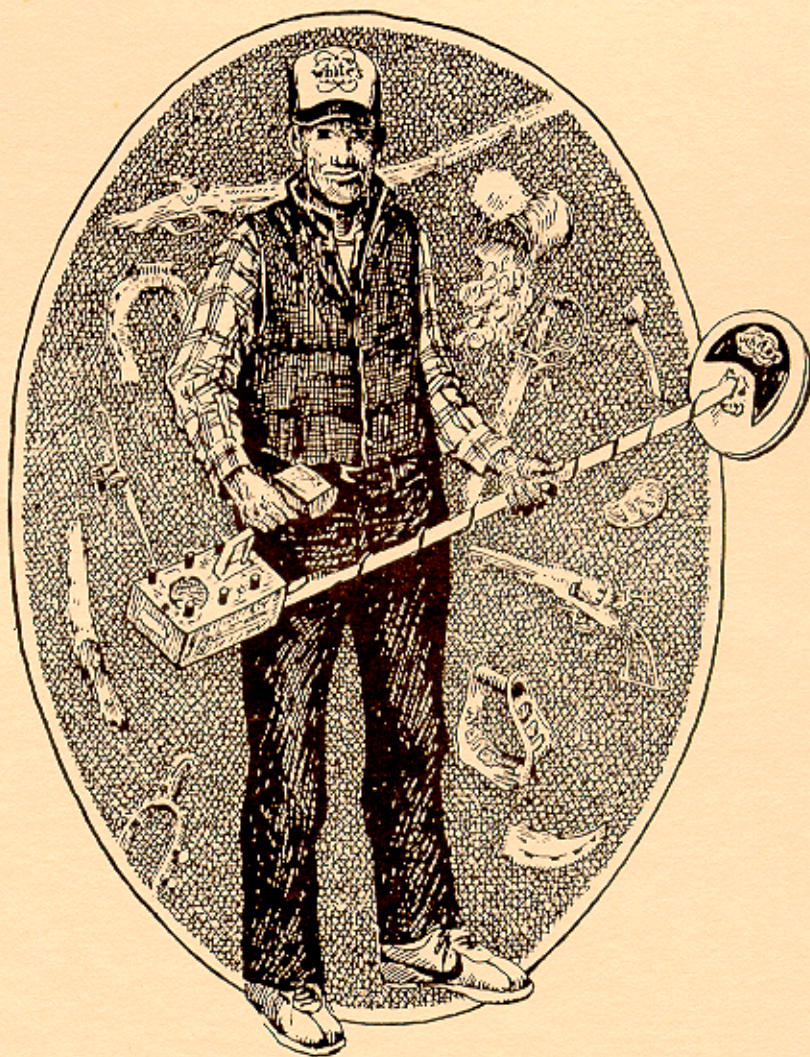


OPERATOR'S MANUAL

*Alaskan
Discriminator*

The image shows the components of an Alaskan Discriminator metal detector. It includes a circular search coil with the number '4B' on it, a long telescopic shaft, a control box with various knobs and switches, and two different sized search loops (one standard eight-inch and one gold probe loop) connected by cables.

