

# OPERATING INSTRUCTIONS: A3B GOLD HUNTER

## ASSEMBLY INSTRUCTIONS

1. Compress the button ends of the spring clip and insert, button end first, into the lower stem of the detector so that the button ends pop out of the holes.
2. Attach the lower stem to the searchcoil by inserting the two rubber washers into the stem and slipping the searchcoil onto the stem. Insert the threaded bolt through the holes and hand-tighten the two knobs.
3. Install the upper stem to the lower and then the detector housing to this assembly.
4. Wrap the searchcoil cable snugly about the stem with the first turn of the cable over the stem.
5. Insert the cable connector into the connector on the detector housing and hand-tighten securely.

## CONTROL FUNCTIONS

Familiarize yourself with the detectors controls. Their basic functions are given here. How they can help you find treasure is explained in the Operating Instructions of this Manual.

### **Power/ Depth:**

- Turns the detector on;
- Turns the detector off;
- Regulates the detection depth. (Sensitivity)

Raise searchcoil approximately one foot above the ground. Rotate this knob to turn the detector on and the detector begins operating. Each time the detector is turned on the battery condition is reported audibly. Three or more tones and the batteries are very good, two tones and the batteries are adequate. One tone or no tone and the batteries need to be replaced.

Further rotation of this knob increases the detection depth and sensitivity.

### **Audio:**

This 10-turn control on the lower right of the detector panel allows the operator to adjust precisely the level of sound generated by the detector. It is suggested that this sound level be adjusted to a threshold level where it is barely audible when searching.

### **Ground Balance:**

This 10-turn control at the upper left of the detector panel permits precise ground balancing of the detectors circuits in the All Metal mode, with the **Master Control Switch** set to the left All Metal position.

**Discrimination:**

This control on the lower left of the panel offers full range discrimination capabilities when the detector is operating in the Discrimination Mode.

**Auto/Manual Tune:**

This toggle switch at the top center between the Ground Balance and Power/Depth Controls selects Automatic or manual retuning of the audio threshold level established by the operator. (See Audio above).

Note: Later versions of the A3B Detector do not have this control. Those detectors have full-time automatic re-tuning only.

**Master Control Switch:**

This toggle switch located underneath the control housing on the right side of the detector permits the selection of the desired operating mode. Press the switch to the left and release to select All Metal operation (with manual ground balancing). The Discriminate Mode (switch pressed to the right and released) offers automatic ground balancing and is primarily designed for coin hunting or other general searching.

Note: This switch is re-positioned on later versions of the A3B to the control panel, replacing the tuning switch. The functions remain the same; All-Metal is to the Left, and Discrimination is to the Right.

**Headphone Jack:**

Located on the lower center of the control panel.

**OPTIMUM AUDIO LEVEL****Automatic Tuning:**

Turn the detector on and move the **Tuning** switch to the AUTO position. Rotate the **Audio** control until only a faint sound is heard. This is the optimum audio threshold level. The detector will now maintain this level throughout all operating conditions as long as the switch remains in the AUTO position.

**Manual Tuning:** (See tuning switch above)

Turn the detector on and move the **Tuning** switch to the MANUAL position. Press the MASTER CONTROL SWITCH to either the All Metal (Left), or Motion Discriminate mode (Right) and hold. Rotate the Audio control to achieve a faint threshold of sound before releasing the Master Control Switch. This establishes the Audio Threshold level. In this position any change to control settings and some ground conditions may cause the audio level to increase or decrease. To reacquire the threshold level of audio it will be necessary to press the Master Control toggle switch to the left or right for about one second then release to return the audio to the preset level. Press this switch to the left if operating in All-Metal, to the right if searching with discrimination.

**OPERATING INSTRUCTIONS****Discriminate Mode:**

Press the Master Control Switch to the right, to the Discriminate position (automatic ground balanced/trash elimination). When in this position only selected targets will be found. Setting the Discrimination control to higher levels can cause some rings and coins to be undiscovered. As you become more familiar with your detector you will remember rejection settings for various targets by the numbers around the control knob. Bench test the detector as detailed below.

### **Bench Testing:**

This enables you to understand more fully the operation of the detector in the discriminate operating mode. Perform these tests with the searchcoil several feet away from any metallic object or surface, and the Auto/Manual Switch in the Manual position.

