TIGER SHARK OPERATOR INSTRUCTION MANUAL

CONGRATULATIONS

Your new TESORO metal detector was designed to provide you with many happy hours of enjoyment in the most rewarding hobby I can think of - treasure hunting. Ahead of you lie fascinating and exciting experiences as you step into the past, uncovering artifacts lost by past generations. I wish we could share these experiences with you, and we wish you the best of success.

Your Tesoro metal detector is capable of meeting your needs in a wide range of treasure hunting situations. As with any detector, operator and familiarity is probably the limiting factor in determining how successful you will be. We recommend that you read and understand this manual fully before attempting to use the instrument in the field. Then, as you practice and become familiar with your detector, your rate of success will increase dramatically.

Your TESORO metal detector is a precision electronic instrument, which will last for years if properly cared for. Treat it right and it won't let you down.

Good Hunting! Jack Gifford

GENERAL DESCRIPTION

The Tiger Shark uses microprocessor technology to create a true dual function machine. In Normal Mode, the Tiger Shark works like any other Tesoro detector. It uses the same great ground balance and discrimination features that made the Bandido and Eldorado series so successful. On land, the Tiger Shark can be used for coin and relic hunting and even gold prospecting. By using the four controls on the outside, you can fine tune your detector to handle whatever conditions you are working in.

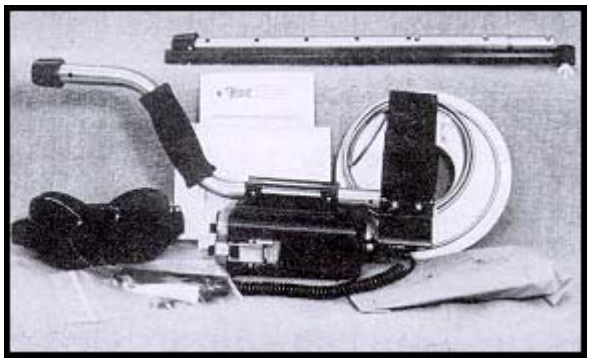
We all know that working in the wet salt areas is different than working in any type of dry area. This is where the Tiger Shark outshines the land detectors. In land conditions, the most crucial adjustment is using the ground balance to tune out mineralization. In wet salt conditions, changes in the conductivity in the sand cause most of the problems. The Tiger Shark uses a completely different set of internal settings in the SALT Mode than in the NORM Mode. There are no special controls or techniques to remember. When working on a salt water beach, just switch to SALT Mode, adjust the Ground Balance and start hunting.

The Tiger Shark continues in the tradition of other great Tesoro underwater machines by having interchangeable coils available. Along with the 8" coil that comes standard with the detector, we also manufacture a 7" and a 10 1/2" coil. To see if one of these coils is right for you, ask your local dealer or check the section in this manual titled **"Selecting the Right Searchcoil."**

UNPACKING THE BOX

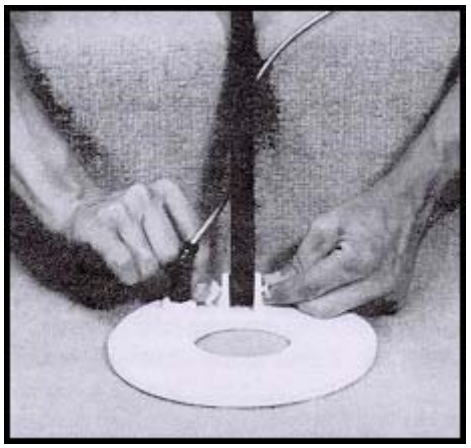
Your Tiger Shark was shipped with these parts:

- **1 Upper Pole Assembly**
  Fully assembled, including upper pole stem with handle grip, padded arm bracket, and pole lock.
- **1 Control Housing With Headphones Attached**
- **1 Middle Pole Assembly With Pole Lock**
- **1 Lower Pole Assembly**
  Fully assembled with 2 washers and nylon nut and bolt.
- **1 8" round open center concentric searchcoil with 8' cable**
- **1 8-cell battery pack with 8 AA batteries installed**
- **1 Tube of Dow Corning #4 silicone**
- **2 Velcro cable straps**
- **1 Operator Instruction Manual**
- **1 Tesoro Warranty Card**



If any of these items are missing, contact the Tesoro Authorized Dealer where you purchased your detector *immediately*.

ASSEMBLING YOUR DETECTOR



1) On the lower pole assembly, remove the mounting screw and thumb nut from the black nylon pole tip.

2) Insert the pole tip between the mounting ears of the searchcoil and align the holes of the pole tip and washers with those of the mounting ears.

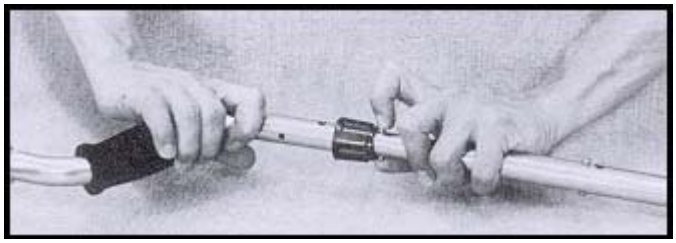
Note: The pole tip should fit very snugly into the mounting ears.