Alaskan Discriminator

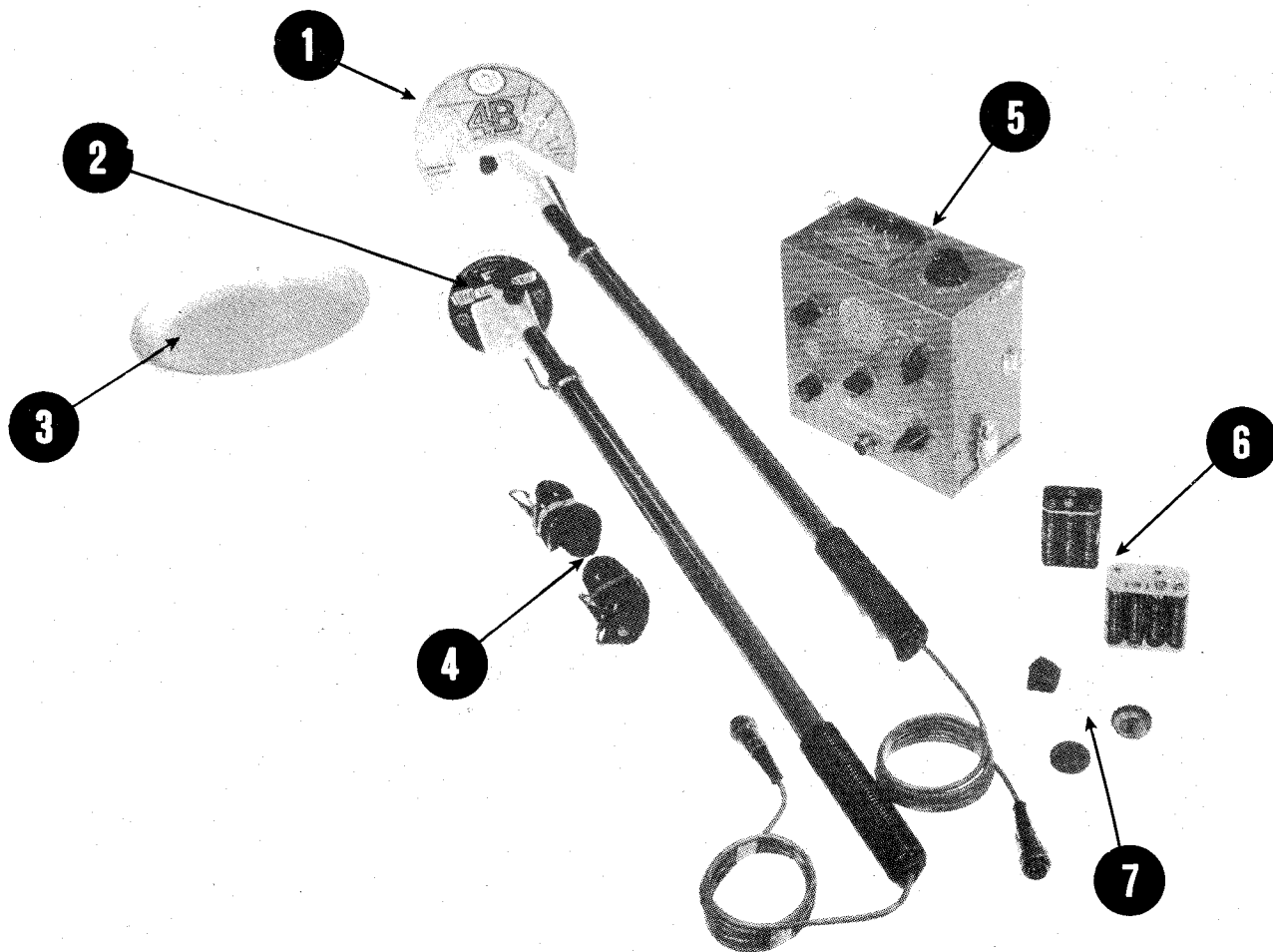
Introduction

There are two types of metal detector currently available: Beat Frequency Oscillators (BFO) and Transmitter-Receiver (TR). For many years the BFO was the best available, but recent developments have made the TR instruments much more sensitive, reliable, and easier to use. The Alaskan Discriminator by White's Electronics incorporates the very latest of these advances and is unexcelled for performance among metal-mineral detectors.

Designed to give the coinshooter and prospector the most in versatility, the Alaskan Discriminator can be tuned to reject such unwanted items as bottlecaps, tinfoil, and nails with either the standard eight-inch detector loop or the gold probe loop. The operator can therefore spend much more time digging up coins and other valuable items and less time chasing gum wrappers and other refuse.

Unlike most competitive equipment, the Alaskan is really three metal detectors in one. In the **NORMAL MODE** it is a highly sensitive metal-mineral detector giving the user a choice of loops for either coinshooting and relic hunting or gold prospecting with the gold probe. In the **AUTO MODE** the Alaskan will suppress most of the unwanted false signals cause by mineralized soil conditions. In the **DISC MODE** the Alaskan becomes one of the most sensitive discriminators available today.

This **USER'S MANUAL**, along with White's **METAL DETECTOR FIELD GUIDE**, is designed to help you get the most out of your Alaskan Discriminator. Read the instructions carefully, practice often, and take care of your instrument - you have the finest equipment money can buy. The rest, of course, is up to you!



Unpacking Your Alaskan

UNPACKING YOUR ALASKAN DISCRIMINATOR

When you unpack your Alaskan Discriminator, compare what you've got with the picture above. Fill out the Warranty Card and mail it within ten days of purchase.

If any parts are missing, contact your dealer at once. If for some reason you are unable to do this, note the problem on the Warranty Card and mail it back to the factory. Your problem will receive prompt attention.

When you unpack your Alaskan you should have:

- | | |
|--|--|
| 1. Eight-inch Loop and Rod Assembly. | 5. Alaskan Instrument case |
| 2. Gold Probe and Rod Assembly | 6. Black and White Battery Packs |
| 3. Protective Loop Cover for eight-inch loop
(cover may already be snapped on loop) | 7. Mineral, Coin, and Bottlecap Samples
[for testing] |
| 4. Shoulder Strap and Waist Strap | |

SHIPPING DAMAGE

If your Alaskan appears to have been damaged in shipment, contact the carrier (airline, bus line, parcel post, railroad) for a SHIPPING DAMAGE INSPECTION. Do this as soon as possible after discovering the damage and save all labels. These will be necessary for insurance coverage.

ASSEMBLY INSTRUCTIONS

The only assembly required on the Alaskan Discriminator is the attachment of the eight-inch loop to the Loop Rod (6). Do this by following these easy steps:

- A. Insert Isolator (1) into Loop Rod (6) - depress the small button on the bottom of the Isolator (1) so that it slips inside the Loop Rod (6).
- B. Gently push the lower end of the Isolator (1) between the mounting flanges (2) of the detector loop.
- C. Align the bolt holes and gently force the Loop Retainer Bolt (3) through.
- D. Screw the Thumbnut (4) onto the loop bolt and tighten it FINGERTIGHT.

CAUTION

The Loop Cable Connector [5] is a **WATERTIGHT SEAL** - **DO NOT TRY TO TIGHTEN OR LOOSEN IT IN ANY WAY.** Tampering with this connector will destroy the seal and void your Warranty.

