

White's Electronics, Inc.

1011 PLEASANT VALLEY ROAD

SWEET HOME, OREGON 97386

OPERATORS INSTRUCTIONS



Manufacturers of OREMASTER

MINERAL AND METAL
DETECTORS

ELECTRONIC
MAGNETOMETERS

SUPER GEIGER AND
SCINTILLATION COUNTERS

ULTRA VIOLET
LIGHTS

OPERATING INSTRUCTIONS
for
GOLDMASTER ALASKAN 73TR

Please follow these instructions carefully, to operate the instrument correctly and practice with it at every opportunity.

INTRODUCTION

We do not believe that you can buy a finer instrument than you have chosen for the use that the instrument is designed for, but remember that the instrument is no better than its operator, (even though we have heard customers say that the instrument was smarter than they.) You are the operator, and the more familiar you become, through use and practice the better operator you will be. The better the operator, the more finds you will make. This is a Special, Super-Sensitive, Prospecting model, incorporating the Transmitter-Receiver (Induction Balance) circuit.

GENERAL DESCRIPTION

These instruments are completely transistorized (solid state), giving maximum sensitivity, excellent reliability, and economy in operation. They are designed specifically for coin hunting, but have features which allow them to be used for general exploration, and even prospecting on a limited basis.

The audio system is complete, offering both earphone and speaker operation, controlled by a common volume control.

These instruments have a sensitive meter giving good reactions on finds, as well as testing both battery systems under operating conditions.

These instruments employ the balanced induction principle of operation, the loop being the heart of this system.

Batteries used are penlight, size "AA" 1 1/2 volt cells. Fourteen are required for operation. Six cells in a holder, yielding 9 volts, and eight in the other holder for 12 volts.

The Tuning Control is a smooth vernier drive mechanism, giving precise settings of both metal and mineral.

The Model 73TR has a variable sensitivity control, which adjusts the meter sensitivity, and the sensitivity of the instrument.

ROD AND LOOP

To extend the rod, pull the small rod out of the large, align the loop and then tighten the knurled adjusting ring, finger tight.

Plug the loop cable into the socket on the front of the instrument. This socket and plug are marked with yellow alignment dots. Align these dots and insert the plug. This plug and socket are also keyed to allow mating with only the correct pin alignment.

BATTERY INSTALLATION

Now open the battery compartment by releasing the latches on each side and swinging the door open from the bottom. Free the battery connectors by removing the tape. Note one white connector and one black. Also, a white battery holder (8 cells), and a black holder (6 cells). The white is 12 volt D. C., and the black is 9 volt D. C. Be sure and match white to white, and black to black. Snap the battery connector onto the battery holder, noting the connector and battery holder are set up to match in only one polarity. Be sure to observe this polarity because damage can be done to the electronics if forced together in error. (See Battery Diagram)

TESTING OF BATTERIES

To test your batteries, turn the POWER SWITCH to the battery check positions for each battery and note the readings. Good batteries will read between 30-40 on the meter. When your reading drops to 30 on the meter it is time to replace that set of batteries.

Batteries should be tested prior to your regular hunting ventures and once a day during periods of heavy usage.

The Power switch should be in the ON position except during testing and trouble shooting. IN THE ON POSITION THE METER FUNCTIONS AS AN INTENSITY METER.

SENSITIVITY CONTROL

For areas where the meter variations may be excessive, you may turn the Sensitivity Control to the lower settings and adjust the Metal-0-Mineral Control Knob until the meter pointer just returns to zero.

The Sensitivity Control changes the sensitivity of the instrument, as well as the meter circuit. HI is the most sensitive and LO the least sensitive setting.

The instrument can be quickly removed, whenever desired, by unsnapping one end of the chest strap and slipping the neck strap off, over the head. The Gold Probe may also be removed at any time, by pulling out the cable plug, without removing the instrument.

To operate the Instrument Proceed as Follows:

Install one strap by connecting the snaps to the 2 rings in the TOP of the instrument case. Slip the strap around the neck, and adjust the length.

Insert the probe plug into the 6 prong socket, located in the bottom of the instrument. This plug has 6 prongs, (2 large prongs and 4 small ones) to match the socket.

Carefully and slowly revolve the plug, until the prong holes match the socket, and insert the plug, snugly into the socket.

