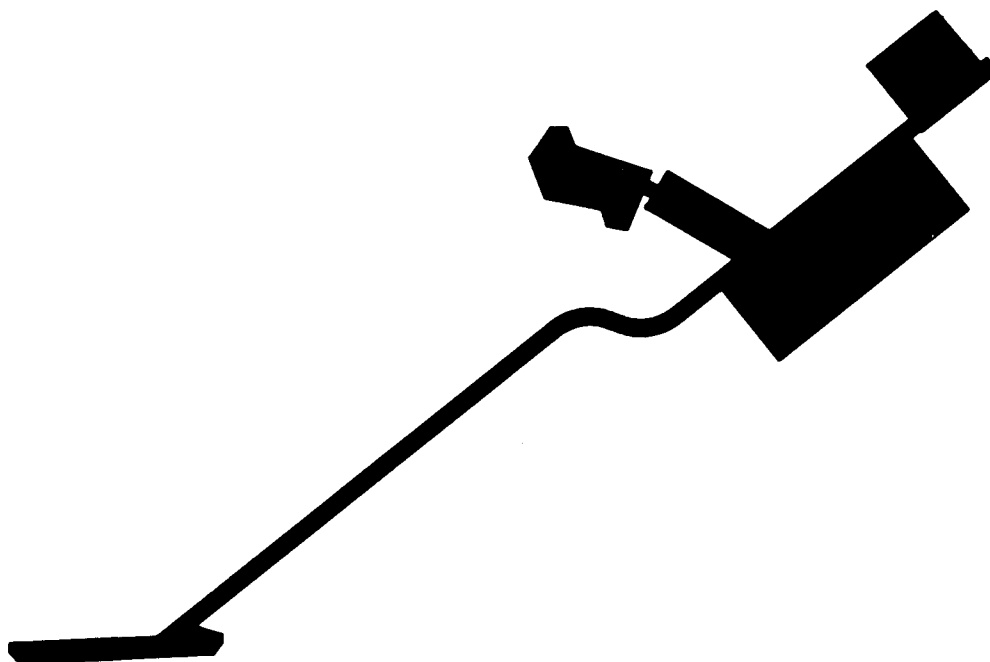



## OPERATOR'S MANUAL

# **white's** **3900/D** ***PRO*** ***Plus*** **PROFESSIONAL SERIES Metal Detector**

Manufactured by WHITE'S ELECTRONICS, Sweet Home, OR USA



### **ATTENTION:**

To use your instrument under average conditions, set each of the controls to their  position.

If you need to fine tune the instrument to operate in other than average conditions, please refer to the operator's manual for more detailed information.

**A Message From  
Mr. Kenneth R. White  
C.E.O. White's Electronics**

Congratulations! You are now the proud owner of one of the world's finest detectors. You'll enjoy the many relaxing hours you'll spend with your new 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 history you'll learn, and the treasures and relics you'll uncover. We envy your journey and wish you every success.

Before we tell you how to assemble and operate your instrument, there are two important points to leave you with:

1. Your new 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. Become very familiar with your instrument. Practice as much as you can. Soon it will become a part of you.

You and your metal detector will make an outstanding team. We've known many "shooters" who could follow in the tracks of others and find buried coins and rings the others had missed. You've got the equipment to out-shoot most anyone. Now all you need is the practice.

