

BC ALL METAL

# White's Electronics, Inc.

1011 PLEASANT VALLEY ROAD

SWEET HOME, OREGON 97386

OPERATORS  
INSTRUCTIONS

## Beachcomber<sup>TM</sup>

All-Metal Detectors



BEACHCOMBER is a U.S. registered trademark of White's Electronics, Inc.

*Manufacturers of The World's Largest Line of Mineral and Metal Detectors*

MINERAL AND METAL  
DETECTORS

ELECTRONIC  
MAGNETOMETERS

SUPER GEIGER AND  
SCINTILLATION COUNTERS

ULTRA VIOLET  
LIGHTS

**Beachcomber<sup>TM</sup>**

**All-Metal Detectors**

## A Message from Mr. Kenneth White, Sr. President, White's Electronics

Congratulations! You are now the proud owner of one of the world's finest metal detectors. You'll enjoy the many relaxing hours you'll spend with your new BEACHCOMBER metal detector.

Ahead of you lie exciting experiences you'll never forget. For years to come you'll have yarns to spin about the places you'll visit, the people you'll meet, the fascinating history you'll learn, and the lost treasures and relics you'll uncover. I envy you your journeys and I wish you every success.

Before we tell you how to assemble and operate your instrument there are two important points I'd like to leave you with:

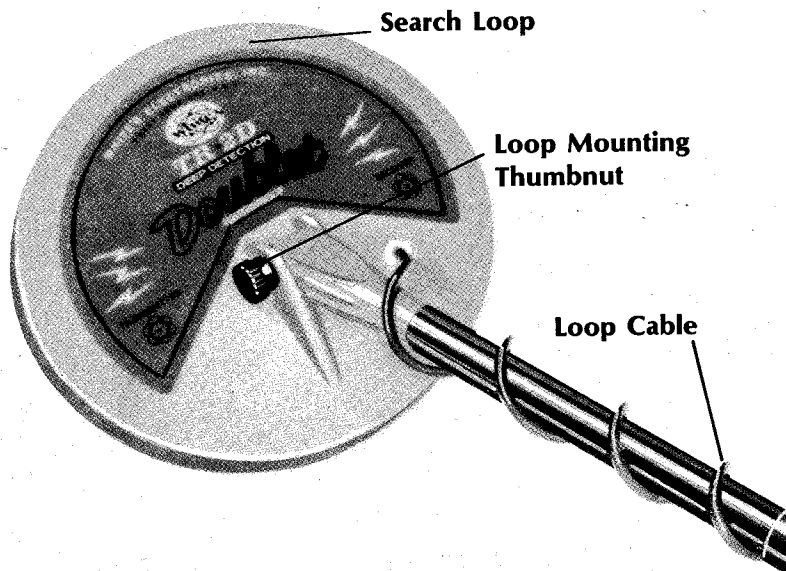
1. Your new BEACHCOMBER metal detector is precision-made and has been carefully tested at our factory. Properly cared for, it will last for years and years. Treat it like a good friend and it should never let you down.

2. Any piece of fine equipment is only as good as the person operating it. Right now your detector is "smarter" than you, so you've got some catching up to do. Become very familiar with your instrument. Practice as much as you can. Soon it will become part of you. You and your BEACHCOMBER metal detector will make an outstanding team. I've known many "shooters" who could follow in the tracks of others and find buried coins and rings the others missed. You've got the equipment to out-shoot most anyone. All you need is the practice.

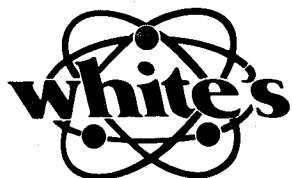
Good hunting,



Kenneth White, Sr.

