





The name that means Treasure

Toltec II 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 any conceivable treasure hunting situation. As with any detector, operating skill and familiarity with this instrument are probably the limiting factors in determining how successful you will be. We recommend that you read this manual and understand fully before attempting to use the instrument in the field. As you become more familiar with your detector through practice, your rate of success will increase dramatically.

The 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 Toltec II is a Transmitter-Receiver (TR) metal detector which operates in the Very Low Frequency (VLF) portion of the RF spectrum. It provides mineral free operation in both the ALL METAL and DISCRIMINATE modes. The Discriminate mode is motion based (meaning the search coil must be moving in order to detect a target), but the amount of motion required is so slight that pinpointing a target is easily accomplished in this mode. The ALL METAL mode is not a motion based type that requires no motion of the searchcoil in order to detect a target. This mode is excellent for searching as well as pinpointing.

The Toltec II features a Target Identifier circuit which reads the phase angel of the target and displays the probable Target Identify on a separately mounted meter. The Toltec II also features a meter reading of probable Coin Depth when in the ALL METAL mode of operation, plus a 0 - 100 Target Scale is provided for additional target analysis in the DISCRIMINATE mode.

The Toltec II is a land and shallow water use All Purpose type metal detector. IT is sensitive to small gold and fine gold jewelry, and is plenty fast enough for competition hunting. It comes equipped with an 8 inch, round, concentric type searchcoil; other searchcoil sizes and configurations are available (see your Tesoro dealer for details).

The Toltec II can be assembled and used as either a pole mounted arm rest unit or as a body mount unit. It can be converted easily without the need of tools.

As with any metal detector, the familiarity of the use with the instrument will have a great deal to do with how successful the operator is. We recommend that you read and understand this manual fully, and familiarize yourself with the instrument by testing it, outdoors over various types of targets before attempting to use it in the field.

Be sure to fill out and mail your warranty registration card to validate your warranty.

ASSEMBLY

Assembly of the Toltec II is very simple, and requires no special tools. It can be assembled in either of two configurations or easily converted from one to the other. The electronic control housing can be mounted on the arm rest pole, or can be body mounted. The meter housing, however, is fixed, and should be remain permanently on the pole. Installation of the lower pole and coil is the same for either configuration.

INSTALLING SEARCHCOIL AND LOWER STEM

1. Depress the two buttons on the upper end of the lower stem, and slide it into the upper stem. Push the lower stem up so that the buttons click into the third set of holes from the end of the upper stem. Adjust fore desired height following assembly.
2. Remove screw and thumb nut from pole tip, moisten rubber friction washers and then insert the pole tip and washers between the mounting ears of the searchcoil.

Align the holes in the pole tip with those in the searchcoil mounting ears. Be sure that the rubber friction washers are in place between the mounting ears and the pole tip before inserting the screw.

3. Insert the coil mounting screw through the coil and pole tip. The screw head should be on the side of the searchcoil where the cable comes out.
4. Install the thumb nut on the screw and tighten by hand.
5. Take the lower stem, the one with the black isolator pole tip, and remove the screw and nut. Put two of the friction washes into the recessed slots provided on the pole tip (where the screw fits through). Two sizes of friction washers are supplied, one thick set and one thin set. Using the washers that fit best, 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. The pole tip should fit snugly.
6. Insert the upper pole, the one with the detector control box attached, into the middle stem while depressing the two spring buttons. Rotate the middle stem until the two holes line up with the spring buttons and they pop through, locking the pole in place.
7. Wind the searchcoil cable snuggly around the pole, leaving just enough slack near the searchcoil to permit coil adjustment. Note: Do not allow the cable to flop loosely over the search coil. The Toltec II is sensitive enough to see them, causing false signals.

POLE MOUNT

1. The meter housing is already mounted on the pole, as shipped from the factory, so all that is necessary is to insert the searchcoil connector into the meter housing connector, and tighten finger tight.
2. Connect the extension cable connector to the meter housing connector. Rotate the control box into position under the pole and slide up to lock.
3. Wrap the remaining portion of the extension cable around the upper pole, leaving just enough slack to be able to reach the control box with the connector.
4. Insert the extension cable connector into the control box, already mounted to the pole, as shipped from the factor, and finger tighten.
5. Use the two velcro straps to hold the cable tight against the pole.