- Rotate the discrimination control fully counterclockwise. Press the Master Control switch to the Discriminate position. Pass selected targets past the searchcoil and notice that all targets give an audio response. This is true non-discriminating operation. You may also wish to test various rocks and ore samples at this position.
- Rotate the control to 3 or 4, press the Master Control Switch, re-tune, and repeat the test. Some items will now give no audio response or perhaps a decrease in audio.
- Continue this test with various targets at higher discriminate settings and note where the trash items are no longer discovered.
- Never rotate the Discrimination control any farther clockwise than necessary to eliminate targets you do not wish to detect.
- Now perform these tests with the Auto/Manual switch in the Auto position.

### **All Metal Mode:**

- Press the Master Control switch to the All Metal (Left) position. In this position the A3B detector will respond to all metallic or conductive targets presented to the searchcoil. For maximum depth and the best operation when prospecting or searching mineralized ground always operate in the All Metal mode.
- Perform this test in the Auto position also.

### **Ground Balance:**

Mineralization can be balanced (canceled out) by use of this control. To determine if adjustment is necessary, lower the searchcoil toward the ground stopping at about two inches above the surface. Make certain that there is no metal beneath the searchcoil. **Listen for the FIRST audio response.** The sound can only increase, decrease or remain the same. If the sound does not change, no adjustment to the Ground Balance Control is necessary.

If the first sound is a decrease in sound, raise the searchcoil and rotate the Ground Balance control clockwise (increase) one or more complete turns. Press the Master Control Switch to the left, release and lower the coil toward the surface. Listen to the audio response. If the sound still decreases, repeat this adjustment. However, if the sound now increases, raise the coil, turn the control this time counterclockwise (decrease) one complete revolution, retune by pressing briefly the Master Control Switch to the left, and lower the coil toward the surface. Continue this process until there is little or no change in the audio level as the searchcoil is lowered to the operating height.

This is a 10-turn control so do not be hesitant about turning it. Because this is a 10-turn control proper ground balancing may require turning this control several revolutions. Remember to rotate the control clockwise when the sound decreases and counterclockwise when the audio sound increases and to retune after each change of settings.

**Searching:**

Scan the searchcoil at a speed of about one to two feet per second at a distance from the ground of about one to two inches. An audio increase will indicate the presence of metal beneath the coil. (If in one of the discriminate modes, only accepted targets will give an audio response).

**Pinpointing and Target Recovery:**

When the detector locates a target you must recover it to see what has been found. Pinpoint the target by making an imaginary "X" over the target. Where the loudest sound is, the target will be beneath the searchcoil. You may wish to switch into the All Metal mode to enable you to hover over the target, because in the motion discriminate mode requires searchcoil movement to recognize the targets presence.

The final step is recovery and digging is usually involved. Always make as small a hole as possible and always fill your holes when the target has been recovered. Check the hole after recovery to be sure there are no other targets present.

**Batteries:**

The A3B detector requires three (3) 9-volt batteries. When replacements are required use only high quality carbon, alkaline or rechargeable batteries. Each time the detector is turned on the batteries are checked automatically and audibly. Three or more tones indicate the batteries are very good, two tones indicate the batteries are adequate. One tone or no tone indicates the batteries should be replaced.

**Battery Replacement:**

The batteries are located inside the electronic housing on the side of the chassis. To access the batteries, first release the clamps on each side of the detector housing. Carefully remove the panel and chassis and disconnect the coil and switch wires. The batteries are beneath a protective clamp directly behind the control panel. Loosen the clamp and slide it off the batteries. Remove the old batteries and install the new ones. Be sure to observe the proper polarity of the batteries when installing the new batteries. Reassemble making certain that all parts fit snugly, but do not force the parts together.

**SEARCHCOILS:** The A3B has two optional searchcoils available for its use.

The 5 x 10" Elliptical DD Searchcoil, which provides excellent depth and good scanning width is the most popular size used by prospectors, coin hunters, and for general searching in all areas. This searchcoil should be used for your primary searching.

The 3 x 7" Elliptical DD Searchcoil offers the ability to recover precious ores in areas where the larger coil may not be used satisfactorily because of space and tight operating conditions. Electronic prospectors can quite effectively use this small coil when searching for nuggets.

Likewise, those searching for coins and other valuable objects in areas with large amounts of buried metal trash, or in areas adjacent to such metal as playground equipment, fences and metal buildings rely on this coil for success. Because of its small size it can detect fewer targets at a time and work in restricted areas. This eliminates the possible "masking" effect of junk targets.