3) Insert the mounting screw through the holes in the mounting ears and pole tip entering from the side opposite the cable connection.

4) Install the thumb nut on the mounting screw and tighten by hand.

Note: Do not overtighten the thumb nut. It should be snug, but not too difficult to loosen up.

5) On the middle pole assembly, depress the two spring buttons and slide the middle pole assembly into the upper pole assembly until the spring buttons click into the holes, thus locking the two assemblies into place. Tighten the pole lock to secure the two assemblies together.

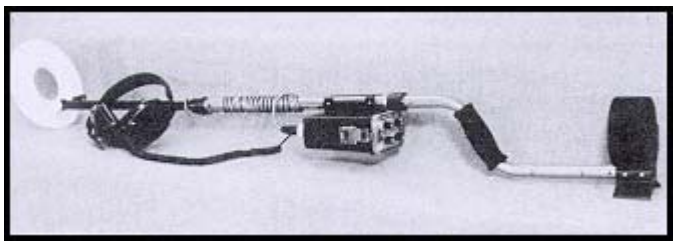


6) Slide lower pole into middle pole until spring buttons click into the first set of adjustment holes. Turn pole lock to tighten, thus locking the assembly into place.

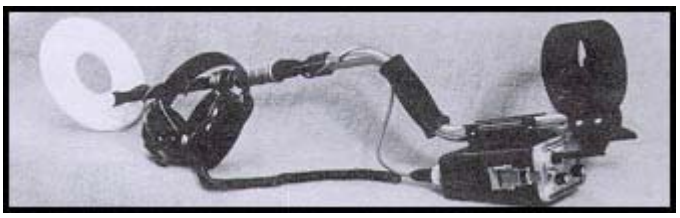
7) The Tiger Shark can be assembled in several different configurations. Take a look at the pictures below to find out the best configuration for you:

Control housing mounted under arm

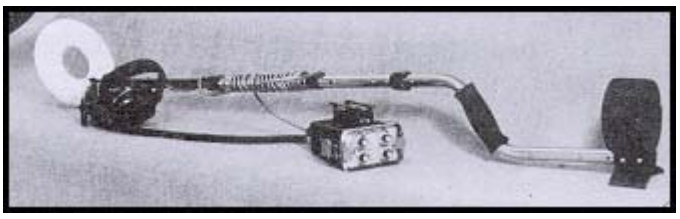
Control housing mounted under pole



Diver's setup (lower pole set directly into upper pole)



Body Mount



Converting the Tiger Shark from pole mount to body/belt mount is simply a matter of removing the control box from the upper pole and unwinding the cable. To remove the control box from the pole, depress the four spring buttons that hold the mounting bracket and control box to the pole and lift. It is easiest to release one set of spring buttons at a time.

8) Once you have decided on a pole mount configuration, wrap the cable around the pole leaving enough

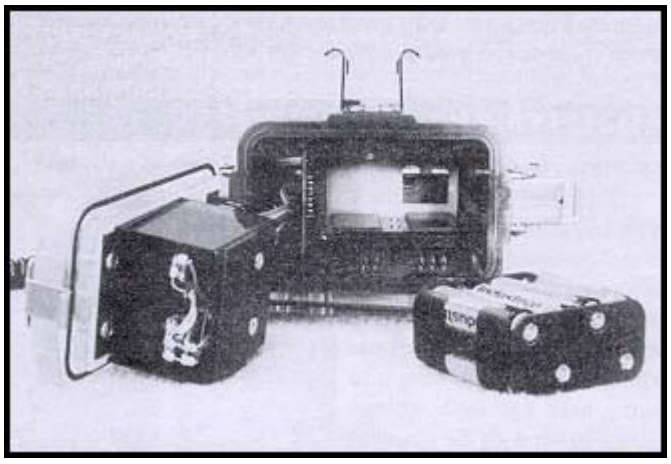
slack near the searchcoil to permit searchcoil adjustment.

Install the coil connector into its receptacle on the back of the control housing and tighten it fingertight.

Note: Do not use pliers to tighten the coil connector. Do not allow the cable to flop loosely over the searchcoil. Since the detector is sensitive enough to "see" the tiny wires in the cable, a floppy cable can cause false signals as the searchcoil senses the moving wires.

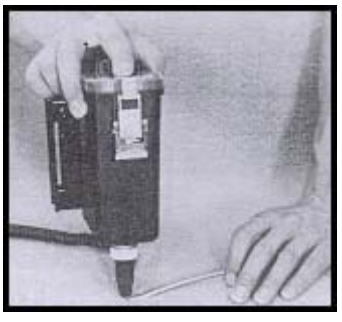
BATTERY INSTALLATION / REPLACEMENT

The Tiger Shark has been equipped with a drop-in battery pack. To install or replace the batteries, make sure the detector housing is dry, then release the two draw bolts securing the faceplate to the housing. Gently pull the control panel free being careful not to twist or strain the ribbon cable connecting the faceplate panel to the printed circuit board. The Tiger Shark takes 8 AA size alkaline batteries. Also, make certain that you follow the polarity indicators on both the battery



holder as well as the batteries themselves. Then check the polarity of the pack as it goes into the housing. Look inside the housing for the two spring clips and slide the pack so that the battery pack terminals meet the spring clips. There is only one correct way to put the battery pack in. If the batteries are put in wrong, the detector will not work. Replace the faceplate and use the drawbolts to clamp the faceplate back onto the housing.