BODY MOUNT

1. To use the detector as a body mount, simply remove the control housing from the upper pole by depressing the spring buttons in the plastic mounting bracket and slide the control housing off the pole.
2. Uncoil the extension cable from around the pole, leaving the upper velcro fastener in place, and reconnect the cable to the control housing.
3. A belt bracket is located on the back of the control housing for body mounting purposes. It is best for you to avoid flexing of the extension cable when operating in this configuration. You should change the location of the velcro strap occasionally to avoid flex stress and breakage of the cable.

CONVERSION

Obviously, converting the Toltec II from body mount to pole mount, or vice versa, is accomplished simply by putting the control housing back on the pole, or removing it from the poke, and removing or rewrapping the extension cable as required. Be sure to keep the searchcoil cable, and extension cable, wound tight enough around the poles so that it doesn't flap against them, or over the searchcoil. The Toltec II is strong enough to see, or sense, the tiny cable wires moving and give false signals if the cable is too loose.

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 stem length is adjusted by depressing the spring buttons and extending or shortening the lower stem, till they click into the holes that give you the most comfortable setting. The searchcoil should be about one inch above the ground while standing erect. Adjust the angle of the searchcoil, so that the coil is parallel to the ground. Tighten the searchcoil thumbnut by hand so that the coil will maintain this setting.

The arm rest on the rear of the handle can easily be moved forward by removing the screws and nuts, and reinstalling the assembly into the most forward set of holes.

SPECIFICATIONS

Operating Frequency	12 kHz
Searchcoil Type	Concentric
Searchcoil Size	8" Diameter
Cable Length	Approx. 3’
Audio Frequency	Approx. 750 Hz
Audio Output	1 1/2" speaker
Headphone Compatibility	1/4" stereo earphone jack

Headphone Compatibility	1/4" stereo earphone jack
Weight (may vary slightly)	3 3/4 lbs
Battery Requirement	9 volt DC (for ID meter light) 1 ea. 9V alkaline
Battery Life (typical)	15 to 30 hours
Optimum Temperature Range	30° to 100° F
Optimum Humidity	0 to 75% R.H.
Operating Modes	ALL METAL, no motion
	DISCRIMINATION, motion
Tuning Modes	Auto Tune
	Normal Tune

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

CONTROLS

The Toltec II has five controls on its front panel, and a Ground Balance adjust on its rear panel. There is also a meter light switch on the front panel of the meter housing. The front panel controls are all readily adjust with the index finger of the hand while operating the detector. Also found on the front panel is a receptacle for headphones.

1. **Ground Adjust Control.** This control is placed on the rear panel of the detector, under a portal cap, as it is seldom, if ever used. The Toltec II comes pre ground balanced from the factory, therefore, it should not be used unless it is absolutely necessary. Study the section on TUNING found in this manual before attempting to use this control. This control adjust the ALL METAL mode sampling so that the Toltec II ignores normal ground mineralization. This control is a fine tune device and requires a small screw driver to make adjustments.

The setting of this control is crucial; any maladjustment could cause a loss of detector performance. Make sure you understand this control before attempting to make adjustments on your own. Keep in mind that since it has already been set at the factory it is unlikely any adjustment will be needed.

2. **ON/OFF - BATTERY TEST - SENSITIVITY CONTROL.** The primary function of this control is to reduce the detector's sensitivity to those influences that could make the operation more difficult for you. This control is also used to turn the power on and off. Turning the knob completely counterclockwise until it clicks disconnects the batteries from the circuit. When the knob is first turned on (clockwise), the detector will automatically test its battery, and give you an audible indication of their connection. NOTE: This test should be performed with the Mode Switch in the DISCRIM position. This will test the batteries under load. Fresh batteries will cause a loud audio response which will gradually decay into silence over a period of about 3 or 5 seconds. As the batteries age and become weaker, the initial audio response will be weaker, and will decay quicker. When the response is just a short buzz instead of a long beep, or when there is no audio response, it's time for new batteries. It is recommended to always use alkaline batteries, and to always change all batteries at the same time with new ones. Do not mix types or brands when changing.