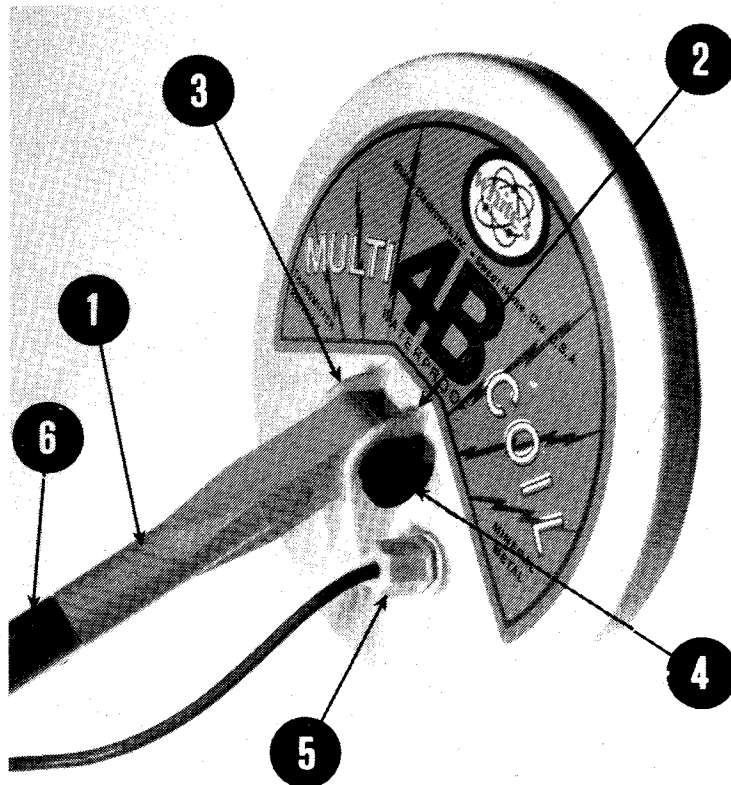


Figure 1

CONNECTING DETECTOR LOOPS

Both the eight-inch detector loop and the Gold Probe connect to the instrument case in the same manner. In general, it is best to put on the instrument case with the carrying strap or straps in whatever position seems the most comfortable, then connect the Cable Twistlock Connector (7) in the following manner:

- A. Align the Ridge (10) inside the Cable Connector (7) with the Slot (9) in the Case Connector (8).
- B. **GENTLY** push the pins of the Cable Connector (7) into the aligned holes of the Case Connector (8). It should go together very easily - **DO NOT FORCE IT.**

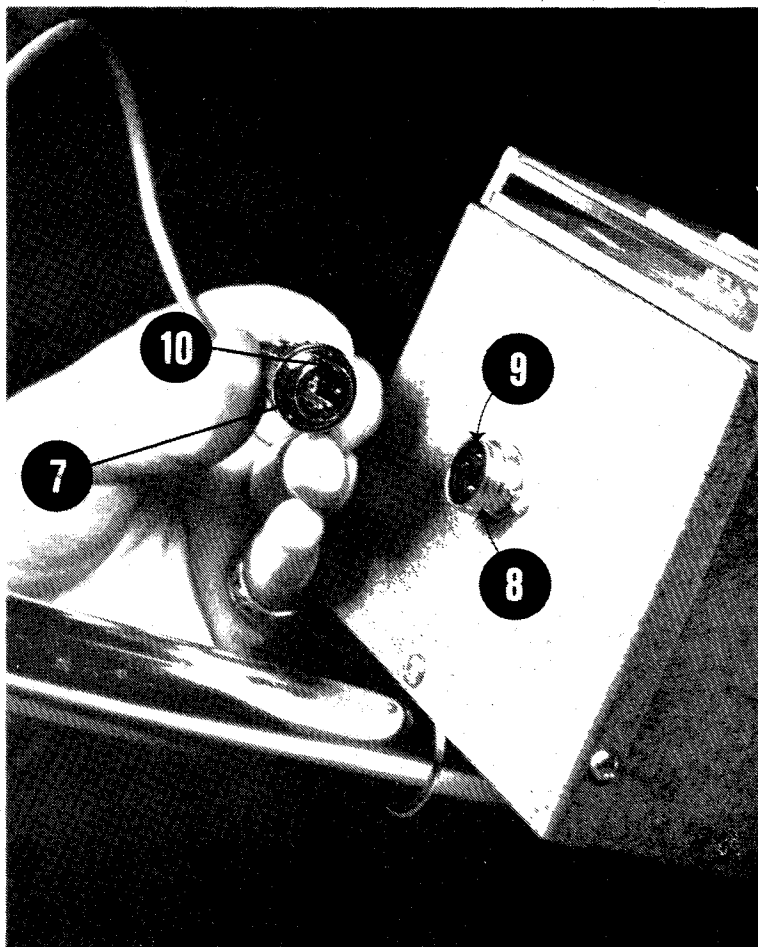
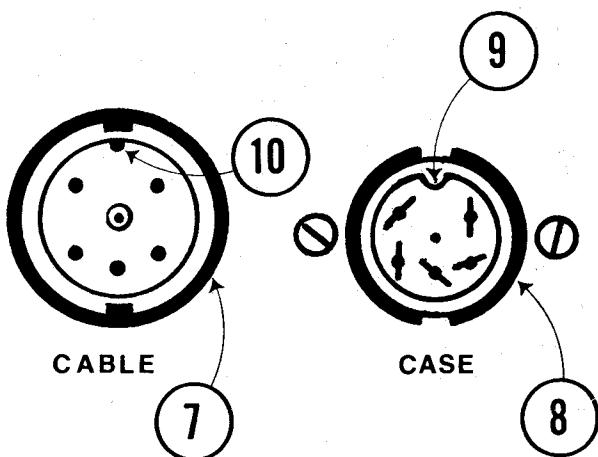


