINPOINT, the depth cursor turns to signal strength cursor, it denotes the distance between the center of the search coil and the target, to help you pinpoint the location. Finally, the depth cursor will remain on the 2" or 4", it means the target is the nearest from the center of the search coil.

7. Ground Balancing

Before using the PINPOINT mode, it's necessary to ground balance your detector. This ground balance adjustment offsets the effects of minerals and salts in the ground.

- a) Find a patch of ground which is free of metal objects. Begin with the ground balance knob in the reset position.
- b) Lift the search coil 1 meter more from the ground,(See Figure 20).Press the PINPOINT button, maintain the search coil about 1/2 inch above the surface.

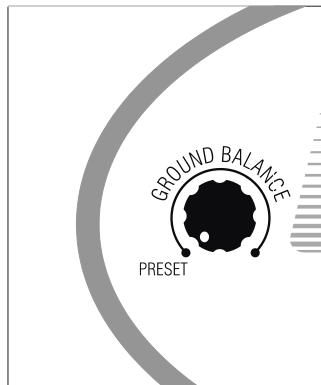


Fig20

- c) If the single frequency tone doesn't turn louder, and the signal strength cursor doesn't increase, it means the detector is in the state of ground balance.
- d) When you let the search coil approach the surface, the single frequency tone turns louder, and the signal strength cursor increases, it means you need to adjust the ground balance.
- e) Lift the search coil once more; rotate the ground balance knob clockwise about 15°.
- f) Press the PINPOINT button; let the search coil approach the surface.
- g) If the single frequency tone and the signal strength cursor are still increasing, you need to repeat the above procedure, till the detector is in the state of ground balancing.

It's important to move the knob in small increments in order to find the first setting at which the detector is just in the state of ground balance. To insure yourself of the optimal adjustment, move the knob slightly counterclockwise from an adjusted position. If the knob is over-adjusted in the clockwise position, the detector can lose the sensitivity.

It's necessary to remind you that in the severe magnetic or salinated soil, you may not adjust the ground balance in the best state.

8. Depth and Target Indication(only in the motion mode)

Depending on the MODE button selected, the operation modes are all motion mode. The LCD screen will show the rough metal target types and the rough target depth.

When the position and type of the target is determined, the detector will send a repeated signal. If you sweep above the same place, while the discrimination display is inconsistent, it means the target may be false, or it may be trash metal or highly oxide metal. Through practice, you need to learn only there is repeatable signal, that you should dig out the target.

When the detector finds a metal target, the identification cursor in the upper cursor will denote the metal type. The identification pattern is arranged from left to right, based on the metal conductivity. In the neutral soil, the discrimination denotes is more accurate, while in the mineralization or salinated soil, the discrimination denote will show various degree of deviation.

Smaller gold such as thin ring, locking pieces will register in the position of 5 ¢.

Larger gold such as thick ring, gold coin will register in the position of S-cap or ZINC.

The silver objects will register on the right of the pattern. The larger the silver objects, the further to the right it will register, such as larger silver dollar.

The patterns are signs on U.S. coins. 1 ¢ coin and coins (pre-1982) contain CU will register close to the position of 10 ¢, coins (post-1982) will register the position of ZINC. Coins of most countries will register in the position of 5 ¢.

The above discrimination is just a reference, it is not full accurate.

The depth indicator is accurate for coin-sized objects. Large and irregularly-shaped objects will yield less reliable depth readings. Repeated indication at the same depth level indicates an accurate target detector. If the depth indication varies with each sweep, try sweeping at different angles, there may be more than one target present.

Need to remind you once again, when searching in the wild, due to the impact of the ground condition, the discrimination indication and depth denote will be all various degree of deviation. The composition, size and oxidation degree of the metals will all affect the indication result. It's necessary for you to consider these factors before choosing eliminate a certain metal or determining whether there are precious metals present. Not to eliminate the precious metals.

9. The use of the non-motion mode.

In fact, the sensitivity in the non-motion mode, search metals direct using non-motion mode is also a choice. In some regions, the ground is too narrow to scan; you should choose the PINPOINT mode. In the severe mineralization or salinated district, you could try to scan using PINPOINT directly.

Caution

- 1) In areas with heavy traffic, please not wear earphone, in case an accident occurs.
- 2) Always obtain permission before searching any site.
- 3) Keep away from the region that may bury electrical line, cable line or pipeline, in particular the pipes that are full of flammable gases and liquids.
- 4) Do not detect in the military area that may bury bombs or gas explosives.
- 5) When digging out the target, use the reasonable method, not to destroy the vegetation. Leave the land and vegetation as it was, fill in the holes.