NOTE: Weak or bad batteries will cause poor and possibly erratic detector performance. Many things can cause the response of the detector to become erratic as you are using it. Normally you will not hear any sound from the detector unless you pass the coil over a good target. Very large targets or a multitude of closely spaced smaller rejected trash targets can cause the detector to emit choppy sputtering sounds. CB radios, radio and TV broadcasting antennas, intense mineralization changes, and other sources of electrical noise can also cause the detector to emit false signals. These signals will generally sound "chopped" and will not be repeatable so you will not have any trouble recognizing them. They can be distracting, though, and turning down the sensitivity control will help reduce them. This will also cause a small loss of target sensitivity, so always run the sensitivity control as high as you can, while still getting smooth operation. An occasional false signal is ok, as long as the instrument is not erratic.

3. **TUNE SELECT.** This toggle switch allows the detector to be operated with automatic retune (AUTO TUNE), when the toggle is placed in the up, (AUTO TUNE) position, or with no auto tune when placed in the down (NORMAL TUNE) position. Auto Tune automatically retunes the detector to its established threshold following a target response. Auto Tune can cause an audible overshoot signal on hot rocks, plus it keeps the instrument from drifting and reduces response to electrical and other outside interferences. NORMAL TUNE will hold a target's signal response indefinitely or until the mode switch has been pushed up momentarily to RETUNE by the operator. Some drift may occur in this mode, but it is easily remedied by pushing the mode switch to RETUNE momentarily as well. Typically NORMAL TUNE is used for ALL METALS pinpointing, identifying target size and ground sampling.

4. **MODE Control.** This toggle is used to retune the detector or select the mode of operation, ALL METAL mode or DISCRIMINATE mode. In the DISCRIM (Discriminate) Mode, the detector’s response to unwanted trash can be controlled to eliminate digging much of the common metallic trash items found in most likely hunting spots. The detector may beep briefly when the switch is changed, but is ready for operating in the selected mode instantly. In All Metal, the detector will respond not only to the highly conductive nonferrous metals (such as coins and jewelry), but it will also find the ferrous metals. This mode would be ideal for relic hunting or searching ghost towns, since many desirable artifacts (such as guns) are made from iron or steel. NOTE: The ALL METAL mode may or may not have Auto Tuning to help narrow (detune) the detector's response to the target when pinpointing. It will depend upon which tuning mode the Tune Select toggle switch is in. To manually return the unit the threshold for either mode, just push the mode switch up to the RETUNE position momentarily.

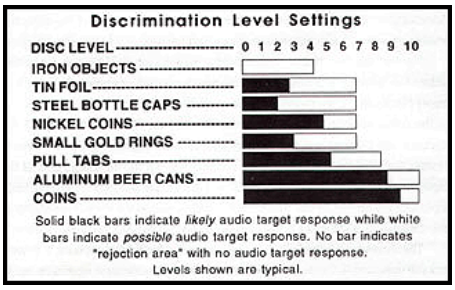
5. **THRESHOLD CONTROL.** The THRESHOLD control is used to adjust the audio level of the detector's threshold up or down to its desired level. Normal setting would be a barely audible hum. This is not a volume control for the detector

itself. Although this control is placed on the front panel for convenience, once it is set to the desired threshold tone, it will not require frequent resetting.

6. **DISCRIMINATE LEVEL.** This control is used to adjust the detector's response to unwanted metallic trash when used in the DISCRIM mode. At the lowest setting "0", the detector will eliminate most iron objects, but will still respond in a positive manner to light foil, bottle caps, pull tabs, coins and most other metallic items. As the knob setting is increased, more and more objects are rejecting, giving no response. If you wish to reject pull tabs automatically from your search, you will also be rejecting nickels and most gold jewelry simultaneously.
7. **EARPHONE RECEPTACLE.** The Toltec II is outfitted for use with headphones. A standard 1/4 inch stereo earphone jack receptacle is found on the front control panel. It is recommended to use headsets with 8 ohms impedance or higher. Use of headphones will greatly increase battery life. See your Tesoro dealer for more information.
8. **TARGET ID METER LIGHT.** The On/OFF switch is found on the front of the meter housing. This light is operator activated and can be used selectively, at night or during periods of poor meter visibility. The meter light is powered by its own independent, customer supplied, 9 volt battery, and does not draw current from the detector's power source.