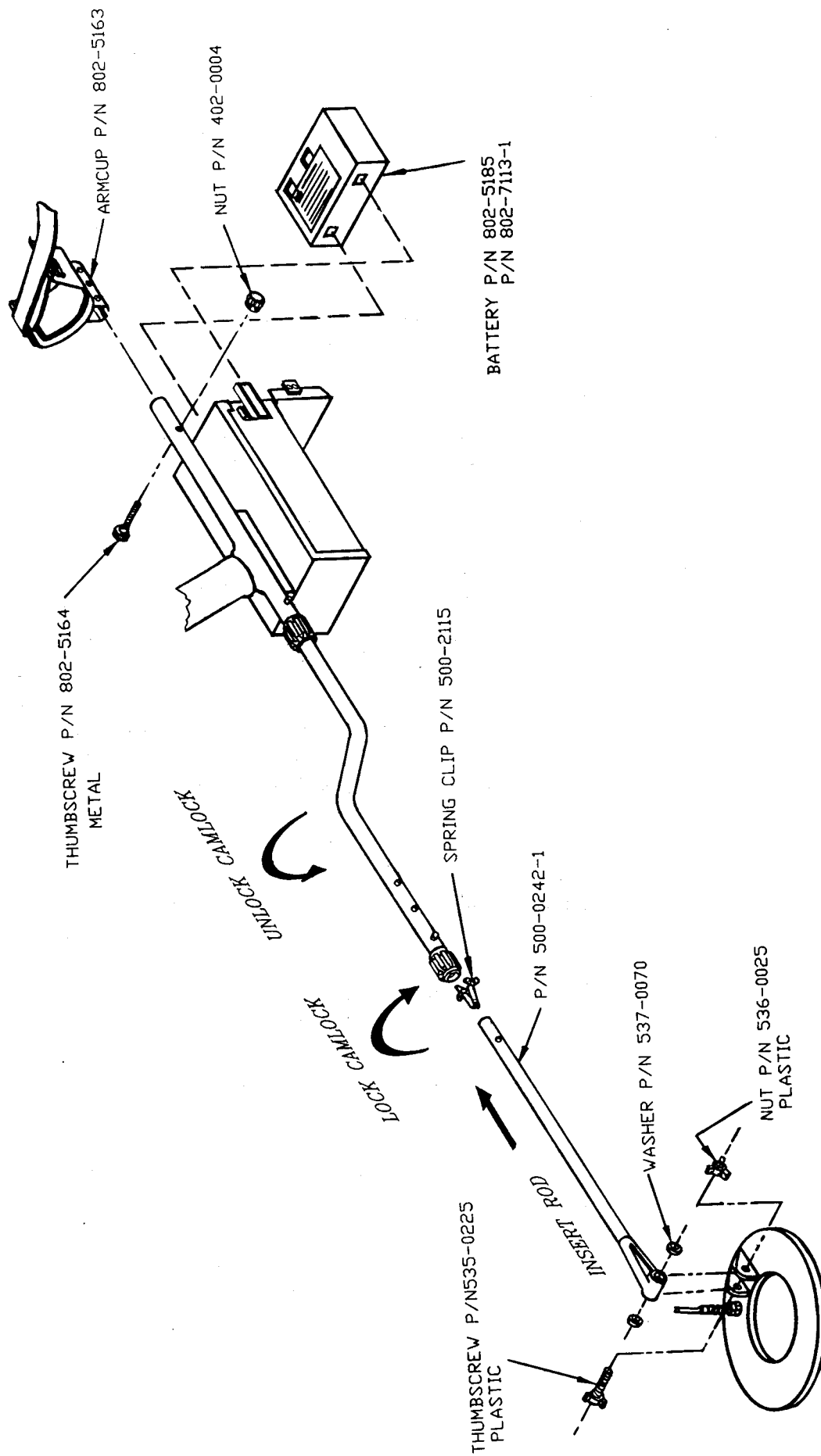
Good Hunting,

A handwritten signature in black ink, appearing to read "Kenneth R. White", with a stylized flourish at the end.

Kenneth R. White

# NOTICE

Due to recent changes in design, your White's detector assembly may vary from that shown in your assembly instructions. Please follow assembly instructions on the front and back of this page to assure proper assembly.



# Revised Parts Identification and Assembly

1. Remove all parts from shipping carton and check the assembly page to make sure all parts are present.
2. Place loop washers on clevis/lower rod, one on each side, and slide clevis onto loop ears. Use fiber bolt and thumbnut to secure.
3. Insert clevis/lower rod into curved "S" rod so that stainless steel spring clip buttons line up and lock into one of the adjustment holes in the curved "S" rod. Turn camlock to secure. The second or third adjustment holes are suitable for average size adults. Individuals 6' or taller should use the fully extended position. Individuals well over 6' tall should purchase the optional *Tall Man Rod*.
4. Remove the cable twist from the loop cable and wind the cable around the clevis and rod assembly, first revolution over the top of the rod. Wind cable all the way to the top of the curved "S" rod. Use the black cable retainers, one near the loop, and one near the top of the curved "S" rod, to hold the loop cable in place.
5. Insert curved "S" rod so that stainless steel spring clip buttons line up, and lock into the rod on top of the control box. Turn camlock to secure. Plug loop connector into control box, screw lock ring to secure.
6. Grip the instrument by the handle, with your arm in the elbow cup, and sweep the loop over the floor. If the instrument fit feels uncomfortable, adjust the elbow cup by removing and repositioning the bolt/thumbnut and installing in one of the optional positions. If necessary, readjust clevis/lower rod position.
7. Remove the protective paper from the black elbow cup foam pad, carefully align it in the elbow support, and press firmly into place.
8. Adjust the elbow cup strap so that it is loose enough for you to slide your arm in and out without loosening each time you want to set the detector down.
9. Install battery as described in the next section, **decal facing up**, steel contacts toward the loop.
10. It should be noted at this point, the detector may not work as expected indoors due to the high degree of metals used in modern construction. It is best to tune and practice out-of-doors to ensure stable, predictable results.