## **PROFESSIONAL PHASE**

**COIN HUNTING:** After studying this Owner's Manual very carefully, you will be able to perform more tasks with the detector and complete them more easily. The following tips represent the experience of a professional with the detectors.

**Deep coin hunting:** For maximum depth and to avoid missing a small or very old coin, search in the All Metal mode. This will prevent missing an especially old coin that is so oxidized that it will be rejected by any discrimination. Should the sound become erratic, reduce the detection depth until the sound levels out. You are now operating at the maximum sensitivity possible under present ground conditions.

**Hunting in trashy areas:** Use of Garrett's 3 x 7" Elliptical searchcoil can aid tremendously in the search for coins in areas with large accumulations of metal trash. Although any size searchcoil will perform in this arena, this searchcoil will produce the best results.

**CACHE & RELIC HUNTING:** Operating in the All Metal mode. Attach the 5 x 10" Elliptical DD Searchcoil and increase DEPTH/Sensitivity for maximum sensitivity possible (without erratic sound). Scan the searchcoil approximately two to four inches above the ground (depending on ground conditions) to eliminate erratic responses from ground minerals and small bits of metal. You will have super sensitivity and detect all targets dime-sized and larger. Caches and relics previously missed or overlooked will now be detected easily.

**ELECTRONIC PROSPECTING:** Even though the A3B Gold Hunter is a universal detector, excellent for prospecting, its very low frequency (VLF) circuitry however, will not detect some microscopic gold.

**Nugget Hunting:** Using the large searchcoil, manually ground balance the detector slightly positive in relation to the ground. This condition makes detection of small nuggets easier since detectors that adjust slightly negative have a tendency to overlook the smaller nuggets.

**Hot Rocks:** The A3B Gold Hunter will instantly identify both types of "hot rocks" in any search area. Test for them in the following manner. Simply scan in the All Metal mode. When you locate a suspected hot rock, press the Master Control switch to Discriminate, with the discrimination control turned fully counterclockwise, pass back over the target. If the target is a hot rock, it will not respond. If it has sufficient metal content, it will respond as metal. If it is a large gold nugget or non-ferrous metal, the audio will sound. Because small nuggets or other metallic targets sometimes produce no response in the Discriminate mode, it is advisable to use this method only to test suspected hot rocks that respond loudly and positively to All Metal scanning.

**Searchcoil sizes** will differ according to the area being searched. If the search area is in a dry wash or among large rocks that restrict the use of a large coil, change to the smaller size. When working in areas that have already been searched, your best option may be to change to the 5 x 10 Elliptical DD searchcoil. Extremely small nuggets may be missed with the larger coils, but the increased depth and sensitivity will permit you to detect deep nuggets that may have been previously missed. Professional nugget hunters know that one nugget of decent size is better than hundreds of microscopic ones.

**Alkaline salt** is heavily present in some rich nugget hunting areas. Attempts to search such areas with metal detectors have met with failure over the years because of the difficulty in ground balancing. However, by using the DD searchcoils and a relatively low level of discrimination, salt is usually ignored and large nuggets are detected.

Never attempt to operate any large searchcoil too close to heavy salt or extremely negative ground minerals. Maintain an operating height of approximately three to five inches.

## **OPERATING RECOMMENDATIONS**

As you operate and use your Garrett detector, you will quickly grow more proficient in its use. It is recommended that you build your own test plot. Bury several items, including a nail, a piece of foil, a pulltab, a bottlecap and several coins at depths of about two to eight inches and a foot apart. Clearly mark the location where each article is buried. Practice scanning the targets while listening to and studying the detection signals.

Remember that newly buried objects, especially coins, will be somewhat more difficult to detect than items that have been buried for some time. This is primarily a metallurgical phenomenon. Experiment with the various operating modes to see how your detector responds. Practice trying to pinpoint and locate targets precisely.

When scanning, **do not hurry**. Scan the searchcoil at a speed of about one to two feet per second. Keep the searchcoil flat and level to the ground. Move it back and forth slowly and steadily while you walk at a pace that is comfortable. Be methodical. Do not skip any areas. Wear headphones for greater sound perception and concentrate on your scanning.

After you have operated your A3B Gold Hunter for only a short time, you will be surprised at how proficient you have become in its use. Do not expect to achieve the greatest accuracy and success, however, until you have operated the detector for at least 100 hours or more.

Good hunting!