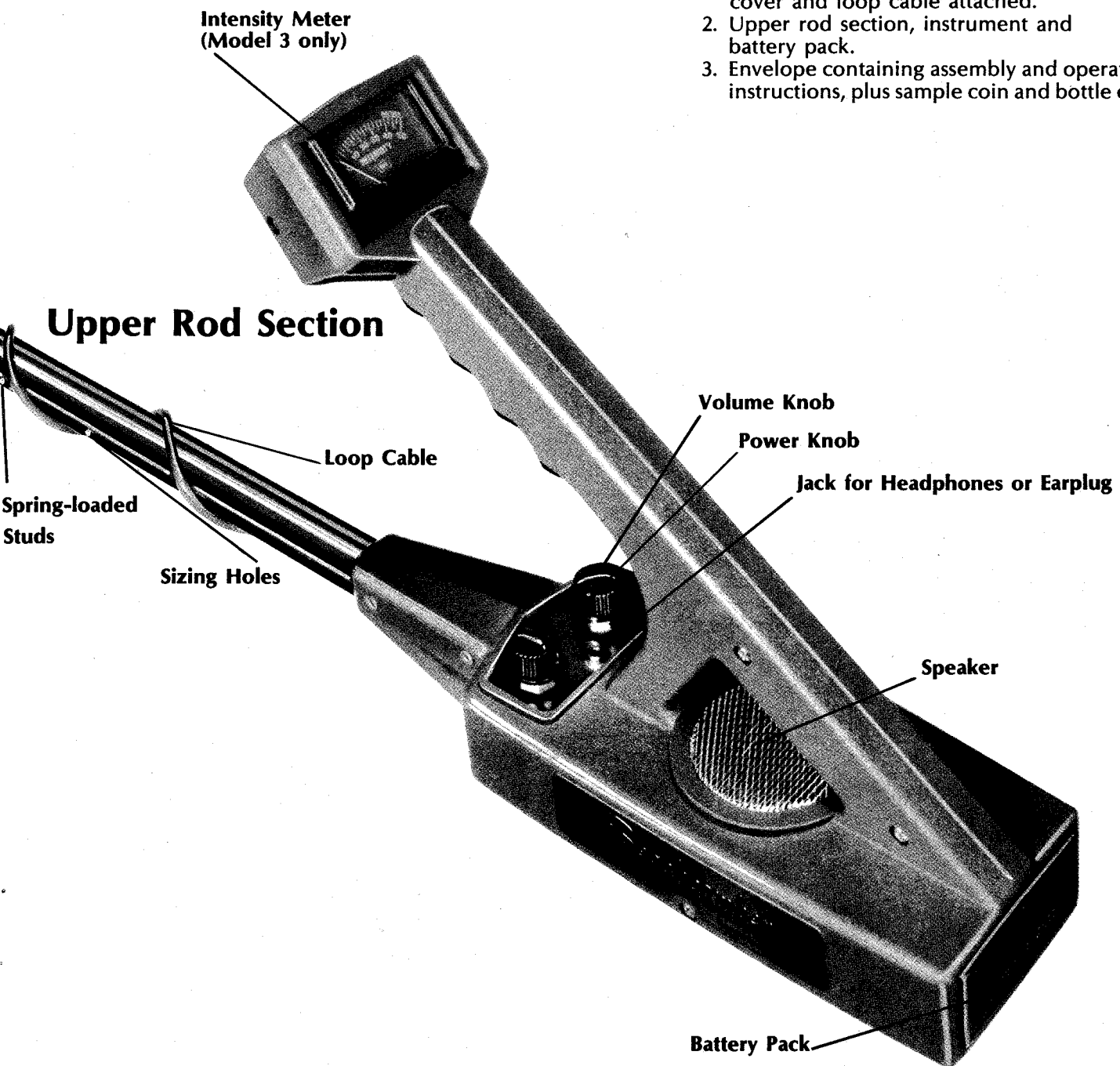


### Lower Rod Section



# Check the Contents of Your BEACHCOMBER Metal Detector Kit

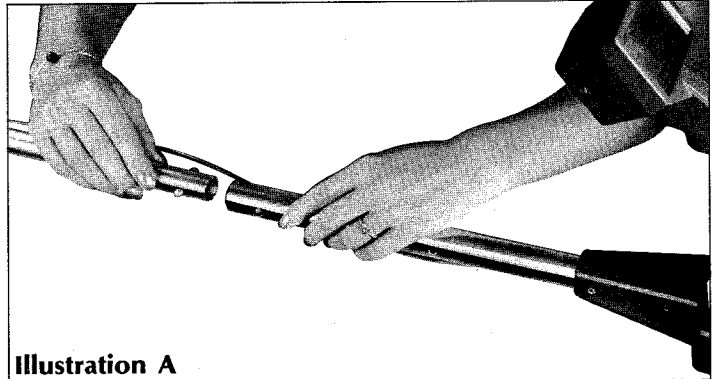
1. Lower rod section, search loop, protective cover and loop cable attached.
2. Upper rod section, instrument and battery pack.
3. Envelope containing assembly and operating instructions, plus sample coin and bottle cap.



# Assembly Instructions

**1** Grasp the lower rod section in your left hand and the upper rod section in your right hand. (Illustration A)

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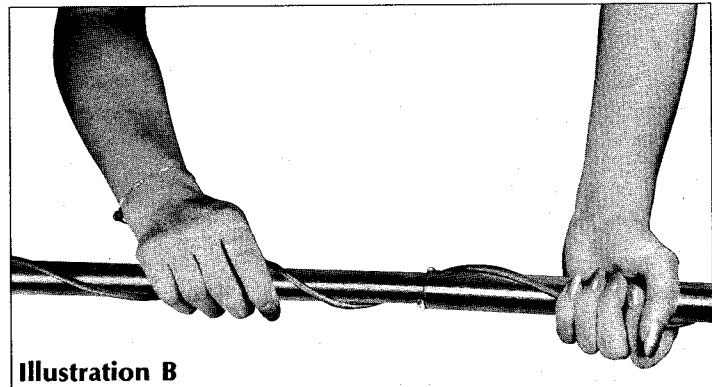


**2** Align the two rod ends and insert the lower section into the upper section until it stops (about one-half inch).

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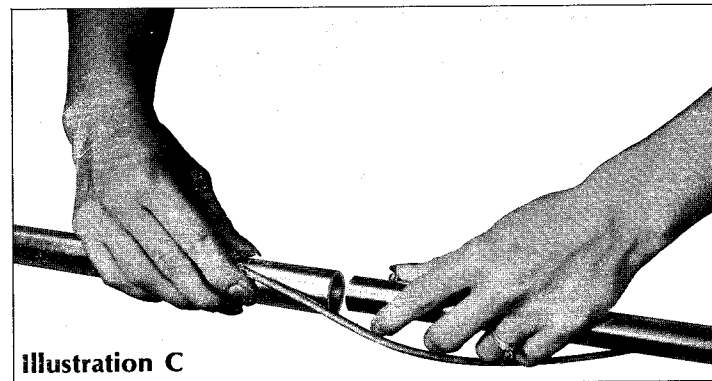