# INDEX

<b>I</b> NTRODUCTION .....	2
<b>P</b> ARTS IDENTIFICATION AND ASSEMBLY .....	3
<b>E</b> XPLANATION OF CONTROLS	
TUNER .....	4
DISCRIMINATION CONTROL .....	5
TRIGGER SWITCH .....	6
SEARCH METHODS /INTENSITY METER .....	7/8
<b>S</b> TEP-BY-STEP TUNING .....	9
<b>S</b> EARCHING .....	10
<b>B</b> ATTERIES	
CAUTIONS ABOUT THE BATTERIES .....	11
LOW BATTERY ALERT .....	11
<b>P</b> ROPER CARE OF YOUR DETECTOR .....	12
<b>G</b> LOSSARY OF TERMS .....	13
<b>N</b> ATIONAL SERVICE PROGRAM .....	14
<b>A</b> UTHORIZED SERVICE CENTERS .....	15

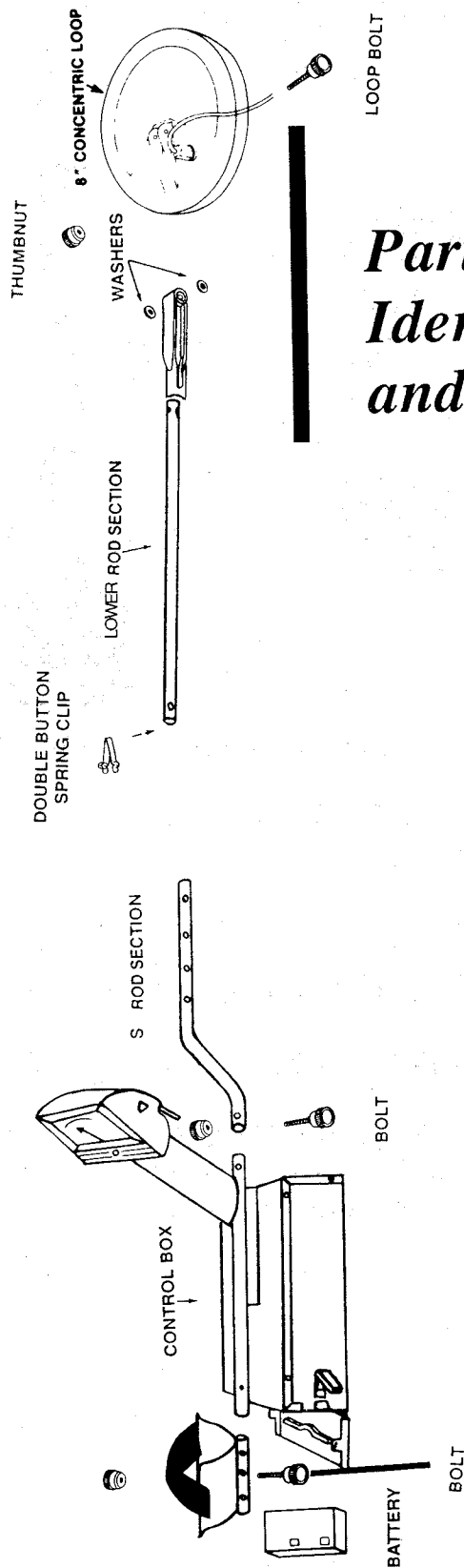
## INTRODUCTION

**White`s 3900/D has three controls;**

1. The **TUNER** turns the instrument on, and is used to set the threshold. The threshold is a slight hum. When the tuner is turned clockwise until this slight hum is heard, by the operator, the instrument will be at its most sensitive setting. The tuner may be set to this slight hum, and then turned slightly counterclockwise thus producing silent operation, with very little loss in detection depth. When turned fully counterclockwise the instrument is turned off.

2. The **DISC** (discriminator) selects what types of metals respond and what types of metals are rejected. At its furthest counterclockwise position all metals are detected. As the DISC control is turned clockwise metals start to be rejected based on their electrical properties. Iron is the first metal to be rejected, followed by foil, aluminum, and other soft metals. If the DISC control is set much further clockwise than the "P", nickels and many jewelry items will also be rejected. It is suggested that the "**p**" setting is best for most conditions unless there is an unusually high degree of trash metals in the area being searched. The 3900/D rejects junk metals by modifying the way they sound, good targets sound smooth and solid, trash metals sound rough and broken. The loop must be swept, "moving", in order for the DISC to properly function.

3. The **TRIGGER** switch on the handle, when in the center position allows for discrimination, when in the squeezed and held position it allows for pinpointing a metal`s exact location, and when in the locked forward position it allows for the detection of all metals, "no discrimination". Slight movement of the loop is required in all these modes for this instrument to operate properly.