Do not rest the unit on the coil connector while clamping the faceplate. This can cause excess wear and damage to the connector.



Important Note: Always make sure the instrument is dry before opening. Water, if allowed to make contact with the circuit board, may damage it. Always make sure the O-ring is clean and free of dirt or sand. It is recommended that you wipe the O-ring with a dry cloth and look for damage and apply a new coat of diver's silicone grease before replacing it. Failure to maintain the O-ring will result in extensive damage and will not be covered under warranty.

ADJUSTMENT

The searchcoil angle and stem length should be adjusted so that the unit does not become uncomfortable or tiring to hold after long periods of use. The detector should rest in your hand with arm relaxed allowing it to swing back and forth without having to lift with the elbow or shoulder while keeping the searchcoil as close as possible to the ground without touching. The pole length is adjusted by depressing the spring buttons and extending or shortening the lower stem until they click into the set of holes that give you the most comfortable setting. The searchcoil should rest about one inch above the ground while standing erect. Adjust the angle of the searchcoil so that it is parallel to the ground. Tighten the searchcoil thumbnut by hand so that the searchcoil will maintain this setting.

QUICKSTART TEST AND TUNING PROCEDURES

The Quickstart is designed to teach you how to use your new Tiger Shark. It provides a quick and easy means of learning your detector and the concepts behind all of the functions.

Important Note:

The Tiger Shark has two very different modes of operation. Normal is used for dry land hunting or fresh water hunting. Salt Mode is for wet salt sand and salt water hunting only. The modes cannot be interchanged. When you switch modes, you are actually changing the internal setup of your Tiger Shark. Please be very aware what mode your detector is in while you are hunting.

The controls for the two separate modes on your Tiger Shark operate almost exactly the same. As you follow the Quickstart, it will be assumed that you are operating in the Normal Mode. Any differences between the Normal and Salt Modes will be noted. You may want to go through the Quickstart in Normal Mode first and then repeat it using the Salt Mode.

You will need the following items:

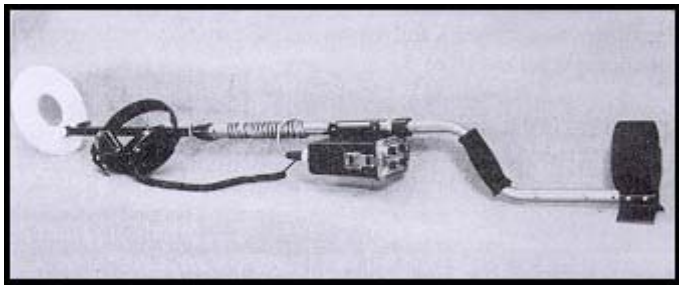
1. Your fully assembled Tiger Shark Detector.
2. An iron target (a small nail or screw will do), a nickel, a pull tab and a quarter.
3. A fine jeweler's screwdriver.
4. A nonmetal table or counter surface.

Here's what you will do:

1. Perform Audio Battery Test.
2. Set Ground Adjust.
3. Perform Air Test in ALL MET Mode.
4. Check and Set the Internal Controls.
5. Perform Air Test in MOTION DISC Mode.

Prepare for the Quickstart

Place your assembled Tiger Shark on the nonmetal surface as shown in the photo below. Make sure there are no metal objects near the coil and remove any jewelry from your hands and wrists.



Start with the controls set as shown in the photo below:

1. Mode in the OFF position
2. TUNE SPEED in the ALL MET FAST position
3. DISC LEVEL at MIN
4. GROUND ADJUST at 12:00

Perform Audio Battery Test

Turn the Mode Switch from OFF to NORM (if you are doing this test for the Salt Mode, switch from OFF past NORM and directly into SALT). This will turn on the detector and will give you a number of beeps. If the batteries are fully charged, you will hear 6 or 7 beeps. As the batteries drain, you will hear fewer and fewer beeps. When you hear one or two beeps, it will be time to replace your batteries.

After the beeps are done, you will hear a slight humming sound. This is the threshold tone. Its purpose is to give you a reference point to judge targets by. Some targets may be small enough or deep enough that they will not be able to generate an audio signal by themselves. By monitoring a threshold, you already have a signal so changes in that signal will be easier to hear. However, if the threshold is set too loud or too soft, small changes in the signal will be hard to hear. We will be talking about changing the threshold tone a little later.

Set Ground Adjust

We will now set the GROUND ADJUST for the air test. This method is only for the Quickstart tests. See the section **"Ground Balancing Your Tiger Shark"** for the correct procedure for ground balancing your Tiger Shark in the field. Please note that the NORM and the SALT Modes work at different ends of the GROUND ADJUST knob.