**3** Now, wrap the loop cable around and up the rod, toward the instrument. This is done by simply rotating the lower rod section two or three complete turns. Do not, however, wrap the loop cable too tightly! (Illustration B)

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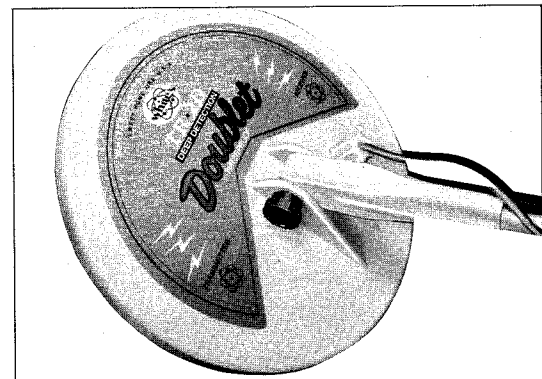
**4** With your left hand, depress the two spring-loaded studs at the end of the lower rod section and push the lower section gently into the upper section until the *first* pair of matching holes in both sections are lined up. The spring will then automatically force the studs through the holes, locking the two sections together. (Illustration C)

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**5** Finally, check the tightness of the loop mounting thumbnut. (Illustration D) It should be *finger tight*. If it's too tight, the loop will not adjust to different angles. If it's too loose the loop may not stay in position.