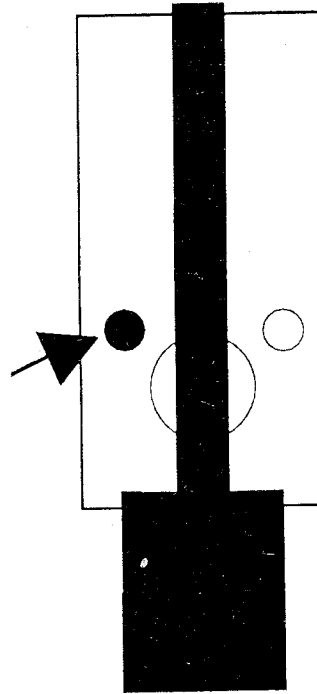
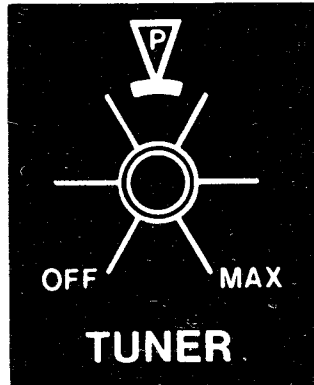
(3)

## Parts Identification and Assembly

1. Remove all parts from shipping carton.
2. Place loop washers on lower rod section and slide onto loop, attach with bolt/thumbnut.
3. Insert spring clip inside lower rod section so that it lines up and is exposed through holes.
4. Insert lower rod section into S rod so that they lock together with spring clip.
5. Wind loop cable around rods first revolution over the top.
6. Connect S rod to control box using bolt/thumbnut.
7. Plug loop connector into control box.
8. Adjust arm cup to desired position.
9. Assemble and install battery pack.

## EXPLANATION OF CONTROLS:

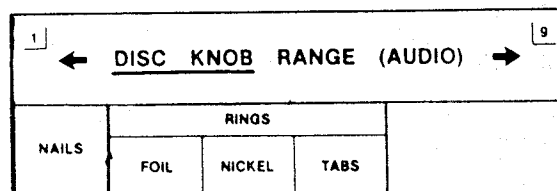
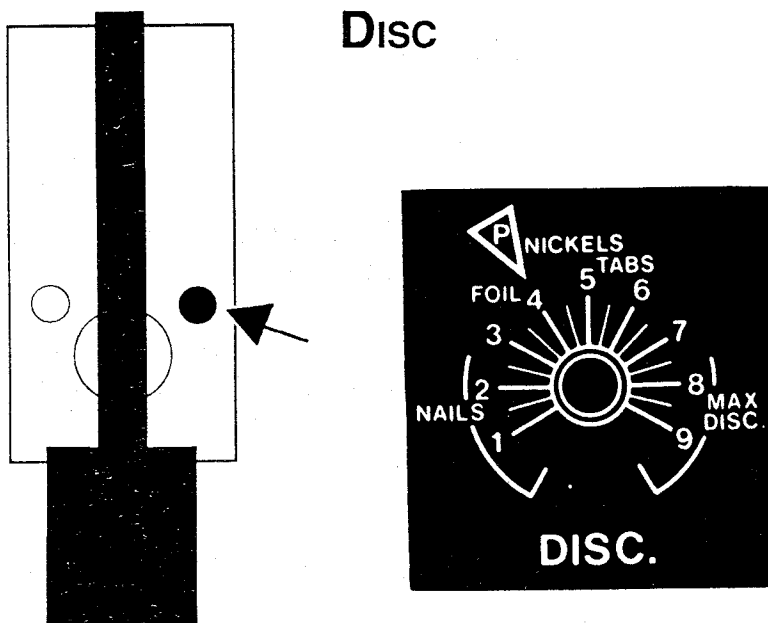
### TUNER



1. The TUNER turns the instrument on, and sets the detector's THRESHOLD.
2. The THRESHOLD is indicated by an audio tone that is barely heard. It represents the detector's maximum operating sensitivity.
3. To set the THRESHOLD:
  - a. Hold the detector so that its loop is in the air, straight out in front of you, waist high.
  - b. Turn the tuner to the right until a tone is barely heard.
4. THE THRESHOLD NEEDS TO BE RESET WHENEVER THE OTHER CONTROL IS ADJUSTED. To reset the THRESHOLD, raise the loop waist high, squeeze , and release the TRIGGER SWITCH. This keeps the instrument in tune.



## EXPLANATION OF CONTROLS:



Comparison chart to illustrate the effective ranges of the DISC knob.

1. The DISC (Discrimination) control works to help audibly distinguish between desirable and undesirable targets. (Treasure and Trash).

The DISC control allows the user to selectively interpret targets within the range of the above chart. The user sets the discriminate point with the knob, slightly below the desired target (see above chart).

The audio response of targets ABOVE the DISC set point produce louder tones. Targets below the set point produce softer broken tones or no tone at all.

**EXAMPLE:** With the DISC control set at  $\nabla^{\circ}$ , nickels and all other U.S. coins will produce a louder solid tone, nails and other iron junk will produce a broken, softer tone.