Ground balance for the NORM Mode: Turn your GROUND ADJUST knob clockwise or towards the positive side for 5 full turns. This will take you past the end range of the GROUND ADJUST potentiometer. The knob has no end stops, but you may notice a very slight increase in the drag of the knob as it passes the 3 and 3/4 mark. By turning the knob 5 full turns clockwise, we are assured that the GROUND ADJUST is in the very farthest positive position. Once you are at the positive position, turn

the GROUND ADJUST knob a 1/2 turn counterclockwise or towards the negative side. This is an air test position only that will let you proceed with the rest of the Quickstart.

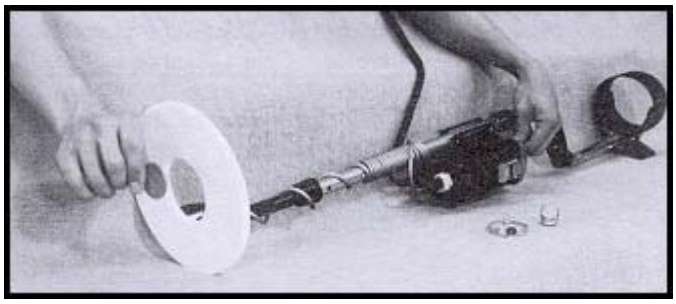
Ground balance for the SALT Mode: Turn your GROUND ADJUST knob counterclockwise or towards the negative side for 5 full turns. This will take you past the end range of the GROUND ADJUST potentiometer. The knob has no end stops, but you may notice a very slight increase in the drag of the knob as it passes the 3 and 3/4 mark. By turning the knob 5 full turns counterclockwise, we are assured that the GROUND ADJUST is in the very farthest negative position. Once you are at the negative position, turn the GROUND ADJUST knob 1 turn clockwise or towards the positive side. This is an air test position only that will let you proceed with the rest of the Quickstart.

Perform Air Test in ALL MET Mode

Once you have set the GROUND ADJUST for the Quickstart, you are ready to perform an air test in the ALL MET Mode. You will notice that there are two ALL MET positions - ALL MET FAST and ALL MET SLOW. These positions refer to the speed at which your threshold tone retunes itself. The ALL MET FAST should retune in about 1 to 2 seconds after a target response, whereas the ALL MET SLOW may take 4 to 6 seconds to retune.

Leave your detector in the ALL MET FAST position and wave any of your test targets 2 to 3 inches in front of the coil. Notice that you will have a positive response as the target passes the center of the coil and that the signal will fade away to silence after the target is past the coil. The threshold tone should come back in 1 to 2 seconds. Now move the TUNE SPEED switch into the ALL MET SLOW and try waving your targets again. You should notice a very distinct difference in the amount of time that it takes for the threshold to retune. ALL MET FAST will be used most often to quickly pinpoint targets. ALL MET SLOW is used to pinpoint deep or small targets that do not create much of an audio signal or for tracing the outlines of large targets.

Please return your TUNE SPEED switch to the ALL MET FAST before continuing with the Tiger Shark Quickstart.



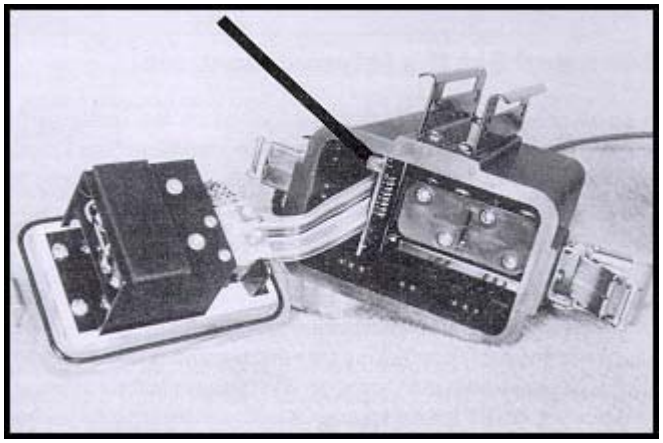
Check and Set the Internal Controls

There are three controls that are located on the inside of the detector. The Volume control, the Sensitivity control and the Threshold control. All of these controls have been set at the factory for optimum performance in most conditions. However, if there is some need to fine tune these controls, you will need to open the waterproof case to perform the adjustments. We recommend that you do this on a clean dry surface (a clean beach towel that is spread out will do fine). When you are done with the adjustments, visually inspect both the control box and faceplate making sure that no sand or other contaminants have gotten onto the O-ring as it may cause leaks.