Figure 2

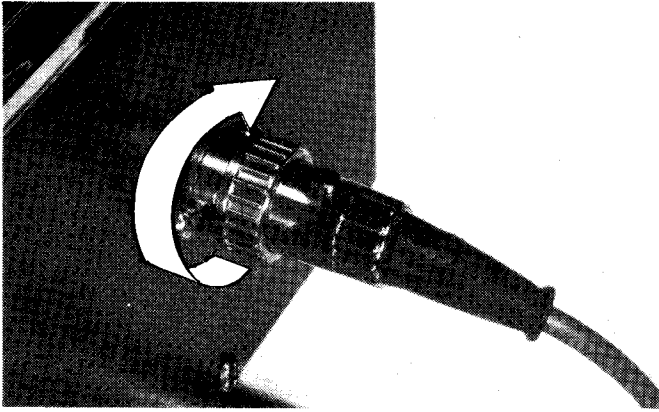


Figure 3

C. After inserting Cable Connector (7) into Case Connector (8), turn Locking Ring to Right as indicated in Figure 3.

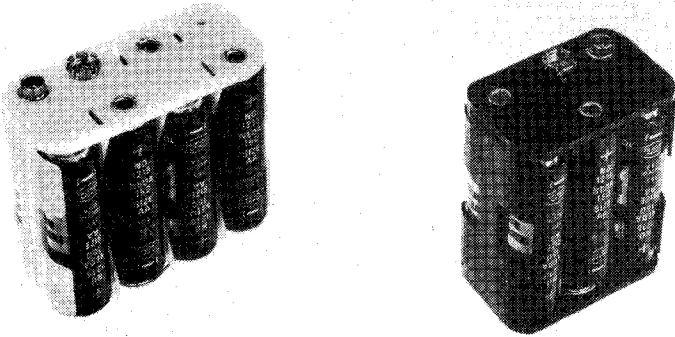


Figure 4

The Alaskan Discriminator is driven by two battery packs, one having six AA penlight batteries for nine volts (Black Case), the other containing eight batteries totaling 12 volts (White Case).