2. Discrimination should be used only as necessary to avoid passing over desirable targets.

**EXAMPLE:** When the DISC control is set to reject Pull Tabs or the U.S. nickel, some gold rings and other valuable items may also be rejected.

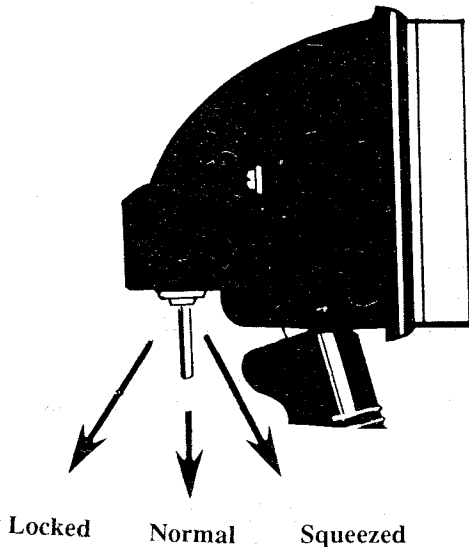
## EXPLANATION OF CONTROLS: TRIGGER SWITCH

The 3900 Pro Plus is a two mode detector.

**OPERATIONAL MODE "A" is GEB DISC - *Ground Exclusion Balance Discrimination*.**  
The mode the detector is automatically in when turned on.

**OPERATIONAL MODE "B" is GEB NORM - *Ground Exclusion Balance Normal*.** The mode the detector switches to when the trigger is pushed and locked. If the trigger is squeezed and released, the detector temporarily switches to the GEB NORM MODE, resets its threshold, and returns to GEB DISC MODE.

S.A.T. - Self Adjusting Threshold, a feature of the 3900/D Pro Plus. Automatically resets threshold continuously for changing ground conditions or drift.



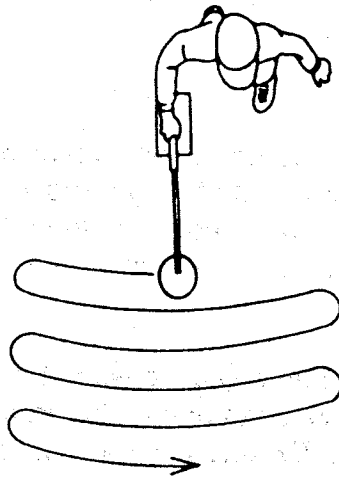
### TRIGGER SWITCH

Trigger Normal  
Operating Mode A  
GEB DISC-MOTION DISC

Trigger Locked or Squeezed  
Operating Mode B  
GEB NORM-ALL METAL

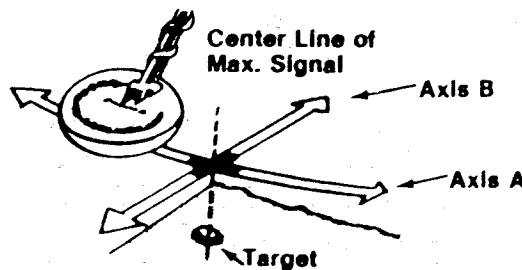
1. The TRIGGER SWITCH is a control that changes the detector's operating mode. The above chart shows this change:
  - a. Retuning: Regain THRESHOLD by pushing down and releasing the TRIGGER SWITCH. THIS MUST BE DONE AFTER EITHER CONTROL HAS BEEN ADJUSTED.
  - b. Mode Changing: Whenever the TRIGGER SWITCH is pushed up and locked, the instrument switches to the GEB NORM mode, zero discriminate with Self-Adjusting Threshold.
2. GEB NORM mode (trigger pushed and locked) is an all metal mode (zero discriminate). Self-Adjusting Threshold is activated as an aid to pinpointing. Slight motion will be required for detection.

## SEARCH METHODS



1. Always keep the loop flat and parallel to the ground. When raised, the depth penetration is decreased.
2. Swing the loop in front while searching. Each swing may cover an area from 4-6 feet in width.
3. The loop should be passed along the ground in smooth, even swings. It does not have to be swung quickly. Approximately two seconds from left to right.
4. When a target is detected, sweep it from several directions, noting its Audio characteristics.
5. The loop must always be in motion in order for the instrument to detect.