To activate the light push the toggle switch to the left, from the center OFF position, until it clicks on. For momentary lighting, push the toggle to the right and hold. The toggle will automatically spring back to the off position upon letting go of it.

The chart below indicates where some of the commonly found items can be rejected by the detector. Keep in mind that all items falling below that setting, as indicated on the chart, will also be rejected simultaneously. Since gold comes in a wide variety of sizes, shakes, alloy mixture, and purity, its discriminate level is indefinable. Gold jewelry is, however, typically found between the DISCRIM LEVEL setting of 3 (just below nickel) and 8 (just above pull tabs). Therefore, if you set the DISCRIM LEVEL high enough to reject pull tabs it will also be rejecting most all gold targets. To avoid losing gold targets a DISCRIM LEVEL setting of 2 to 3 is recommended.



TUNING

The **Identifier** circuit reads the phase angle of the target and the meter's needle displays the probable target's identity, when the detector is operated in the DISCRIM mode. Due to the angle by which a target is lying in the ground, amount of corrosion, and targets that have been chopped, cut, or altered in some manner they may produce a different phase response, thereby causing a meter ID misreading. Due to target inconsistencies, Identifier are not completely accurate, and therefore a target should be analyzed for consistency and repeatability prior to digging. It is possible for a good target to be detectable causing an audio response without producing a meter reading. Always listen for, and check those signals that are solid and repeatable.

Target Depth is registered only when operating in the ALL METAL mode. Holding the searchcoil slightly off target, put the mode switch into the ALL METAL position. Advance the coil directly over the target, while maintaining a constant and level coil height. If depth reading is lost or needs to be rechecked, it is necessary to again, RETUNE off target.

A **0-100** scale is provided for additional target identification, in the DISCRIM mode. This scale can be used to identify (notch) specific targets. It is particularly useful when traveling to foreign countries where coins do not register the same as American coinage. This scale may also be of benefit when changing the searchcoil sizes, as different size coils will cause the meter to read slightly higher or lower than the standard coil, which the detector's meter is calibrated to.

The Toltec II utilizes lock on Target ID. This meters needle will lock onto a target reading and not move from that location on the meter unless another target, or multiple targets are present. The needle will usually lock on with one or two sweeps of the searchcoil directly over the target. if the target is shallow or near the surface, the detector may respond with a double blip. When this occurs the meter needle will jump erratically, the same as when indicating a trash target. To check the target, raise the searchcoil until a single beep is produced and the target ID locks on.

TUNING

ALL METAL MODE TUNING

1. Set the mode switch to ALL METAL.
2. Turn the ON/OFF SENSITIVITY control to near max, or as high as possible while maintaining a stable operation, no chirping. Wait for the battery test to go completely through its cycle. NOTE: To properly test the batteries use the DISCRIM mode, when first turning the detector on and return to the all metal mode.
3. Momentarily push the mode switch to RETUNE and listen for a threshold sound. Turn the THRESHOLD control up or down just enough to achieve a hum that is barely audible. NOTE: If you will be using headphones, plug them in before starting this step.

Also, the Toltec II is preset so that normal ground conditions and hot rocks will give a slight positive response as the searchcoil is lowered to the ground, when in the ALL METAL mode. This keeps the detector from reading a hole after you have started digging, and reduces the erroneous response caused by conductive salts and salt water.

4. FINE TUNING. The Toltec II can be fine tuned (ground balanced) for a specific area or soil condition. This adjustment is found at the rear of the housing opposite the coil connector. It is under a protective snap-in cap, and requires a small jeweler's type screwdriver to turn it. WARNING: Adjustment of this trimmer is very critical and should not be attempted by anyone unfamiliar with its operation. It is not likely you will never need to adjust this unit's ground balance, however, should you determine that fine tuning is necessary, follow the below procedure carefully or see your authorized Tesoro dealer.

5. Follow the above steps for ALL METAL mode tuning; then remove the protective snap-in cap from the control housing.

6. Set the tune select switch into the AUTO TUNE position, then momentarily press the mode switch to RETUNE and quickly lower the searchcoil to about one to two inches above the ground and pump the search coil straight up and down with about a 6 to 10 in continuous stroke, and listen for an audio change in the threshold as the coil nears the ground. If there is no change or there is a slight audio increase in the threshold sound, you are properly tuned.