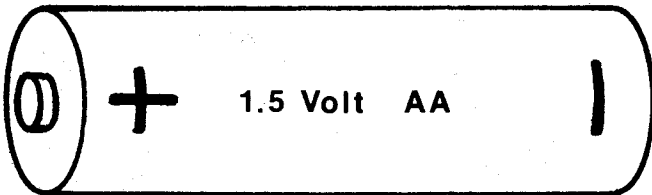


Figure 4A

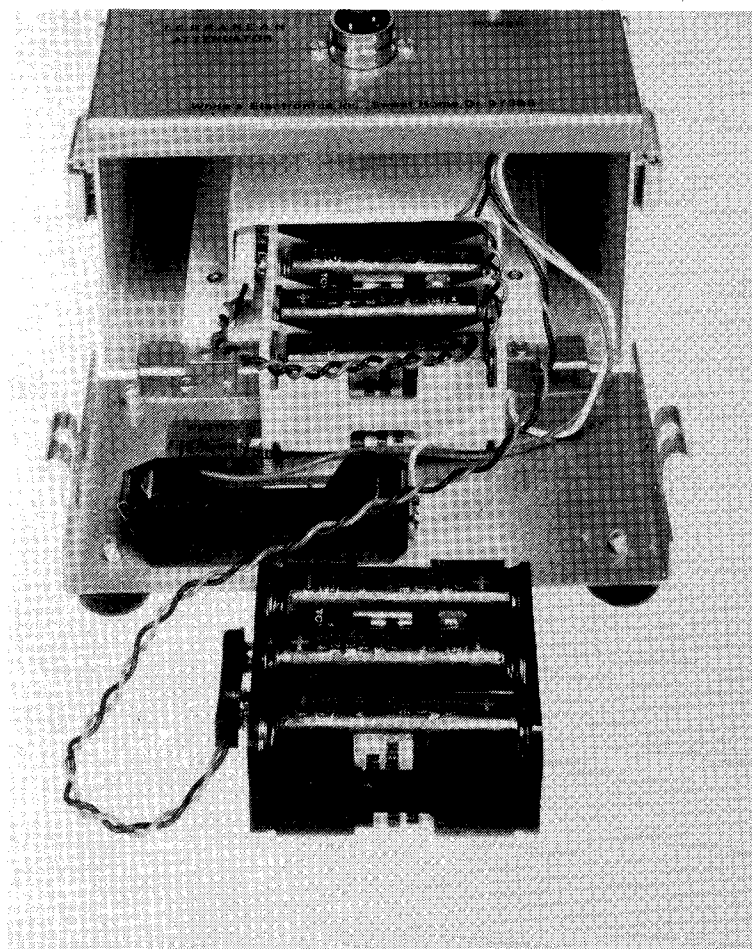


Figure 5

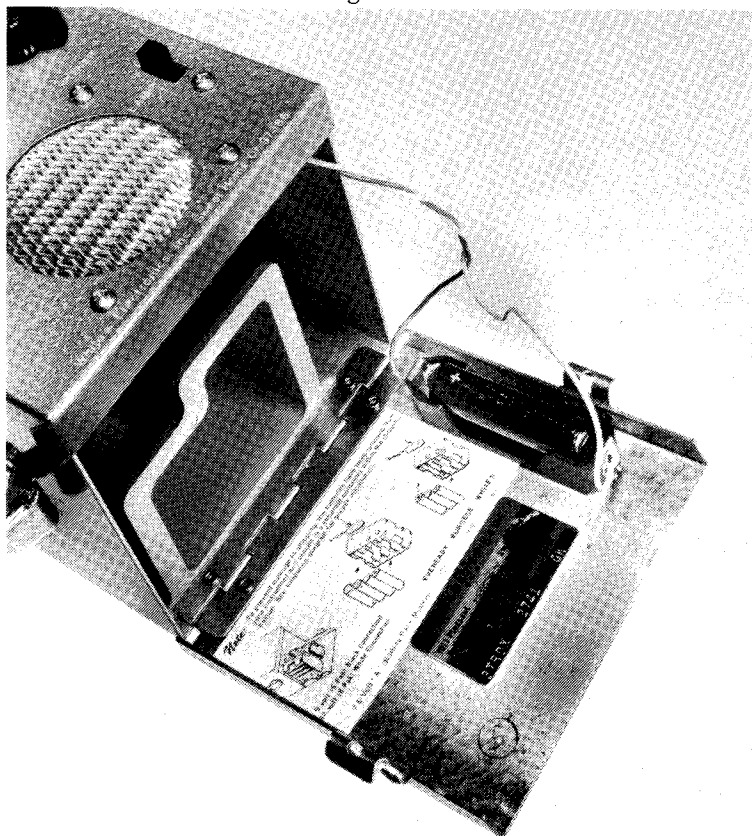


Figure 6

Each battery within the cases should be mounted upside-down with relation to the battery next to it. The ends of the batteries will thus alternate positive (+) with negative (-). THE NEGATIVE END (-) OF EACH BATTERY SHOULD BE COMPRESSING THE SPRING INSIDE THE BATTERY SLOT. Even though the battery packs come pre-assembled from the factory, check them closely to be sure that they are installed correctly.

The black and white battery packs slide into the battery holder inside the door on the bottom of the Alaskan Discriminator. MAKE SURE THAT THE BLACK CONNECTOR IS ATTACHED TO THE BLACK BATTERY CASE AND THE WHITE CONNECTOR IS ATTACHED TO THE WHITE BATTERY CASE. The connectors are designed to fit only one way.

Install the battery cases in the instrument so that both connectors are on the same side of the battery compartment as shown in Figure 5.

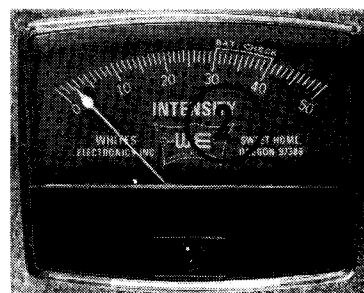


Figure 7

The Function Switch (Number 1 Figure 8) is also a battery test switch. You will note that there are four positions to this switch: **Operate, Off/1-cell, 9, and 12.** The "9" and "12" positions test the condition of the nine and 12-volt batteries respectively - when tested, each should bring the meter needle up to the "BAT. CHECK" zone of the Intensity Meter (2 Figure 7). IF THE NEEDLE DOES NOT COME UP TO THE BAT CHECK ZONE WHEN THE ALASKAN DISCRIMINATOR IS FIRST ASSEMBLED, THEN ONE OF THE BATTERIES IN THE PACK BEING TESTED IS PROBABLY INSTALLED BACKWARDS.

If the battery test shows that the batteries do not come up to the "BAT CHECK" zone after a period of service, the batteries should be replaced.

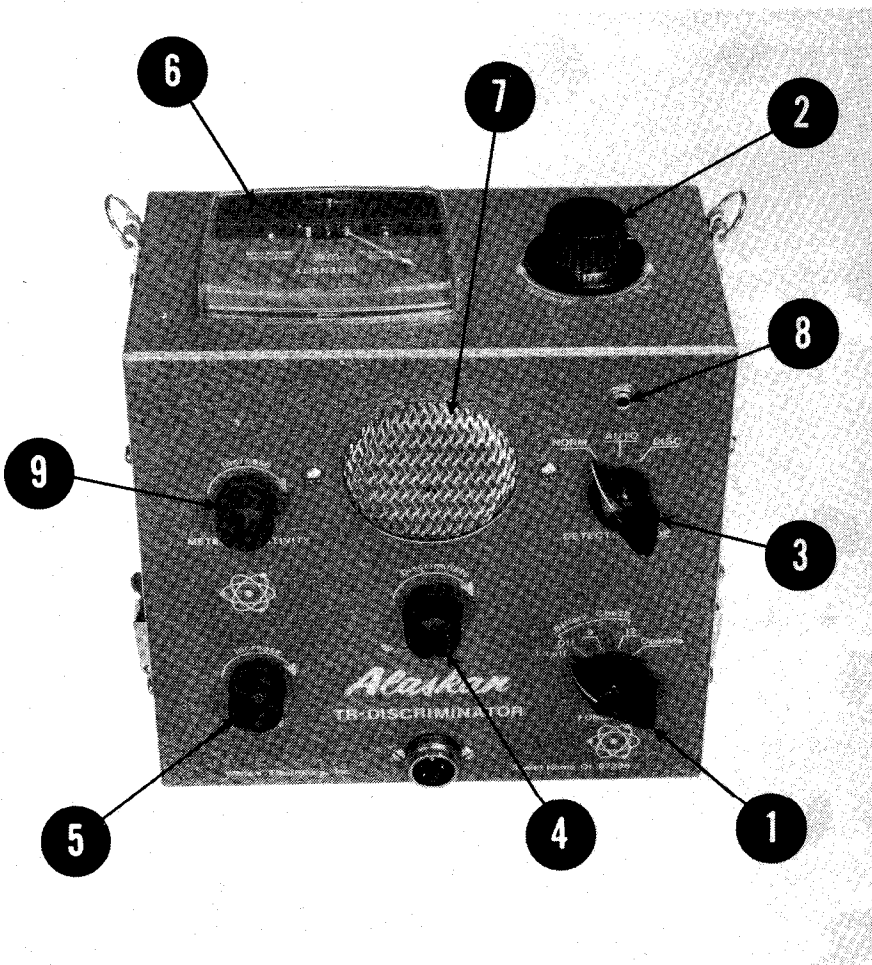


Figure 8

ALASKAN CONTROL DESCRIPTION

There are six controls on the Alaskan Discriminator: Function Switch (1), Main Tuner (2), Detector Mode Switch (3), Discriminate Tuner (4), Volume Control (5), and Meter Sensitivity Control (9). In addition, the unit has a Signal Intensity Meter (6), Audio Speaker (7), and Headphones Jack (8).