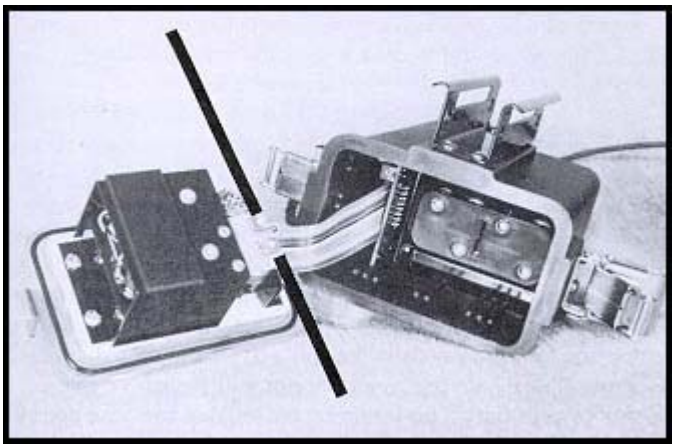
When you open the detector case, it will release the batteries from the contacts and cause the detector to stop functioning. While you are making adjustments, it will be necessary to place a slight pressure on the battery pack to make the detector work. When you reconnect the batteries to the contacts, the automatic battery test will be heard. Once the case is open, reach over the top of the detector with your left hand (or right if you are left-handed) and gently press the batteries onto the contacts. Use your fine jeweler's screwdriver to adjust the potentiometers inside the case.

If you would like to set the internal controls, please continue with this section of the Quickstart. If you would prefer not to set the internal controls, please switch the TUNE SPEED to MOTION DISC and skip down to the section marked **"Perform Air Test in MOTION DISC Mode."**

Setting the Volume control: The Volume control is the only potentiometer that is located on the printed circuit board. To adjust your Volume control, open the case and put a slight pressure on the battery pack. After you hear the battery test you will be able to adjust the volume that you hear in the headphones to a comfortable level. Use your screwdriver and turn the potentiometer clockwise for more volume and counterclockwise for less volume. Take some time and find the most comfortable level for you.



Setting the Threshold control: The Threshold control is located on the back of the faceplate/switch set and is the potentiometer closest to the edge of the faceplate. As explained in the **"Perform Audio Battery Test"** section, the threshold is a slight steady tone that is used as a reference point to judge targets by. Some targets may be small enough or deep enough that they will not be able to generate an audio signal by themselves. By monitoring a threshold, you already have a signal so changes in that signal will be easier to hear. However, if the threshold is set too loud or too soft, small changes in the signal will be hard to hear. To adjust your Threshold level, open the case and put a slight pressure on the battery pack. After the battery test, use your screwdriver to turn the potentiometer clockwise to increase the threshold tone and counterclockwise to decrease the threshold tone. Take some time to find the best threshold tone for you.



Setting the Sensitivity control: The Sensitivity control is on the back of the faceplate/switch set and is the closest to the center of the faceplate. To set the Sensitivity control, you must first switch to MOTION DISC. The Discriminate circuit uses a silent search mode meaning that no sound will be heard until the coil goes over a target. The most common use of the detector will be to hunt in the MOTION DISC Mode and then switch to an ALL MET Mode to pinpoint a target. This will give you the advantage of ignoring unwanted targets and not having to listen to the threshold hum until you are ready to recover a target.

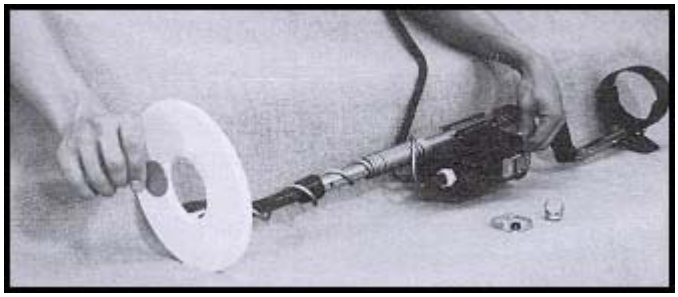
The ALL MET circuit uses a single channel to detect various metals. The MOTION DISC circuit uses two different channels, then amplifies and filters the signals, and then compares the two to determine whether or not to beep at a target. While this is a great advantage for ignoring unwanted targets, it can

make the circuitry more susceptible to interference. A number of outside conditions such as power lines, highly mineralized soil and wet salt sand can cause interference. The Sensitivity control is used to raise or lower the power to the operational amplifiers, which changes the gain. Gain is the measurement of how much a signal is amplified. The higher the gain, the more depth and sensitivity to small objects a detector has. Unfortunately, any small interference that is amplified can cause the detector to become erratic. The Sensitivity control is used to find the best gain setting in any location without letting the detector become unstable.

Turn the TUNE SPEED switch from ALL MET FAST to MOTION DISC. With the case open, place a slight pressure on the battery pack and wait for the battery test to finish. When the battery test is done, you will not hear any sounds in your headphones until you pass a target in front of the coil. Using your screwdriver turn the potentiometer clockwise to increase the gain and counterclockwise to decrease the gain. Take some time to try waving targets in front of the coil with different sensitivity settings. Notice that with a higher sensitivity setting, the farther away from the coil a target can be and still get a response. Please note that your detector will probably "chatter" at maximum sensitivity. This is normal and will not hurt your detector. The best setting is to set the Sensitivity control to a point just before the detector starts to chatter.