Turn the Mineral-0-Metal Control until the 0 is at the TOP and Centered on the Y (marker line) just above it. This position is called NULL and is located between the Mineral and Metal letters, where no sound or signal is received.

Turn the Sensitivity Control to the HI setting.

Turn the Volume Control to the extreme right (for full volume).

Turn the Power Switch on the ON position.

METAL SETTINGS

The Metal-0-Mineral Control adjusts the level of sensitivity as well as selecting Metal or Mineral. Very slowly rotate this control counter-clockwise (LEFT) for a metal setting. Note there will be a point where you hear a small weak tone. This point we will call the threshold point or level. The threshold level is the best setting for maximum effective sensitivity. The meter reading should be a little below zero at the threshold point. It is impractical to attempt to maintain the meter at any exact setting, because all normal movements in the field affect meter readings to some degree depending on the amount of mineral in the area you are working. For effective results, these adjustments must be made with the instrument in hunting position, (see Figure B, under Operating Illustrations), holding the loop as close to the surface of the area to be explored as is practical for movement of the loop. You are now adjusted for detecting metal.

MINERAL SETTINGS

Mineral settings are made by rotating the Metal 0-Mineral control clockwise (RIGHT) to the threshold point which will occur the same as when tuning for metal, but now your responses will indicate mineral. The other controls function the same for both mineral and metal. (See false readings under interpretation of signals, if you feel your instrument responds to both metal and mineral on the same setting.) You are now adjusted for detecting minerals.

INTENSITY METER ZERO

It is normal for our intensity meters to read below zero when the instrument is in a state of "NULL". This is due to reverse bias applied to the meter to give a faster response time.

Meter readings are a relative indication of the strength of the find. A strong signal could be a large object or an object very close to the surface. The meter can also be used to indicate the concentration or strength of minerals.

The meter readings are not calibrated to give a direct indication of depth but with practice and experience, it will tell you much about the size, depth and content of the object you have detected.

HUNTING METHODS AND TECHNIQUES

For Metal Detection set the instrument on the METAL side of null, adjust the volume to the desired level and meter to the correct reading.

When passing the loop over a non-magnetic conductive metal, such as the metal sample you received with your instrument, the sound will increase in the speaker and a

higher reading will be retained as long as the loop is held over the metal object. As soon as the loop passes away from the metal object, the sound will lower in volume, and the meter will lower in reading, and return to approximately the same reading as before the object was detected. No reading will be had when passing the loop over the mineral sample.

Earphone usage: To use the earphone install its plug into the jack on the instrument. Note this cuts off the speaker giving privacy in listening. You may use the earphone whenever you wish, its special feature being that of giving you a concentrated tone close to your ear, which excludes interfering noises about you.

Tin cans, bottle caps, tin foil, aluminum foil, cartridge cases, coins, silver gold, copper, lead and brass are some of the high conductive metals that will read on the Metal setting.

The instrument is not designed to react to sticks, rags, bones, paper, non-magnetized rocks, nor other non-magnetic objects or non-mineralized objects.

When looking for small metal objects, such as coins, the ability of the instrument to detect them will vary in different areas. The more mineralized the soil, the more difficult it is to detect them, and the less mineralized, the easier. Also the longer the metal object has been buried, usually the easier and deeper it may be detected, as the ground becomes electrically conductive from the metal object over a period of time. In some cases you may detect a very old tin can and after digging it up, still receive a reading over the spot the can was buried in.

To locate hidden or buried metal objects, slowly and systematically sweep the loop across the area to be checked, being very careful to hold the instrument so that the loop is held at as constant and uniform height as possible with the least up and down variation in relation to the formation or ground you are using the instrument over. When searching for small objects, such as a single coin, the instrument should be tuned in with the loop held as close to the ground as possible. Hold this height as close as you possibly can, and search the ground carefully, usually on the surface, if possible, depending on the surface you are using the instrument over. If the ground is rough, you may have to zero the instrument in higher. For larger objects, one can hold the instrument approximately 1 to 2 inches above the surface to be explored. With each sweep of the instrument you will cover approximately 6 feet by 3 inches. Keep repeating this process until you have explored the entire area. If there is anything under the surface, and it is within detectable range of the instrument, you should be able to find it.