Connect you Alaskan Discriminator to the eight-inch detector loop and set it on a table with the loop extending into the air **AWAY FROM ANY METAL** as shown in Figure 10. **NOTE** that the fellow in the picture has removed his watch and ring so that no metal is on his hands that might interfere with tuning the Alaskan. You should do the same.

To tune the Alaskan Discriminator for the best sensitivity, follow these simple steps carefully. If you have never used a metal detector before, **BE SURE** you "bench tune" the Alaskan before trying it on the ground. In some areas of the country, the ground itself can cause false signals that make first-time tuning for a novice very difficult.

TUNING INSTRUCTIONS

I. Set controls:

- A. Volume (5) - FULL RIGHT (maximum);
- B. Meter Sensitivity (9) - FULL RIGHT;
- C. Discriminator Tuner (4) - Turn it ten turns LEFT;
- D. Detector Mode Switch (3) - NORM Mode;
- E. Function Switch (1) - OPERATE.

DO YOU HEAR A TONE FROM SPEAKER?

IF YES - Then Find the NULL - Turn Main Tuner (2) LEFT or RIGHT until tone GOES AWAY. You will not have to turn knob more than five turns in either direction.

IF NO - You either have the NULL or your batteries are not connected! Check by turning Main Tuner (2) RIGHT or LEFT (two turns at most). If you get a tone, go back to NULL. If not, review Battery Installation on Page 5.

II. Set Main Tuner (2) for METAL THRESHOLD tone - From NULL, turn Main Tuner (2) LEFT until tone JUST STARTS (10 to 40 on the Meter (6) scale). Hold a coin in front of loop face, as in Figure 10 and note how tone changes as you move coin.

You have tuned for a METAL tone by turning Main Tuner (2) out of the Null to LEFT. Coins, Rings, and bottlecaps (not to mention gold) will now cause tone to INCREASE. Nails, paper clips, and other IRON-CONTAINING objects will cause tone to GO AWAY. Try several objects from around the house and see for yourself what kind of reactions you can get from the Alaskan.

III. Turn Detector Mode Switch (3) to Disc Mode.

IV. Turn Discriminate Tuner (4) RIGHT (with arrow) until tone ALMOST goes away.

V. Hold a bottlecap in front of loop face, as in Figure 10, and note that tone now goes away. The discriminator is causing the bottlecap to act like an iron object in NORM Mode so that only "good" objects will cause the tone to get louder.

NOTE: There is a place just off the center of the loop where the bottlecap will cause a sharp tone when held very close (less than one inch) to the loop. This is called a "back reading" and is a normal, though useless, reading. For all practical purposes, you can forget it's there.

VI. Turn Discriminate Tuner (4) LEFT (reducing discrimination) a very small amount. Re-adjust Main Tuner (2) RIGHT for threshold tone. Try bottlecap again as in Step V.

VII. REPEAT Step VI until you reach a point where tone DOES NOT go away when you bring bottlecap toward loop face. you have now removed discrimination.

VIII. JUST BARELY restore discrimination - Turn Discriminate Tuner (4) RIGHT a very small amount and re-adjust Main Tuner (2) for threshold tone.

THE ALASKAN IS "BENCH TUNED" AT THIS POINT. TEST WITH A COIN AND BOTTLECAP TO MAKE SURE COIN CAUSES AN INCREASE IN TONE AND BOTTLECAP CAUSES A LOSS OF TONE. ANY MORE ADJUSTMENT WILL WAIT UNTIL YOU PUT THE LOOP ON THE GROUND. REPEAT THE TUNING STEPS UNTIL YOU CAN DO A FAIRLY GOOD JOB WITHOUT THIS MANUAL.



