ACE ™
150/ 250

ACE 150/250 Owner's Manual

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Owner's Manual

English/Spanish/French/German

THANK YOU FOR CHOOSING
GARRETT METAL DETECTORS!

Thank you for choosing a Garrett Metal Detectors' *ACE*™ series detector. This enhanced metal detector has all the depth and technology, including Garrett's exclusive Target ID technology you need to make your treasure hunting adventures exciting and very rewarding. All of our products are backed by 50 years of extensive research and development that ensures your *ACE* detector is the most advanced of its kind in the industry.

The *ACE* series of detectors includes Garrett's patented discrimination feature. This technology, found only on Garrett detectors, features two indicator scales that allow the user to see the detector's discrimination setting (Lower Scale) as well as the analysis of each detected target (Upper Scale). They also include the highly acclaimed 6.5x9" **PRO**formance searchcoil. This highly rugged, epoxy-filled searchcoil covers more ground per scan and offers greater depth to find those deeply buried treasures. In order to take full advantage of the special features and functions of the *ACE 150* and *250* metal detectors, carefully read this instruction manual in its entirety.

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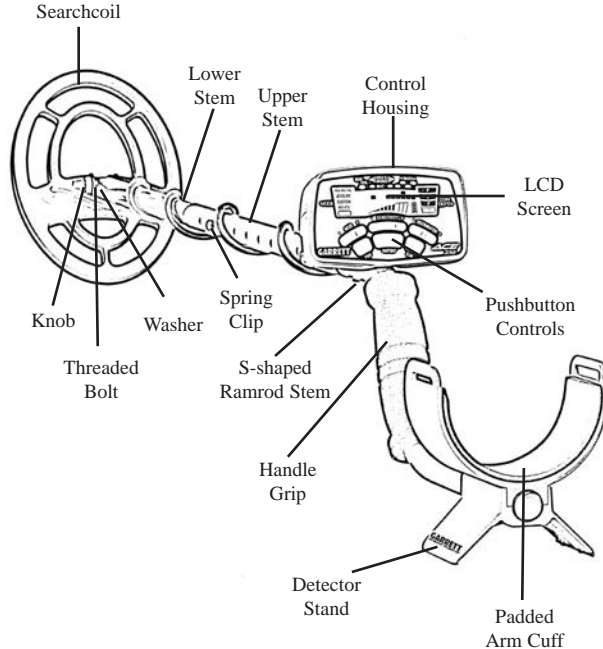
ACE PARTS

No tools are required to assemble the *ACE 250* or *150* enhanced metal detectors. Four (4) AA batteries are included with the detector.

Before assembling your *ACE* metal detector ensure you have the complete set of parts, which include:

- Control Housing with S-shaped Ramrod Stem
- Upper Stem
- Lower Stem
- One (1) Wing Nut
- Two (2) Mounting Washers
- One (1) Threaded Bolt
- One (1) 6.5x9" Searchcoil with Cable

If any part is missing, please contact your local dealer.

ACE ASSEMBLY

1. Align the holes in the mounting washers with the small posts on the stem and press firmly into the lower stem.


2. Slide the searchcoil onto the stem.

3. Insert the threaded bolt through the holes of the lower stem and searchcoil. Hand-tighten the searchcoil assembly with the remaining wing nut.

4. Depress the spring clip and insert the control housing into the upper stem.

5. Depress the spring clip in the lower stem to adjust to the most comfortable operating length.

6. Wrap the searchcoil snugly about the stem with the first turn of the cable over the stem.
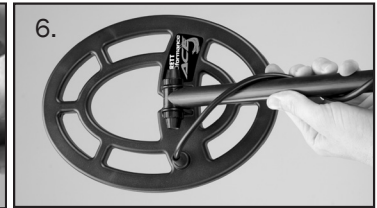