7. If the threshold sound increases greatly as the searchcoil nears the ground switch the tune select toggle to NORMAL tune. Turn the GROUND ADJUST trimmer a slight amount using a screwdriver. After adjusting the trimmer, raise the searchcoil back into the air a foot or two; momentarily push the mode switch to RETUNE, and quickly lower the searchcoil to an inch or two above the ground. If the audio level of the threshold did the same thing as before, got louder, you are turning the trimmer the wrong direction, or you have not turned it far enough. Repeat the above steps until you have achieved no change or get just a slight audio increase in the threshold as the coil nears the ground. **Do not forget to RETUNE each time prior to lowering the coil.**

8. If the threshold sound decreases as the searchcoil nears the ground, follow teh same procedures as above turning the GROUND ADJUST trimmer the opposite direction. **Caution:** a negative ground adjustment (a sound decrease, after balancing) may cause excessive erroneous and false signals.

DISCRIMINATE MODE TUNING

Tuning the Toltec II for use in the DISCRIM mode requires that the detector be properly tuned in the ALL METAL mode first. After the ALL METAL mode procedure is accomplished, the only additional tuning for operation in the Discriminate mode is to set the mode switch into the DISCRIM position, and to adjust the DISC LEVEL to its desired setting, and set the SENSITIVITY control at the highest usable point or higher.

We recommend setting the sensitivity control at the preset mark (7), when beginning to search a new area in Discriminate mode. If the detector seems to have a lot of 'chirpy' sounds or false signals, turn the SENSITIVITY control down slightly until the source of interference is overcome and the detector operates smoothly. If there is no apparent interference turn the SENSITIVITY control up to its highest usable setting, without causing 'chirping'. Note that in areas consisting of large amounts of trash some clicking or chirping and false signals may occur due to the heavy concentration of metallic and iron objects.

The DISCRIM mode is a motion based mode which means the searchcoil must be moving in order to detect a target, but the amount of motion is so lightly that pinpointing is easily accomplished in this mode.

The DISCRIM mode is a Silent Search mode, therefore, the threshold will not be heard when operating in this mode.

SELECTING THE PROPER MODE OF OPERATION

The Toltec 80 offers two basic modes of operation, ALL METAL mode and DISCRIMINATE mode. In areas of very high mineralization, the Toltec 80 may be difficult to search with in the ALL METAL mode, since it is factory set. This doesn't really matter for pinpointing, however, since it only takes a few seconds to properly pinpoint a target. The DISC mode is based on very slight motion of the searchcoil, and this mode is completely silent in operation.

The 8 1/2" concentric searchcoil furnished as standard is chosen to provide the maximum efficiency when the detector is used for coin hunting. This coil size will yield the best compromise when the detector is used for this purpose. Any of the concentric or wide scan coils made by Tesoro as of this writing will work on the Toltec 80, and can greatly increase the abilities of the detector.

When coin shooting, we recommend that you use the meter ID to avoid digging tabs. Note that the area on the meter noted "PULL TABS" is somewhat narrow, and some individual tabs may fall just below or above this range. Also note that broken or bent tabs can fall outside the marked range. Generally, most tabs that fall outside the range on the meter will be below the range, and will be very small or broken tabs.

THRESHOLD

The THRESHOLD control is used to adjust the audio level of the threshold tone up or down, it is not a volume control for the detector itself. Threshold establishes an audible reference point for tuning the detector, and for ground balancing it. The Threshold signal also establishes the minimum sound for deep targets. Turning the Threshold too low may create some oscillation and cause a loss of depth. Turning the Threshold louder, after tuning, will greatly enhance the sound for deep coin size targets, but too loud and the detector may become erratic. Too loud of a Threshold may cause an audio loss of very small targets of the low conductive nature, such as thin gold necklaces and earring backs. Keep in mind that turning up the threshold volume will create a loud audio when switching back to ALL METAL for pinpointing purposes, and this could cause ear damage if not properly readjusted first.