Perform Air Test in MOTION DISC Mode

As discussed before, the Discriminate Mode is used to filter unwanted targets from good targets. The principle behind this is pretty simple. The detector sends out a signal and then receives it back creating a small electronic field. As metal passes through the field that the detector generates, it causes a change in the received signal. The amount of change that each type of metal causes is fairly constant; therefore, we can tune our detectors to miss the targets that we don't want to find. The change is based on the type of conductivity that each target has. The general list of targets is as follows: iron, foil, nickels, gold jewelry, pull tabs, screw caps, pennies and silver coins - starting with dimes and working up to silver dollars. This list is meant to be a guide only. There is a point that some gold rings and some pull tabs overlap. Also, the depth of the target and its orientation in the ground can change the received signal. A coin that is flat to the coil will produce a better signal than a coin that is on edge. Take some time now to try different combinations of depth and orientation of your targets and find out how your detector responds.



We are now ready to discriminate targets from each other. We will start with the DISC LEVEL at zero. Wave the targets one at a time at least 2 1/2 inches away from the coil. All four targets (the iron, nickel, pull tab and quarter) will respond with a good audio signal. Next, we will turn the DISC LEVEL up to approximately 3 or 4 (2 or 3 in the SALT Mode). This should be high enough to knock out the iron target and still get a positive response on the nickel, pull tab, and quarter. When you are done with the iron target, turn the DISC LEVEL to approximately 6 or 7 (4 or 5 in the SALT Mode). This level is high enough to knock out the nickel. At this time the iron target and the nickel should give no response, while the pull tab and quarter will give a solid response. Next, turn the DISC LEVEL to approximately 7 1/2 or 8 1/2 (7 or 8 in the SALT Mode). At this time only the quarter should respond with an audio signal. Now roll the DISC LEVEL all the way to MAX. Notice that the quarter is still responding. The discrimination will not go high enough to lose most silver coins.

This air test was designed to show you how the MOTION DISC Mode works. Each machine may be a little different than all the others, so you may want to take some time and try different targets to find the

responses of your machine. At a later date, you may also build a test garden to test your detector in the field.

Conclusion

Congratulations, you have just finished the Quickstart for your new Tiger Shark metal detector and in the process have learned quite a lot about your detector. But experience is the best teacher. I would recommend that you get out and practice with your detector as much as possible. Any time spent using your detector will give you valuable experience.

Ground Balancing Your Tiger Shark

Now that we have gone through the Quickstart, you are now ready to take your Tiger Shark out and learn how to ground balance. (**Note:** If you have not gone through the Tiger Shark Quickstart, it is strongly recommended that you do so before ground balancing your Tiger Shark.)

Ground balancing is a simple but very important skill that you must master to get the most out of your detector. The Tiger Shark has controls that will allow you to tune the detector to the exact ground matrix that you are hunting in. Finding and maintaining the exact tune or balance will give you the highest possible depth and stability for your conditions. Once you have read through this section, it is most important that you get out and practice your ground balancing skills as often as possible.

To start, find an area that is free of metal targets. If your coil is over any targets, it will always give a positive signal and it will be impossible to correctly ground balance your detector. Start with your Tiger Shark in the ALL MET FAST position. (You can use the ALL MET SLOW position, but it will take a little longer to do your ground balance.) At this time, it will not matter where your GROUND ADJUST knob is set. Place your DISC LEVEL at MIN and switch the MODE switch to NORM. After the battery test is done, you are ready to begin the ground balance procedure. (**Note:** Unless you are on a wet salt beach, *do not* use the SALT Mode. It will not ground balance to normal conditions. The SALT Mode is to be used only on a wet salt beach.)

Lift your detector straight off of the ground about 6 to 8 inches.

Lift your detector straight off of the ground about 6 to 8 inches. Keep the coil parallel to the ground.

You must lift your coil straight up. Do not swing it like a pendulum.

Keep the coil parallel to the ground. At that height, your detector will not be affected by the ground mineralization. As you lower the coil, the detector will read the ground matrix and let you know how to adjust to achieve aground balance. (Note: You must lift your coil straight up. *Do not* swing it like a pendulum.) Once you have got a steady threshold, quickly lower the coil straight down to approximately 1 inch off of the ground and listen to any change that may occur in the threshold. You will hear one of three sounds: 1) the threshold will get louder or go positive 2) the threshold will go quiet or become negative, or 3) the threshold will stay the same.

Once you have got a steady threshold, quickly lower the coil straight down to approximately 1 inch off of the ground.

If the threshold stays the same, the detector is telling you that the ground matrix is not affecting it and you are ready to hunt.

If you get a positive or negative signal, the machine is telling you that it is being affected by the ground matrix and must be adjusted for peak performance.

If your threshold goes positive, you must turn the GROUND ADJUST knob counterclockwise or towards the negative side.

If your threshold goes negative, you must turn the GROUND ADJUST knob clockwise or towards the positive side.

Once you have made an adjustment, lift the coil up, let the threshold retune and push the coil down again while listening for any sound change as the coil drops. If there is a threshold change, follow the above directions and repeat until you have very little or no threshold changes on the way down. A very slight positive response is better than any kind of negative response.

If there are threshold changes on the upstroke do not pay attention to them. As you raise the coil, the detector goes from a ground matrix (soil) to no ground matrix (air) and that difference will most likely cause some change in the threshold tone. Only changes on the downstroke are to be adjusted for.

Now that your detector is ground balanced, you are ready to hunt. You can stay in either of the ALL MET Modes or switch into the **MOTION DISC.** Whichever mode you choose to hunt in, it is always necessary to ground balance in an ALL MET Mode first.