7. Insert the cable connector into the connector of control housing and hand-tighten.

8. The location of the arm cuff may be adjusted by removing the screw on the bottom and moving it to the other hole.

ACE 150 FEATURES

The *ACE 150* is designed with Garrett's exclusive Graphic Target ID technology, which indicates the probable identification of a target along a horizontal scale that reads from low conductive metals (e.g. iron) on the left to high conductive metals (e.g. U.S. coins) on the right.
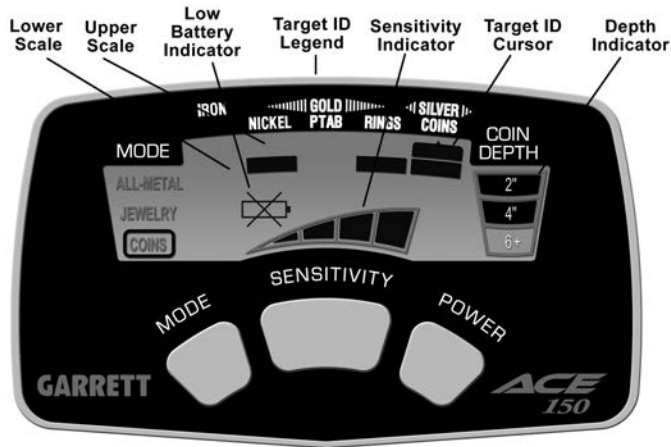

1. **Mode**—Indicates which of the three detection modes is selected by highlighting the corresponding word on the LCD screen.

2. **Target ID Legend**—A printed Target ID Legend is located directly above the LCD screen and indicates commonly found targets and metals. When a target is detected, the Target ID cursor will appear below the word that most likely indicates the type of target found, based on its conductivity.

3. **Upper Scale**—The Upper Scale, where the Target ID cursor is illuminated when a target is detected, consists of five (5) graphical segments.

4. **Target ID Cursor**—The Target ID cursor is illuminated in the Upper Scale and indicates the probable identity of a detected target.

5. **Lower Scale**—The lower horizontal scale, or Notch Discrimination Scale, indicates the discrimination pattern where the *ACE* will or will not produce an audible signal when a target is located. This scale changes when switching between Detection Modes.
   No audible signal will be produced when a target is located where a notch is absent (those Lower Scale regions where no cursors are visible).

6. **Coin Depth**—The depth of a coin, or similar sized target, will be shown on the LCD screen. Depth is indicated when the LCD scale is illuminated at 2", 4" or 6+ inches. Sweep over the target with the searchcoil 1" from the soil to get the most accurate reading. Note: Targets larger than a coin may display shallower than actual depth while targets smaller than a coin may display deeper than actual depth.

7. **Low Battery Indicator**—When the unit's batteries become weak, the Low Battery Indicator will remain on. For best performance, replace the old batteries with quality alkaline AA batteries. NiMH rechargeable batteries may be used, but will have a shorter life per charge. You can expect 20 to 40 hours of operation depending on battery type.
   Access and replace the batteries on the *ACE 150* and *250* by gently sliding the cover off the control

housing. Remove batteries from the *ACE* when the unit will be stored for longer than 30 days.
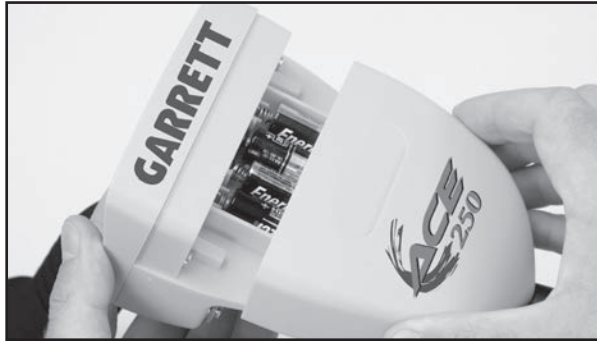
8. **Headphone Jack**—Any 1/4" plug headphones can be inserted into the jack found on the reverse side of the Control Housing.

9. **Tone ID**—The Tone ID feature produces distinct audible tones based on a target's conductivity:

- High conductivity targets (such as U.S. coins) produce a unique belltone signal.

- Medium conductivity targets (such as jewelry, nickels and international coins), produce a standard-pitched audio signal.