In the short green grass, such as a lawn, it is possible to place the loop on the grass, tune it in, and slide the loop over the grass to locate the smaller objects. The loop automatically is kept at the same height by the grass, so a uniform and more constant meter reading may be maintained, which is important for the very small objects. For large objects, the instrument may be carried at a higher elevation, and it is not so critical to height variation, and will respond to the larger metal objects. To practice, lay some metal objects on a wood floor or on your lawn and move the loop over them, and notice the way the instrument responds.

It is a good policy to slightly adjust the Metal-0-Mineral every 5 to 10 minutes to keep the instrument at its highest peak of sensitivity, when searching for small objects, such as single coins, along beaches, etc., and every 10 to 15 minutes or so for larger objects. This adjustment may need to be made more frequently, if there is a change in the mineralization of the ground you are searching.

The volume is increased by turning the Volume Control to the Right, and is decreased by turning it to the Left. The Volume Control does not increase or decrease the sensitivity of the instrument. The instrument may be used around water but do not submerge the loop in water, (unless a waterproof loop has been ordered with the instrument.

To set the instrument up for detecting on the Mineral Setting, to locate mineralized veins with a magnetic content, proceed as follows:

- (1) Turn the Mineral-0-Metal Control back to 0 so that the pointer line is centered on Zero.
- (2) Turn the Power Switch to the ON position.
- (3) Very slowly turn the Mineral-0-Metal Control knob to the Right towards the Mineral side, until the sound just starts in the speaker and until the meter pointer just starts to move.

Passing the loop over the mineral sample, you received with the instrument, will cause the meter to read higher and the sound in the speaker will also increase, and this increase in sound and meter reading will be retained as long as the loop is held over the Mineral Sample. The meter will not read on coins, or on soft conductive metals, (when operated correctly), when set on the mineral setting, (but will usually read on steel bolts due to their hardness and shape.)

For Mineral Prospecting, set the instrument on the Mineral Side of Null with the desired volume and meter reading.

You may now locate and trace detectable mineralized veins that have all magnetic content with this fine instrument. The instrument will usually read the highest and sound the loudest over the highest mineralized spots in the veins.

False Readings can occur.

When you feel you are receiving a metal and mineral reaction from the same object, one of them is a false reading.

False Readings occur when an object is too close to the detecting head (loop).

The best method for determining if your reading is false is to move the loop away from the object, then bring the loop closer very slowly. The first indication is the true one.

You may experiment with this phenomenon by taking an object opposite to what you are tuned to, move this object into the field of the loop. Note the decrease in

tone. Keep moving the object closer until at approximately 1/2 inch, you will hear a loud blast. This is a false reading. Note the sudden harsh sound of the false reading.

SERVICE - WARRANTY - REPLACEMENT BATTERIES

This model contains two battery holders containing 14 B-1 Batteries. You may order new replacement batteries direct from our plant, if you cannot find them locally.

The new penlight battery system is better in many respects to the old type batteries:

1. Longer life
2. Readily available
3. Superior performance
4. Cheaper in replacement. (If one cell fails, you only need to replace the one cell.)

Replacements: Any AA penlight batteries.

Alkaline energizers and batteries of this type may be used and give even longer life.

Note: All batteries last longer if used in many short periods, rather than in a couple of long periods of use.

When through operating the instrument, turn the Mineral-Metal Control to NULL, (where no sound is heard), and be sure to turn the Power Switch OFF.

The instrument has a full two (2) year warranty on parts and labor (except batteries) to the original purchaser.

If ever in need of service, ship the instrument by insured parcel post, freight or stage, prepaid and enclose a letter advising the nature of your troubles. It may be returned to the factory address listed or to one of our Service Centers listed in the back of this booklet.

CAUTION: Care should be taken in excessively cold weather to protect the instrument, as well as the batteries from freezing.