Just like any skill, ground balancing must be practiced constantly. The easiest place to do it is in your backyard or any place close that has at least a 10 foot by 10 foot area. First, check for any metal targets and remove them. When the area is clean, take your Tiger Shark and ground balance it. When you are done, spin the GROUND ADJUST knob either positive or negative and ground balance again. Keep up this practice until you feel comfortable with ground balancing. Take some time to keep your ground balancing skills sharp and you will see better results in the field.

SELECTING THE RIGHT SEARCHCOIL

Selecting the right searchcoil for the type of detecting you're doing will add greatly to your success.

In addition to the standard 8 inch open center searchcoil, two optional coil sizes are available for the Tiger Shark. The 10 1/ 2 inch open center coil is designed for areas where digging is easier and where junk targets may not be too numerous. The 7 inch coil will be particularly useful when searching for smaller targets, such as gold nuggets.

PINPOINTING

The sweep speed of the detector is slow enough to allow pinpointing in the Motion Discriminate Mode but will require a little more practice. Move the coil slowly from side to side and then from front to back over the target. Raising the coil slightly and slowing the sweep speed will narrow down the detection area enough that it's easy to tell where the coil center is at the instant of sound.

Another easy method is to sweep the coil from side to side across the target in very short sweeps as you slowly move forward and backward across the target. Slow down the sweep rate and shorten the sweeps until you just barely get a response at one spot. The target will be directly below the coil center at this response time.

The easiest way to pinpoint for most people will be to switch to the ALL METAL Mode, since no-motion is required. To pinpoint a target that doesn't saturate the audio, just move the coil forward and back and side to side until you get the strongest sound. The target will be directly below the coil center. If the audio saturates over a large area, simply hold the coil over the target momentarily to detune the detector. This will narrow its field of response to allow you to once again seek the area of strongest response.

Detector Protection Checklist

Congratulations, you have just purchased a new metal detector, and we wish to thank you for choosing Tesoro.

So many people are disappointed when their new "state-of-the-art" detector becomes less and less exciting to use and doesn't seem to go as deep anymore. There is something that you can do to keep your new detector working as good as when it was new.

The most important thing is simply to remember that your detector is an electronic instrument and to treat it as such. You wouldn't expect your TV set to operate properly if you stored it in the trunk of your car, would you?

We have generated the following list to help you take care of your detector and to help ensure that you do not void its warranty. If you will follow its guidelines, you will find your detector will not let you down.

1. Operate your detector exactly as recommended in the instruction manual.
2. Do not attempt to modify or repair the detector's electronics.
3. Cable is hard-wired into searchcoil. Do not attempt removal of the spring retainer on the searchcoil housing.
4. Use only high quality carbon-zinc, alkaline, or nicad batteries. Remove batteries during long term storage. Never substitute batteries of other voltages. Brands should not be mixed. Do not attempt to modify the power supply system.
5. Never spray lubricants such as WD-40 or any types of cleaners, sealants or other chemical preparation on or into the detector.
6. Avoid banging the searchcoil against rocks or foundation walls.
7. Always protect the searchcoil with a properly designed scuff cover.
8. Remove and clean out scuff covers periodically to avoid buildup of mineralized or metallic particles.
9. After use, clean the detector with a soft cloth to remove any dust, moisture, or other contaminants.
10. Do not transport or store your detector in the trunk of your car.
11. Keep cables properly wound to stem and protected. Floppy or pinched cables may short causing erratic noises or unnecessary replacement of searchcoils.
12. Protect the detector from dust, moisture, and extreme temperatures during storage. Avoid storing it in places such as attics, basements or garages. When shipping the detector, use the original factory carton or a similar heavy-duty container. A one-inch minimum clearance of padding around the detector must be provided when shipping.
13. Treat your detector as you would any sensitive electronic instrument. Although ruggedly constructed and designed to withstand the demands of normal treasure hunting applications, it is

not intended to be improperly operated or abused.

SPECIFICATIONS

Operating Frequency.....	12.5 kHz
Searchcoil Size.....	8 inch Diameter
Searchcoil Type.....	Round, open center concentric
Audio Frequency.....	Approx. 270 Hz
Audio Output.....	Stereo Piezo Headphones
Weight.....	Less than 4½ lbs.
Battery Requirement.....	(8) AA DC (alkaline)
Battery Life (at preset).....	10 to 20 hours
Optimum Temperature Range.....	30° to 100° F
Operating Modes.....	No-Motion All Metal - (Fast & Slow Tune)
.....	Normal Mode
.....	Salt Mode
.....	Silent Search Motion Discriminate
Maximum Depth Rating.....	200 ft.

Tesoro Electronics, Inc. reserves the right to modify or improve the design without further notice.