- Low conductivity targets (such as iron and nails) produce a low-pitch audio signal.
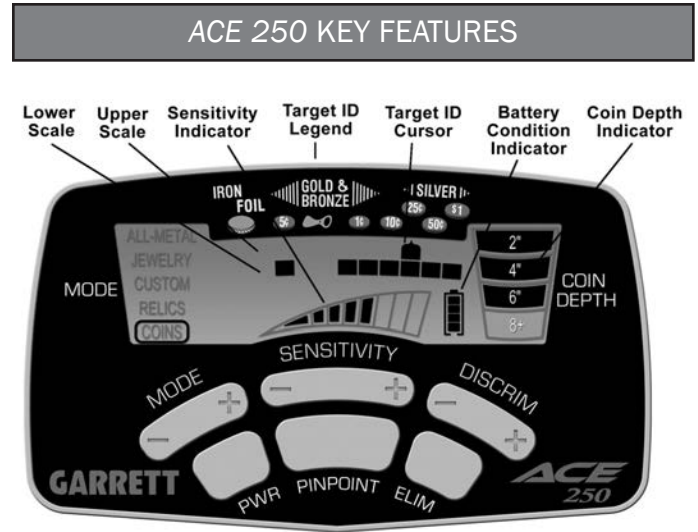
ACE 150 CONTROLS

1. POWER Pushbutton (press and hold to reset to factory recommended settings)—Press and release to switch the unit ON and resume hunting with the same settings and modifications used prior to turning the unit OFF. When the POWER pushbutton is pressed and held for 5 to 10 seconds (until the detector beeps), the *ACE 150* will return to the factory recommended settings of each MODE.

2. SENSITIVITY Pushbutton—Push the SENSITIVITY button to step through the four (4) sensitivity levels, which are continuously shown on the LCD screen.

Use higher sensitivity levels when searching for very small or very deep targets. Use lower sensitivity levels in locations where the detector is behaving erratically due to excessive metallic trash interference, high mineral soils, saltwater beaches, or other metal detectors are present.

3. MODE Pushbutton—Push the MODE button to select one of three desired detection Modes:

- *All-Metal Mode*—This MODE is designed to detect every type of metal and should be used when you want to find all metal items or when the materials of the desired object is unknown.

  Switch to the All-Metal Mode to aid in locating a target when its signal is inconsistent. (Inconsistent signals can mean a trash target is close to a good target).

- *Jewelry Mode*—This mode is designed to find jewelry such as rings, bracelets, watches and necklaces and ignore most trash items such as bottle caps and nails.

- *Coins Mode*—This mode is designed to find all types of coins and eliminate trash items such as iron, bottle caps, most pulltabs and other objects normally encountered while coin hunting. Some bent pulltabs and pieces of tabs may not be eliminated from detection. Some digging of junk targets is to be expected, such as soft drink cans.

ACE 250 KEY FEATURES

1. POWER Pushbutton (press and hold to reset to factory recommended settings)—Press and release to switch the unit ON and resume hunting with the same settings and modifications used prior to turning the unit OFF. When the POWER pushbutton is pressed and held for 5 to 10 seconds (until the detector beeps), the ACE 250 will return to the factory recommended settings of each MODE.

2. Upper Scale—The Upper Scale, where the Target ID cursor is illuminated when hunting, consists of twelve (12) graphical segments for more precise Target ID and discrimination.

3. Coin Depth—Coin Depth is expanded to four (4) depth indicators including 2", 4", 6" and 8+ inches.

4. Sensitivity—The ACE 250 has eight (8) Sensitivity settings for more precise depth and target detection.

5. Battery Condition Indicator—An LCD display is continuously illuminated to indicate the battery level.

ACE 250 CONTROLS

The *ACE 250* includes these additional control functions not found on the *ACE 150*:
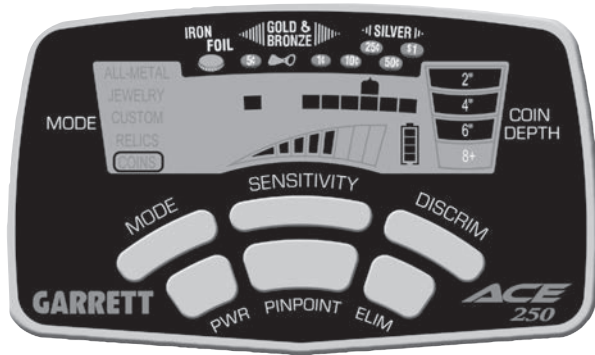
1. DISCRIM Pushbutton—Use the (+) or (-) DISCRIM pushbuttons to move the Target ID cursor to the left or right. Next, use the ELIM Pushbutton to modify the discrimination pattern on the Lower Scale.

2. ELIM Pushbutton—Press the ELIM (Eliminate) pushbutton to eliminate or activate the LCD cursor located on the Lower Scale, directly below theTarget ID cursor.