SELECTING THE PROPER MODE OF OPERATION

The Toltec II offers two basic modes of operation, ALL METAL and DISCRIMINATE. Both modes are mineral free of the unit is properly adjusted. The ALL METAL mode is the industry standard "VLF" type which does not require motion of the

searchcoil for proper operation. This ode, while requiring a threshold sound, offers two very important advantages, these being the ability to pin-point without having to move the searchcoil while attempting to center the target under it, and to provide exact ground cancelling. The DISCRIMINATE mode is based on motion of the searchcoil, but requires very little motion, and offers the advantages of completely silent operation, and the ability to discriminate against unwanted objects.

All metal hunting is best accomplished in AUTO TUNE, as this feature will help eliminate some ground noise often encountered in NORMAL TUNE, and it will keep the instrument from drifting. NORMAL TUNE on the other hand is the preferred Tune Selection for pinpointing, as the detector will not retune itself back to the threshold before the target can be centered under the searchcoil.

Remember that the autotuning in the ALL METAL mode will cause a momentary nulling of the threshold sound after you pass the searchcoil over a very strong metallic object.

The DISCRIMINATE mode will allow you to control the detector's response to most comon metallic trash items found in schools, parks, and beaches. This mode is generally used for coinshooting such areas in order to avoid having to dig most of this common trash. The DISCRIM LEVEL control is used to adjust the response to these trash items. Each detector can vary somehat due to manufacturing tolerance, so you should experiment with your detector and become familiar with the rejection levels for these trash items with your detector.

When operating in the DISCRIM mode the target ID meter will still indicate the probable target even though the DISCRIM LEVEL is set high enough for the detector's audio circuitry to reject the target. Earlier motion based detectors that operated with the "Threshold" sound would give the user a definite indication of metallic trash by either nulling completely or by generating short, choppy sounds. Since the Discriminate mode operates without threshold sound, there is no nulling to indicate that the area is extremely trashy. When searching in the Discriminate mode, we recommend that you periodically switch to ALL METAL and check the area you are searching to get an idea of how much trash really is there. Watching the target ID meter will also give this indication as the pointer needle will be jumping around without locking on.

Beach hunting. Though fresh water beaches pose no particular problem, salt water beaches on the other hand may require slightly different settings from all other types of hunting. The dry sand area should be no problem, but once you encounter wet sand or enter the surf you may need to make some adjustments. Salt, especially wet salt, is highly conductive and may cause the detector to emit false signals. To help overcome the salt's effects make sure your detector's Ground Adjust is set so that the Threshold gives a slight audio increase as the searchcoil is lowered to the ground. The Toltec II comes preset with a positive ground adjustment. A positive adjustment will help keep the detector from sounding off over footprints, sand ripples and holes. It may be necessary to turn the sensitivity down considerably or to raise the DISCRIM LEVEL slightly in order to smooth out the instrument. Surf hunting may require using the DISCRIM MODE due to the wave action causing signal phase changes due to the conductive salts thus creating false signals.

FIELD USE

The detector should be held in a position that is comfortable for you. Swing the detector from side to side in about a three foot arc, overlapping succeeding strokes well. This motion is called a “sweep.” The Toltec II was designed to get maximum depth without the frantic pace required of earlier motion detectors, so go at a pace that is comfortable for you. An easy pace is preferred. In fact, trying to hunt too fast in Discriminate may even cause a loss of depth in heavily mineralized locations. The Toltec II, however, can be swept at a fast enough pace for competition hunting, because their targets are usually buried fairly shallow, permitting easy detection at a fast pace.

In ALL METAL mode operation, keep the detector tuned so that there is a slight threshold buzzing of sound. Regardless of which mode you are using try to keep the coil height constant and close to the ground. Most people tend to raise the coil at the end of a sweep, much like a pendulum, especially if they are hurrying. Try to avoid this, as any increase in height will cause a corresponding loss of depth.

In areas with well kept lawns, the easiest way to maintain a constant searchcoil height is to allow the coil to rest on the grass as you sweep from side to side. In rough and rocky areas it is best not to “scrub” the coil on the ground, as the rocks will act like abrasives, and wear away the coil housing. Should wear through occur, it will usually destroy the searchcoil beyond repair, so it is always best to keep a scuff cover on the coil, they are available from your dealer. Sweep the coil as close to the ground as possible without touching. Hitting the ground or rocks may cause a false signal much like a desired target would. The higher you hold and sweep the coil above the ground the less depth you'll be able to obtain.