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**NOTE:** The length of the rod may be shortened for more comfortable use or for use in confined areas. To shorten the rod, depress the two spring-loaded studs and push the lower rod section further into the upper section until the *second* or *third* pair of matching holes are lined up. Again, the spring will automatically lock the two sections together. You will probably need to take up the slack in the loop cable after you've shortened the rod. To do so, simply rotate the lower rod section again while depressing the two spring-loaded studs.

# Operating Instructions

## Familiarizing Yourself with Your Detector

Grasp the handle of the BEACHCOMBER detector, letting the loop rest on the floor or ground. Notice that the instrument has two knobs. (*Illustration E*) The one on the left is called the "Power" knob. The one on the right is the "Volume" knob. Between them is a small jack (hole) into which you can insert the plug on the headphones or an earplug. The round grillplate between the knobs and the back of the instrument covers the speaker.

The "Power" knob has two functions:

1. It turns the instrument on and off.
2. It adjusts the level of sensitivity to metal objects.

The "Volume" knob is used to control the volume of sound coming from the speaker (soft to loud).

On the BEACHCOMBER 3 detector, notice that at the end of the handle is a small meter with a red face plate and a white indicator needle. (*Illustration F*). The meter plate is marked off in increments between "0" and "50". If your batteries are good they should register in the "Battery" range. The meter also is marked "Intensity". This enables you to visually locate hidden or buried objects.

At the back of the instrument is a plate which you can press in and slide down. (*Illustration G*) Behind it is the battery pack and the battery pack compartment. On the back side of the plate are the model and serial numbers of your metal detector.