The ELIM function can be used to modify each Mode's discrimination pattern. For example, when an unwanted target is located while hunting, press the ELIM button to eliminate that Notch (delete the cursor) to eliminate that specific target. See illustration below.
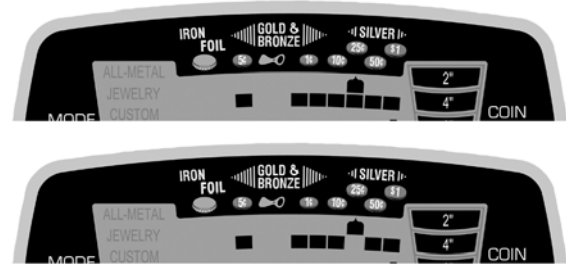
All Notch Discrimination modifications made while in the CUSTOM mode will be retained when the detector is turned OFF. However, all changes made to the Notch Discrimination scale while in the ALL-METAL, JEWELRY, RELICS and COINS modes will return to the factory settings when the detector is turned OFF.

3. PINPOINT Pushbutton—Press and hold the Pinpoint pushbutton to determine the exact location of a target that is still hidden in the ground, wall or other structure.

When pinpointing, the Upper Scale on the LCD Screen indicates signal strength. When the greatest number of LCD segments (increasing left to right on the scale) is shown, the center of the searchcoil is directly over the target with the depth of a coin-sized target shown on the depth scale.

To use the pinpoint function, move the searchcoil to the side of the target's loudest audible tone. Press the Pinpoint button and hold it down while sweeping the searchcoil at a constant height over the target area. Sweep the searchcoil

side to side and front to back at the lowest constant height to locate the area causing the loudest signal. Watch the bar graphs on the LCD Screen to also see the peak signal area. With practice at pinpointing, you will be able to pinpoint objects very quickly.

4. Five MODE options—Like the *ACE 150*, the *ACE 250* has All-Metal, Jewelry and Coins modes. The *ACE 250,* however, has two additional modes: Custom and Relics.

 • **CUSTOM Mode**—This Mode can be programmed by the operator. The *ACE 250* is factory preset with the CUSTOM Mode set the same as the COINS Mode. By using the DISCRIM and ELIM pushbuttons, an operator can modify the Notch Discrimination settings to individual specifications, which will be retained in the CUSTOM Mode when the *ACE* is turned OFF.

 The CUSTOM Mode can be used to find specific metal items. For example, if an earring has been lost, scan the matching earring with the *ACE 250* while in the CUSTOM Mode. Note where the Target ID cursor appears when the earring is scanned. Next, use the DISCRIM pushbutton to move the Target ID cursor to the left and right. Push the ELIM button to delete the LCD cursors on the notch Discrimination Scale *(see illustrations)*, leaving only the

one where the Target ID cursor illuminated when the earring was scanned. Depending upon how the earring is laying in the ground, your ability to find it will be enhanced by turning on an additional cursor on either side of the target cursor. The *ACE 250* is now programmed to find only the missing earring based on the conductivity of its matching pair.

 ELIM can also be used to modify the Notch Discrimination Scale to reject a specific type of trash while detecting all other metal. When a trash metal is audibly detected while hunting, simply push the ELIM button to create a notch where the Target ID cursor signaled the presence of the trash. The next time the *ACE 250* encounters the same trash item, it will not produce an audible signal.

 • **RELICS Mode**—Designed to eliminate trash targets normally associated with relic hunting, while detecting good targets in the lower conductivity range, such as lead and brass.


Use the ELIM pushbutton to delete LCD cursors on the Lower Scale.

HUNTING WITH YOUR *ACE* DETECTOR

• If you're new to treasure hunting start searching in sandy areas, such as those found near playgrounds or on the beach. These sandy and loose gravel areas make it easier to learn how to use your metal detector to pinpoint and dig targets.

• Hunt in your own yard and around playground lawns once you're familiar with your new metal detector. These areas give you an opportunity to test your pinpointing and digging practices in manicured lawns.