When operating in the Discriminate Mode, some “false signals” may be caused by heavy concentrations of trash metal objects, by very large trash items, or by electrical interference. These signals will sound different than good target signals because they are generally short, choppy sounds. At the end of your sweep, as you the reverse the coil direction, the detector is most susceptible to trash induced noise. There are two ways to tell whether these sounds are good deep signals or trash “noise.” The first is by repeatability. Trash induced noises will not be regular as you sweep the coil over the suspected target several times, whereas a good target response will be repeatable at the exact spot with each sweep. The second method is to switch to All Metal Mode and check the target response sound. If the response is weak, it may well be a deep, good target; but if the response is very strong, it is probably trash. Note that a coin close to the surface can give a double beep sound, but it is regular and repeatable. Raising the coil an inch or two will restore the single beep on surface targets.

If there is any doubt whether a target is good or not, DIG IT. For this same reason, in the Discriminate Mode, it is best not to use a higher DISC LEVEL setting than necessary. Nickels and most smaller rings are rejected when the DISC LEVEL is set to reject pull tabs on any metal detector that is a TR Discriminator like the Toltec II. If you don’t dig any junk at all, you are surely passing up a lot of good finds as well. Set the DISC LEVEL only high enough to suit the conditions where you are searching.

It would be helpful to bury some coins and trash metal junk items in an area that you know is clear of other metal objects, and then try the unit in its various modes. Check the area in All Metal Mode first to be sure its clear of trash then bury the targets at least a foot apart, and from 2 to 6 inches deep to start. Make a map of the test bed to be sure you know what each target is and how deep it is. Practice on these targets to familiarize yourself with your detector’s target response. This will also help you learn the proper sweep rate for best operation.

The use of headphones will benefit you in two ways. Most earphones will very effectively block out most of the ambient noise, such as traffic noise and wind noise, which will enable you to better hear the faint signals caused by the deeper targets. Obviously, the older, more valuable coins will probably be deeper than the ones which were lost last week, so you should take advantage of anything that will help you hear the weaker signals. Secondly, using earphones will greatly extend the battery life, since it takes much less power to operate them. The detector is not equipped with a volume control, but does have a limiting circuit in the earphone jack. If less volume is desired with earphones, you may want to use earphones which have built in volume controls on their ear cups. Any good 8 ohm or higher set with 1/4 inch stereo jack will do.

PINPOINTING

The easier way to pinpoint for most people will be to switch to the ALL METAL/NORMAL TUNE mode, since no motion of the searchcoil 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 push the mode switch to the retune position momentarily over the area to retune the detector. This will narrow its field of response to allow you to once again seek the area of strongest response. It may be necessary to retune more than once with this technique.

The sweep speed of the Toltec II is slow enough to allow pinpointing in the 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 directly over the target will narrow down the detection area enough that it's easy to tell where the coil center is at the instant the target causes the detector to beep.

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, criss-crossing the target until you just barely get a response at one spot. Raise the coil slightly if you are getting a double beep, or a very loud response. Again the target will be directly below the center of the coil at the instant of response.

BATTERY REPLACEMENT

The Toltec II is equipped with an automatic battery test sequence which occurs each time the detector is turned on. To check the batteries, simply turn the detector off for about five seconds, and then turn it back on. The battery test circuit will engage for about 3 to 5 seconds, with the audio output loudness indicating the remaining battery strength. As the batteries age, this tone will get quieter, and when you hear only a brief buzz or not output at all, it's time to replace the batteries. Although the battery test circuit engages whenever the detector is turned on, it is recommended you put the mode switch in the DISCRIM position for testing, as this mode will test the batteries under load giving a truer indication of actual battery strength.

The battery for the meter ID light does not have a built-in test. It is therefore recommended you keep an extra battery with you, if you are going to be requiring use of the light.

To replace the detector circuitry batteries, pull on both the large plunger knobs on the battery door at the rear of the unit. The entire door will pop off. Remove the two battery packs one at a time, by disconnecting the clip leads, and remove the batteries from the pack. Replace the batteries, observing the polarity indicators on both the battery pack and batteries. Replace each pack back into the battery housing compartment, tucking any excess battery lead wire carefully into the slots found on each side of the battery compartment. To reinstall the battery door, place it back on the housing fitting the plungers in place and depressing both, locking them in place.