## **MAINTENANCE**

- ❖ Always remember that your Garrett detector is a sensitive electronic instrument. It is built to withstand rugged treatment in the outdoors, but you should always handle the detector as carefully as possible.
- ❖ Try to avoid temperature extremes as much as possible, such as storing the detector in an automobile trunk during hot summer months or outdoors in sub-freezing weather.
- ❖ Keep your detector clean. Always wipe the housing after use, and wash the coil when necessary. Protect your instrument from dust and sand as much as possible.
- ❖ Your searchcoil is submersible. The control housing is **not!** *Never* submerge the control housing and *always protect it* from heavy mist, rain or blowing surf.
- ❖ Disassemble the stem and wipe it clean after use in sandy areas.

- ❖ When storing longer than about one month, remove batteries from the detector.

## **REPAIR SERVICE**

In case of difficulty, read this Owner's Manual again thoroughly to make certain your detector is not inoperable needlessly. Your dealer may also be able to offer advice.

When your detector must be returned to the factory for service, always include a letter that describes its problem as fully as possible. Before you return your detector to the Garrett factory, make certain:

- ❖ You have read this Owner's Manual carefully
- ❖ You have checked batteries, switches and connectors. (Check *batteries* especially closely. They are the most common cause of detector "failure".)
- ❖ You have checked with your dealer, particularly if you are not familiar with this type of metal detector.
- ❖ You have included a note with the detector describing the problems you are encountering with this detector and conditions under which they occur. Make certain to include your name, address and a phone number where you can be contacted between 8:30 a.m. and 4 p.m., Central Time.
- ❖ You have carefully packed the detector in its original shipping carton or other suitable box. Make certain that proper insulation or packing material is used to keep all parts secure. Do *not* ship stems or headphones unless they are part of the problem. Be certain to return all coils, unless the problem is mechanical.
- ❖ Ship to Garrett Metal Detectors, 1881 W. State St., Garland, TX 75042.
- ❖ You can call Garrett's Customer Service Department (972-494-6151) if you have further questions.
- ❖ Please allow approximately one week for Garrett technicians to examine and repair your detector after they receive it, plus another week for return shipping to you. All equipment will be returned UPS or parcel post unless written authorization is given by you to ship collect by air parcel post, UPS Blue (air) or air freight.

## **MIND YOUR MANNERS**

Filling holes and obeying *no trespassing* signs are but two requirements of a dedicated metal detector hobbyist. A sincere request that Charles Garrett makes to every user of one of his detectors is that each place searched be left in a better condition than it was found. Thousands of individuals and organizations have adopted this formal Metal Detector Operators Code of Ethics:

- ❖ I will respect private and public property, all historical and archaeological sites and will do no metal detecting on these lands without proper permission.
- ❖ I will keep informed on and obey all laws, regulations and rules governing federal, state and local public lands.
- ❖ I will aid law enforcement officials whenever possible.
- ❖ I will cause no willful damage to property of any kind, including fence, signs and buildings and will always fill holes I dig.
- ❖ I will not destroy property, buildings or the remains of ghost towns and other deserted structures.
- ❖ I will not leave litter or uncovered items lying around. I will carry all trash and dug targets with me when I leave each search area.
- ❖ I will observe the Golden Rule, using good outdoor manners and conducting myself at all times in a manner which will add to the stature and public image of all people engaged in the field of metal detection.

## **WARNING!**

Any metal detector may discover underground power lines; explosives or other items which when struck could cause personal injury. When searching for treasure with your A3B Gold Hunter, observe these precautions:

- ❖ Do not hunt in an area where you believe there may be shallowly buried underground electric lines or pipes.
- ❖ Do not hunt in a military zone where bombs or other explosives may be buried.
- ❖ Avoid striking any line known to be or suspected to be carrying electrical power.
- ❖ Do not disturb any pipeline, particularly if it could be carrying flammable gas or liquid.
- ❖ Use reasonable caution in digging toward *any* target, particularly in areas where you are uncertain of underground conditions.

**PATENT PROTECTION:** Proof of Garrett's excellence is the recognition given them by the following United States patents: 4,709,213; 4,488,115; 4,700,139; 4,398,104; 4,423,377; 4,303,879; 4,334,191; 3,662,255; 4,162,969; 4,334,192; 5,148,151; 5,138,262; 5,721,489; 5,786,696; 5,969,528; Design 274,704 and 297,221; Design 333,990; G.B. Design 2,011,852; Australia Design 111,674 and other patents pending.