• Keep your searchcoil height approximately 1 to 2 inches and parallel to the ground at all times for best detection results.
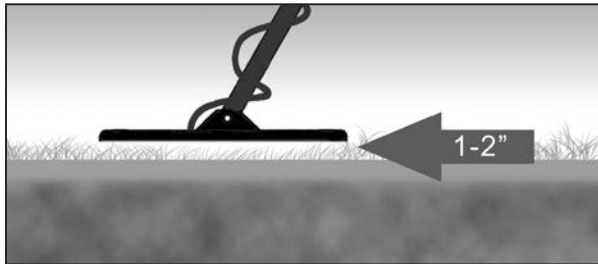

• Walk slowly as you scan your searchcoil in a straight line from side to side while moving the coil at a speed of about 2 to 5 feet per second. Advance the searchcoil about one half the diameter of the searchcoil at the end of each sweep.

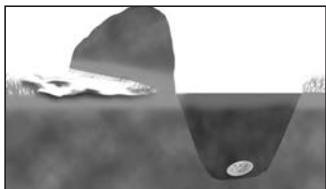Walk ½-1 foot per second

Scan side to side
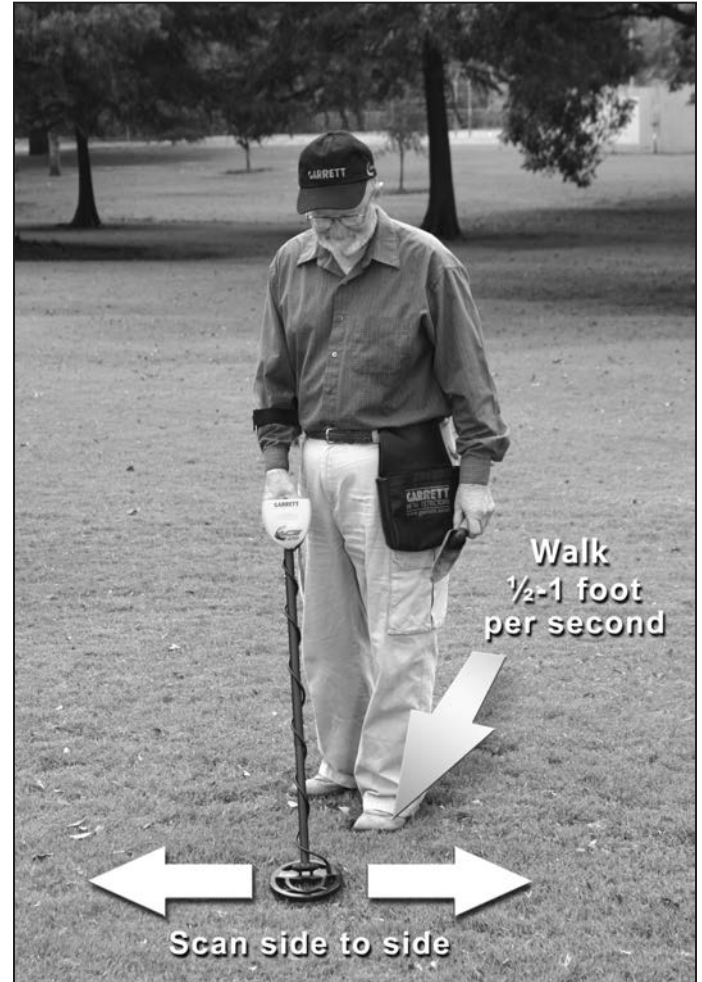
DIGGING A TARGET

To retrieve your treasure in a grassy area:

1. Cut a C-shaped half circle in the ground about 3 to 4 inches deep where you've pinpointed your target.
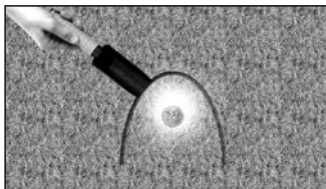
2. Gently fold the grass plug onto a handkerchief or similar type cloth.

3. Retrieve your target from the hole or use a probe to further investigate its location. If the target is deeper place the excess soil on top of the folded plug.
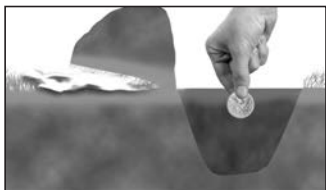
4. Replace the loose soil and fold the plug back into the ground. Step on the plug to ensure it will not be pulled up with a lawn mower.