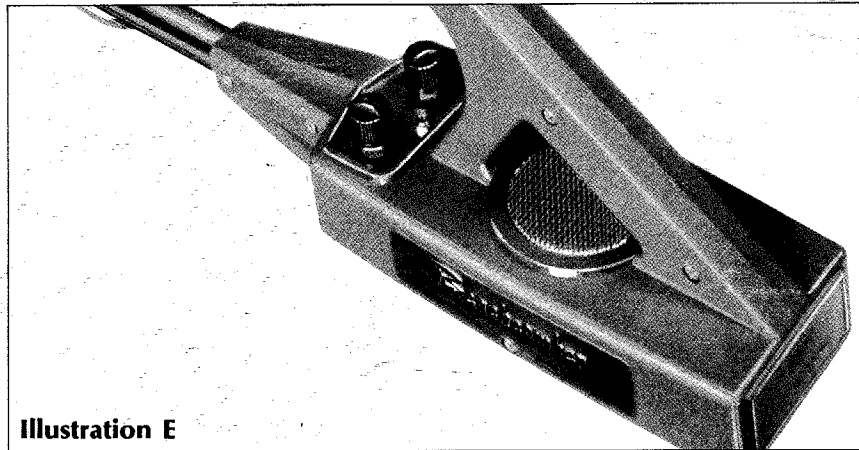


Illustration E

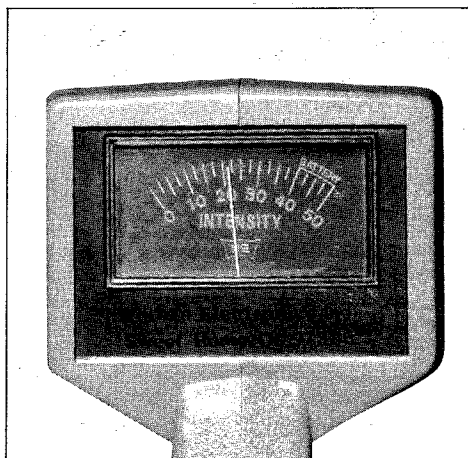


Illustration F

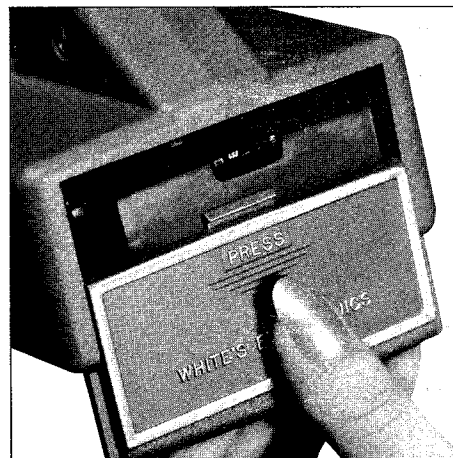


Illustration G

# How to Tune Your Detector

Your new detector will help you locate buried metal objects. Gold, silver and copper coins, brass, lead and platinum are all metals.

Tuning your instrument properly is extremely important. Read the following instructions carefully and practice them until you can tune your instrument without looking at this manual.

One more thing: Always tune your instrument out-of-doors. That way you won't get unwanted interference from metal objects used in the construction of your home.

Follow these steps to tune your detector:

1. While standing, raise the loop slightly off the ground and hold it as steady as you can.
2. Now, turn the "Volume" knob all the way to the right (clockwise).
3. Turn the "Power" knob to the right (clockwise) until it clicks. This tells you the instrument is on and the circuit is energized. Continue turning the "Power" knob to the right (clockwise) until you hear a loud tone coming from the speaker or headphones.
4. Next, turn the "Power" knob slowly back to the left (counter-clockwise) until the tone *almost* goes away completely. This faint tone is called the *Threshold Tone*.
5. Your detector is now tuned and ready for use. Please note, however, that if you lower the loop against the ground while searching, the *Threshold Tone* may disappear completely. Conversely, if you raise the loop above the height at which the instrument was tuned, you will hear a loud increase in the tone. These are normal reactions and do not necessarily indicate the presence, or lack of buried objects.

One final note before we continue: The depth to which your detector will penetrate may depend on a number of factors: 1) The degree of mineralization in the ground. The less mineralization, the deeper it will detect. 2) The height of the loop above the ground. The lower the loop, the deeper it will detect. And, 3) How carefully your instrument is tuned. The more accurate the tuning, the deeper it will detect.

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## Listen for the Tone

The tone coming from the speaker will tell you exactly where objects are located. When the volume of the tone increases, the loop is over the object. When the volume decreases, the loop has passed away from the object. The volume will be loudest when the center of the loop is directly over the center of the object. An exception to this rule, however, is a coin buried "on edge." In this case, the volume will be loudest when the *edge of the loop* passes over the coin.

Large or small increases in volume usually are caused by one of three things: 1) the size of the object, 2) how deeply the object is buried or 3) a combination of the two. Generally, the larger the object, the greater the increase in volume. The deeper it's buried, the smaller the increase. Thus, a single coin, deeply buried, will cause only a slight increase in volume. A large object, buried just as deeply, will cause a much larger increase.

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## Watch the Meter

The signal intensity meter located in the end of the BEACHCOMBER 3 detector handle will give a visual reading at the same time the speaker gives a sound reading. Increases in sound will be matched by increases in the meter reading. The purpose of the meter is to assist in locating small objects, since some people have difficulty hearing slight increases in volume. If you have the slightest doubt about a sound reading, check the meter. If the needle is bouncing back and forth as you move over the suspected area, then most probably an object is there. If your meter doesn't budge as you pass the loop over the area, then your ears probably have played a trick on you. As with a sound reading, the meter reading increases when the loop is over the object.

# Practice Makes Perfect

Here are a couple of ideas to help you sharpen your "shooting" skill:

1. Place a small object (your sample coin), a medium-sized object (a tin can lid will do nicely), and a large object (a frying pan from the kitchen) out on your lawn. Leave a few feet between them. Following the instructions above, tune your instrument. Pass the loop over each object, noting how much the volume increases or decreases as you move from object to object.