**PINPOINTING** :Trigger squeezed and held.



## SEARCH METHODS CONTINUED.....

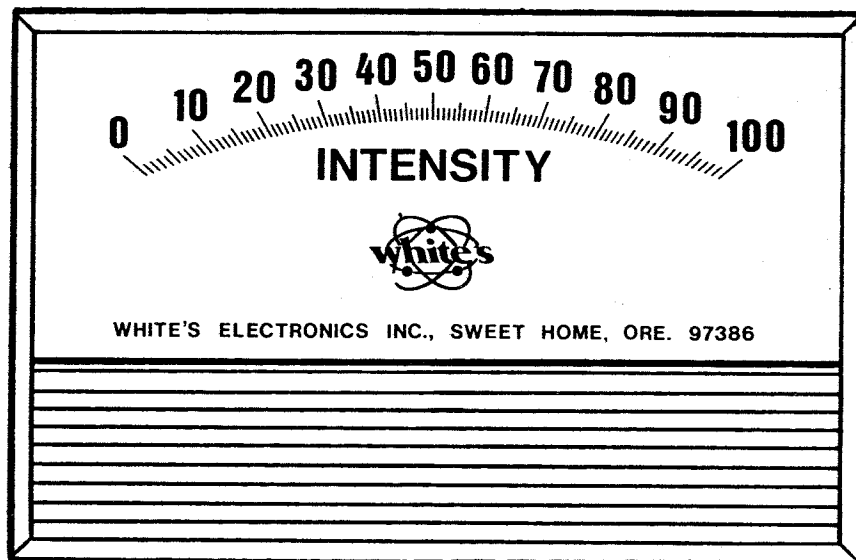
### DE-TUNING METHOD

1. Squeeze and hold **TRIGGER** as you move the loop over the target area. The Self-Adjusting Threshold feature will automatically narrow the detectors response to the target so it will be easier to know when the center of the loop is directly over the target. The target will be at the center of the "X" (see illustration). Maintain a slow sweep when pinpointing.

Accurate pinpointing makes recovering objects easier; it minimizes the possibility of damaging the object; and, it minimizes damage to the area. Pinpointing is an important part of successful treasure hunting. Experience will help you develop personal techniques.

### INTENSITY METER

The INTENSITY METER operates in conjunction with the audio tone. As strong shallow targets are detected the audio tone will beep loudly, and the meter will deflect far to the right. As deeper targets are detected the audio tone will be slightly less intense as will the meter deflection. Thus the meter can be used as a rough indication of target depth.



## STEP-BY-STEP TUNING

1. Assemble your instrument as shown under PARTS IDENTIFICATION AND ASSEMBLY.
2. Install the batteries as described under the section entitled BATTERIES, and insert the battery pack into the instrument.
3. Hold the loop at waist level and turn the TUNER control clockwise until you hear a slight continuous hum or tone.
4. Select the desired DISC control setting then squeeze and release the TRIGGER SWITCH.
5. Lower the loop to the ground and search by sweeping the loop from side-to-side.  
**(Note: Loop must be in motion to detect metals.)**
6. Smooth solid tones indicate good targets. Ratty, broken or double tones indicate bad or junk targets.
7. Once a good target has been located, squeeze and hold the TRIGGER , and "X" target several times. The loudest sound as the loop is "X'd" over the target indicates target center.
8. After recovering target, lift loop to waist level, squeeze and release TRIGGER SWITCH, lower the loop to the ground and continue to search.

# SEARCHING

## WHERE TO SEARCH

Start with your own yard. Valuables can be found anywhere people have congregated, gathered, lived, sat, walked, played, camped, picniced, traveled, or fought. The following list of locations have produced a great deal of coins, rings, relics, and treasure in the past:

- |                                       |                             |
|---------------------------------------|-----------------------------|
| *Amusement Parks                      | *Carnivals                  |
| *Circus Grounds                       | *Fairgrounds                |
| *Racetracks                           | *Rodeo Grounds              |
| *Parks                                | *Playgrounds                |
| *Schools                              | *Ghost Towns                |
| *Trading Posts                        | *Stage Stops                |
| *Hitching Posts                       | *Boardwalk Areas            |
| *Clotheslines                         | *Trails                     |
| *Sidewalks                            | *Parking Strips             |
| *Around Old Trees                     | *Roadside Point of Interest |
| *Old Homesteads                       | *Storm Cellars              |
| *Basements                            | *Beaches                    |
| *Swimming Holes                       | *Old River Crossings        |
| *Bridges                              | *Past Disaster Areas        |
| *Historical Locations                 | *Cabins                     |
| *Old Buildings                        | *Club Houses                |
| *Forts and Old Military Installations |                             |