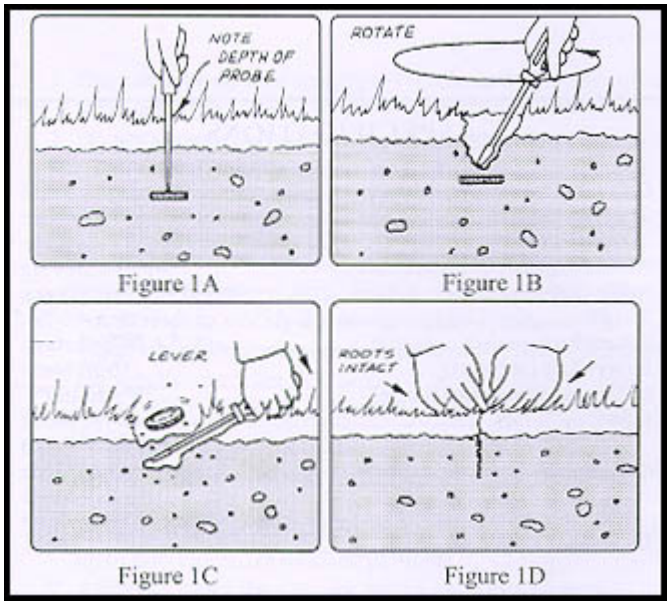
RECOMMENDED RECOVERY METHODS

Adapted from "Tools 'N Techniques" By Robert H. Sickler

METHOD 1-PROBE AND DRIVER

Used in less moist lawns where targets are not so deep (one to four inches) and "plugging" is objectionable. This method requires more practice but is much less damaging to grass than Method 2.

After pinpointing the target, use a nonmetallic probe such as a modified fiberglass fishing rod or a metallic probe such as a blunted ice pick (the former being the least damaging to the target) to locate target depth (Fig. 1 A). Next insert an eight-inch screwdriver on center just above the target and rotate slightly to open ground (Fig. 1 B). Now insert the screwdriver just under the target at an angle and lever target to the surface (Fig. 1 C). Brush all loose dirt back in the hole and close by exerting pressure all around opening (Fig. 1 D).



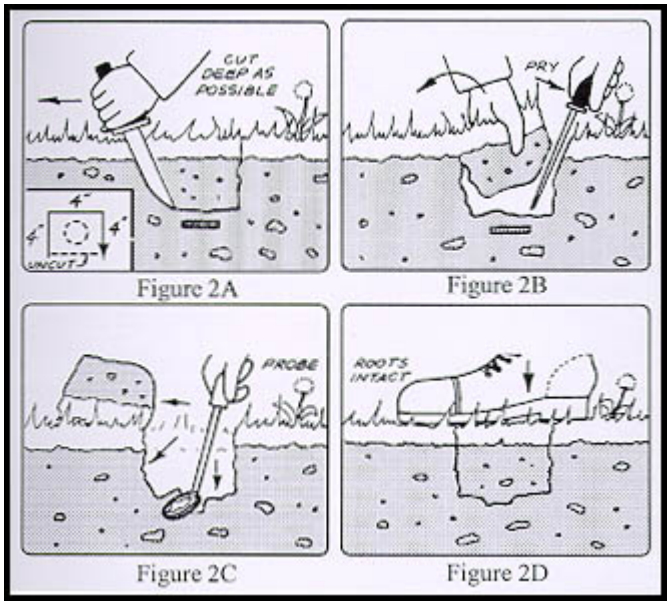
RECOMMENDED RECOVERY METHODS

Adapted from "Tools 'N Techniques" By Robert H. Sickler

METHOD 2-PLUGGING

Used only where allowed in natural wooded areas and very moist lawn areas. Plugging in hard dry ground can damage grass roots leaving yellow "dead spots" in time.

After pinpointing target, cut (using a six-inch sturdy hunting knife) three sides of a four-inch cube around target center (Fig. 2A). Cutting a "hinged" cube rather than a complete cone shaped plug will properly orient its return, prevent removal by a lawnmower, and lessen the chance of scratching the target. With the knife blade, carefully pry against the cube side opposite the "hinge" and fold back (Fig. 2B). Scan searchcoil over plug and hole to isolate target location. If target is in plug, carefully probe until located. If target is in hole and not visible, probe bottom and sides until located and remove it (Fig. 2C). Repeat scan for additional targets. Replace all loose dirt with plug. Seat plug firmly with foot (Fig. 2D).



WARRANTY SERVICE

Your Tesoro metal detector is covered by a Lifetime Warranty, the terms of which are listed below. If your metal detector should require service, you may return it to the Tesoro factory at the address below.

LIFETIME WARRANTY

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

This instrument is warranted to be free of defects in material and workmanship as long as it is owned by the original consumer purchaser. This warranty is not transferable and is valid only if the warranty registration card has been completed and mailed within 10 days of purchase.

TESORO will, at its option, repair or replace any instrument covered by this warranty, without charge, except for transportation charges, at its factory in Prescott, Arizona.

This warranty excludes batteries, damage caused by leaky batteries, cable breakage due to flexing on body mount units, and wear of the searchcoil housing. Also excluded are instruments which have been abused, altered, or repaired by an unauthorized party.

Homepage | Company | Detectors | Coils | Accessories

Field Tests | Manuals | Catalog | Dealers

Helpful Tips | Articles | Contact Us

Tesoro Electronics, Inc. 715 White Spar Road Prescott, AZ 86303 USA 1-928-771-2646