TROUBLESHOOTING GUIDE

SYMPTOM	SOLUTION
No power	1. Ensure batteries are installed in the correct position. 2. Replace all old batteries with all new batteries.
Erratic sounds or target ID cursor movement	1. Ensure your searchcoil is securely connected and the coil cable is snugly wound around the stem. 2. If using the detector indoors, be aware that excessive amounts of metal can be found in floors and walls. 3. Reduce your sensitivity setting. 4. Determine if you are close to other metal detectors or other metal structures such as electrical power lines, wire fences, benches, etc. (NOTE: Large, flat pieces of iron—depending on their orientation in the ground—can read incorrectly and cause erratic Target ID Cursor movement.)
Intermittent Signals	Intermittent signals typically mean you've found a deeply buried target or one that is positioned at a difficult angle for your detector to read. Increase the sensitivity on your detector and scan from different directions until the signal becomes more definite. In the case of multiple targets switch to the All-Metal Mode or press PINPOINT to precisely locate all targets. In trashy areas, use the Super Sniper™ searchcoil. (NOTE: Iron targets may cause Intermittent Signals. You can identify iron targets in an All-Metal Mode).
I'm not finding specific targets	Ensure you are using the correct mode for the type hunting you are doing. If specifically hunting for coins, COINS mode should be your best choice to eliminate other undesirable targets. You may also use the All-Metal mode, which detects all metal targets to ensure desired targets are present.
Target ID Cursor bounces	If your Target ID Cursor bounces erratically, chances are you've found a trash target. However, a Target ID Cursor may bounce if a good target (such as a coin) is not parallel to the searchcoil (e.g. on edge). It may also bounce if there is one or multiple "junk" targets laying next to the good target. Scan from different directions until your Target ID Cursor becomes more stable.

CODE OF ETHICS

The following is a Code of Ethics that many treasure hunt clubs endorse and hobbyists follow to preserve our exciting hobby of metal detecting. We encourage you to do the same:

• 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 fences, signs and buildings.

• I will always fill the 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 other discarded junk 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.

CAUTION

When searching for treasure with your Garrett detector, observe these precautions:

• Never trespass or hunt on private property without permission.

• Avoid areas where pipelines or electric lines may be buried.

• National and state parks / monuments, etc are absolutely off-limits.

• Deepseeking detectors can detect concealed pipes, wiring and other potentially dangerous material. When those are located, the proper authorities should be notified.

• Do not hunt in a military zone where bombs or other explosives may be buried.

• 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 you are uncertain of the ground conditions.

• If you are unsure if you can use your metal detector in any area, seek permission from the proper authorities.

BENCH TESTS

You can conduct bench tests to become more familiar with your detector's operation. To conduct a bench test:

1. Place the searchcoil on a flat, non-metallic surface that is several feet from other metallic objects.
2. Select the search mode you wish to test.
3. Pass various metal objects (coins, bottle caps, nails, etc.) across the searchcoil at a distance of one to two inches. Your metal detector will audibly and visually identify the target.
4. Perform this test in all the modes available on your detector. Observe the sounds as well as the graphics on the LCD that are made in each mode.
5. Record the results of your bench tests and refer to them when hunting in the field.

CARING FOR YOUR *ACE* DETECTOR

Your Garrett detector is a rugged machine, designed for outdoor use. However, as with all electronic equipment there are some simple ways you can care for your detector to maintain its high performance.

• Avoid extreme temperatures as much as possible, such as storing the detector in an automobile trunk during the summer or outdoors in sub-freezing weather.

• Keep your detector clean. Wipe the control housing with a damp cloth when necessary.

• Remember that your searchcoil is submersible, but your control housing is not. Never submerge the control housing in water (unless it is specifically designed for underwater use).

• Protect your control housing from heavy mist, rain and blowing surf.

• Disassemble the stem, and wipe it and the searchcoil clean with a damp cloth. Be sure not to submerge the connector.

• When storing for longer than one month, remove the batteries from the detector.

• It is best to use quality alkaline batteries. When changing old batteries be sure to replace with all new batteries for optimum performance.

ACE WARRANTY & SERVICE

Your *ACE* detector is warranted for 24 months, limited parts and labor, but does not cover damage caused by alteration, modification, neglect, accident or misuse.

In the event you encounter problems with your *ACE* detector please read through this Owner's Manual carefully to ensure the detector is not inoperable due to manual adjustments. On the *ACE 250*, press and hold the POWER Pushbutton for 10 seconds to return the recommended factory settings.