Figure 9

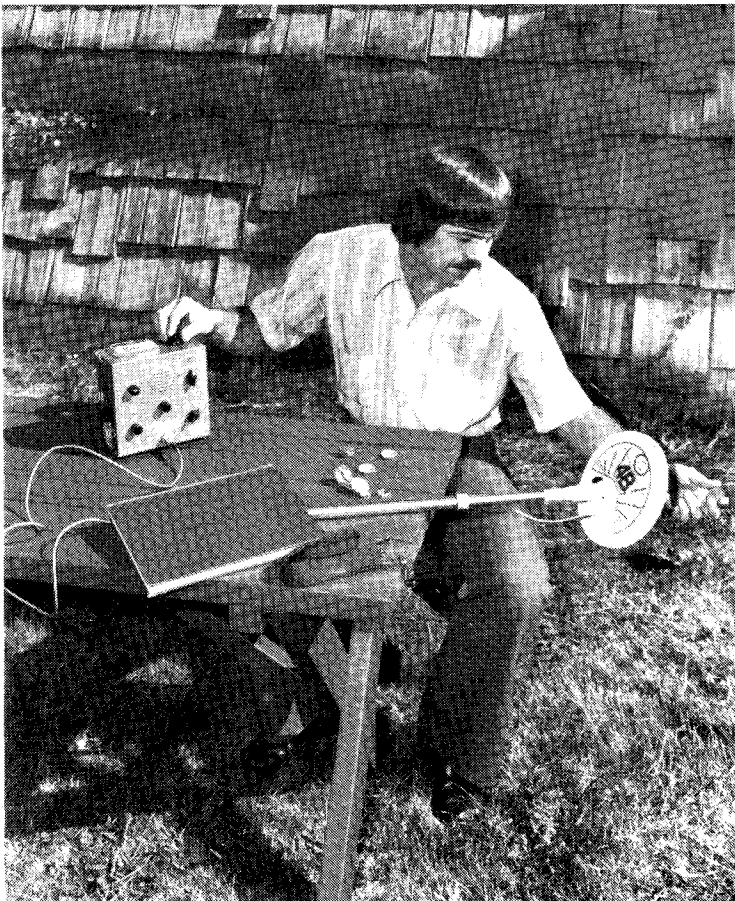
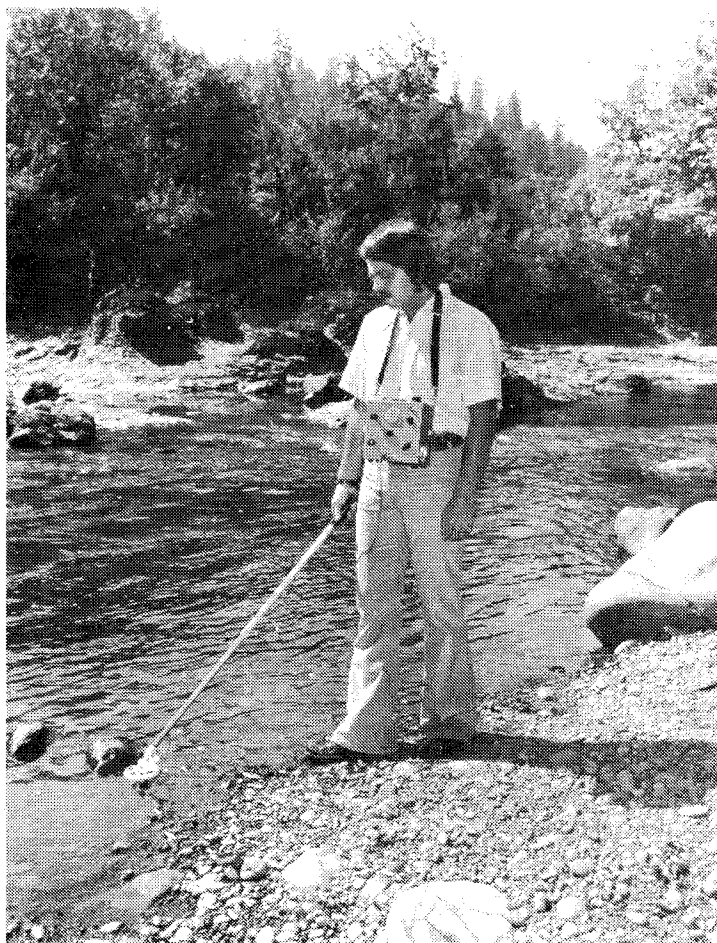


Figure 10



Search Methods

If you were to go outside your house right now and drag a magnet through some loose soil, chances are quite good that it would "grow hair" as particles of magnetic iron collected on its surface. If you are going to use a metal detector in an area like that, you're going to have to cope with the common problem of false signals caused by this "mineralization."

There are at least two ways to test for mineralization. First, lower the loop slowly to the ground after tuning in NORM mode for a metal threshold. Note the height of the loop above the ground when the sound goes away. The closer the loop gets to the ground before the sound disappears, the lower the mineralization. Two to four inches would indicate low to moderate mineralization while eight to ten inches means that it can really be a problem, at least until you learn to handle it. The other method is to tune the detector in NORM mode with the loop on the ground for the metal threshold. The higher you can raise the loop before the sound blares up, the lower the mineralization.

Once you have tuned the detector on the ground and you start sweeping the loop back and forth, you will notice that you get a "false signal" every time you pass the loop over a depression or raise the loop to go over a clump of grass. There are two ways to cope with this: (I) Detune the detector by turning the Main Tuner back into the NULL; (II) Switch to AUTO mode and sweep the loop fairly quickly back and forth, switching to NORM or DISC when a sharp "bleep" indicates a find.

IN GENERAL, THE BEST WAY TO USE A DISCRIMINATOR FOR PRODUCTIVE COINSHOOTING IS TO SEARCH IN "NORM" OR "AUTO" AND CHECK FINDS WITH "DISC" TO WEED OUT THE JUNK. IF YOU ARE USING THE DETECTOR FOR RELIC HUNTING OR PROSPECTING, THERE WILL BE LESS OCCASION TO USE THE "DISC" FEATURE.

In order to get acquainted with the kinds of sounds produced by various kinds of buried objects, the serious coinshooter plants a "test garden" that serves two functions. First, it enables the operator to get familiar with known objects at known depths and the kinds of sounds that can be expected. Second, it provides a method of checking the performance of the instrument over a period of time, making sure that it is still performing at top efficiency. Bury some coins, tinfoil, bottlecaps, and other metal objects at known depths in an area where you can always get to them and will remember where they are. After you have gotten familiar with what you've planted, have someone else plant some of these items where you **don't** know exactly where they are. See if you can not only find them, but identify them before you dig them up.