2. Take two quarters. Place one on top of the grass. A few feet away, dig a small hole no more than two inches deep and bury the other coin. Tune your instrument and pass the loop over the coin on the surface, then over the buried coin. Note how the volume increases or decreases as you move from one to the other.

3. Plant a "test garden." To get better acquainted with the various kinds of buried objects, bury some metal items at known depths. Make sure your test garden is located where you can get to it easily. It's best to make a map of the area, showing what is buried and its depth. Your test garden will help you practice and will also provide a handy method of periodically checking the performance of your instrument.



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## Advice About Headphones

Headphones or an earplug are excellent accessories. They concentrate the sound for you, permitting you to hear very *slight* differences in volume. They also shut out unwanted external noise which can interfere with your ability to detect objects. Persons with hearing problems are able to operate the instrument more easily. All in all, headphones or an earplug make a wise investment.

# Inspecting the Search Area

The smoother the area, the closer your loop should be to the ground. The rougher the area (the more potholes, grooves, mounds, etc.), the higher the loop will have to be.

When working a lawn or a beach area, the loop can rest lightly on the grass or sand as you sweep from side to side. A plowed field, on the other hand, may mean your loop will have to be set for operating a few inches above the ground.

Remember, the loop should be held at a constant height above the ground. As the ground level rises and falls raise or lower your loop accordingly.

Mineralization of the ground is another factor affecting the sensitivity of your detector. The more mineralization, the more difficult it is to detect objects. The less mineralization, the less the problem. Slowly drag a small magnet through the soil. If the magnet "grows hair" (picks up small particles of magnetic iron) the soil is *probably* highly mineralized.

All in all, the more the mineralization or the rougher the area, the more difficult it will be to detect a single coin or ring. Large objects, however, should never pose a problem.

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# Sweeping the Search Area



To locate hidden or buried objects, slowly and systematically sweep the loop from side to side across the area. (*Illustration*). The larger the diameter of your loop the more area you can cover in a single sweep and the faster you can search. With a six-inch loop, for example, you should take three-inch steps, moving the loop ahead three inches after each sweep.

For maximum performance when searching, you should always try to keep the loop at the same height you used when tuning the instrument. This will help insure greater depth of detection, and lessen any possibilities of error in your signal due to varying mineral content within the ground itself.

# Periodically Readjusting the Sensitivity

It is a good policy to periodically adjust the tuning slightly. As you become more experienced with your new detector you will begin to notice, just by differences in the tone you hear, whether the tuning needs to be adjusted. Remember, a properly tuned instrument insures that maximum sensitivity is maintained.

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## What Will Your Instrument Detect?

Silver, lead, copper, bottle caps, tin foil, gold, cartridge cases, rings, aluminum foil, brass and tin cans are some of the highly conductive metal objects that will cause a response in your speaker, headphones or earplug. Your instrument, however, will not detect sticks, rags, bones, paper, wood or other non-metallic objects.

The longer many metal objects have been buried, the better you may be able to detect them. A chemical reaction between such objects as silver or copper coins and the surrounding soil often creates a "halo" effect. This "halo" may cause your detector to register a much larger increase in volume than might otherwise be expected for a small coin. The "halo" can actually help you detect better. In fact, if the "halo" is strong enough, your instrument may continue to register even after you have dug up the coin!

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## Proper Care of Your Detector

- 1 CLEANING.** Both the loop and rod are waterproof and can be cleaned with fresh water and a mild cleanser. After cleaning, dry the instrument thoroughly. *Caution! Never raise the wet loop above the level of the instrument case. The instrument case is not waterproof and water may run down the rod into the case, damaging the electronic components.*
- 2 WEATHER CONDITIONS.** Protect your detector from excessively cold weather. Freezing can damage the electronic components, the case and/or the batteries. Excessive heat can also damage the instrument. Never leave it in the sun. It's best to lay it in the shade when temporarily not in use. If it's left in a car on a hot day, cover it with a blanket or something similar to protect it from the direct rays of the sun and then leave the windows slightly open to permit ventilation. Needless to say, protect your instrument if you operate it in the rain, as water may get into the instrument case.
- 3 SALT WATER.** Salt water is very corrosive! After your detector has been exposed to salt water, rinse it thoroughly in fresh water, being careful not to let the loop rise higher than the level of the instrument case. Then wipe it with a cloth dampened with fresh water and dry it thoroughly.
- 4 STORAGE.** If you plan to store your instrument for any length of time, unsnap the battery pack, remove it from the instrument and take the batteries out of the holder. Whenever your instrument is not in use turn the "Power" knob all the way to the left until it clicks off.