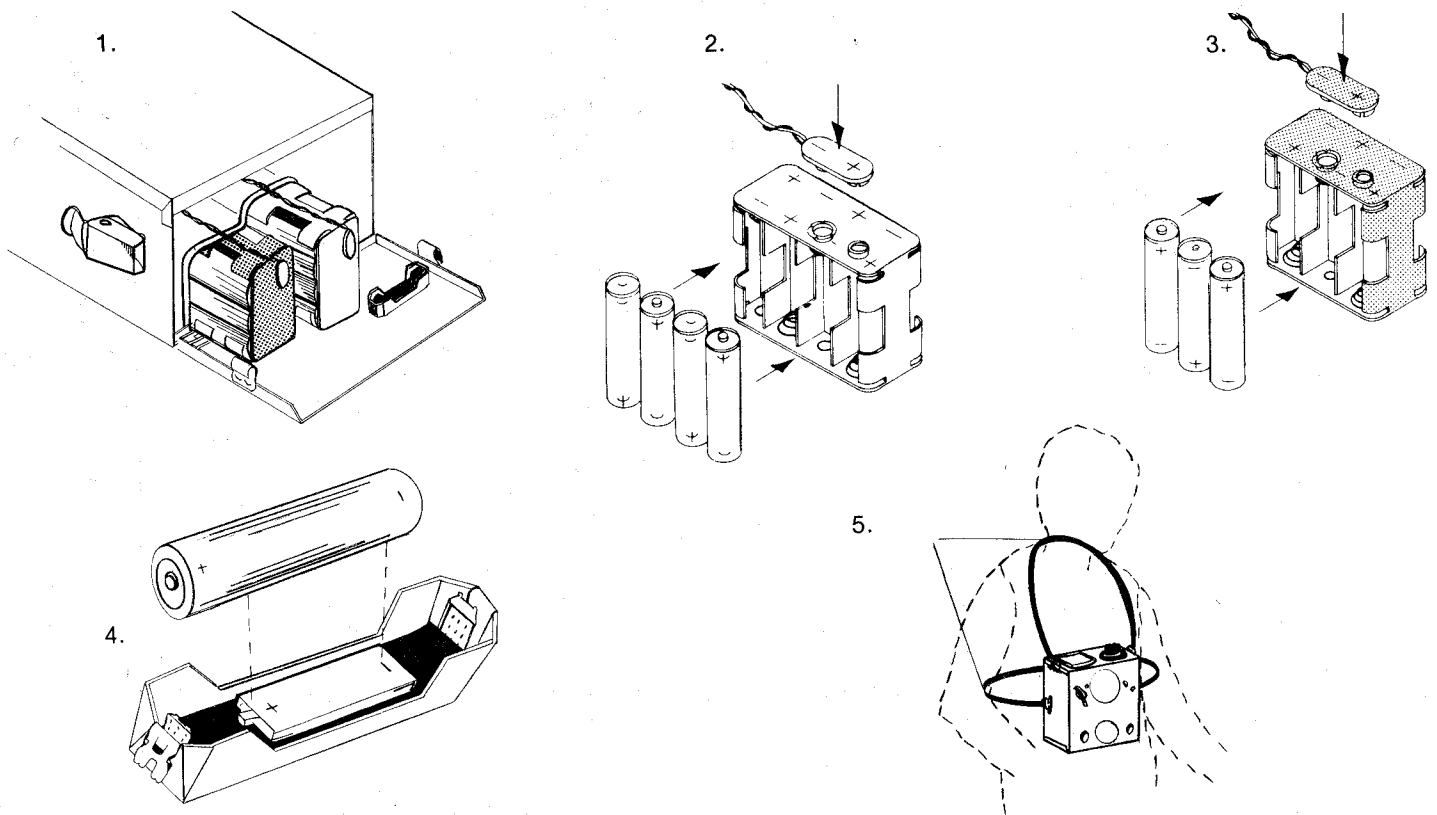
The instrument should also be protected from exposure to excessive heat when not in use.

If the instrument is to be laid away for any great length of time, the battery pack should be unsnapped and the pack removed from the instrument and the batteries stored in a dry, cool place, such as on a shelf in a closet. This will prevent damage to the instrument in case one or more of the batteries are damaged or in case the power switch is left on or gets turned on accidentally. The damage to the instrument in this case is similar to what occurs in a flashlight, when the battery is discharged and the liquid escapes to damage the case and components.

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ALASKAN ILLUSTRATIONS

NOTE: To prevent damage in shipping, the batteries have been removed from your instrument and placed in a separate container within the shipping carton. See following diagram for proper installation.