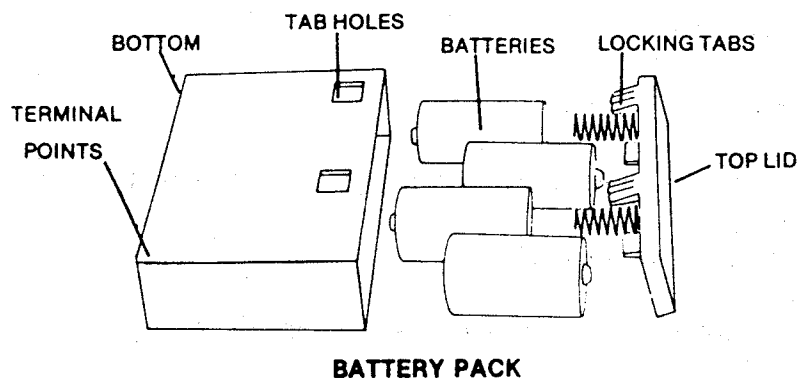
## HOW TO SEARCH

You must have permission to search private property from the owner or person in charge of managing the property. In most cases, you can locate the owner through City Hall or the county seat. If the area is city property, contact the Parks and Recreation Department for a permit and any restrictions. If it is a state or federal park, contact the superintendent or groundskeeper. In most cases permission to search is not a problem, given a few restrictions.

# BATTERIES

The standard battery pack holds four ALKALINE batteries. ALKALINE BATTERIES ARE THE ONLY BATTERIES RECOMMENDED FOR THIS INSTRUMENT. To insert these batteries, proceed as follows:

1. Remove the battery pack from the instrument.
2. Remove the battery pack lid by gently pulling the top sides of the pack apart until the lid springs up.
3. Note the position of each cell. (The flat end of each cell fits against one of the 4 springs.)
4. Remove the dead batteries and replace them with the new ones. (If the cells are put in backwards, the detector will not work.)
5. Line up the locking tabs on the lid with the holes on the battery pack. Snap them together.
6. Insert the battery pack into the detector. The two terminal points must touch the pointed contacts inside the instrument.



## Cautions about the Batteries:

1. Do not dispose of batteries in a fire.
2. Non-rechargeable batteries may explode if they are recharged.
3. Store batteries in a cool, dry place.

## Low Battery Alert:

The LOW BATTERY ALERT is a light that glows brightly when the batteries are low and need replacing.

## PROPER CARE OF YOUR DETECTOR

The following are precautions you should take to protect your instrument from harm, ensure its long life, and avoid nullifying the warranty.

**CLEANING:** The loop and rod or probe are waterproof. They can be cleaned with fresh water and a mild cleanser. After cleaning, however, dry the instrument thoroughly. **CAUTION:** The instrument case is not waterproof, and water, if allowed to enter it, will damage electronic components.

**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. If it's left in a car on a hot day, cover it to protect it from the direct rays of the sun, and then leave the windows slightly open to permit ventilation. Protect your detector if you operate it in the rain, as water may get into the instrument case.

**SALT WATER:** Salt water is very corrosive! Immediately after your detector has been exposed to salt water, rinse it thoroughly with fresh water, being careful not to allow water to enter the instrument case. Then wipe it with a cloth dampened with fresh water and dry it thoroughly.

### ADDITIONAL PRECAUTIONS:

- a. Avoid dropping your detector.
- b. Do not use any lubricants on any part of your metal detector.
- c. Avoid sharp jars to the loop.
- d. Do not allow batteries to corrode inside the instrument.
- e. Do not alter or modify your instrument during its warranty period. Alterations will void the warranty.



# GLOSSARY OF TERMS

**AUDIO:** Volume or tone produced by a speaker or other sound emitting device.

**DISC:** (*Discrimination*) The ability to reject or accept targets of different characteristics or types.

**GEB DISC:** (*Ground Exclusion Balance Discrimination*) Mode or option that eliminates the effect of the ground, and at the same time discriminates against junk targets.

**GEB NORM:** (*Ground Exclusion Balance Normal*) Mode or option that eliminates the effects of the ground, and responds to all types of metals.


**INTERPRET:** (*Translate*) Tell the meaning of.

**MAXIMUM:** Being an upper most limit; highest.

**MODE:** A condition of operation selected by the detector operator for specific conditions, operating characteristics and/or features.

**OPERATING:** Use of a metal detector.

**POINT:** Position on a control or dial.

**PRESET:**  position on controls suitable for average conditions.

**RESPONSE:** Audio (speaker sound) indication or beep.

**S.A.T.:** (*Self-Adjusting Threshold*) Automatic feature when TRIGGER SWITCH is pushed up and locked that maintains stable operation over changing ground conditions.

**SENSITIVITY:** Capacity or degree to which an instrument responds.

**TARGET:** Any object that causes a metal detector to respond.

**THRESHOLD:** Slight hum or tone set with the TUNER control which indicates the detectors maximum sensitivity.

**TUNE:** Setting of an instruments controls.

**WAIST HIGH:** The distance from the ground to a persons hip or waist.

## **A NATIONAL SERVICE PROGRAM**

**\*\*THE SERIAL NUMBER IS ON THE SILVER TAG INSIDE THE BATTERY COMPARTMENT\*\***

**\*\*THE CODE NUMBER IS ON THE WHITE TAG\*\***

White's Electronics has always been concerned with the absolute quality of its mineral/metal detectors. Service after-the-sale is also of equal importance. In an effort to further the quality of service to our customers, White's reorganized its warranty service program significantly. There are now four factory authorized National Warranty Service Centers located regionally around the continental U.S. These Service Centers are identical to the Factory Service Center in Sweet Home, Oregon. In order to ensure you will get the finest service possible for your detector, the technicians in each National Warranty Service Center are Factory trained and given on-going training for new products and improved service techniques. They can also repair your out-of-warranty instruments with efficiency and timeliness.