The ID meter on the Toltec II has a light which requires a 9 volt alkaline battery. To change the battery, simply slide open the battery door found on the back of the meter housing, remove the battery and disconnect it from the battery clip lead. Reinstall the new battery in the same way, carefully fitting the battery door back into its proper fit.

We recommend you always use a good alkaline battery when making replacements, and always change all batteries in a pack at the same time. Use of headphones will extend battery life.

GENERAL CARE AND USE

So many people are disappointed when their new detector slowly becomes less and less responsive and seems to have lost some of its peak performance. You can help avoid this from happening to your detector by following these basic care and protection procedures.

- Operate your detector exactly as recommended in this instruction manual.
- It is best to remove the battery from the detector after each use. This will prevent internal damage to the detector if the battery should leak.
- The searchcoil cable is hard wired into searchcoil, do not attempt removal of the strain relief from the searchcoil housing.
- Use only high-quality carbon-zinc, alkaline, or NiCad batteries. Never substitute a different voltage. Do not attempt to modify the power supply system. If converting to NiCad batteries, always use a separate convertible pack with the proper voltage output for the detector's design.
- Never spray lubricants such as WD-40 or any type of cleaners, sealants or other chemical preparation on or into the detector.
- Do not store your detector in the trunk of a car, or transport it unprotected in a trunk or back of a pickup truck or similar vehicle.

similar vehicle.

- Avoid banging the searchcoil against rocks or foundation walls.
- Always use a properly designed protective scuff cover on the searchcoil.
- Remove and clean out scuff covers periodically to avoid build up of mineralized dirt particles which will affect performance.
- After each use, clean the detector with a soft cloth to remove dust, moisture, and other contaminants. The searchcoil is waterproof and can be submerged in either fresh or saltwater. After the coil is used in salt water, it and the lower stem assembly should be rinsed well with fresh water to prevent corrosion of the metal parts. Do not allow the cable connectors to become submerged, and prevent moisture or water from entering the control box.
- If working in or near water, or there is a possibility of it raining, use a protective weather resistant pouch or plastic bag to cover the control box, make sure it can breathe in order to insure against condensation buildup inside.
- Keep cables properly wound around the pole stems and protected. Floppy, pinched, or cables that become snagged during use may short, causing erratic noises or unnecessary replacement of the searchcoil.
- Protect your detector from dust, moisture, and extreme temperatures during storage. Avoid storing it in places such as attics, basements, or garages. When shipping, use the original factory carton or similar heavy-duty container; a one inch minimum clearance of padding around the detector must be provided when shipping.
- Treat your detector as you would any sensitive electronic instrument. Though ruggedly constructed and designed to withstand the demands of normal treasure hunting applications, proper care is essential.

TESORO Metal Detectors are sold only through authorized independent dealers, who almost always are metal detectorists themselves. They can provide you with much needed information about how to use your detector, and answer most of your questions about detecting in general.

HAPPY HUNTING, and thank you for purchasing a TESORO.

RECOMMENDED RECOVERY METHODS

WARRANTY SERVICE

Your Tesoro metal detector is covered by a **Limited Lifetime Warranty**, the terms of which are listed below. If your metal detector should require service, you may return it to the Tesoro factory, or tone of the factory authorized service centers. Contact the factory for the name and address of the nearest service center.

If you have any questions, don't hesitate to contact the factory.

LIMITED 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.

During the first two years, 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, or at one of its authorized repair centers. After two years from date of purchase, TESORO will replace defective parts at no charge except a nominal labor change and transportation charges.

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.

If warrant service should be necessary, contact the factor for nearest repair center.

Under the copyright laws this documentation may not be copied, photocopied, reproduced, translated or reduced to any electronic or machine-readable form, in whole or in part, without the prior written consent of Tesoro Electronics Incorporated, except for the private use of a Toltec II owner or operator, or in a manner otherwise described in this documentation.
© 1995-1996 Tesoro Electronics Incorporated. All rights reserved. Printed in the United States.

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