Before you return your *ACE* detector to the factory make certain you have:

1. Checked your batteries, switches and connectors. Weak batteries are the most common cause of detector "failure."

2. Contacted your dealer, particularly if you are not familiar with the *ACE* detectors.

3. Included a letter that fully describes the problem and conditions under which they occur.

4. Included your name, address and a phone number where you can be reached between 8:30 a.m. and 4 p.m., C.S.T., Monday through Friday on regular business days.

5. Carefully pack the detector in its original shipping box or other suitable box. Make certain that proper insulation or packing material is used to secure all parts. Do not ship stems or headphones, unless they are a part of the problem. Be certain to return all coils.

6. Ship to:
   Garrett Metal Detectors
   Customer Service
   1881 W. State Street
   Garland, Texas 75042

You can call Garrett's Customer Service Depart-ment at 1-800-527-4011 (in the U.S. and Canada) or 1-972 494-6151 (outside the U.S.) if you have further questions (during regular business hours).

Please allow approximately one week for Garrett technicians to examine and repair your detector after they receive it; plus another week for return shipping. All equipment will be returned via UPS or parcel post, unless written authorization is given by you to ship prepaid by air parcel post, UPS Blue (air) or air freight.

International Customers

It is recommended our international customers contact their local dealer for repairs and warranty service to avoid the high costs of international shipping rates. If you do not know where to locate your local dealer please contact the Garrett factory by calling 1-972-494-6151 or e-mail us at international@garrett.com.

ACE ACCESSORIES

Garrett offers a complete line of accessories that will increase your success and enjoyment of treasure hunting with your new detector. These accessory products are available from your local or dealer or by calling the Garrett factory at 1-800-527-4011.

ACE™ Tote Sport Bag—
Part No. 1651500

This rugged and durable *ACE* series tote bag is 18" in diameter and is made of durable nylon mesh to easily store all *ACE* series detectors (when disassembled) and accessories.

5" x 8" PRO*formance*™ DD Searchcoil—
Part No. 2223000

Waterproof. Use when searching for small, shallow targets in trashy or tight places.

8.5" x 11" PRO*formance*™ DD Searchcoil—
Part No. 2222000

This larger size searchcoil is waterproof, offers maximum depth for larger targets in more mineralized soils, and offers excellent separation for adjacent targets.

9" x 12" PRO*formance*™ Concentric Searchcoil—
Part No. 2221900

This larger size concentric searchcoil is waterproof and offers excellent depth in less mineralized soils.

4.5" (11.5cm) *ACE Super Sniper*™ Searchcoil—
Part No. 2221800

Use when searching for small, shallow targets in trashy or tight places.

ACE Environmental Cover-Up—
Part No. 1619900

Protect your detector from light rain and dust without inhibiting view of control panel.

Garrett TreasureSound™ Headphones—
Part No. 1612500

With soft, washable ear caps, these lightweight headphones feature stereo sound and durable construction.

Garrett™ ClearSound Easy Stow Headphones—

Part No. 1612700

These sleek headphones feature padded ear cups, rotating ear pieces for flat storage, in-line volume control and a 41" (104 cm) coiled cord which extends to 82" (208 cm). These 1/4" adapter headphones mask out external noise for greater audio signal clarity.

Garrett *PRO-POINTER®II* Pinpointing Detector—

Part No. 1166050

The *PRO-POINTER II* combines performance with sleek design to assist in pinpointing hard-to-find targets. Includes proportional audio/vibration pulse rate target indicators and 360° side scan detection area. Water resistant with LED light for low light uses. Includes woven belt holster and 9-volt battery.

To see Garrett's complete collection of metal detector accessories, please visit www.garrett.com and view products within our Hobby Division.

SUGGESTED READING

Please note that RAM Books, the publishing division of Garrett Metal Detectors, continues to release new titles each year related to treasure hunting, gold prospecting, coin hunting and relic recovery.

To see a current list of titles available from RAM Books, please consult a Garrett Metal Detectors hobby catalog or visit: www.garrett.com

After reaching Garrett's website, visit the Hobby Divison section and select "RAM Books" to see all of our current titles. An order form is available on our site which can be printed and mailed with your requested titles and payment.
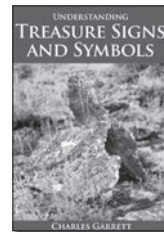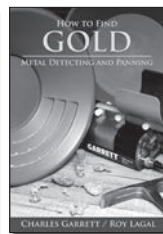
(Available in English language only)

AAA Rent-All 225-291-1356