Simply return the detector to the dealer where you purchased the unit. The unit must be accompanied by a completed service coupon provided by your dealer. You must provide proof-of-date of purchase before the unit is shipped.

If the unit fails after the first 90-day period, the customer is responsible for shipping costs. Please also include \$5.00 for return postage, handling and insurance.

Any repair work performed by other than a White's National Warranty Service Center will automatically void the warranty.

If a problem occurs with your metal detector, first contact the White's dealer who sold it to you. In many cases, your dealer can solve the problem. If not, the dealer will have your detector repaired under the Warranty Program. All of White's National Warranty Service Centers, located throughout the country, are owned and operated by factory-trained technicians. These Centers are fully equipped and the personnel fully trained with on-going programs at White's in order to service your mineral/metal detector. With this program, the average repair time has actually been reduced from weeks to days!

**TO LEARN THE NAME AND LOCATION OF YOUR NEAREST WHITE'S DEALER CALL:  
TOLL FREE 1/800/547-6911**



## AUTHORIZED SERVICE CENTERS



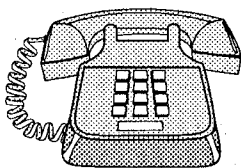
**1. White's Electronics, Inc.**  
1101 Pleasant Valley Rd  
Sweet Home, OR 97386  
(503) 367-6121  
FAX (503) 367-2968

**2. KOCI Detector Sales/Service**  
426 W. 2nd St.  
Hastings, NE 68901  
(402) 463-4705  
FAX (402) 463-5871

**3. Electronic Exploration**  
575 W. Harrison Rd.  
Lombard, IL 60148  
(708) 620-0618  
FAX (708) 620-1005

**4. Geo-Quest**  
106 US Hwy 46  
Saddlebrook, NJ 07662  
(201) 772-7443  
FAX (201) 772-7773

**5. Centreville Electronics**  
13810 B Braddock Rd.  
Centreville, VA 22020  
(703) 631-0202  
FAX (703) 222-8625



**1-800-547-6911**

For information about accessories not listed, ordering replacement parts, your nearest dealer, service.

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

If within two years (24 months) from the original date of purchase, your White's detector fails 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 complete detector to the dealer where you purchased it, or to your nearest Authorized Service Center. The unit must be accompanied by a detailed explanation of the symptoms of the failure. You must provide proof of date-of-purchase before the unit is serviced.

Items excluded from this warranty are non-rechargeable batteries, and other accessories.

The warranty is not transferable. Nor is it registered unless the Warranty Registration Card is returned to the factory address below within ten (10) days of original purchase for the purpose of recording that date.

The warranty does not cover damage caused by accident, misuse, neglect, alterations, modifications, unauthorized service, or prolonged exposure to corrosive compounds, including saltwater.

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 or retailer shall be liable for any incidental or consequential damages. Some states, however, do not allow limitations on 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.

**THE FOREGOING IS THE ONLY WARRANTY PROVIDED BY WHITE'S AS THE MANUFACTURER OF YOUR METAL DETECTOR. ANY "EXTENDED WARRANTY" PERIOD BEYOND TWO YEARS, WHICH MAY BE PROVIDED BY A DEALER OR OTHER THIRD PARTY, ON YOUR DETECTOR, IS WITHOUT WHITE'S AUTHORITY INVOLVEMENT AND CONSENT AND WILL NOT BE HONORED BY WHITE'S.**



**WHITE'S ELECTRONICS, INC.  
1011 PLEASANT VALLEY ROAD  
SWEET HOME, OREGON 97386**

## **Treasure Hunter's CODE OF ETHICS**

1. Respect the rights and property of others.
2. Observe all laws, whether national, state or local.
3. Aid law enforcement officials whenever possible.
4. Never destroy priceless, historical or archeological treasures.
5. Leave the land and vegetation as it was. Fill in all the holes.
6. Remove all trash and litter when you leave.
7. All treasure hunters may be judged by the example you set. Always conduct yourself with courtesy and consideration.



**white's electronics, inc.**

1011 Pleasant Valley Rd.  
Sweet Home, OR 97386

DISTRIBUTION	(800)-547-6911
FACTORY	(503)-367-6121
FAX	(503)-367-2968