NOTE: When you bury coins, do not bury them more than three inches down. This is the limit for a **freshly-buried** coin (in the ground less than a year); a coin that has been buried for a long time (and is thus more valuable!) causes a chemical "halo effect" in the soil around it and acts like a much larger, and easier to find, target.

SPECIAL-PURPOSE LOOPS

Goldmaster

The Goldmaster Discriminator comes with a 10½-inch loop as well as the standard eight-inch loop. The standard loop is used primarily for coinshooting while the larger loop is used for relic hunting - larger and deeper targets. You won't need the DISC mode with the larger loop very often, but it is nice to know the DISC mode with the large loop can be used to eliminate tin cans. You can thus search in NORM or AUTO and check a loud, sharp find with DISC mode. If the indication does not show up in DISC, then you can be reasonably sure that the find is NOT rings, a cache of coins, or buried jewelry.

Alaskan

The Alaskan Discriminator comes equipped with a "Gold probe" four-inch loop. This is primarily a prospecting tool used for pinpointing gold in quartz and, to a limited extent, placer gold within pockets of black sand. Black sand, however, is magnetic, and thus is highly mineralized.

The small loop is used for locating and pinpointing small objects; there is no end to its uses. A veterinary, for example, could use this small probe to help find fragments of metal lodged in the body of an animal, like cows who inadvertently swallow a piece of baling wire. The use is limited by the creativity of the user.

MINERAL SETTING

All through the preceeding instructions, you have been told to tune your detector for a METAL THRESHOLD tone by turning the Main Tuner (2) LEFT out of the quiet NULL. This setting will pick up **non-ferrous** metal objects - gold, silver, etc. - as an increase in the tone and allow **ferrous** (iron-containing) objects to drop the tone. You need to know that there is also a MINERAL THRESHOLD on the other side of the NULL where this order is **reversed**.

NOTE: THE DISC MODE WILL NOT WORK IN A MINERAL SETTING!!

If you wanted to find objects that are primarily made of iron, you would find the NULL as before but turn the Main Tuner (2) out of the NULL to the RIGHT instead of the LEFT. Now, **ferrous** objects will cause the tone to increase and gold and silver and other non-ferrous metals will cause the tone to go away. This feature is a usefull one, especially if you want to clear a driveway of nails, for instance, or find a chunk of barbed wire in that cow's tummy. Be sure, however, that you don't try to go coinshooting with the detector set for a mineral threshold - you are bound to have a bad day!

Proper Care of Your Detector

The following are precautions you should take to protect your instrument from harm, insure 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—may 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. 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 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.

Storage: If you plan to store your detector for any length of time, unsnap the battery and remove it from the instrument. Whenever your detector is not in use, turn the **VOLUME** knob all the way to the "**PWR OFF**" position.

Service And Warranty Information: If your new metal detector is ever in need of service, ship it to us at the factory address below or to one of the Service Centers listed on the back of the warranty statement. Insure it fully, prepay the charges, and enclose a letter describing the nature of the problem. As long as your detector 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 us. We will be happy to answer any questions you may have.

HELPFUL HINTS AND TIPS

1. "How deep will it go?" Detection depth is determined by five main factors.
 - a. The **SIZE** of the object.
 - b. The **SIZE** of the loop.
 - c. The **LENGTH OF TIME** the object has been buried.
 - d. The **SKILL** of the operator.
 - e. The ground **MINERAL CONTENT**.

The longer an object has been buried, the better you will be able to detect it. A chemical reaction called a "halo effect" between such objects as silver or copper coins and the surrounding soil may cause your detector to register a much larger increase in volume than might otherwise be expected for a small coin. If the halo effect is strong enough, your detector may continue to register even after you have dug up the coin.

2. "What will my detector locate?" Silver, lead, copper, bottle caps, tin foil, pull tabs, cartridge cases, rings, brass and tin cans are just a few of the conductive objects that can be detected. Your detector will not locate sticks, rags, bones, paper, wood or other non-metallic objects.
3. Learn how to interpret the different types of responses from your detector. A nail lying flat in the ground will sometimes produce a double or single reading depending upon whether your loop passed across it lengthwise or across its width. So it's a good idea to sweep your finds from several different directions to try to learn as much as possible about the object you have located. Coins will usually only produce one reading regardless of sweep direction.
4. Rather than waste time, check around the trees for junk items such as foil, pull tabs, bottle caps, etc. This will frequently indicate whether or not someone has already been in the area with a detector.
5. Always "criss-cross" an area when hunting it.
6. After you have dug up a coin, always check the hole again for more. As many as 10 coins have been found in one hole!
7. When beachcombing the best place to look for coins is near the concession stands.
8. Check the shallow water in swimming areas. Most rings and coins are lost when people enter the water.
9. If you make plans for coinshooting, check the history records of the area.
10. Always carry a plastic bag for your detector in case you get caught in the rain.
11. Never ask permission to treasure hunt over the phone. People tend to visualize you using a pick and shovel, making large holes.
12. Join a local historical society or get acquainted with its members.
13. In lawn areas, use a screwdriver of no more than eight inches as your tool. Limit the size of the hole to a **MAXIMUM** of two inches in diameter. Don't forget to fill in the hole. Public and private officials and property owners will be more likely to allow continued treasure hunting if you do no environmental damage.

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 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 for others.

WHITE'S ELECTRONICS, INC.