BATTERY-PACK ILLUSTRATION

9 volt (6Pak) Black Connection
12 volt (8 Pak) White Connection

1.5 Volt "AA" [Battery Pack Models].....

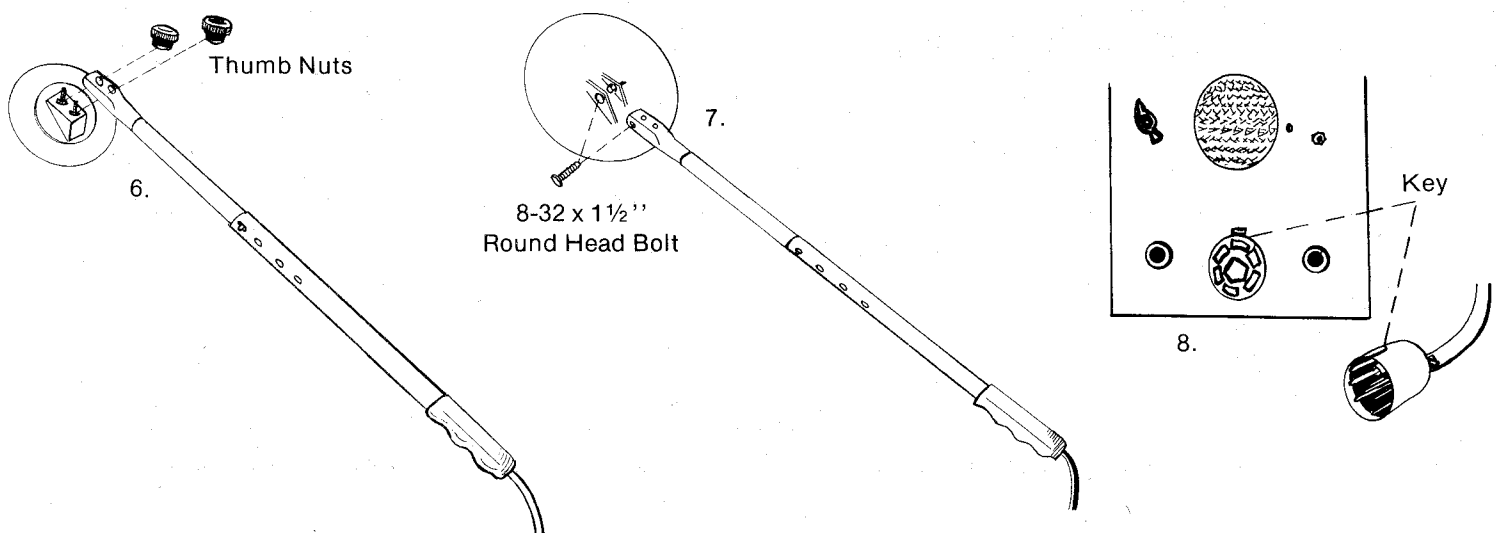
EVEREADY
1015

BURGESS
910

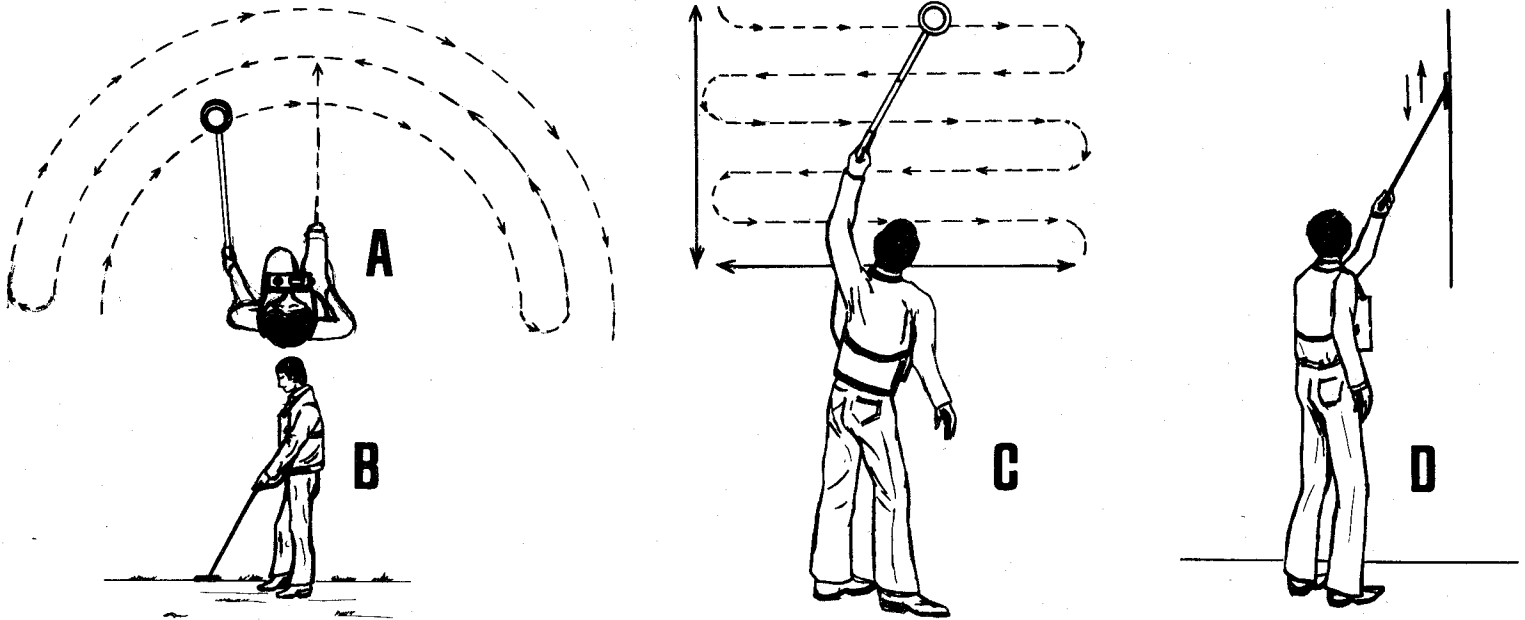
RAY-O-VAC
#15

When ordering replacement batteries from the factory, please state the instrument model, voltage of batteries and battery number.

PROBE ASSEMBLY, DRAWINGS

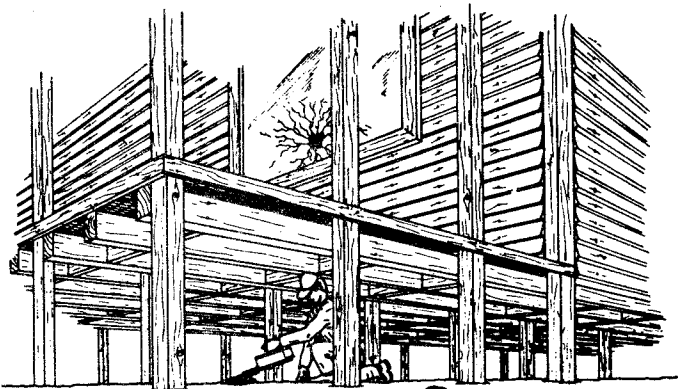


OPERATING ILLUSTRATIONS



As shown in Diagrams A and B, when you are working on the ground, move forward in a straight line, at the same time, moving the loop from side to side across in front of you. The distance between each swath of the loop is determined by the size of the loop you are using. With a 6" loop you would make a 3" step, with 12" loop you would make a 6" step, and so on. Using this method of hunting enables the hunter to cover more ground, more completely, in less time. For tuning your loop, hold it as close to the ground as possible.

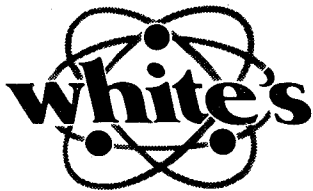
Diagrams C and D show you just one more of the many ways the versatile design of the White's instrument can help you either in prospecting or treasure hunting. This diagram demonstrates the extra ability the design gives in reaching to the out-of-the-way places. This system can be used for checking outcroppings, walls, etc.



America's Largest Line of Metal Detectors

Remember, a lot of old artifacts and treasure have been found under old buildings, as well as in the attics. When going through an old homestead, never overlook any place or area that could represent a good hiding place. So if you are planning such a trip, follow these simple illustrations and prepare your instrument. At a time like this you don't want to pass up any chances.

Prices and specifications subject to change without notice.



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