# Batteries

Batteries are the lifeblood of your instrument. Your battery pack holds six 1½ volt AA penlight batteries. AA penlight batteries are readily available at drug and grocery stores everywhere. Any brand of battery will work well, although the alkaline energizer will probably last longer.

To change batteries, first remove the battery pack from the back of the instrument. Before you remove any of the individual batteries, examine the pack and compare it with the illustration shown here. Note the exact position of each battery and the position of the battery lead snaps. Your instrument will not work unless the batteries are properly installed and the battery lead is properly connected.

Each battery has a positive end (+) and a negative end (-). The plus (+) and minus (-) symbols are clearly marked on all batteries. Remove one of the batteries from the battery pack. Notice that the slot from which it was removed also has the positive (+) and the negative (-) symbols clearly marked.

To replace the batteries, simply match the plus (+) and minus (-) symbols on the new battery with the plus (+) and minus (-) symbols on the battery slot and snap the new battery into place.

The battery lead snaps must also be matched to the button snaps on the pack (plus to plus, minus to minus) before you reconnect the power cable. (Illustration H)

Generally speaking, your batteries need replacing when the volume becomes weak and the instrument loses sensitivity. To determine if your batteries need replacing in the BEACHCOMBER 3 detector, however, turn the "Volume" knob to the left until you hear a click. The BEACHCOMBER 3 detector is now in the "Battery" position. (Illustration I). Turn the "Power" knob to the right until you hear a click and the instrument is "on". If the meter needle does not register in the "Battery Check" zone, then the batteries are weak and should be replaced for optimum performance.

Prolonged use of your detector will cause a severe drain on your batteries. It's best to turn the power off from time to time during a day of "shooting." This gives you a chance to take a break and it gives the batteries a rest. In a few minutes both you and your batteries will be ready to go again.

If you plan to store your detector for several weeks or more, it would be wise to keep the batteries in the refrigerator. Doing so will prolong their lives. Also, it's a good idea to carry an extra battery pack and some spare batteries with you on outings.

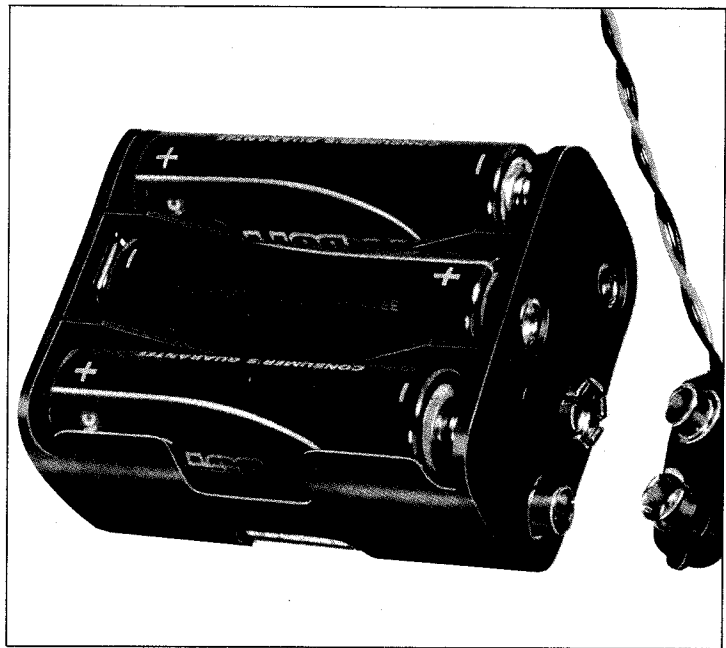


Illustration H



Illustration I

# Some Thoughts on Ethics

Treasure hunting is the kind of new hobby that fires the imagination and generates its own enthusiasm. It's the most natural thing in the world to dig as fast as you can the minute you hear that first loud, unmistakable signal. It will be a real thrill to discover what treasure is right beneath your feet.

But stop a minute! Be a little far-sighted and consider the long-run, too.

We strongly urge you to adopt a code of ethics which will preserve the environment and also the rights of treasure hunters to operate detectors with as few restrictions as possible.

Before you even begin a search, check the law, ordinance or regulations about hunting on publicly owned sites. Abide by the rules. If the area is private property, get written permission from the owner to search it. You may find he will be more eager to give permission if you suggest sharing your finds with him, or if you offer to search for a specific item he has lost.

About digging: in lawn areas use a screwdriver of no more than six or eight inches as your tool. Limit the size of the hole to a maximum of two inches in diameter, cutting a plug of sod which can be easily replaced after you make your find and fill the hole. Leaving holes is both unsightly and dangerous!

Detectors or detector modes designed for locating large and deeply buried objects should be used with discretion — never in lawn areas, and with careful judgment in other locations. Consider the scar you may leave by your digging before you start. This will vary a lot from one part of the country to another, depending on local soil and climatic conditions.

Public officials and private property owners will be much more likely to allow continued treasure hunting if you do no environmental damage. You may even be able to increase your reputation as an ethical hunter by volunteering to carry out and dispose of whatever trash items you find.

Adoption of these attitudes can only enhance the public's opinion of treasure hunters and assure that many areas, both public and private, remain open to you and your new detector.

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## Service and Warranty Information

If your BEACHCOMBER metal detector is ever in need of service, ship it to us at the factory address below or to one of our Service Centers listed on the back of the warranty card. Insure it fully, prepay the charges and enclose a letter describing the nature of the problem. We'll correct the matter and return the instrument as soon as possible. As long as your instrument is under warranty there is no charge other than a small handling and postage fee.

Read your warranty card carefully. It describes completely what is covered and the length of the coverage. If you have any questions, don't hesitate to write to us. We will be happy to answer any questions you may have.

### **White's Electronics, Inc.**

1011 Pleasant Valley Road, Sweet Home, Oregon 97386

Printed in U.S.A. 2/77

# **WHITE'S ELECTRONICS LIMITED WARRANTY**

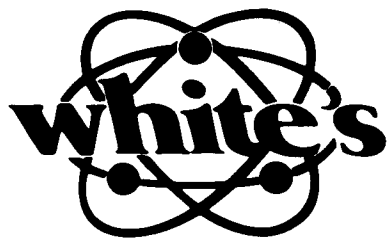
If within two years (24 months) from original date of purchase, your White's detector fails through normal use and due to defects in either material or workmanship, White's Electronics will repair or replace, at its option, all necessary parts without charge for parts or labor. Simply return the detector, with all transportation charges prepaid, to the nearest White's Electronics Service Center or to the factory headquarters. Include a description of the problem, plus \$5.00 for return postage, handling and insurance.

Items excluded from this warranty are batteries, headphones, charger, rechargeable batteries, and other accessories.

The warranty is not transferable. Nor is it valid unless the **Warranty Registration** card enclosed in the shipping package is returned to the factory address below within ten (10) days of original purchase for the purpose of recording that date, which is the actual commencement date of the warranty. The warranty does not cover damage to detectors caused by accident, misuse, neglect or unauthorized service.

Duration of any implied warranties (e.g., merchantability and fitness for a particular purpose) shall not be longer than the stated warranty. Neither the manufacturer nor the retailer shall be liable for any incidental or consequential damages resulting from defects or failures of the instrument to perform. Some states, however, do not allow limitations on the length of implied warranties, or the exclusion of incidental or consequential damages. Therefore, the above limitations and exclusions may not apply to you. In addition, the stated warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

**White's Electronics, Inc.  
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